

Revision afrotropischer *Oothecca* Chevrolat,
1837 und verwandter Taxa (Coleoptera:
Chrysomelidae: Galerucinae)

Dissertation

zur Erlangung des akademischen Grades eines Doktors der Naturwissenschaften
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vorgelegt am 29.04.2013 von Sabine Kortenhaus *30.06.1953 in Hannover

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Inhaltsverzeichnis

3	Vorwort und Dank
6	Lebenslauf
8	Erklärung
9	Revision afrotropischer <i>Oothea</i> Chevrolat, 1837 und verwandter Taxa – Einleitung
24	Literaturverzeichnis
29	Anhang:

Kortenhaus, S. & Wagner, T. 2010. Revision of *Oothea* Chevrolat, 1837 from tropical Africa — redescrptions, descriptions of new species and identification key (Coleoptera: Chrysomelidae, Galerucinae). *Zootaxa* 2659: 1–52.

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Vorwort und Dank

Ich habe lange gebraucht, um mit dieser Arbeit zu einem Ende zu kommen.

Als unsere vierte und jüngste Tochter ungefähr "aus dem Haus" war, keimte in mir der Wunsch, doch noch etwas "Richtiges" zu machen. Als Familienfrau habe ich stets um eine passende Antwort gekämpft, wenn ich gefragt wurde: "... und, arbeiten Sie auch?" Dann konnte ich nur entnervt antworten: "Nein! Ich arbeite nicht, ich hab nur vier Kinder, einen großen Haushalt, ehrenamtliche Aufgaben und und und....!"

Nun also wollte ich es noch mal wissen, und überhaupt wollte ich nicht alt werden, indem ich nur um mich selbst kreiste und darauf wartete, dass mein arbeitender Mann abends endlich erschöpft nach Hause käme.

Ich fragte an mehreren Hochschulen herum, ob es Interesse an einer alten Doktorandin gäbe und fand schließlich in Thomas Wagner einen Menschen, der mich anscheinend unvoreingenommen so akzeptierte, wie ich war: älter, von aller Biologie ein bisschen entfernt, aber mit speziellen, erwünschten Fähigkeit des genauen Hinsehens, die ich in einem Aufbaustudium "Wissenschaftliche Illustration" erworben hatte, und mit dem brennenden Wunsch, mich nützlich zu machen.

Ich wurde freundlich aufgenommen, mit Käfern überschüttet und dann damit in Ruhe gelassen. Ich entdeckte, beeindruckt und begeistert, die ungeheure Variation von Formen, entwickelte Zuneigung zu den Heerscharen der "lieben Kleinen" und schulte mein Auge durch ständiges Zeichnen. Dabei wuchs mein Interesse an der Taxonomie und der Wunsch, mit Hilfe dieses Regelwerkes meine Beobachtungen zu ordnen. Nur gelegentlich besuchte ich Thomas Wagner in Koblenz. Das ist bis heute so geblieben. Ich glaube, ich bin nicht dadurch aufgefallen, dass ich besonders betreuungsintensiv gewesen wäre ... nur jeweils, wenn ein Kapitel vor seiner Veröffentlichung stand, war der Äther voll von Zeichnungen, Anmerkungen und Änderungen, die hin und her geschickt wurden.

Die sehr große Anzahl der Tiere aus Sammlungsbeständen aus aller Welt (eine lange Zeit standen sehr viele Umzugskartons mit Insektenkästen auf unserem Dachboden und harrten auf meine Inaugenscheinnahme) brachte es aber auf der anderen Seite auch mit sich, dass ich mich ständig gefordert fühlte und dauernden "Käfer-Druck" empfand. Dazu kamen bohrende, stets anwesende Zweifel, ob ich überhaupt irgendetwas schaffen könnte.

Und jetzt traten drei verschiedene Gruppen von Menschen auf den Plan:

Die ersten fragten ein bisschen mitleidig: " Hast Du das nötig, Dich so zu quälen? Brauchst Du das wirklich unbedingt für Dein Selbstbewusstsein?" und forderten so eine Rechtfertigung für mein Unterfangen, annehmend, dass ich mich allein aus mangelndem Selbstbewusstsein oder übergroßem Ehrgeiz in eine solche Aufgabe gestürzt hätte. Diesen Menschen möchte ich sagen: Vielleicht hat mir anfänglich als "Nur-Mutter" und Illustratorin eine Portion Selbstbewusstsein gefehlt; skeptische Betrachtung der eigenen Fähigkeiten scheint mir aber auch heute noch gesünder zu sein als ein Riesen-Ego. Inzwischen bin ich - glaube ich - selbstbewusster und "brauche" keinen Titel zur Selbstbestätigung.

Der Grund, dass ich diese Arbeit beendet habe, liegt darin, dass ich unfertige Dinge nicht mag: ein Bild muss beendet werden, ehe ich mich einer neuen Idee zuwende, und eine selbstgestellte Aufgabe muss zu einem möglichst guten Ergebnis geführt werden, wenn es die äußeren Umstände denn erlauben.

Die zweite Gruppe von Leuten, denen ich von meiner selbstgewählten Aufgabe erzählte, wenn sie wissen wollten, was ich denn jetzt ohne Kinder den ganzen Tag lang täte, zeigten eine ganz andere Reaktionsvariante: sie fragten nämlich selten wiederholt, wohl in der Annahme, mein Ansinnen sei sowieso zum Scheitern verurteilt. Sie wollten mich vermutlich durch erneutes "Nachhaken" nicht düpiieren oder beschämen.

Ich habe viel gelernt im Laufe der Arbeit mit den Käfern:

- mein Englisch ist deutlich besser geworden...vielleicht nicht, wenn ich reden muss. Aber ich kann sehr viel verstehen, sowohl gesprochene Worte als auch geschriebenen Text.
- meine Computerkenntnisse sind mit vorher nicht mehr vergleichbar. Schlimmstes Erlebnis war die Teilnahme an einem einwöchigen Photoshop-Lehrgang, in dem ich als einzige Ältere mit nur Minimal-Kenntnissen zwischen lauter jungen, schon Photoshop-erfahrenen Leuten saß!
- mein "Augenmaß" hat durch das viele Zeichnen eine Qualität erreicht, die mich selbst manchmal erstaunt: Unstimmigkeiten beim Zeichnen werden durch einfaches Hinsehen besser korrigiert als durch Messen mit dem Mikrometermaßstab.

Eine dritte Gruppe Menschen bestärkte mich bei jeder Gelegenheit darin, auf einem guten Weg zu sein und etwas Sinnvolles zu tun. Sie gaben mir Mut und Kraft und Festigkeit an Tagen, an denen ich am liebsten alles hingeschmissen hätte und das war viele Male der Fall. Zu diesen "Mutmachern" und "Rückenstärkern" gehörten insbesondere mein Mann Thomas, meine Töchter Juliane, Edda, Anning und Geesche, einige wenige Freunde sowie der geduldige und immer freundliche Thomas Wagner als "geistiger Vater".

Ihnen allen möchte ich von ganzem Herzen danken, denn sie haben mich bis hierher getragen ohne ihre Unterstützung hätte ich auf dem Weg wohl unterwegs aufgegeben!

April 2013

LEBENS LAUF

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Familienstand	seit 29.6.1979 verheiratet mit Dr.-Ing. Thomas Kortenhaus, Ltd.MinRat vier Kinder: Juliane (*82), Edda (*84), Anning (*85), Geesche (*87)
Schulbildung	1972 math.-naturw. Abitur an der Käthe-Kollwitz-Schule Hannover
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ERKLÄRUNG

Hiermit erkläre ich,

dass ich die eingereichte Dissertation selbständig verfasst habe und alle von mir für die Arbeit genutzten Hilfsmittel in der Arbeit angegeben sowie die Anteile etwaig beteiligter Mitarbeiter sowie anderer Autoren klar gekennzeichnet sind;

dass ich die Dissertation oder Teile hiervon nicht als Prüfungsarbeit für eine Staatliche oder andere wissenschaftliche Prüfung eingereicht habe;

dass ich die gleiche oder eine andere Abhandlung nicht in einem anderen Fachbereich oder einer anderen wissenschaftlichen Hochschule als Dissertation eingereicht habe.

Wiesbaden, 29.04.2013

Sabine Kortenhaus

Revision afrotropischer *Ootheca* Chevrolat, 1837 und verwandter Taxa (Coleoptera: Chrysomelidae: Galerucinae)

Einleitung

Chrysomelidae

Die Chrysomelidae (Blattkäfer) ist eine der größten Gruppen der Coleoptera mit etwa 35.000 beschriebenen Arten. Schätzungen gehen davon aus, dass es mehr als 60.000 Arten [Reid 1995] in etwa 2500 Gattungen gibt. Sie werden üblicherweise in zehn Untergruppen eingeteilt: Bruchinae, Chrysomelinae, Criocerinae, Cryptocephalinae, Donaciinae, Eumolpinae, Galerucinae, Hispinae, Lamprosomatinae und Sagrinae. Die systematische Trennung der Chrysomelidae von ihren Schwestergruppen ist umstritten, und die Systematik innerhalb der Gruppe hat im Verlauf der letzten 200 Jahre viele Wandlungen durchlaufen [Reid 1995].

Wegen ihrer Größe, Farbigkeit, Gestaltvielfalt und ihrer weltweiten Verbreitung haben Chrysomelidae schon seit langer Zeit große Aufmerksamkeit unter Sammlern erfahren. Daraus ergaben sich intensive Studien dieser Käfer hinsichtlich Taxonomie, Systematik, Ökologie, ökologisch und chemisch vermittelten Interaktionen zwischen Käfern und ihren Wirtspflanzen, Biogeographie und – in neuerer Zeit – auch hinsichtlich molekulargenetischer Forschungen [Gómez-Zurita et al. 2007, Nokkala & Nokkala 2008, Stapel et al. 2008, Gross & Schmidtberg 2009, Michalski et al. 2008]. Besonders durch diese Methoden der Verwandtschaftsforschung wird sich die Phylogenie der Blattkäfer in der näheren Zukunft sicher weiterentwickeln. "We propose that the combination of structurally aligned ribosomal RNA gene regions 18S (V4-V5, V7-V9) and 28S (D2) are useful in testing monophyly and resolving relationships among beetle superfamilies and families" [Marvaldi et al. 2009].

Chrysomelidae sind zum weit überwiegenden Teil Pflanzenfresser und dabei besonders auf Angiospermen spezialisiert; sie sind vor allem in tropischen Regenwäldern wegen der dortigen großen Vielfalt der Nahrungspflanzen und ihrer Koevolution, sehr artenreich vertreten [Reid 1995, Marvaldi et al. 2002, Gómez-Zurita et al. 2007, Küper et al. 2005, Farrell 1998]. Die Larven der meisten Blattkäfer ernähren sich von oberirdischen Pflanzenteilen, wie Stän-

gel/Stamm, Blätter, Blüten, Pollen, Früchten/Samen, wobei sie besonders die Blätter in einem typischen Fraßbild skelettieren. Sie bohren sich in Pflanzenteile (Wurzeln, Stengel, schwimmende Blätter), in denen sie sich endophytisch entwickeln, oder leben von absterbenden Pflanzenteilen im Laub.

Dabei sind einige Arten, je nachdem auf welche Wirtspflanze sie adaptiert sind, Verursacher landwirtschaftlicher Schäden und Erntevernichter. "Galerucinae sensu lato comprises genera from real galerucins and their sister group, the Flea Beetles (Alticinae), forming an important group, with relevance in economy due billion dollar damages in cultures..." [Almeida et al. 2012]. Diese Schäden, respektive deren wirtschaftlichen Aspekte bei wachsender Bevölkerung werden voraussichtlich immer größere Folgewirkungen haben, um Forderungen nach besseren Ernten zu erfüllen [Abate & Ampofo 1996, Abate & Ampofo 2000, Sileshi et al. 2001, Paul 2007, Zhao et al. 2008, Grobbelaar 2008, Krügener et al. 2012]. Die „schädigende“ Wirkung von Chrysomelidae kann – unter anderem Betrachtungswinkel – auch als Regulativ z. B. gegen Neophyten eingesetzt werden [Reid 1995, Williams, H.E. 2003].

Galerucinae

Die zweitgrößte Teilgruppe der Chrysomelidae sind die Galerucinae Latreille, 1802. Sie umfassen ungefähr 520 Gattungen und zwischen 5000 und 6300 beschriebene Arten weltweit [Mohamedsaid & Furth 2011] mit einer Konzentration in tropischen und subtropischen Regionen. Galerucinae werden traditionellerweise in fünf Gattungsgruppen unterteilt. Eine phylogenetische Analyse unterhalb der Unterfamilienebene ist für die Galerucinae bisher nicht durchgeführt worden. Die enge Verwandtschaft der Galerucinae mit den Alticinae (Flohkäfer) ist lange bekannt. "They (the galerucinae) are closely related to the flea beetles, Alticinae, and both taxa form a well supported monophyletic group." [Stapel, H. et al 2008].

Drei unterschiedliche phylogenetische Verwandtschafts- und Abstammungshypothesen sind nach [Deyan et al. 2010] denkbar:

- (1) Eine Verwandtschaft als Schwestergruppen (Adelphotaxa); eine Hypothese, die durch Molekularanalysen und morphologische Daten gestützt wird, die aber wegen unzureichender Daten unsicher ist (sog. "transitional"/ "incertae sedis"/ "problematische" Taxa).
- (2) Monophyletische Alticinae als „Kronengruppe“ der paraphyletischen Galerucinae; eine Hypothese, gestützt durch morphologische Merkmale von 12 Flohkäfer- und 10 Galerucinae-Spezies.

(3) Monophyletische Galerucinae inmitten von paraphyletischen Alticinae. Diese Hypothese stützt sich auf verschiedene morphologische und molekulargenetische Untersuchungen, einschließlich neuerer phylogenetischer Studien und der Evolution ihrer chemischen Abwehrstrategien.

Das Monophylum Galerucinae + Alticinae ist charakterisiert durch eng zusammenstehende Antennenbasen der Imagines und verschmolzene Hoden. Es fehlen Merkmale, die der Differenzierung von Larven der Galerucinae und Alticinae dienen könnten, darüber hinaus gibt es transitorische Formen der Imagines. In der neueren Literatur werden daher Alticinae als eine Teilgruppe der Galerucinae (sensu lato) aufgefasst, molekulare und morphologische Analysen erklären die Galerucinae zur "monophyletic crown group" und die Alticinae zur "paraphyletic base" [Crowson & Crowson 1996, Kim et al. 2003, Stapel et al. 2008]: das entspricht der oben erwähnten Hypothese 3. Die anderen beiden Hypothesen haben aber gleichermaßen ihre Befürworter: "...a nearly fully resolved hypothesis of relationships among the taxa ... indicates the ... monophyly of galerucines + alticines. Importantly, the alticines are a highly derived, strongly supported monophyletic group, nested within galerucines. Therefore, alticines must have a lower relative taxonomic rank (such as tribe) to Galerucinae" [Lingafelter & Konstantinov 1999]. "The molecular phylogeny of 28S-D2 recovered the monophyly of Galerucinae s.l. and presented a situation where Galerucinae sensu stricto is monophyletic with a paraphyletic Flea Beetles clade" [Almeida et al. 2012]

Zusammenfassend muss festgestellt werden, dass die phylogenetischen Zusammenhänge innerhalb der Galerucinae noch wenig verstanden sind. "The Flea Beetles and the galerucine chrysomelids constitute a highly diverse monophyletic group and are arguably the most economically important group of insects for which no basic phylogenetic consensus exists" [Kim et al. 2003]. "The relationship between two of its subfamilies, the monophyletic Alticinae and closely related Galerucinae is an area of active research on Chrysomelidae phylogeny." [Biondi & d'Alessandro 2010].

Oothea

Der Name *Oothea* erscheint zum ersten Mal in der Literatur im 5. Band der 3. Edition von Dejean's Catalogue [Chevrolat 1837]. Dieser spezielle Band fasst die damals gebräuchlichen Chrysomelidae-Taxa zusammen. Wegen Verzögerungen und eines Feuers im Dezember 1835, das die gedruckten Katalogvorräte 1–4 zerstörte, gab es einige Verwirrung bezüglich des Publikationsdatums dieses "Catalogues". Vermutlich im Mai 1837 [Madge 1988] wurde

der oben erwähnte 5. Band endlich publiziert. Wenn auch lange Uneinigkeit über die Autorenschaft der Blattkäfertaxa in Dejean's Katalog herrschte, hat die Internationale Kommission für Nomenklaturregeln (ICZN) L.A.A. Chevrolat als verantwortlichen Autor für diese Gruppe bestimmt. Da die Namen seit 1837 allgemein genutzt werden, wurde die Autorenschaft auch aus praktischen Gründen festgelegt, auch wenn es sich nur um eine Namensauflistung (allenfalls mit allgemeinen Hinweisen zur Verbreitung) handelt und somit die Kriterien für eine gültige wissenschaftliche Neubeschreibung nach heutigen Maßstäben nicht erfüllt.

In diesem "Catalogue" ist die erstmals erwähnte Gattung *Ootheca* mit nur einer Art, "mutabilis Schönherr" aus Sierra Leone, vertreten. Die Art war bereits in der Kombination mit *Crioceris* von Sahlberg (1829) beschrieben worden. Da nur diese eine Art von Chevrolat in die neue Gattung *Ootheca* verschoben wurde, wäre die Art automatisch Typusart der Gattung (ICZN, Artikel 73.1.2). Später wurde sie zudem dezidiert als Typusart festgelegt [Chevrolat 1849].

Wie auch für andere Insektengattungen gab es im 19. Jahrhundert kein klares Konzept für *Ootheca*. Aus diesem Grund wurden Galerucinae von "kompakter" Körpergestalt, mit einem breiten Pronotum, stark konvexem Dorsum, kurzen Antennen und Beinen in *Ootheca* beschrieben. Im Jahr 1900 war Julius Weise der erste, der eine Revision von *Ootheca* veröffentlichte [Weise 1900]. Er überarbeitete die Merkmale von *Ootheca mutabilis*, die er fälschlich Chapuis zuschrieb, kritisch und beschrieb drei neue Arten aus Deutsch-Ostafrika, was in etwa dem heutigen Tansania entspricht [Weise 1909]. Er berichtigte einige Fehlinterpretationen, unter anderem, dass Chapuis die Vorderhüfthöhlen als "ouvertes" beschrieben hatte, die Weise aber als komplett geschlossen beurteilte.

Bereits Weise sprach die Probleme der Abgrenzung der einzelnen Arten innerhalb der Gattung *Ootheca* an und empfahl, als Unterscheidungskriterium die charakteristische Gestalt der männlichen Geschlechtsorgane zu nutzen: "Die Struktur von Aedeagi erlaubt glaubwürdige spezifische Zuordnung in dieser Gruppe". Dieser Vorschlag und seine Arbeit sind umso höher zu bewerten, als vor mehr als hundert Jahren die Präparation und das Vergleichen von Genitalien eine unübliche Methode zur Bestimmung und Abgrenzung von Arten war.

Die Berücksichtigung der männlichen Genitalien war in den hier vorgelegten Untersuchungen entscheidungsrelevant sowohl für das Erkennen einzelner Arten wie auch für die Abgrenzung von *Ootheca* gegenüber anderen Taxa der Galerucinae. Bisher entsprachen die Artbeschreibungen dem herkömmlichen typologischen Konzept. In meinen Arbeiten wurde erstmals eine moderne taxonomische Revision der Gruppe – unter Berücksichtigung phylo-

genetischer Prinzipien – durchgeführt, die auf der Morphologie von Ektoskelett und Genitalstrukturen basiert, im Besonderen und ausschlaggebend auf der Gestalt des männlichen Genitals. Einzig die Erweiterung bzw. Bestätigung der Ergebnisse durch molekular-genetische Methoden konnte aufgrund fehlenden Frischmaterials bisher nicht erbracht werden und steht daher noch aus. Das wird die Aufgabe sein für weitere, zukünftige Bearbeitungen der hier beschriebenen Gattungen und Arten.

Wagner [1999, 2003] hat gezeigt, dass die Gestalt der für die Fortpflanzung wichtigen Organe nicht nur zur Identifikation von Arten dienen, sondern auch zur Abgrenzung von Gattungen voneinander genutzt werden kann. Es ist sicherlich für die Fortpflanzung effektiv speziell geformte Geschlechtsorgane zu besitzen, die nur eine arteigene Begattung zulassen. Neben den charakteristischen männlichen Begattungsorganen ist im weiblichen Genital das unpaare, gestielte Receptaculum seminis (Spermathek) gut erkenn- und präparierbar. Das Merkmal kann allerdings zur generischen Differenzierung nicht herangezogen werden, da alle untersuchten Gattungen und Arten sehr ähnliche Spermatheken aufwiesen. Die funktionelle Morphologie, die erklärt, wie bei der Kopulation männliches und weibliches Geschlechtsorgan genau zusammenpassen, ist erst in Ansätzen verstanden [Düngelhoef & Schmitt 2006].

Entomologen haben Genitalstrukturen mit unterschiedlichen Namen bezeichnet, was zu einiger Verwirrung führt: so ist der Ausdruck "Aedeagus" beispielsweise synonym mit der Bezeichnung "Median lobe" verwandt worden – so auch in den anhängenden vier Veröffentlichungen. Hubweber & Schmitt [2005] schlagen jedoch vor, als "Aedeagus" nur die Gemeinsamkeit von "Median lobe" und Tegmen zu verstehen. In diesem Sinn wurden in meinen Zeichnungen nur "Median lobes" gezeichnet; die dazugehörigen, nicht dargestellten Tegmina waren sämtlich y-förmige Sklerite ohne Parameren.

Biologie von *Ootheca*

Einzig innerhalb der revidierten Gattung *Ootheca* hat man Kenntnisse über die Lebensweise einiger Arten. Mehrere Arten sind in wieten Teilen Afrikas als Schädlinge an Bohnen (*Phaseolus vulgaris*), Cow peas (*Vigna unguilata*) und Bambara groundnut (*Vigna subterranea*) bekannt geworden. Sie zerstören Wurzeln und Setzlinge, skelettieren Blätter, fressen die Blütenstände und verursachen so schwere Ernteschäden. Hier sind vor allem *Ootheca mutabilis*, *O. bennigseni* ("early field pest") und *O. meridiana* als Schädlinge zu nennen. Von *O. mutabilis* ist ausserdem bekannt, dass diese Art als Vektor viraler Pflanzen-

krankheiten wirkt (Southern bean mosaic virus (SBMV), Nigerian Cowpea Mosaic Virus (N-CpMV), Yellow Cowpea Mosaic Virus (Y-CpMV), Cowpea Mottle Virus, Sann Hemp Mosaic Virus (syn. Cowpea Strain Tobacco Mosaic Virus)) [Grobelaar 2008, Harris 1981].

Die Eier sind oval, etwa 7 mm lang und glänzende und werden in Gelegen von 8–60 Stück in Pflanzennähe in die Erde gelegt. Die Larven schlüpfen nach zwei bis drei Wochen und ernähren sich von den Pflanzenwurzeln. Sie durchlaufen drei Larvenstadien von jeweils 5–11 Wochen, bevor sie sich in der Erde verpuppen. Die nach der Häutung noch weichen, fast erwachsenen Tiere unterliegen einer Diapause bis zum Beginn der Regenzeit des folgenden Jahres, schlüpfen dann und fressen an den jeweils jüngsten Blättern der neu gepflanzten Bohnen. *Ootheca bennigseni* verursacht dabei sehr charakteristische runde Löcher. Allein dieser Blattfraß verursacht einen Ernteverlust von bis zu 31 %, dabei ist der gleichzeitige Schaden an den Wurzeln durch die Larven noch nicht einbezogen [Paul 2007].

Revision von *Ootheca* und Beschreibung neuer Gattungen

Während der Erfassung der Sammlungsbestände durch Wagner [2006a und 2006b] entstand die Erkenntnis, dass die Vielzahl unterschiedlichster Tiere, die unter in der Gattung "Ootheca" beschrieben worden waren, dringend einer taxonomischen Revision bedürften.

Material und Methoden

Tab. 1. Auflistung der Sammlungen und Institutionen, auf deren Sammlungsbestände zurückgegriffen werden konnte (Akronym in Klammern), und die Anzahl der untersuchten Tiere:

The Natural History Museum, London [BMNH]	1123
Deutsches Entomologisches Institut, Müncheberg [DEI]	7
Hungarian Natural History Museum, Budapest [HNHM]	1
Institute Royal des Sciences Naturelles de Belgique [IRSN]	2551
Museo Civico di Storia Naturale, Genova [MCGD]	10
Museum Università di Torino [MIZT]	4
Musée National d'Histoire Naturelle, Paris [MNHN]	90
Museum für Naturkunde der Humboldt-Universität, Berlin [MNHU]	500
Musée Royale d'Afrique Centrale, Tervuren [MRAC]	6564
Museu de Zoologica, Barcelona [MZB]	1
Naturhistoriska Riksmuseet, Stockholm [NHRS]	10
National Museum of Kenia, Nairobi [NMK]	216
National Museum of Namibia, Windhoek [NMNW]	1
Nationaal Natuurhistorisch Museum, Leiden [RMNH]	48
South African National Collection of Insects, Pretoria [SANC]	5
Ditsong National Museum of National History, Pretoria [TMSA]	26
Utah Museum of Natural History, Salt Lake City [UMNH]	21
Zoologisches Forschungsmuseum Alexander Koenig, Bonn [ZFMK]	21
Zoologisches Institut und Zoologisches Museum der Universität Hamburg [ZMUH]	140
Summe	11339

Jede der revidierten bzw. neu beschriebenen Arten wurde mit einem Standard-Set von Illustrationen beschrieben: Aufsicht des ganzen Tieres in Normalhaltung mit linker Antenne und rechten Beinen; farbiges Muster auf Flügeldecken und/oder Pronotum; die ersten vier Antennomere von vier unterschiedlichen Tieren – zwei weiblichen und zwei männlichen; Median lobe von dorsal und lateral. Die Spermathecae von mehreren weiblichen Tieren wurden für die jeweilige Typusart der Gattung dargestellt (*Ootheca mutabilis*, *Oothecoides bicolor*, *Ootibia podagrica*, *Oosagitta angolensis*).

Neben der Anzahl der gemessenen Tiere werden als absolute Messwerte angegeben: gesamte Körperlänge vom Clypeus bis zu den Flügelspitzen; die maximale Körperhöhe (von lateral); Länge der Flügeldecken und deren addierte maximale Breite; Länge und Breite des Pronotums. Relative Verhältnisse wurden errechnet von: Breite zu Länge des Pronotums; maximale Gesamtbreite zu Länge des Elytrons; maximale Augengröße zu minimalem Abstand zwischen den Augen; Antennomer 2 zu Antennomer 3 und Antennomer 3 zu Antennomer 4; Länge des Basimetatarsus zu Länge der Tibia.

Alle geprüften Sammlungsexemplare wurden entsprechend ihrer Etiketten aufgelistet und die angegebenen Funddaten je nach Publikationsvorgaben in Grad/Minute oder als Dezimalangaben aufnotiert. Diese Koordinaten wurden mit Hilfe der geographischen Datenbank GeoNames (www.geonames.org) ermittelt und gingen in ein Programm ein (ArcGis, ESRI-Arc-Map.Version 9.3), das GIS-gestützte Verteilungskarten erstellen kann.

Außerdem sieht man zu jedem Typus Photographien des gesamten Tieres und der dazugehörigen Etiketten.

Ergebnisse

Ootheca

Zunächst konnte die Synonymie von *Ootheca* und *Ergana* Chapuis, 1879, die bereits vorher durchgeführt wurde [Seeno & Wilcox 1982] bestätigt werden. Von den 38 Arten, die ursprünglich in diesen beiden Gattungen [Wilcox 1973, 1975] beschrieben wurden, sind nur neun als valide Arten zurückgeblieben, zuzüglich vier neu beschriebener Arten [Kortenhaus & Wagner 2010; Anhang 1] sind nunmehr 13 Arten wurden anderen Gattungen zugeordnet.

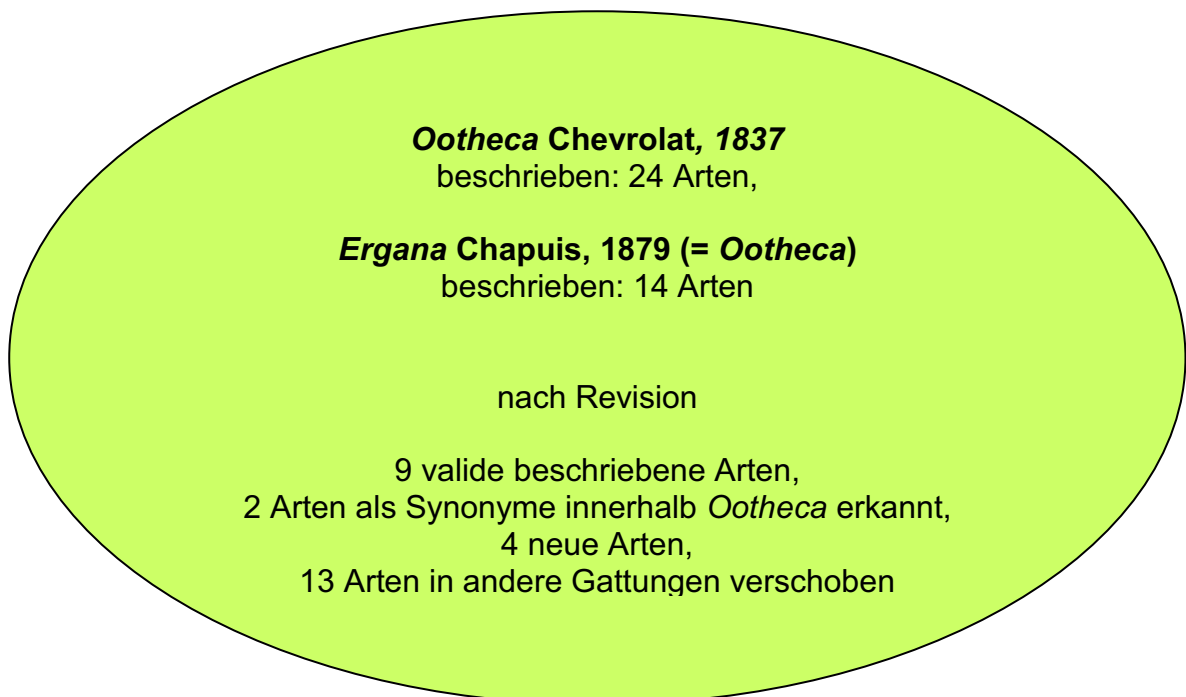


Abb. 1. Beschriebene Arten in *Ootheca* und *Ergana* und Veränderungen nach der Revision.

Die Arten, die nun in der Gattung *Ootheca* zusammengefasst sind, haben charakteristischerweise einen symmetrischen Aedeagus, der Median lobe ist entweder gar nicht oder (bei drei Arten) sehr tief eingeschnitten, das Tectum besteht aus zwei mehr oder weniger stark gekrümmten, spitz zulaufenden Strukturen.

Aktuelle Checkliste von *Ootheca* nach der Revision durch diese Dissertation:

(Gültiger Name in fett, darunter ggf. originale Kombination (nicht fett), Synonyme eingerückt)

***Ootheca* Chevrolat, 1837: 402**

Ergana Chapuis, 1879: 27

***Ootheca bennigseni* Weise, 1900: 453**

Ergana variceps Laboissière, 1939: 122; syn. nov.

***Ootheca chapuisi* (Jacoby, 1899)**

Ergana chapuisi Jacoby, 1899: 366

***Ootheca eddae* Kortenhaus & Wagner, 2010: 40; sp. nov.**

***Ootheca frontalis* Laboissière, 1923: 183**

Ootheca tinantae Laboissière; in litteris, syn. nov.

***Ootheca julianae* Kortenhaus & Wagner, 2010: 43; sp. nov.**

***Ootheca kibonotensis* Weise, 1909: 199**

***Ootheca meridiana* Grobbelaar, 2008**

***Ootheca mutabilis* (Sahlberg, 1829)**

Crioceris mutabilis Sahlberg, 1829: 27

Malacosoma bicolor Allard, 1889: 68; syn. nov.

Ootheca punctata Laboissière, 1931: 23; syn. nov.

***Ootheca orientalis* Weise, 1900: 453**

Ootheca flavipes Laboissière; in litteris; syn. nov.

***Ootheca proteus* (Chapuis, 1879)**

Ergana proteus Chapuis, 1879: 28

Ergana bifrons Laboissière, 1937: 150; syn. nov.

Ootheca bifrons Laboissière, 1925; in litteris, syn. nov.

***Ootheca tilmani* Kortenhaus & Wagner, 2010: 45; sp. nov.**

***Ootheca ugandae* Kortenhaus & Wagner, 2010: 47; sp. nov.**

***Ootheca variabilis* (Laboissière, 1920)**

Ergana variabilis Laboissière, 1920: 132

Ergana variabilis var. *benardi* Laboissière, 1920: 132; syn. nov.

Neben der Revision von *Ootheca* nach modernen phylogenetischen Prinzipien konnten drei weitere Gattungen als monophyletische Einheiten erkannt werden [Kortenhaus & Wagner 2010].

Oothecoides

Oothecoides [Kortenhaus & Wagner 2011] sind, wie schon der Name deutlich macht, den *Ootheca* äusserlich sehr ähnlich. Diese Tatsache erklärt auch, weshalb *Oothecoides bicolor*,

der Gattungstyp, sowohl von Jacoby [1906] zu *Ergana*, als auch von Wilcox [1975] zu *Exosoma* bzw. *Ootheca* zugeordnet wurde. Als charakteristisches Merkmal, das zur Beschreibung einer neuen Gattung führte, ist die besondere Gestalt des Median lobe zu betrachten. Allen in dieser Gattung neu kombinierten oder neu beschriebenen Arten ist zu eigen, dass sie am Apex ihres Endophallus zwei asymmetrische spitze Strukturen besitzen. Die eine dieser Spitzen ist eher klein und unauffällig, während die zweite sehr markant und in sich tordiert ist [Kortenhaus & Wagner 2011; Anhang 2].

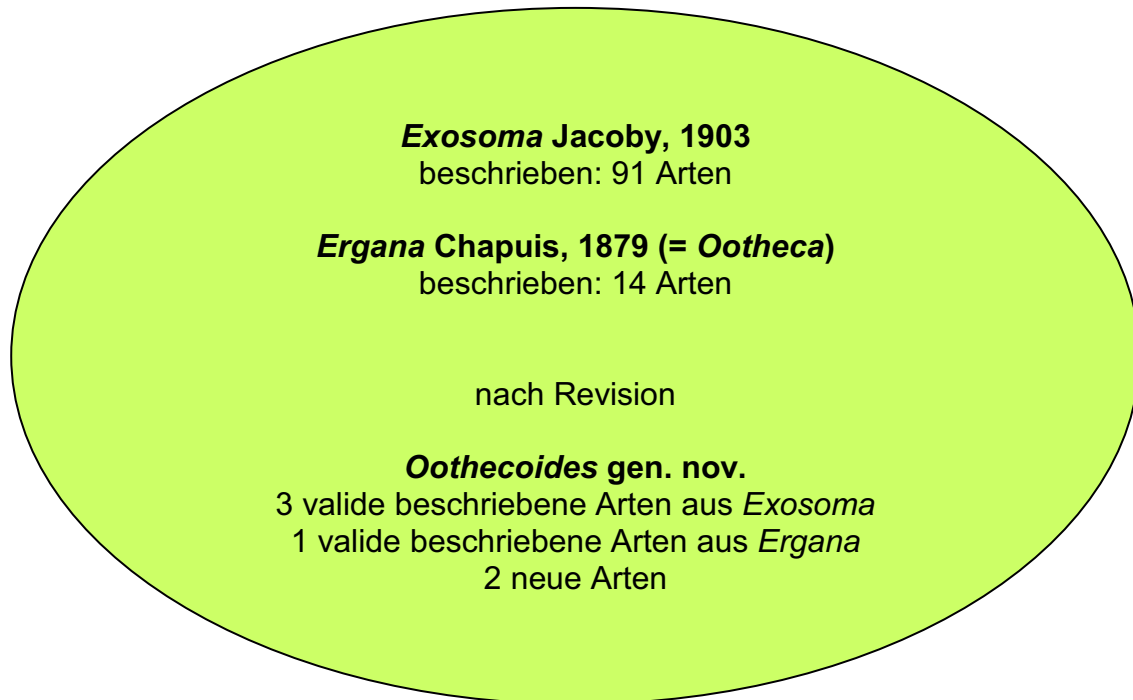


Abb. 2. *Oothecoides* gen. nov.; Transferierung valider Arten aus anderen Gattungen und Neubeschreibungen.

Aktuelle Checkliste von *Oothecoides* nach der Revision durch diese Dissertation:

(Gültiger Name in fett, darunter ggf. originale Kombination (nicht fett), Synonyme eingerückt)

Oothecoides Kortenhaus & Wagner, 2011: 260

***Oothecoides bicolor* (Jacoby, 1906)**

Ergana bicolor Jacoby, 1906: 48.

Exosoma aslami Wilcox, 1973; syn. nov.

***Oothecoides congoensis* Kortenhaus & Wagner, 2011: 268; sp. nov.**

***Oothecoides ivorensis* Kortenhaus & Wagner, 2011: 266; sp. nov.**

***Oothecoides kibonotensis* (Weise, 1909) comb. nov.**

Exosoma kibonotensis Weise, 1909: 201

***Oothecoides maculicollis* (Weise, 1907)**

Exosoma maculicollis Weise, 1907: 218

***Oothecoides straminipennis* (Weise, 1903)**

Malacosoma straminipennis Weise, 1903: 207

Ootibia

Ootibia [Kortenhaus & Wagner 2012; Anhang 3] besitzt zwei Merkmale, die zu einer Definition als neue Gattung berechtigen. Erstens und namensgebend: charakteristische, in Richtung Tarsus verdickte Metatibien, wegen Sexualdimorphismus nur bei männlichen Tieren zu sehen. Und zweitens: die spezifische Gestalt des Median lobe: plump, in der Aufsicht nahezu rechteckig mit zwei ventralen Ausstülpungen, wie Ohren. Der Median lobe sieht aus wie ein eingestülptes Schlauchstück, aus dessen Mitte wie ein Dorn der Endophallus hervorsticht, lateral begleitet von symmetrischen, dreieckigen Skleriten [Kortenhaus & Wagner 2012].

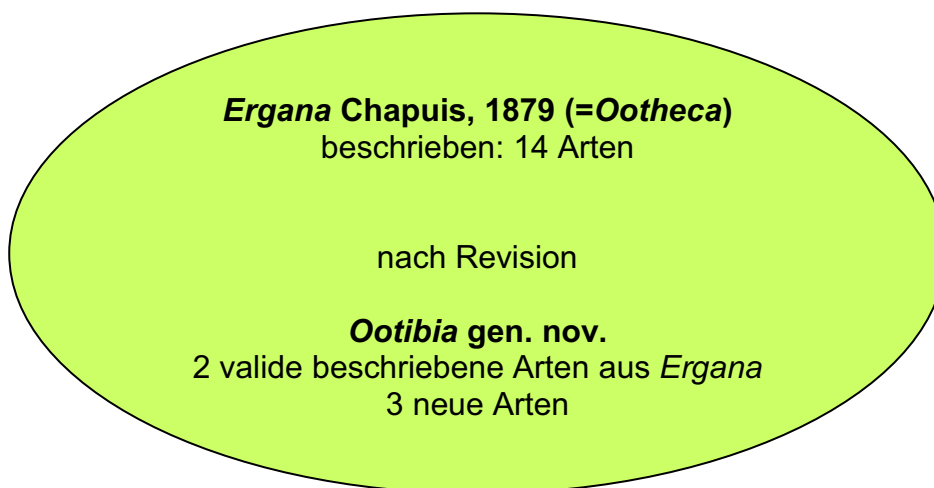


Abb. 3. *Ootibia* gen. nov.; Transferierung valider Arten aus anderen Gattungen und Neubeschreibungen.

Aktuelle Checkliste von *Ootibia* nach der Revision durch diese Dissertation
(Gültiger Name in fett, darunter ggf. originale Kombination (nicht fett), Synonyme eingerückt)

***Ootibia* Kortenhaus & Wagner, 2012**

***Ootibia bimbina* (Laboissière, 1939)**

Ergana podagrica var. *bimbina* Laboissière, 1939: 116

***Ootibia bredoi* Kortenhaus & Wagner, 2012; sp. nov.**

***Ootibia podagrica* (Laboissière, 1939)**

Ergana podagrica Laboissière, 1939: 114

***Ootibia striata* Kortenhaus & Wagner, 2012; sp. nov.**

***Ootibia viridis* Kortenhaus & Wagner, 2012; sp. nov.**

Oosagitta

Der Name *Oosagitta* soll einerseits die Nähe zu *Oothecca* verdeutlichen, andererseits aber auch auf das Spezifikum dieser Arten hinweisen: die charakteristische Gestalt des Medianlobe beziehungsweise des Endophallus, der wie ein kompakter Pfeil geformt ist und sich unter einem Tectum verbirgt, das seinerseits benachbart ist von symmetrischen, spitz auslaufenden Strukturen [Kortenhaus & Wagner 2013; Anhang 4].

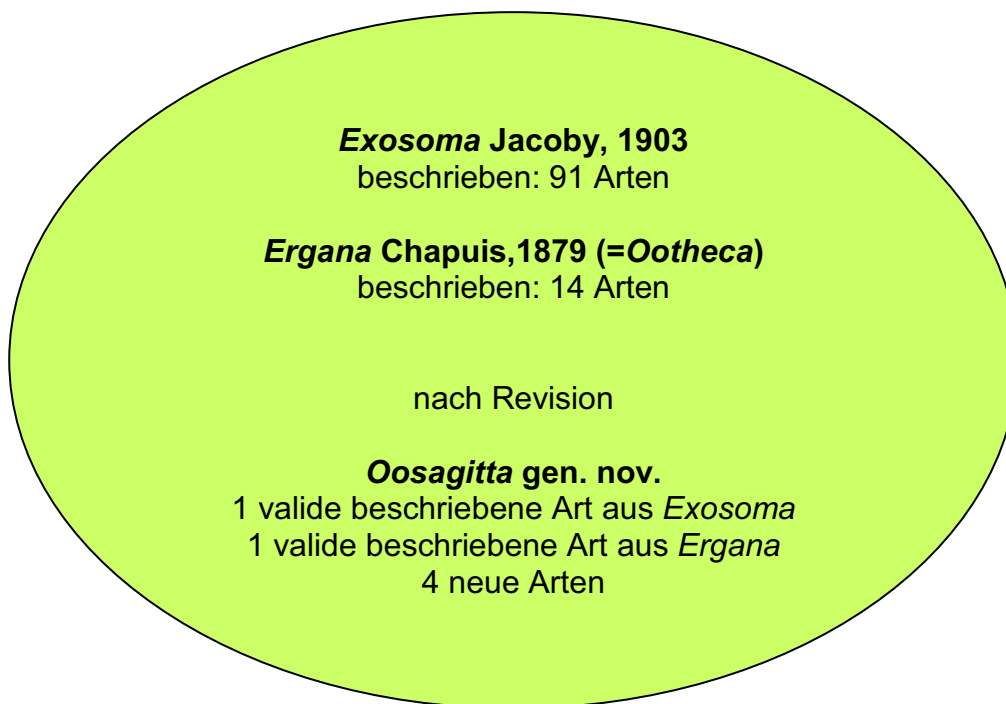


Abb. 4. *Oosagitta* gen. nov.; Transferierung valider Arten aus anderen Gattungen und Neubeschreibungen.

Aktuelle Checkliste von *Oosagitta* nach der Revision durch diese Dissertation:

(Gültiger Name in fett, darunter ggf. originale Kombination (nicht fett), Synonyme eingerückt)

Oosagitta Kortenhaus & Wagner, 2013 (eingereicht)

***Oosagitta angolensis* (Laboissière, 1939)**

Exosoma angolensis Laboissière, 1939: 112

***Oosagitta anningae* sp. nov.**

***Oosagitta geescheae* sp. nov.**

***Oosagitta melanopicta* sp. nov.**

***Oosagitta thomasi* sp. nov.**

***Oosagitta minuta* (Laboissière, 1937)**

Ergana minuta Laboissière, 1937: 151

Liste aller beschriebenen oder früher transferierten Arten von *Ootheca* und *Ergana* vor der Bearbeitung, mit Angabe des aktuellen Status nach Abschluss dieser Dissertation

<i>Crioceris mutabilis</i> Sahlberg, 1829	valide Art von <i>Ootheca</i>
<i>Ergana apicicornis</i> Laboissière, 1931	nicht revidiert; andere Gattung
<i>Ergana bicolor</i> Jacoby, 1906	valide Art in <i>Oothecoides</i>
<i>Ergana bifrons</i> Laboissière, 1937	Synonym von <i>Ootheca proteus</i>
<i>Ergana bourquii</i> Laboissière, 1939	nicht revidiert; andere Gattung
<i>Ergana chapuisi</i> Jacoby, 1899	valide Art von <i>Ootheca</i>
<i>Ergana fulvipes</i> Jacoby, 1903	nicht revidiert; andere Gattung
<i>Ergana hertigi</i> Laboissière, 1931	nicht revidiert; andere Gattung
<i>Ergana minuta</i> Laboissière, 1937	valide Art von <i>Oosagitta</i>
<i>Ergana nigrilabris</i> Laboissière, 1931	nicht revidiert; andere Gattung
<i>Ergana podagrica</i> Laboissière, 1939	valide Art von <i>Ootibia</i>
<i>Ergana proteus</i> Chapuis, 1879	valide Art von <i>Ootheca</i>
<i>Ergana semicaerulea</i> Jacoby, 1939	nicht revidiert; andere Gattung
<i>Ergana variabilis</i> Laboissière, 1920	valide Art von <i>Ootheca</i>
<i>Ergana variceps</i> Laboissière, 1939	Synonym von <i>O. bennigseni</i>
<i>Ergana vittata</i> Laboissière, 1921	nicht revidiert; andere Gattung
<i>Exosoma angolensis</i> Laboissière, 1939	valide Art von <i>Oosagitta</i>
<i>Exosoma aslami</i> Wilcox, 1975	Synonym von <i>Oothecoides bicolor</i>
<i>Exosoma kibonotensis</i> Weise, 1909	valide Art von <i>Oothecoides</i>
<i>Exosoma maculicollis</i> Weise, 1907	valide Art von <i>Oothecoides</i>
<i>Malacosoma bicolor</i> Allard, 1889	Synonym von <i>Ootheca mutabilis</i>
<i>Malacosoma straminipennis</i> Weise, 1903	valide Art von <i>Oothecoides</i>
<i>Ootheca apicalis</i> Bryant, 1956	→ <i>Neobarombiella</i> Bolz & Wagner, 2012
<i>Ootheca apicicornis</i> Laboissière, 1931	nicht revidiert; andere Gattung
<i>Ootheca coerulea</i> Allard, 1888	→ <i>Bonesioides</i> Laboissière, 1925
<i>Ootheca bennigseni</i> Weise, 1900	valide Art von <i>Ootheca</i>
<i>Ootheca bifrons</i> Laboissière, 1925	Synonym von <i>Ootheca proteus</i>
<i>Ootheca costulata</i> Laboissière, 1931	nicht revidiert; andere Gattung
<i>Ootheca cyaneovittata</i> Fairmaire, 1880	→ <i>Glaucorhabda</i> Weise, 1900
<i>Ootheca donckieri</i> Laboissière, 192	nicht revidiert; andere Gattung
<i>Ootheca flavicollis</i> Allard, 1889	→ <i>Bonesioides</i> Laboissière, 1925
<i>Ootheca flavipes</i> Laboissière, in litteris	Synonym von <i>Ootheca orientalis</i>
<i>Ootheca frontalis</i> Laboissière, 1923	valide Art von <i>Ootheca</i>

<i>Oothea kibonotensis</i> Weise, 1909	valide Art von <i>Oothea</i>
<i>Oothea laevipennis</i> Jacoby, 1899	nicht revidiert; andere Gattung
<i>Oothea longula</i> Weise, 1900	nicht revidiert; andere Gattung
<i>Oothea meridiana</i> Grobbelaar, 2008	valide Art von <i>Oothea</i>
<i>Oothea modesta</i> Gahan, 1892	→ <i>Exosoma</i> Jacoby, 1903
<i>Oothea orientalis</i> Weise, 1900	valide Art von <i>Oothea</i>
<i>Oothea punctata</i> Laboissiere, 1931	Synonym von <i>Oothea mutabilis</i>
<i>Oothea serricornis</i> Thomson, 1858	→ <i>Bonesia</i> Baly, 1865
<i>Oothea tinantae</i> Laboissière, in litteris	Synonym von <i>Oothea frontalis</i>
<i>Oothea unicolor</i> Laboissière, 1923	nicht revidiert; andere Gattung

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Revision of *Ootheca* Chevrolat, 1837 from tropical Africa—redescriptions, descriptions of new species and identification key (Coleoptera: Chrysomelidae, Galerucinae)

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Table of contents

Introduction	2
Material and methods	3
Taxonomy	4
Redescription of <i>Ootheca</i>	4
Redescriptions of species	6
<i>Ootheca mutabilis</i> (Sahlberg, 1829)	6
<i>Ootheca proteus</i> (Chapuis, 1879)	14
<i>Ootheca chapuisi</i> (Jacoby, 1899)	18
<i>Ootheca orientalis</i> Weise, 1900	21
<i>Ootheca bennigseni</i> Weise, 1900	25
<i>Ootheca kibonotensis</i> Weise, 1909	31
<i>Ootheca variabilis</i> (Laboissière, 1920)	33
<i>Ootheca frontalis</i> Laboissière, 1923	35
<i>Ootheca meridiana</i> Grobbelaar, 2008	37
Description of new species.....	40
<i>Ootheca eddae</i> sp. n.	40
<i>Ootheca julianae</i> sp. n.	43
<i>Ootheca tilmani</i> sp. n.	45
<i>Ootheca ugandae</i> sp. n.	47
Identification key	49
Checklist of <i>Ootheca</i>	50
Species transferred to other genera	51
Acknowledgements	51
References	52

1. 34th contribution to the taxonomy, phylogeny and biogeography of the Galerucinae

Abstract

The Afrotropical species of *Oothea* Chevrolat, 1837 are revised based on examination of 9560 specimens. *Crioceris mutabilis* Sahlberg, 1829, the type species, is redescribed including comprehensive illustrations of its external and genitalic characters. Synonymy with *Ergana* Chapuis, 1879 is confirmed. Genitalic structures, in particular the median lobe, allow reliable species identification in this genus. Of the 33 species originally described in *Oothea* and *Ergana*, eleven remain in *Oothea*, with four new synonymies, resulting in the following nine valid species: *O. mutabilis* (Sahlberg, 1829) (= *Malacosoma bicolor* Allard, 1889 syn. nov.; = *O. punctata* Laboissière, 1931 syn. nov.); *O. proteus* (Chapuis, 1879) (= *E. bifrons* Laboissière, 1937 syn. nov.); *O. chapuisi* (Jacoby, 1899); *O. bennigseni* Weise, 1900 (= *E. variceps* Laboissière, 1939 syn. nov.); *O. orientalis* Weise, 1900; *O. kibonotensis* Weise, 1909; *O. variabilis* (Laboissière, 1920); *O. frontalis* Laboissière, 1923, *O. meridiana* Grobbelaar, 2008. Four species are herein described as new: *O. eddae* sp. n., *O. julianae* sp. n., *O. tilmani* sp. n., and *O. ugandae* sp. n. Redescriptions or descriptions are given for each of the 13 species, including illustrations of habitus outline, colouration, shape of basal antennomeres and the median lobe. Studied material is listed in detail, photographs of the primary types, distribution maps and a key are given. The 22 remaining described species from *Oothea* have been previously transferred to other genera or will be in subsequent publications.

Key words: Coleoptera, Chrysomelidae, Galerucinae, *Oothea*, *Ergana*, Africa, Afrotropical Region, revision, taxonomy, new species, new synonymy, key

Introduction

The name *Oothea* first appeared in the literature in the fifth volume of the third edition of the Dejean catalogue (Chevrolat 1837: 402). This particular volume comprises many well known chrysomelid taxa which have been in use since those days. There was some confusion about its publication date, due to delays in printing and a fire in December 1835, that destroyed most of the printed stock of volumes one to four. The fifth volume was finally published in May 1837 (Madge 1988). There was also controversy regarding its authorship. However, in the introduction to this volume, responsibility is given to Chevrolat, who is consequently author of all genus- and species-names introduced in this volume. In this catalogue “*Mutabilis*” from Sierra Leone, attributed to Schönherr, is the only species listed under *Oothea*. Therefore, *Crioceris mutabilis* described by Sahlberg in 1829, is type species by monotypy. This was later stated in D’Orbigny’s Dictionnaire by Chevrolat (1849).

There was obviously no clear generic concept of *Oothea* in the nineteenth century, as was the case for many other insect genera. Several leaf beetle species having a “compact” body shape, with a broad pronotum, strongly convex dorsum, short antennae and legs were described in combination with *Oothea*. Weise (1900) was the first to provide a revision of *Oothea*. He critically revised the characters of *O. mutabilis*, that he attributed to Chapuis, and described three new species from German East Africa (Tanzania). He corrected some misinterpretations, e. g. the prothoracic coxal cavities that Chapuis described as “ouvertes” or open, but he found to be completely closed (Fig. 5). Weise also referred to the problems that the generic delimitation of *Oothea* caused and the complexity to distinguish between the species, but found reliable evidence for specific identification in the male genitalia. This underlines the high quality of his work, since more than one hundred years ago, dissection of genitalia was an unusual method to delimitate insect species. In the present revision, the male genitalic characters are crucial for the identification of single species, and also for the delimitation of *Oothea* when compared to other galerucine groups. Aedeagal structure in particular allows reliable specific allocation within this group.

The synonymy of *Oothea* and *Ergana* Chapuis, 1879 (Seeno & Wilcox 1982) is here confirmed. Out of the total of 33 species originally described in these two genera (cf. Wilcox 1973, 1975), only 13 valid species remain in *Oothea*, including four newly described species.

Material and methods

Our revision is based on approximately 9560 specimens from the following collections (abbreviations in parentheses; Tab. 1): The Natural History Museum, London (BMNH); Deutsches Entomologisches Institut, Müncheberg (DEI); Institut Royal des Sciences Naturelles de Belgique, Bruxelles (IRSN); Museo, Università di Torino (MIZT); Musé National d'Histoire Naturelle, Paris (MNHN); Museum für Naturkunde der Humboldt Universität, Berlin (MNHU); Musé Royal d'Afrique Centrale, Tervuren (MRAC); Museo Civico di Storia Naturale, Genova (MCGD); Naturhistoriska Riksmuseet, Stockholm (NHRS); National Museum of Kenya, Nairobi (NMK); National Museum of Namibia, Windhoek (NMNW); Nationaal Natuurhistorisch Museum, Leiden (NNML); South African National Collection of Insects, Pretoria (SANC); Ditsong National Museum of Natural History (previously Transvaal Museum of Natural History), Pretoria (TMSA); Utah Museum of Natural History, Salt Lake City (UMNH); Zoologisches Forschungsmuseum Alexander Koenig, Bonn (ZFMK); Zoologisches Institut und Zoologisches Museum der Universität Hamburg (ZMUH).

TABLE 1. Numbers of examined specimens and studied collections.

Collection	<i>O. mutabilis</i>	<i>O. proteus</i>	<i>O. chapuisi</i>	<i>O. orientalis</i>	<i>O. bennigseni</i>	<i>O. kibonotensis</i>	<i>O. variabilis</i>	<i>O. frontalis</i>	<i>O. meridiana</i>	<i>O. eddae</i> sp. n.	<i>O. julianae</i> sp. n.	<i>O. tilmani</i> sp. n.	<i>O. ugandae</i> sp. n.	total
BMNH	507	24		43	48	6	1	11	398	34	3	16		1091
DEI	7													7
IRSN	1962	8	4	14	308				142					2438
MIZT	3				1									4
MCGD		5												5
MNHN	50			1	18		10		4					83
MNHU	193	1		12	201	2			35	3			1	448
MRAC	3642	12	6	259	967	1		12	93	11	18			5021
NHRS	7				2	1								10
NMK	31	13		100	48	2			3	10	1	4	3	214
NMNW									1					1
RMNH	45				2				1					48
SANC					2				3					5
TMSA									26					26
UMNH	21													21
ZFMK	6													6
ZMUH	57			13	38	8	7		8			1		132
total	6531	63	10	442	1635	20	18	23	714	58	22	21	4	9560

For morphometric data, between 4 and 25 specimens of each species were measured, depending on the availability of material. Absolute measurements (Fig. 1a) consisted of: total length from apex of the labrum to the apex of elytra (TL); pronotal length (PL); maximal pronotal width (PW); length of elytra (EL); maximal width of elytra together (EW). Relative measurements were: pronotal width to pronotal length (PW/PL); maximal width of elytron to elytral length (EW/EL); length of second to third antennomere (2./3.); length of third to fourth antennomere (3./4.); maximal width of eye to minimal distance between eyes (WE/DE); length of basi-metatarsus to length of metatibia (TA/TI). For each species a standard set of figures is given. External

characters are documented by a dorsal, semi-schematic habitus illustration showing the left antenna and legs on the right-side (Fig. 1a), sometimes including a lateral view (Fig. 1b), a drawing of the pronotal / elytral colour pattern (Fig. 12), and detailed illustrations of the four basal antennomeres (Fig. 4). The male genitalic structures are illustrated in dorsal and lateral view (Fig. 10). Variation in shape of the spermathecae is very low between species, and is therefore only given in the generic redescription (Fig. 11). For the description of the type species of the genus, *Ootheca mutabilis* (Sahlberg, 1829), illustrations of the head (dorsal and ventral) (Figs 2a & b), antenna (Figs 3 & 4), prothorax [dorsal (Fig. 5a) and ventral (Fig. 5b)], meso- and metathorax (ventral) (Fig. 6), right hind wing (dorsal) (Fig. 7), right legs (ventral) (Figs 8a, b & c) and male abdomen (ventral) (Fig. 9) are given. All figures on external and genitalic morphology have been drawn by the first author.

For primary type specimens, the label data are cited verbatim, with “/” separating labels. All other specimen label data are standardised: localities are given as precisely as possible; country name locations with traditional names are listed with their current data. Coordinates were taken from the geographical database GeoNames (www.geonames.org, March 2010)—if a location could not be found, mean coordinates for the given district or region were taken in cases of doubt. When one location had many possible coordinates, we abstained from specifying co-ordinates. Dates and collectors are listed where provided.

Taxonomy

Redescription of *Ootheca*

Ootheca Chevrolat, 1837: 402.

= *Ergana* Chapuis, 1879: 27; Seeno & Wilcox 1982: 111.

Type species: *Crioceris mutabilis* Sahlberg, 1829; in Chevrolat (1837: 402) by monotypy; later designated by Chevrolat (1849).

Total length. 3.60–6.80 mm; means of total length for the species range between 4.19–5.98 mm. Females are somewhat larger than males.

Head. Pale yellowish to nearly red, brown or black. Maxillary palp yellowish-red, brown or black, last palpomere conical (Fig. 2). Eyes: convex and ovate (Fig. 2b); a nearly straight, depressed line between the posterior margins of eyes; means of ratios for maximal eye width to minimal distance between eyes vary from 0.50 to 0.69 between species. Labrum yellow to brown or black. Basal antennomeres usually yellowish, from either the fourth or fifth antennomere to terminal antennomere gradually becoming dark-brown to black towards antennal apex, antennae in a few species entirely yellowish or black; mean antennal length to total body length ratio 0.47–0.61; mean length ratio of antennomeres two to three 0.59–0.88 mm; mean length ratio of antennomeres three to four 0.76–0.93 mm (Figs 3, 4).

Thorax. Prothoracic coxal cavities closed (Fig. 5b). Pronotum convexly rounded dorsally, lateral margins distinctly demarcated from disc, anterior angles rounded or protrudent in some species (Fig. 5); some species, particularly large specimens, with slightly impressed inwardly curved line beginning near to the posterior pronotal angle to the basal third of pronotum, parallel with lateral margins, this fine line defines a slight elevation on the pronotal disc; finely punctuated, mostly a unicolourous pale yellow, reddish or black, with two species displaying a bicolourous pattern; length 1.00–1.47 mm; width 1.70–2.58 mm; pronotal width to length ratio 1.60–1.83 (Fig. 1). Elytral colouration yellowish to reddish, brown or black, mostly unicolourous, some species with a pattern (e.g. Fig. 12); coarsely and more deeply punctuated than pronotum; punctuation mostly irregular, only *O. chapuisi* and *O. frontalis* show a partly seriate punctuation on elytral disc; mean length 3.36–4.72 mm; mean width 2.64–3.76 mm; mean width of elytra together to length of elytron ratio 0.71–0.82. Scutellum obtusely / nearly triangular, yellow to black. Meso- and metathorax from yellow to black. Meso- and metasternum very broad (Fig. 6). Alae fully developed (Fig. 7). Legs either unicolourous in all variations of brown, reddish to nearly black, or the tibial apex and tarsi darker than femur; four species show paler brownish femoral apices and /or tarsomeres; mean length of metatarsus to length of metatibia ratio 0.21–0.25; claws appendiculate (Figs 1, 8).

Abdomen. Five visible ventrites (seven sternites, usually the same colour as the meso- and metathorax. Only two species with different colours in meso-/metathorax and abdomen: *O. chapuisi* has much darker abdomen than metasternum and *O. julianae* has much paler abdomen than metasternum. Apical visible sternite in females evenly rounded, males have two deep incisions in outer apical margin (Fig. 9).

Male genitalia. Median lobe, tectum and endophallus are symmetrical (e. g. Fig. 10), except *O. orientalis* which has asymmetrical endophallic armature. Median lobe slightly enlarged apically, parallel-sided, or strongly conical towards apex, and in lateral view slightly curved ventrally. Median lobe in three species more or less deeply incised at apex, in all other cases not incised, but rather rounded or slightly pointed. The tectum is usually divided into two tectorial spurs, with apical hook-like structures in some species. Endophallus slender in most cases with a tube-like basal sclerite and apical endophallic brush; some species with larger endophallic spines. Orifice broad and ovoid.

Female genitalia. Spermatheca with spherical nodulus. Spermathecal ductus slightly sunken within the nodulus, cornu slender, evenly and strongly curved (Fig. 11).

Diagnosis. *Oothea* are Galerucinae with strongly convex, nearly parallel-sided elytra, and pronotum only slightly narrower than elytra, giving the body an elongate-ovate shape (Fig. 1).

The head is very broad with widely separated, strongly protruding eyes. Large, triangular frontal calli separate the eyes, with a distinct depressed line at their base between the posterior ocular margins. Legs are short and broad, the basi-tarsomere slightly enlarged and the claws appendiculate (Figs 1, 8). Antennae are short, the third antennomere about one third longer than second, and the fourth antennomere one third longer to equal length of the third (Figs 3, 4).

Colouration is either unicolourous yellowish- to reddish-brown, in most specimens bicolourous with dark brown to black elytra, rarely with black longitudinal elytral stripes. It is not easy to distinguish members of this genus from some other genera by external characters. Most similar are some species of *Exosoma* Jacoby, 1906 which can usually be differentiated by a more dorso-ventrally compressed body, and a more depressed pronotum with nearly rectangular posterior angles, while those in *Oothea* are less angular and more rounded (Fig. 5).

The only reliable method to distinguish members of this genus is by dissection of the male genitalia. The median lobe is short, less than four times longer than its maximal width in dorsal or ventral view. The basal quarter to third shows a very wide opening (e. g. Figs 10, 20, 26, 32, 49). The median lobe is usually parallel-sided (Figs 10, 37, 53, 65, 69, 73), slightly conical towards the apex (Figs 20, 32, 44, 55, 59) or constricted in the middle (Figs 26, 49). The apex can either be pointed without an apical incision, or has a deep u-shaped apical incision (Figs 20, 37, 55). The median lobe in lateral view is more or less evenly bent ventrally, or the apical third is bent at an angle to the basal part. Very characteristic for *Oothea* is the tectum, which is specifically modified. It consists of two dorsal, more or less slender, often apically hooked tectorial spurs that are attached at the base of the apical third of the median lobe and extend from its middle sometimes to near the apex. These moveable spurs surely play an important role during copulation. The apical part of the endophallus can usually be seen distinctly between the base of the tectorial spurs. While males can be reliably identified utilising their genital structures, spermathecae in females are not distinctive at species level. In sympatric species a reliable identification of females is sometimes not possible without males from the same population. Weise (1900) was already aware of the strong morphological ‘overlap’ between species and wrote that the differentiation of his newly described *O. orientalis* and *O. bennigseni* was only possible by studying the male genitalia.

Host plants and biology. Food plants are known for three species and the life history was studied for *O. mutabilis* (Ochieng 1977; see details in the redescription of this species below). The beetles feed on different species of Fabaceae, including trees like *Erythrina* and herb-like crops such as beans and ground nuts. The larvae feed on the roots, and the adults on the leaves.

Redescriptions of species

Oothea mutabilis (Sahlberg, 1829)

(Figs 1–17)

= *Crioceris mutabilis* Sahlberg, 1829: 27.

= *Malacosoma bicolor* Allard, 1889: 68; syn. nov.

= *Oothea punctata* Laboissière, 1931: 23; syn. nov.

Total length. 4.75–7.65 mm (mean: 5.74 mm; n = 21; Fig. 1a); total height in lateral view 2.10–2.80 mm (mean: 2.54 mm; Fig. 1b).

Head. Yellowish- to reddish-brown, labrum brown to black. Eyes small, maximum width of eye to minimal distance between eyes 0.39–0.63 mm (mean: 0.52 mm; Figs 1a, 2a). Antenna either entirely yellow to yellowish-red, or only four basal antennomeres brownish to black; length ratio of second to third antennomere 0.60–0.80 (mean: 0.67), third to fourth antennomere 0.80–1.00 (mean: 0.83) (Fig. 10).

Thorax. Prothorax unicolourous yellowish- to reddish brown, the same colour as head. Pronotum finely punctured, latero-basal curved impression distinct in large specimens; pronotal width 2.10–2.65 mm (mean: 2.45 mm), pronotal length 1.20–1.50 mm (mean: 1.40 mm), ratio of pronotal width to length 1.61–1.90 (mean: 1.75) (Figs 1, 5). Elytral colouration either unicolourous yellowish- to reddish-brown [cf. the unicolourous lectotype of *Crioceris mutabilis* (Fig. 14)], or contrasting dark brown to black to pronotum and head as in types of *Malacosoma bicolor* (Fig. 15) and *Oothea punctata* (Fig. 16), about 15 % of material studied have bicolourous elytra, having either dark brown to black humerus or entire base of elytra black, and other parts of elytra yellowish- to reddish-brown (Fig. 12); punctuation irregular, somewhat coarser than of pronotum, surface between punctures shiny, without microsculpture; length 3.90–5.25 mm (mean: 4.70 mm); maximal width of elytra together 3.30–4.30 mm (mean: 3.76 mm); maximal width of elytra together to length of elytron ratio 0.73–0.84 (mean: 0.80). Scutellum yellowish- to reddish-brown. Meso- and metathorax yellowish, reddish or light brown. Legs: either entirely reddish-brown to light brown, most specimens with tibia bicolourous with distal two thirds dark brown to black, rarely entirely dark brown to black, in those specimens tarsi also dark brown; length ratio of basi-metatarsus to metatibia 0.19–0.30 (mean: 0.25) (Fig. 8).

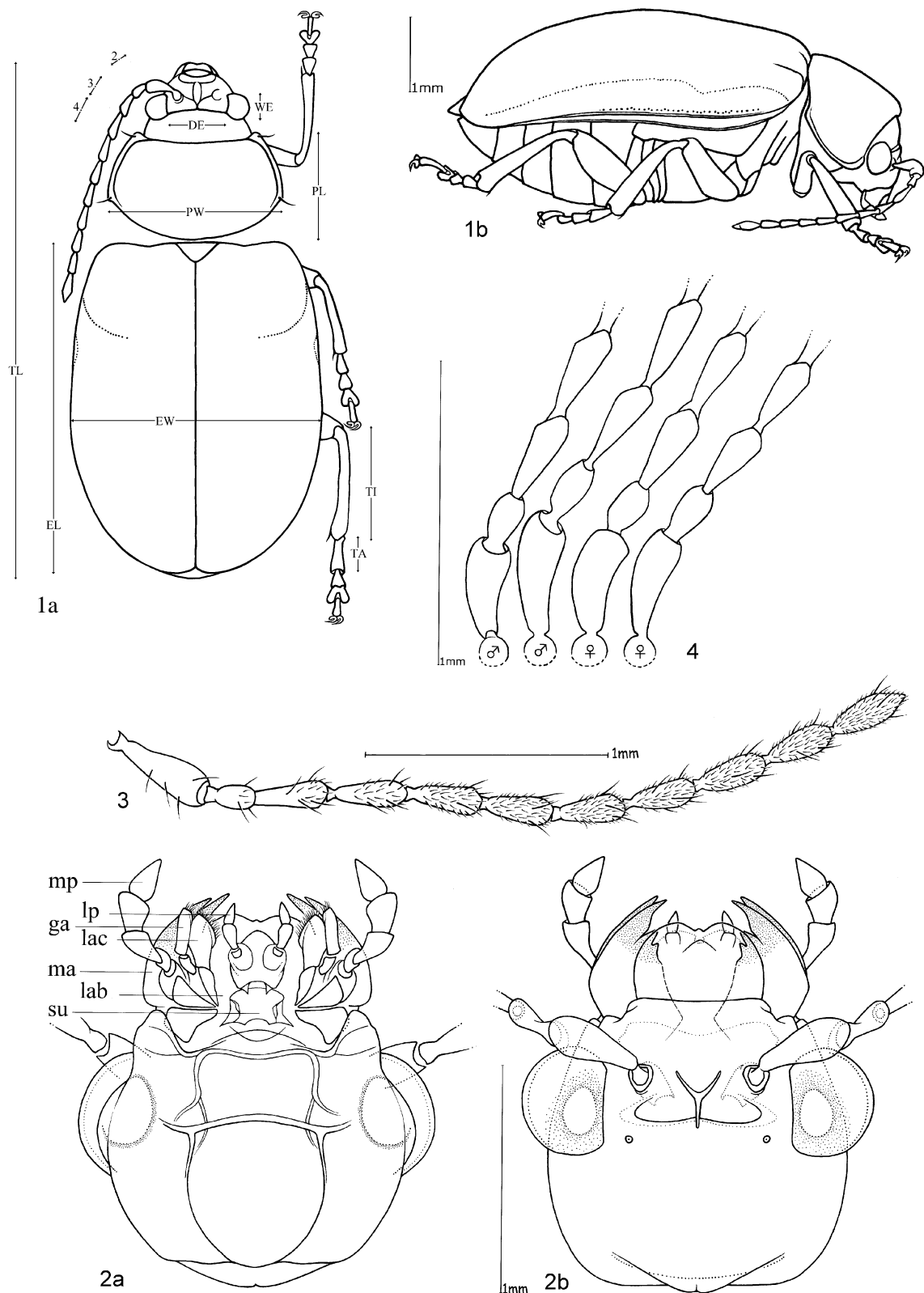
Abdomen. Yellowish- to reddish-brown.

Male genitalia. Median lobe slender, slightly conical, with very small protrudent apical tip. In lateral view slightly curved ventrally. Tectum small and unobtrusive, consisting of two curved tectorial spurs almost touching basally. Endophallus symmetrically arranged, with straight basal sclerite, endophallic brush with two bifurcate apices (Fig. 10).

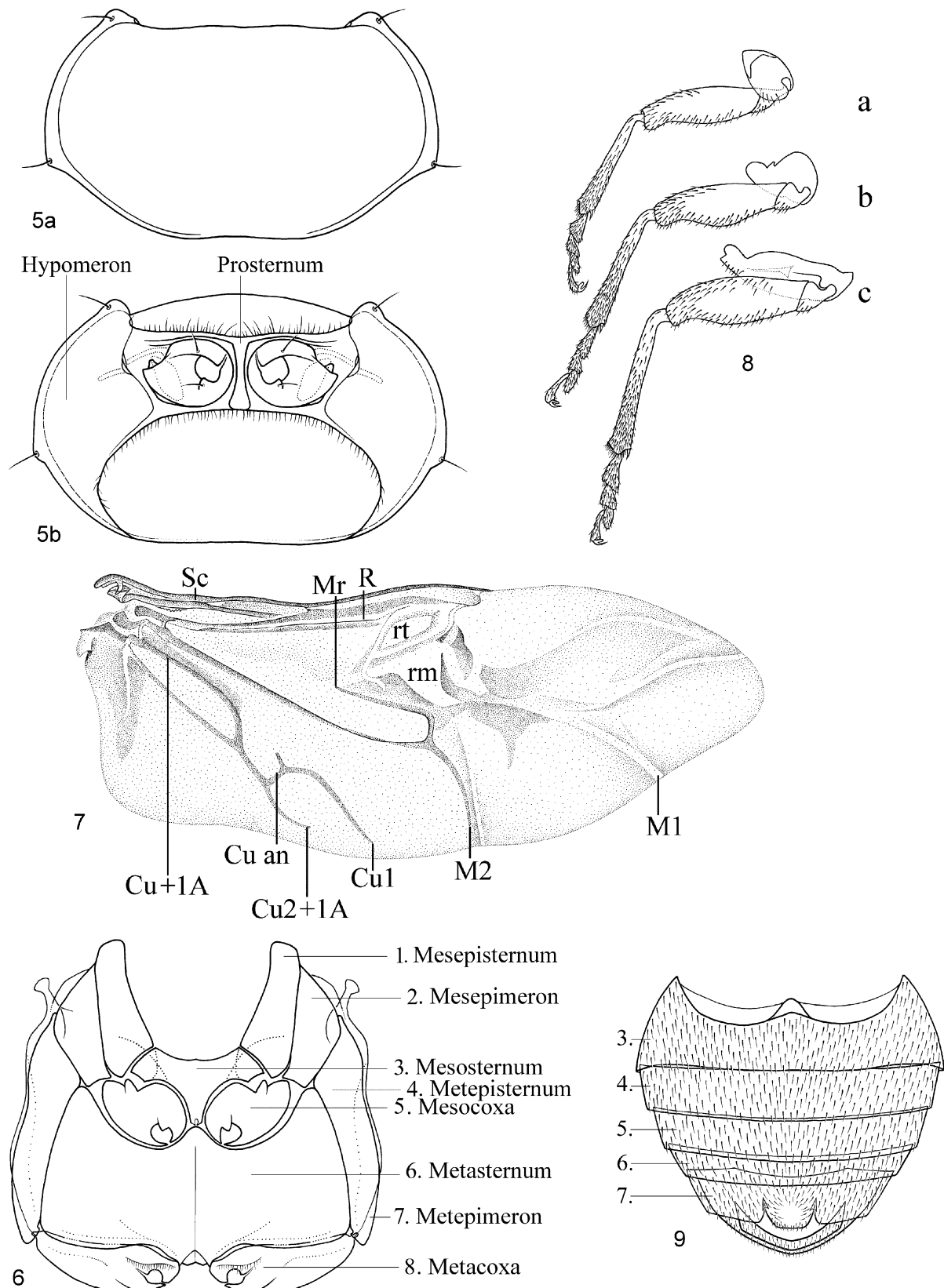
Diagnosis. Since *Oothea mutabilis* shows a wide variation in colouration and body length, it can easily be confused with several other abundant species, in particular *O. proteus*, *O. bennigseni*, *O. orientalis*, *O. kibonotensis*, *O. frontalis*, and *O. eddae* **sp. n.**, when only considering external characters. It has the widest range of all species of *Oothea* (Fig. 13) and despite Weise (1900) thinking it was restricted to western Africa, it has actually been recorded from The Gambia and Kenya in the North, to northern South Africa in the South.

Specimens with bicolourous elytra are characteristic for this species, but this colouration also occurs rarely in *O. orientalis*. The elytral punctuation is usually somewhat coarser than in other species, eyes are comparatively small, resulting in a low eye-index that allows one to distinguish most specimens from those of *O. kibonotensis* (maximum width of eye to minimal distance between eyes ratio 0.39–0.63; *O. kibonotensis* 0.57–0.86), the second antennomere is comparatively long (length of second to third antennomere ratio 0.60–0.80) which allows the differentiation of many specimens of *O. proteus* (0.50–0.71), *O. orientalis* (0.50–0.80) and *O. bennigseni* (0.50–0.73). However, only the study of the male genitalia allows reliable identification of *O. mutabilis* and female specimens sometimes remain indistinguishable.

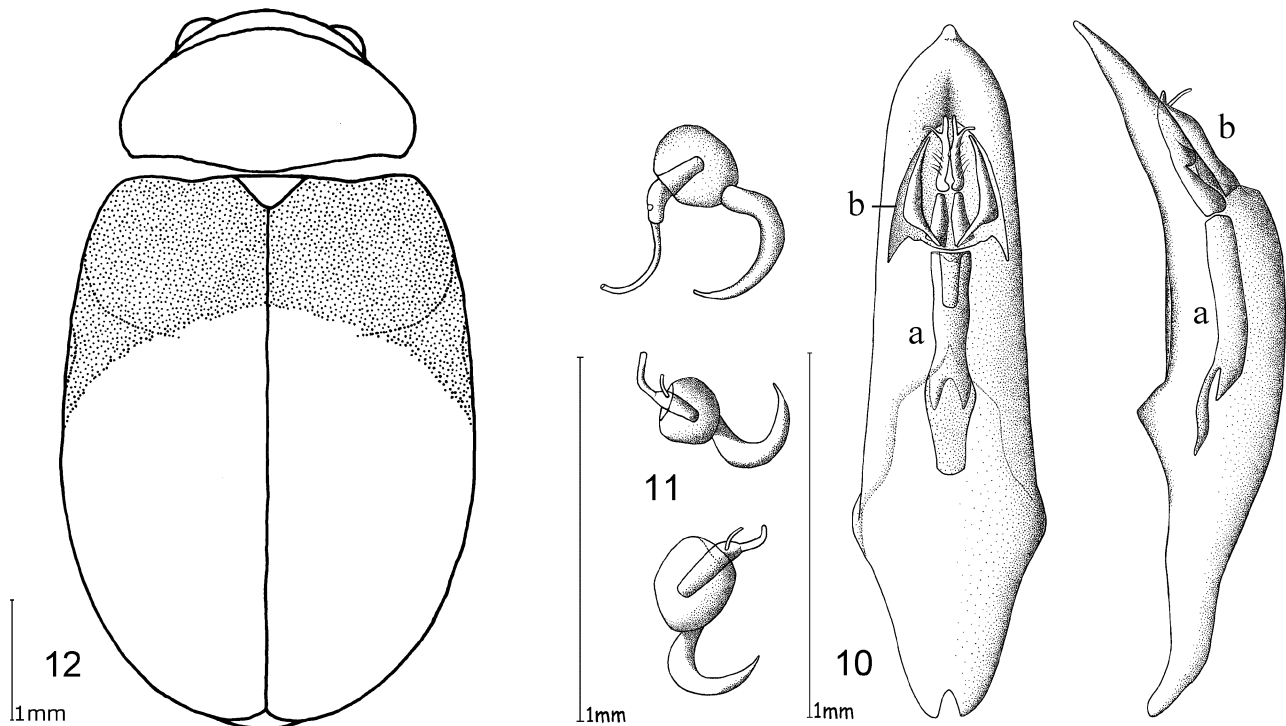
Host plants and biology. This species, as do others in *Oothea*, feeds on Fabaceae and it is sometimes described as pest species on crops (Ochieng 1977). Data on several additional labels of collection material indicates the following: “recoltée sur legumineuses”, “*Canavalia ensiformis* et haricots”, “Parasite de feuilles



FIGURES 1–4. *Ootheca mutabilis* (Sahlberg, 1829). 1a. Habitus, dorsal view indicating morphometric measurements taken of external characters: TL—total length; EL—elytral length; EW—maximum width of elytra combined; PL—pronotal length; PW—pronotal width; WE—maximal width of eye; DE—minimal distance between eyes; 2., 3., 4.—length of second, third and fourth antennomere; TA—length of metatarsus; TI—length of metatibia, Fig. 1b. Habitus, lateral view. 2. Head, a. ventral, b. dorsal; 3. Antenna; 4. Antennomeres 1–4 of two different males and two different females.



FIGURES 5–9. *Ootheca mutabilis* (Sahlberg, 1829). 5. Pronotum: a. dorsal and b. ventral; 6. Meso- and metathorax, ventral; 1 – mesepisternum, 2 – mesepimeron, 3 – mesosternum, 4 – metepisternum, 5 – mesocoxa, 6 – metasternum, 7 – metepimeron, 8 – metacoxa; 7. Hind wing, venation: A—analysis; Cu—cubitus, Cu an—cubitus anterior, M—media, Mr—media radialis, R—radius, Sc—subcosta, rt—radial triangle, rm—cross vein (terminology after Cox & Windsor 1999); 8. Legs: a—prothoracic leg, b—mesothoracic leg, c—metathoracic leg; 9. Abdomen, male, ventral showing sternites 3–7.



FIGURES 10–12. *Ootheca mutabilis* (Sahlberg, 1829). 10. Median lobe: dorsal (left), lateral (right) with a—endophallus, b—tectum; 11. Spermathecae of three different females; 12. Colour pattern.

de haricot”, “attacking beans”, “on *Vigna unguiculata*”, “on cowpeas”. Other plant species recorded are most probably not food-plants, but the beetles were probably found on them by chance: “recoltée sur maïs”, “on *Hibiscus* sp. “, “sur cotonnier”, “leaf of *Cucumis sativus*”, “on *Vindrez subterranea*”.

Immature stages. Larval development of *O. mutabilis* was studied by Ochieng (1977) in Nigeria. Eggs are yellow, elliptical, and translucent and are laid in the soil in batches of approximately 60 eggs, glued together. Larvae emerge after about two weeks and feed on roots of beans and other Fabaceae. Attack by the early instars may go unnoticed, but the older larvae remove lateral roots and cause wilting and premature senescence in bean plants. The larvae go through three instars: the first two last about six days each, and the third lasts nearly ten days, followed by a prepupal stage, which lasts approximately 15 days. The pupal stage, which occurs in an earthen cell within the soil, lasts around 16 days. The duration of larval and pupal development depends on soil temperature, among other factors, and varies between 60 and 250 days. The teneral adults of *Ootheca* may undergo an obligatory diapause until the onset of the rainy season, when they emerge, coinciding with the presence of young bean seedlings.

Distribution. Known from most parts of continental Africa, from Senegal to southern Sudan in the north, towards Angola and north-eastern South Africa in the south (Fig. 13); particularly abundant in Western Africa.

Type material examined. *Crioceris mutabilis*: Lectotype: male, “S. Leone Afzelius / Mutabilis Sahlb. Sp. 64-5 / Lectotypus Th. Wagner desig., 2008 *Crioceris mutabilis* Sahlb. / *Ootheca mutabilis* (Sahlberg, 1829) Kortenhaus & Wagner det. 06 / AfriGa Specimen ID 870, specimen data documented 4.X.2006” (NHRS; Fig. 14). This designation. Type locality: Sierra Leone, no further details available.

Paralectotypes: 3 females, first label “S. Leone Afzelius” one specimen additionally with “var. 3 Sahlb”, another one with “var. 8 Sahlb” (NHRS). Since there is a type series of four specimens available, a designation of a lectotype is necessary to fix the name to a single specimen.

Malacosoma bicolor: Holotype: female, “Tabora / Ex Musaeo E. Allard 1899 / Type / AfriGa Specimen ID 759, specimen data documented 20.II.2004 / *Malacosoma Bicolor* All. Tabora” (MNHN; Fig. 15). Laboissière mentioned only one collecting site and depository and the only specimen found can be considered as holotype. Type locality: Tanzania, Tabora, 8°41’S/32°21’E.

Ootheca punctata: Lectotype: female, “Muséum Paris, Mocambique, Vila Pery, 1929, P. Lesne / 5. Décembre / Type / V. Laboissière Dét: *Ootheca punctata* M. / AfriGa Specimen ID 872, specimen data documented 20.IX.2004” (MNHN; Fig. 16). This designation. Type locality: Mozambique, Vila Pery, 19°00’S/33°30’E. Paralectotypes: 6 males, 6 females, “Museum Paris, Mozambique, Vila Pery, 1929, P. Lesne / 5. Décembre / Cotype / V. Laboissière det: *Ootheca punctata* W.” (MNHN). Designation of a lectotype is necessary to fix the name to a single specimen.

Additional material examined. Angola: 1 ex., Portug. Kongo, Tavares (MNHU); 2 ex., Angola, (BMNH); 4 ex., Chiloango, 5°10’S/12°25’E, M. Tschoffen (IRSN); 2 ex., Malange, 8°50’S/19° 50’E, Pogge (MNHU). **Benin:** 4 ex., Benin, 9°30’N/2°15’E, Staudinger (MNHU); 1 ex., Dahomey, Le Moul vend. via Reinbek (ZMUH); 2 ex., Dahomey, ex coll. Weise (MNHU); 2 ex., Dahomey, coll. Madon (IRSN); 2 ex., Dahomey, Pouillon (MRAC); 6 ex., Zaganado, coll. Clavareau (MRAC); 1 ex., Ketu, 7°22’N/2°36’E, (MRAC); 11 ex., Agoue, 6°41’N/1°41’E, 1879, Abbé Menager (1 ex. BMNH, 10 ex. ZMUH); 1 ex., Benin, 1952, R. Oberthur / G. Allard (MNHN). **Cameroon:** 2 ex. Njam Njam, Semnio, Bohndorff (MNHU); 1 ex., Njam (Njam), 5°25’S/10°50’E, (MNHU); 17 ex., Joko, 5°32’N/12°19’E, coll. Clavareau (MRAC); 8 ex., Joko (1 ex. MNHN, 7 ex. MNHU); 6 ex., Jaunde Stat., Zenker (MNHU); 1 ex., Jaunde Stat., Scheunemann (MNHU); 1 ex., Yaounde, 3°52’N/11°31’E, V.1897, v. Carnap (MNHU); 1 ex., Bondaye, V.1914, (BMNH); 2 ex., Yaounde, X.1914, Tessmann (MNHU). **Central African Republic:** 2 ex., Fort Sibut, 5°44’N/19°05’E, coll. Le Monit (IRSN); 2 ex., Fort Sibut, Le Moul vend. via Reinbek (ZMUH); 3 ex., Lesse, 3°53’N/18°35E, Bonnevie (MRAC); 10 ex., Quango, 4°19’N/22°33’E, v. Merkow (MNHU); 3 ex., Bosum, 6°19’N/16°23’E, V.1914, Tessmann (MNHU). **Congo (Democratic Republic):** 1 ex., Zambi, Ch. Haas (IRSN); 2 ex., Banzville, Hermans (IRSN); 4 ex., Albertville, 5°56’S/29°12’E, J. Duvivier (IRSN); 1 ex., Boma Sundi, P.

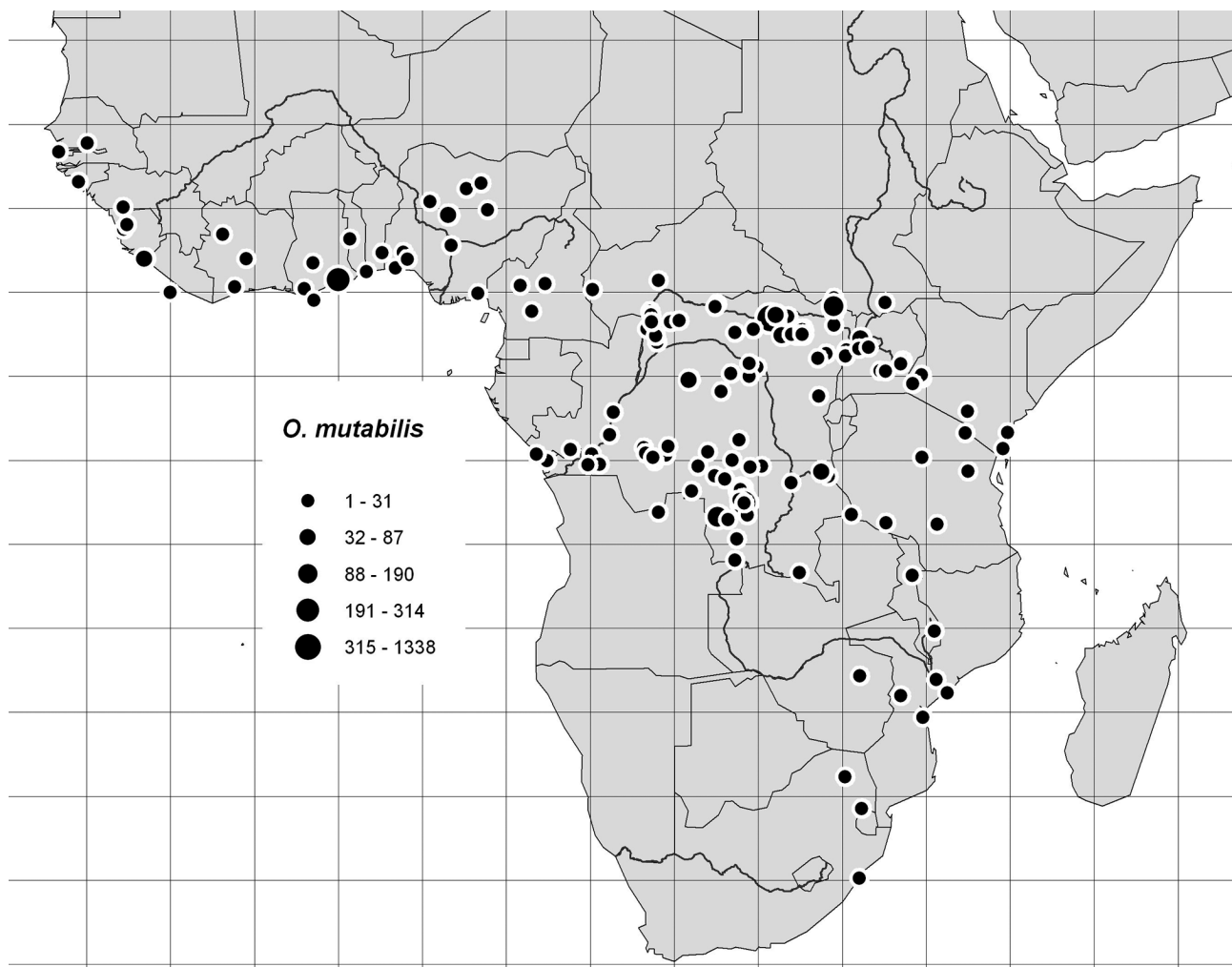


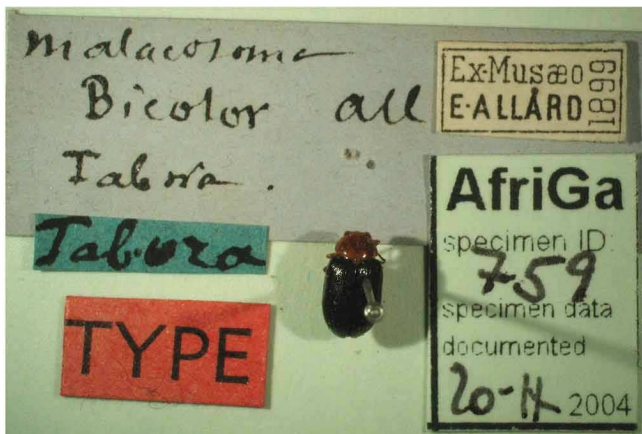
FIGURE 13. Distribution of *Ootheca mutabilis*.



14a



14b



15a



15b



16a



16b

FIGURES 14–16. *Ootheca mutabilis* (Sahlberg, 1829). Type material. 14. Lectotype of *Crioceris mutabilis* Sahlberg, 1829, a. with labels, b. close-up detail of specimen; 15. Holotype of *Malacosoma bicolor* Allard, 1889, a. specimen with labels, b. close-up detail of specimen; 16. Lectotype of *Ootheca punctata* Laboissière, 1931, a. specimen with labels, b. close-up detail of specimen.

Rolin (IRSN); 4 ex., Congo, Dannfelt (NHRS); 1 ex., Dundu upper, H. Barlow (BMNH); 1 ex., Kasai, 4°30'S/22°E, L. Achten (MRAC); 10 ex., Kisantu, 4°38'S/15°5'E, P. Goossens (MRAC); 1 ex., Mawambi, 1°4'N/28°34'E (MNHU); 1 ex., Moliro, 8°13'S/30°34'E, J. Duvivier (IRSN); 4 ex., P. N. G., 4°10'N/29°30'E, P. Jolivet (IRSN); 24 ex., Region des Lacs, Dr. Sagona (20 ex. MRAC, 4 ex. ZMUH); 4 ex., Ibembo, Mt. Itimbini, 2°38'N/23°37'E, III.–V., VIII.1890, J. Duvivier (MNHU); 4 ex., S. W. Albert-Nyanza, Bouenza, 4°20'S/13°51'E, VIII. 1891, Stuhlmann (MNHU); 4 ex., Region de Sassa, 1895/1896, Colmant (MRAC); 1 ex., Beni-Bendi, Sankuru, 4°58'S/23°27'E, I.1895, L. Cloetens (IRSN); 17 ex., Haut-Congo, 1897, Dr. Vedy (MRAC); 69 ex., Lukombe, 5°41'S/28°46'E, X.1908, A. Koller (68 ex. MRAC, 1 ex. ZMUH); 1 ex., Bamba, 4°15'S/18°12'E, III.1911, L. Burgeon (MRAC); 8 ex., Congo da Lemba, 6°50'S/21°02'E, XII.1911, R. Mayne (MRAC); 8 ex., Itoka, 0°10'N/23°23'E, X.1912, R. Mayne (MRAC); 3 ex., Etshushu, X.1912, R. Mayne (MRAC); 3 ex., Mondombe, 0°54'S/22°48'E, X. 1912, R. Mayne (MRAC); 144 ex., Amadi, IV.,V.1913, P. van den Plas (136 ex. MRAC, 8 ex. ZMUH); 2 ex., Tuku, 3°46'S/23°53'E, III.1913, P. van den Plas (MRAC); 8 ex., Aba, Uele, 4° 09'N/22°26'E, IV./ V.1914, Dr. Rodhain (MRAC); 1 ex., Amadi, 3°35'N/26°47'E, VII.1914, Dr. Rodhain (MRAC); 1 ex., Caba, Uele, 4°09'N/22°26'E, IV.1914, Dr. Rodhain (MRAC); 1 ex., Gomgura, Uele, 4°09'N/22°26'E, 1914, Dr. Rodhain (MRAC); 5 ex., Lemfu, Bas Congo, 4°34'S/18°18'E, XII.1914, P. de Beir (MRAC); 2 ex., Mangara, Uele, 4°9'N/22°26'E, VII.1914, Dr. Rodhain (MRAC); 2 ex., Medje, Ituri, 2°25'N/27°18'E, IV.1914, Dr. Christy (MRAC); 2 ex., Bokala, 2°03'N/18°59'E, X.1915, R. Mayne (MRAC); 2 ex., Bokoro, 2°50'S/18°23'E, III.1915, R. Mayne (MRAC); 60 ex., Mayumbe, 2°30'N/27°37'E, XII.1915, XI./XII.1916, R. Mayne (56 ex. MRAC, 4 ex. ZMUH); 1 ex., Kunzulu, 3°29'S/16°09'E, IX.1917, R. Mayne (MRAC); 7 ex., Dungu, 4°41'S/19°30'E, 1919/1920, P. van den Plas (MRAC); 21 ex., Kikwit, 5°20'S/18°49'E, XII.1920, P. Vanderijst (MRAC); 4 ex., Leverville, 4°50'S/18°44'E, 1920, P. Vanderijst (MRAC); 3 ex., Besongo, 5°21'S/25°12'E, X.1921, L. Achten (MRAC); 10 ex., Maniema, 1°11'S/28°37'E, 1921, Blommaert (MRAC); 4 ex., Mongende, IV.1921, Dr. H. Schoutenden (MRAC); 4 ex., Ipamu, 4°09'S/19°38'E, 1922, P. Vanderijst (MRAC); 5 ex., Luebo, Kasai, 5°21'S/21°25'E, XI. 1922, G. Babault (MRAC); 8 ex., Moto, 2°27'N/26°25'E, II.1922, L. Burgeon, Le Moul't vend. via Reinbek (ZMUH); 77 ex., Moto, XII.1922, 1923, L. Burgeon (MRAC); 23 ex., Watsa, 3°03'N/29°32'E, 1922, L. Burgeon (MRAC); 1 ex., Haut-Uele, 2°46'N/27°37'E, 1923, L. Burgeon (MRAC); 2 ex., Mayumbe, 2°30'N/27°37'E, X./XI.1923, A. Collart (MRAC); 2 ex., Katanga, Kasinga, 6°20'S/26°59'E, II.1925, Ch. Seydel (MRAC); 3 ex., Kasai, V. 1924, XII.1925, van Heetnelde (MRAC); 68 ex., Abimva, Haut-Uele, 2°46'N/27°37'E, VI./VII.1925, L. Burgeon (MRAC); 12 ex., Bas-Uele, Buta, 2°48'N/24°44'E, 1926, R. Joseph (MRAC); 2 ex., Ile Bertha, 0°34'N/24°56'E, I.1926, Ghesquiere (MRAC); 1 ex., Yebo Moto, Haut-Uele, 2°46'N/24°28'E, IX.1926, L. Burgeon (MRAC); 1 ex., Bambesa, 3°28'N/25°43'E, II.1927, J. Vrydagh (MRAC); 1 ex., Leverville, 1928, Mme. Tinant (MRAC); 2 ex., Stanleyville, 2°30'N/27°E, VII.1928, A. Collart (IRSN); 24 ex., Lusuku, Lomami, 7°20'S/23°52'E, XI.1930, P. Quarre (MRAC); 9 ex., Julu sur Lua (Ubangi), 3°15'N/19°46'E, 1931, M. van Gils (MRAC); 532 ex., Kaniama, 7°31'S/ 24°11'E, 1931, Massart (MRAC); 1 ex., Lemfu, Bas Congo, 4°34'S/18°18'E, 1931, P. van Eyen (MRAC); 6 ex., Kafakumba, 9°41'S/23°44'E, 1931–1933, G. F. Overlaet (MRAC); 284 ex., Kapanga, 8°21'S/22°35'E, 1931–1933, G. F. Overlaet (MRAC); 50 ex., Dingila, Uele, 3°39'N/26°40'E, VI.–VIII.1933, J. Leroy / H. J. Bredo (MRAC); 1 ex., Katanga, Luashi, 10°56'S/23°37'E, XII.1933, F. Freyne (MRAC); 2 ex., Tshibakala, 8°32'S/23°13'E, X.1933, G. F. Overlaet (MRAC); 14 ex., Tshibamba, 8°15'S/24°22'E, XI.1932, II.1933, G. F. Overlaet (MRAC); 21 ex., Bambesa, I.1934, H. J. Bredo (MRAC); 2 ex., Lukolela, 5°23'S/24°32'E, XI. 1934, Dr. Ledoux (MRAC); 9 ex., Bambesa, X.1933, VIII.1938, J. Leroy (MRAC); 29 ex., Gandajika, XI.1934, I. 1935, Mme. Soyer (MRAC); 14 ex., Eq. Bombona, 2°25'N/18°54'E, V., VIII.1935, A. Bal (MRAC); 9 ex., Congo-Ubangi, Kogbwa, 3°15'N/19°46'E, VII.1935, G. Settembrino (IRSN); 6 ex., Kibali-Ituri, Abock, 1°34'N/30°15'E, X.1935, Ch. Scops (MRAC); 1 ex., Kibali-Ituri, Geti, 1°13'N/30°12'E, 1935, Ch. Scops (MRAC); 5 ex., Kibali-Ituri, Niarembe, 2°15'N/31°7'E, 1935, Ch. Scops (MRAC); 56 ex., Mahagi-Niarembe, 2°15'N/31°7'E, V., XII. 1935, Ch. Scops (MRAC); 53 ex. Ituri, Akini, 1°34'N/30°15'E, V.1936, Dr. Pasteels (MRAC); 1 ex., Luluaberg, 5°54'S/22°25'E, 1936, Puissant (MRAC); 4 ex., Wamba, 1936, Dr. Degotte (MRAC); 1 ex., Gemena, 3°15'N/19°46'E, 1937, C. Leontovitch (MRAC); 2021 ex. Bambesa, 1937, J. Vrydagh (1203 ex. IRSN, 818 ex. MRAC); 14 ex., Karawa, 3°20'N/20°18'E, 1937, Wallin (MRAC); 5 ex., Karawa, 1937, C. Leontovitch (MRAC); 5 ex., Matadi, 6°6'S/23°02'E, II./III.1937, Dr. Darteville (MRAC); 1 ex., Mpese, 5°14'S/15°33'E,

III.1937, J. Cooreman (IRSN); 71 ex., Bambesa, 1938, J. Vrydagh (43 ex. IRSN, 28 ex. MRAC); 10 ex., Elisabethville, 11°40'S/27°28'E, XII.1938, H. J. Bredo (IRSN); 22 ex., Libenge, 3°39'N/18°38'E, VI.1936/VI.1937/V.1938 C. Leontovitch (MRAC); 3 ex., Mongbwala (Kilo), 1938, Mme. Scheitz (MRAC); 3 ex., Uele, 4°9'N/22°26'E, X.1938, R. van den Veen (NNML); 50 ex., Bambesa, V.1938, V., VI.1939, P. Henrard (MRAC); 8 ex., Yangambi, 0°47'N/24°28'E, 1938/1939, P. Henrard (MRAC); 362 ex., Bambesa, VI.1939, J. Vrydagh (7 ex. IRSN, 355 ex. MRAC); 25 ex., Lokandu (Biawa), XII.1939, Vissers (MRAC); 21 ex., Mayidi, 5°11'S/15°9'E, 1942, P. van Eyen (MRAC); 1 ex., Libenge, Mission Mawuja, 3°39'N/18°38'E, X.1947, R. Cremer/M. Neumann (IRSN); 1 ex., Motenge-Boma, 3°15'N18°39'E, X.1947, R. Cremer/ M. Neumann (IRSN); 29 ex., Gandajika, 6°45'S/23°57'E, XI.1948, III.1949, P. de Francquen (MRAC); 441 ex., P. N. G., 4°10'N/29°30'E, 1950, VII., VIII.1951, V.–IX.1952, Miss. H. de Saeger (IRSN); 352 ex., Gandajika, X.–XII.1950, 1952 P. de Francquen (108 ex. IRSN, 244 ex. MRAC); 14 ex., Kabinda, Kaniama, 7°31'S/24°11'E, XI. 1952, J. Vekemans (MRAC); 2 ex., Mt.Embe, 4°40'N/29°32'E, IV.1952, H. De Saeger (IRSN); 1 ex., Yangambi, VII.1952, P. Basilewsky (MRAC); 1 ex., Yangambi, VII. 1952, J. Decelle (MRAC); 48 ex., Bambesa, V.1953, INEAC (MRAC); 21 ex., Bokalakala, 2°08'S/16°22'E, 1954, R. C. Eloy (MRAC); 2 ex., Nagero, 3°45'N/29°31'E, XI.1954, C. Nebay (IRSN); 39 ex., Tshuapa, Ikela, 0°13'S/20°52'E, 1955/1956, P. Lootens (MRAC); 6 ex., Tshuapa, Ikela, 1956, R. Deguide (MRAC); 3 ex., Kaniama, 7°31'S/24°11'E, XI. 1959, J. Vekemans (MRAC); 7 ex., Kaniama, Kabinda, II.1959, P. Henrard (MRAC); 10 ex., Terr. de Kasongo, Riv. Pongo, X.1959, G. Benoit (IRSN); 5 ex., Thysville, 5°15'S/14°52'E, 1959/1963, Michaux (MRAC); 1 ex., Mambasa, 1°21'N/29°3'E, IV.1971 J. Tavernies (MRAC). **Congo (Republic):** 5 ex., N'sesse par Loango, 4°38'S/11°48'E, coll. E. Cordier (IRSN); 3 ex., Franz. Congo (IRSN). **Gabon:** 2 ex., Gabon, ex coll. Breuning (MRAC); 3 ex., Gabon, coll. Duvivier (1 ex. IRSN; 2 ex. MNHN); 1 ex., Gabon, Alte Sammlung (MNHU). **Gambia:** 5 ex., Yundum, 13°22'N/16°39'W, VIII.1956, C. R. Wallace (BMNH); 4 ex., Gambia, 1965, (BMNH). **Ghana:** 1 ex., Ashanti, 6° 45'N/1°30'W, Le Moulte vend. via Reinbek (ZMUH); 21 ex., Ashanti, Simon, ex coll. J. Weise (MNHU); 5 ex., Gold Coast (BMNH); 2 ex., Takoradi, 4°33'N/1°27'W, Besnard, ex coll. Breuning (MRAC); 3 ex., Tamsou, 5°16'N/2°1'W, (BMNH); 4 ex., Aburi, 5°51'N/0°11'W, L. Armstrong (BMNH); 14 ex., Aburi, 1912/1913, Mrs. W. H. Patterson (BMNH); 1 ex., Aburi, 1913, A. R. Gould (BMNH); 314 ex., Accra, 5°45'N/0°00', IX.–X.1920, Mrs. W. H. Patterson (BMNH). **Guinea:** 8 ex., Guinea, Alte Sammlung (MNHU); 2 ex., Guinee, Fairmaire, coll. Clavareau (MRAC); 23 ex., Asente Akem, Junod, coll. Clavareau (MRAC); 8 ex., Kindia, 10°5'N/12°48'W, 1964/1965, J. Dedycker (MRAC). **Guinea Bissau:** 1 ex., Garenganze, Port. W. Africa (BMNH); 1 ex., Bolama, 11°35'N/15°28'W, XII.1899, L. Fea (ZMUH). **Ivory Coast:** 1 ex., Asenie? Akem, 6°45'N/1°30'W (MNHU); 9 ex., Haut-Sassandra, 5°20'N/6°10'W, 1910, A. Chevalier (MNHN); 1 ex., Mankono, 8°27'N/6°52'W, 1910, A. Chevalier (MNHN); 2 ex., Kossou, 7°10'N/5°29'W, VIII.1975, R. Jocqué (MRAC). **Kenya:** 1 ex., Maragoli, 0°06'N/34°43'E, X.1924, Dr. van Someren (MRAC); 2 ex., Arabuko Forest, 3°20'S/39°52'E, VI.1940, T. H. E. Jackson (NMK); 8 ex., Emali Range, 2°50'S/ 37°28'E, III.1940, Sultan Hamud (NMK); 8 ex., Aheru Kisumu, 0°06'S/34°45'E, IV.1941, E. Opiko (NMK); 1 ex., Diani Beach, 4°18'S/39°35'E, V.1957, Krauss (BMNH); 4 ex., Mbita Point, 0°25'S/34°12'E, V.1980, D. Furth (NMK); 7 ex., I.C.I.P.E., V.1981 (NMK). **Liberia:** 21 ex., Suakoko, 6°59'N/9°35'W, V./VI.1953, C.C. Blickenstaff (UMNH). **Malawi:** 1 ex., Nyasaland: Zomba, 15°10'S/35°30'E, H. S. Stannus (BMNH); 2 ex., Chisasira, Chintheche, 11°50'S/34°10'E, XI.1917, R. Jocqué (MRAC); 1 ex., Central Region, I.1970 (BMNH). **Mali:** 3 ex., Mali, 1969/1970, G. Pierrard (MRAC). – **Mocambique:** 3 ex., Chupanga, 18°3'S/35°37'E, S. Tavares (MNHU); 1 ex., Zambesi, 18°50'S/36°17'E, Le Moulte vend. via Reinbek (ZMUH); 3 ex., Vallee du Pungoue Guengere, I. 1906, G. Vasse (MNHN); 4 ex., Chibababa, Lower Buzi R., XII.1906, C. F. M. Swynnerton (BMNH). **Nigeria:** 2 ex., Lokoja, 7°48'N/6°44'E, L. M. Bucknill (BMNH); 11 ex., Old Calabar, 4°57'N/8°19'E (8 ex. BMNH, 3 ex. NHRS); 2 ex., Nigeria, A. W. J. Pomeroy (BMNH); 1 ex., Kontagora, 10°24'N/5°28'E, IX.1910, J. J. Simpson (BMNH); 53 ex., Minna, 9°36'N/6°33'E, X. 1910, J. J. Simpson (BMNH); 4 ex. Ibadan, 7°23'N/3°53'E, VII.1913, Dr. W. A. Lamborn (BMNH); 4 ex., Lagos, 6°27'N/3°24'E, VII.1949, W. E. S. Merret (BMNH); 19 ex., Vieux Calabar, 4°57'N/8°19'E, 1952, R. Oberthur/G. Allard (MNHN); 12 ex., Apeji, 6°58'N/4°07'E, III.–V.1952, U. C. Ibadan (BMNH); 7 ex., Kano Dist., 11°30'N/8°30'E, VII.1953, W. E. S. Merret (BMNH); 9 ex., Jos, 9°55'N/8°54'E, 1964/1967, E. Bolt Gwong (MRAC); 1 ex., Samaru, 11°10'N/7°38'E, VIII.1969, S. A. Ogidi (BMNH); 1 ex., Samaru, VII.1970, P. H. Ward (BMNH); 3 ex., Minna, VIII.1975, W. Bogutko (MIZT). **Senegal:** 1 ex.,

Senegal, L. Burgeon (MRAC); 1 ex., Senegal, (BMNH); 1 ex., Kari, 13°54'N/14°57'W, VII.1913, C. Fouquet (MRAC); 1 ex., Senegal, VIII.1951, J. Appert (BMNH). **Sierra Leone:** 4 ex., Sierra Leone, 5°00'N/10°W, Fry Coll. (BMNH); 1 ex., Mayamba, 9°2'N/12°36'W, coll. E. Cordier, Le Moul't vend. via Reinbek (ZMUH); 1 ex., Rhobomp, Fairmaire, coll. Clavareau (MRAC); 2 ex., Rhobomp, Baly Coll. (BMNH); 1 ex., Sierra Leone (MNHU); 2 ex., Sierra Leone, ex coll. Weise (MNHU); 1 ex., Sierra Leone, coll. Clavareau (MRAC); 42 ex., Juring, 7°0'N/11°32'W, II.1891, A. F. Demery (NNML); 2 ex., Port Lokko, 8°46'N/12°47'W, VIII.1925, E. Hargreaves (BMNH); 1 ex. Njala, IX. 1935, E. Hargreaves (BMNH). **South Africa:** 2 ex., Natal, 29°51'S/31°1'E, (MNHU); 2 ex., Natal, Le Moul't vend. via Reinbek (ZMUH); 1 ex., Transvaal, Sheba, 25°43'S/31°10'E, II. 1918, (BMNH); 2 ex., Tzaneen TP, 23°50'S/30°10'E, II.1932, van Velden (BMNH); 2 ex., Natal, 1952, R. Oberthur / G. Allard (MNHU). **Sudan:** 3 ex., Singbi, Sudan (BMNH); 2 ex., Torit, 4°25'N/32°34'E, VIII.1962, (BMNH). **Tanzania:** 1 ex., Ugogo, 6°07'S/35°30'E, v. Beringer & Jost (MNHU); 4 ex., Derema (Forest), 5°38'S/37°30'E, XI.1899, L. Conradt (MNHU); 2 ex., Irangi, 8°48'S/35°39'E, I.1912, E. Obst (MNHU); 1 ex., Singida, 4°49'S/34°45'E, E. Burt (BMNH); 1 ex. Moshi, 3°21'S/37°20'E, IV.1957, P. Basilewsky / N. Leleup (MRAC). **Togo:** 3 ex., Bobo in Togo, Miss. de Witte (IRSN); 189 ex., Togo, Miss. de Witte (IRSN); 4 ex., Bonoin?, Togo, Le Moul't vend. via Reinbek (ZMUH); 1 ex., Misahöhe, 6°59'N/0°40'E, G. Smend (MNHU); 36 ex., Togo, Spemann, coll. Clavareau (MRAC); 7 ex., Togo, L. Conradt, coll. Kraatz (DEI); 2 ex., Togo, Dr. Schulz, ex coll. J. Weise (MNHU); 4 ex., Amedzowe, J. Weise (MNHU); 1 ex., Sokodé Basari, F. Schröder (MNHU); 1 ex., Bismarckburg, 8°11'N/0°41'E, VIII.1891, R. Büttner (MNHU); 3 ex., zw. Klein-Popo u. Bismarckburg, VIII.1892, L. Conradt (MNHU); 29 ex., Bismarckburg, VIII.1892, III.–V.1893, L. Conradt (MNHU); 39 ex., Misahöhe, IV.–VI.1894, E. Baumanns (MNHU); 6 ex., Yob, V.1963, Mme. Y. Schach (MRAC). **Uganda:** 2 ex., Sesse Ins., 0°20'N/32°15'E, (MNHU); 9 ex., Albertsee, 1°40'N/31°00'E, IV.1908, Exp. Herzog A. F. z. Mecklenburg (MNHU); 4 ex., Busso Busoga, 0°45'N/33°30'E, 1909, Dr. E. Bayon, Le Moul't vend. via Reinbek (ZMUH); 1 ex., Uganda, Le Moul't vend. via Reinbek, (ZMUH); 1 ex., Brit. E. Africa, coll. Clavareau (MRAC); 6 ex., Dwoli, IV.1927, H. Hargreaves (1 ex. BMNH, 5 ex. ZMUH); 1 ex., Vukula, 0°57'N/33°36'E, V.1930, R. T. Wickham (NMK); 4 ex., Kampala, 0°19'N/32°35'E, IV.1930, H. Hargreaves (BMNH); 1 ex., Kampala, IV.1948, A. F. Gedye (NMK); 6 ex., Budongo Forest, 1°45'N/31°35'E, VII.1995, Th. Wagner (ZFMK). **Zambia:** 1 ex., N. Rhodesia, 1912, Dr. Lloyd (BMNH). **Zimbabwe:** 5 ex., Salisbury, 17°50'S/31°03'E, XII.1894, G. A. K. Marshall (BMNH).

Ootheca proteus (Chapuis, 1879)

(Figs 17–23)

Ergana proteus Chapuis, 1879: 28.

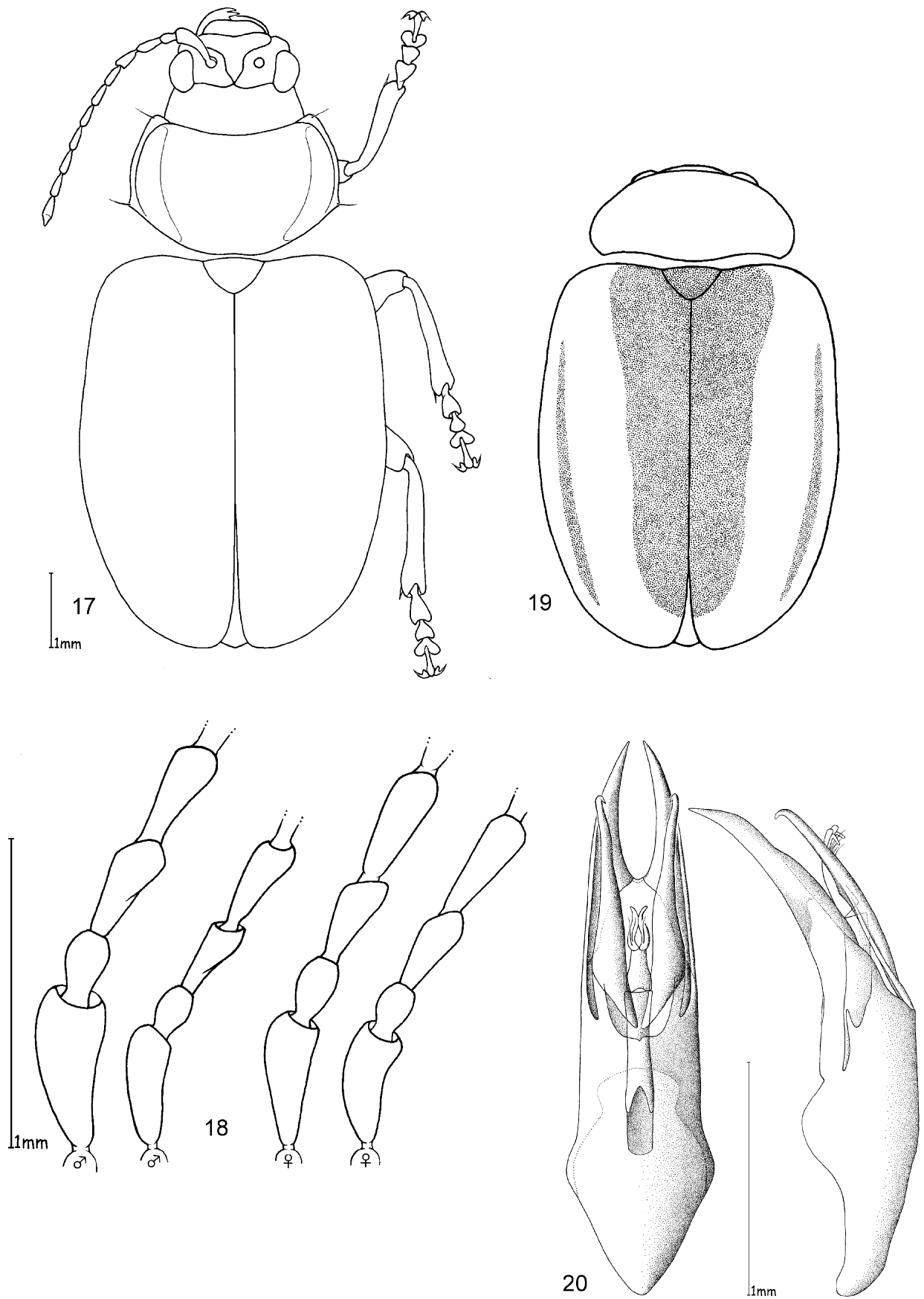
= *Ootheca bifrons* Laboissière, 1925: in litteris

= *Ergana bifrons* Laboissière, 1937: 150; syn. nov.

Total length. 4.60–7.65 mm (mean: 5.98 mm; n = 15; Fig. 17).

Head. Brownish, all shades from yellowish to dark brown, or black. Antennae yellowish-brown at base, fifth to terminal antennomeres brown to black; length ratios, second to third antennomere 0.50–0.71 (mean: 0.59); third to fourth antennal antennomere 0.71–1.00 (mean: 0.88; Fig. 18). Maximal width of eye to minimal distance between eyes ratio 0.45–0.57 (mean: 0.51).

Thorax. Yellowish-brown, dark brown or black. Pronotum finely punctuated, latero-basal curved pronotal impression distinct in most specimens; width 2.00–3.15 mm (mean: 2.58 mm), length 1.15–1.65 mm (mean: 1.44 mm), width to length ratio 1.65–1.91 (mean: 1.80). About 50 % of specimens examined with yellow to yellowish-brown elytra with dark brown to black sutural band, more or less broad usually narrowing gradually towards apex, some of these specimens with additional narrow black sublateral elytral stripe (Fig. 19). Pronotum of specimens displaying this stripe either brown or black with yellowish lateral margins. About 35 % of specimens have completely dark brown to black elytra and 15 % possess elytra in various shades of brown. Elytra irregularly and more coarsely punctuated than pronotum; length 3.60–5.80 mm (mean: 4.72 mm); maximal width of elytra together 2.90–4.20 mm (mean: 3.67 mm); ratio of maximal elytral width



FIGURES 17–20. *Oothecca proteus* (Chapuis, 1879). 17. Habitus, dorsal view; 18. Antennomeres 1–4 of two different males and two different females; 19. Colour pattern of some specimens; 20. Median lobe: dorsal (left), lateral (right).

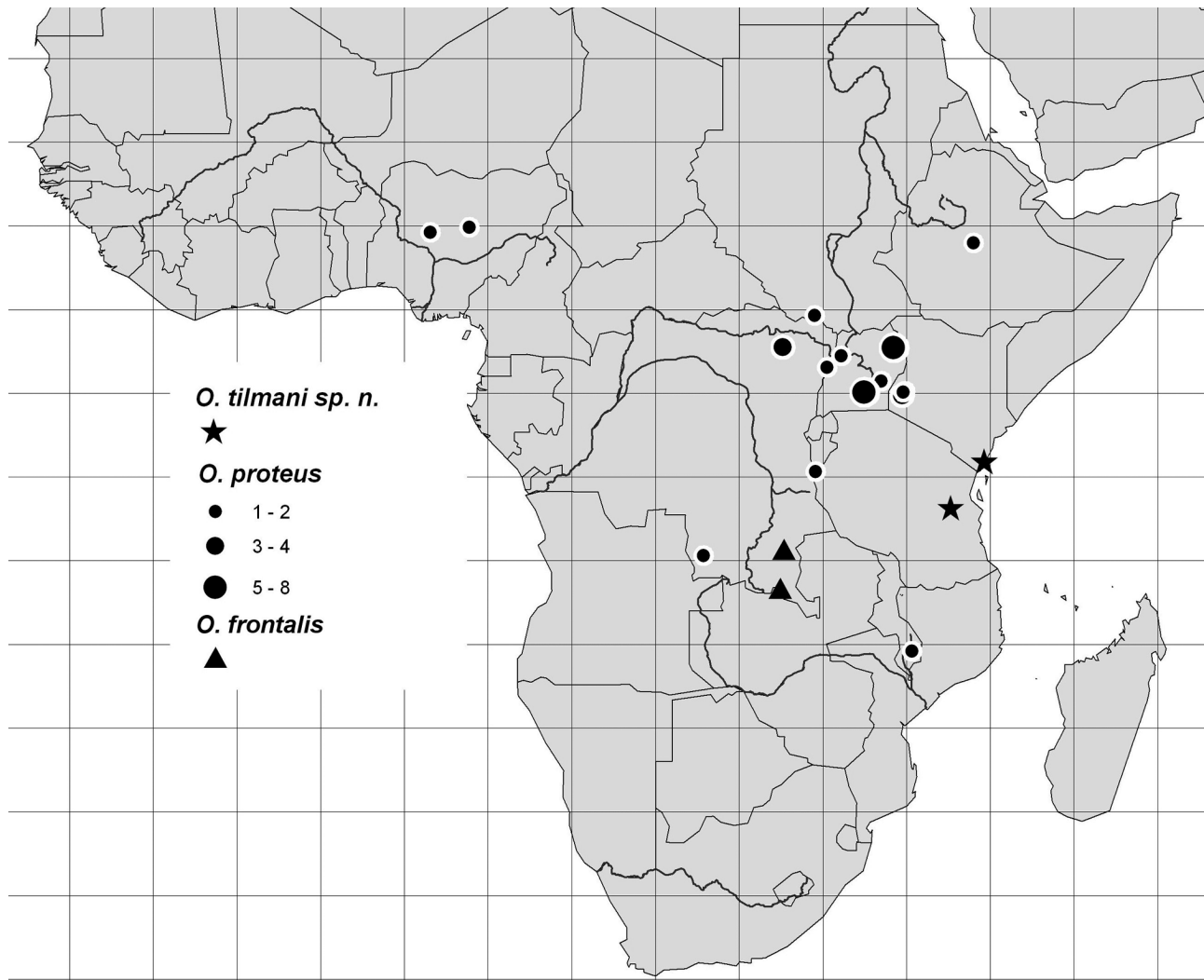


FIGURE 21. Distribution of *Ootheca proteus*, *O. tilmani sp. n.* and *O. frontalis*.

together to length 0.71–0.83 (mean: 0.77). Scutellum yellowish-brown to black. Legs same colour as pro-, meso- and metathorax of the respective specimens, or unicolourous dark brown or black; length ratio of basimetatarsus to metatibia 0.19–0.26 (mean: 0.21).

Abdomen. Brownish to black as thorax.

Male genitalia. Median lobe slightly conical and ventrally curved towards apex, deeply incised apically (Fig. 20). Tectum consisting of two symmetrical ventrally curved tectorial spurs slightly shorter than median lobe, bases cover endophallic brush and apices sharply pointed. Endophallic brush with two dorsally curved spines.

Diagnosis. Specimens having unicolourous yellowish-brown or dark brown to black elytra, comprise about half of the material examined, and are most similar to *O. bennigseni* and *O. meridiana*. It is not possible to distinguish these three species by external characters. They are most likely sister-species, since male genitalic patterns also show many similarities, but can be differentiated by the much deeper apical incision of the median lobe and a variation in the tectorial spurs and endophallus. Similar, and also with strong overlap in many external characters, is *O. mutabilis* with a relatively shorter second antennomere (length ratio of second to third antennomere 0.60–0.80; *O. proteus* 0.50–0.71), and *O. orientalis* with lateral pronotal margins usually curved to a lesser extent. However, most specimens cannot be reliably identified by external characters. Specimens with dark brown to black elytral suture, as the type specimens of *Ergana bifrons* (Fig. 23), resemble *O. julianae sp. n.* (Fig. 66), which is on average smaller (total length 3.72–4.96 mm; *O. proteus* 4.60–7.75 mm) has much larger eyes (ratio of maximum width of eye to minimal distance between eyes 0.59–

0.69; *O. proteus* 0.45–0.57) and usually also has broad black elytral outer margins. *Oothecca proteus* with sutural stripes are very similar in size and elytral colouration to *O. ugandae* **sp. n.** The only external species specific character is the anterior pronotal angles, which protrude significantly in *O. ugandae* **sp. n.** but are more rounded in *O. proteus* (as in *O. bennigseni*). Furthermore, *O. variabilis* and *O. julianae* **sp. n.** possess similar colouration, but they are on average smaller. Definite allocation to species, without dissection of the male genitalia, is often not possible.

Distribution. Most specimens are from the area along the Albertine Rift known as Kivu, Democratic Republic of the Congo, Uganda and western Kenya, with single records from up to Nigeria in the west, the Ethiopian Highlands in the North and Malawi in the South (Fig. 21).

Type material examined. *Ergana proteus*: Lectotype: female “Bogos, 1870, Keren, O. Beccari / Syntypus *Ergana proteus* Chapuis, 1879 / Museo Civico di Genova / AfriGa Specimen ID 888, specimen data documented 7.IV.2004” (MCGD; Fig. 22). This designation. Type locality: Ethiopia, Keren.

Paralectotypes: 4 females, same data as lectotype (1 ex. BMNH, 3 ex. MCGD). Chapuis mentioned five different variation types according to the dorsal colouration and different colouration of tibiae and tarsi. Four variations refer to entirely yellowish specimens, and the fifth is a specimen with black elytra. This type series is representative of nearly the entire colour spectrum for the species. Designation of a lectotype is necessary to fix the name to a single specimen.



22a



22b



23a



23b

FIGURES 22–23. *Oothecca proteus* (Chapuis, 1879). Type material. 22. Lectotype of *Ergana proteus* Chapuis, 1879, a. specimen with labels, b. close-up detail of specimen; 23. Lectotype of *Ergana bifrons* Laboissière, 1925, a. specimen with labels, b. close-up detail of specimen.

Ergana bifrons: Lectotype: female “Uganda Bussu Busoga 1909 D.re. E. Bayon / Type / *Ergana bifrons* m. V. Laboissière – Dét. / Mus. Civ. Genova / AfriGa Specimen ID 881, specimen data documented 7.IV.2004” (MCGD; Fig. 23). This designation. Type locality: Uganda, Busoga, 0°45'N/33°30'E.

Paralectotypes: 4 ex., same data as lectotype (MCGD); 2 females “Entebbe, Uganda, 29.III.1913, No. 2290, C. C. Gowdey / Type / Type female / Pres. by Imp. Inst. Ent. Brit. Mus. 1932–295 / *Ergana* (subg. *Ootheca*) *bifrons* m. V. Laboissière – Dét.” (BMNH). Laboissière mentioned seven specimens in his original publication, and a lectotype is herein designated to fix the name to a single specimen.

Ootheca bifrons: 1 female, “Entebbe, Uganda, 30.III.1913, C. C. Gowdey, No.2290 / Pres. By Imp. Bur. Ent. Brit. Mus. 1925-91. / Type / V. Laboissière det. 1925: *Ootheca bifrons* m”. Type locality: Uganda, 0°4'N/32°28'E. This specimen was obviously labelled by Laboissière some years before he described the epithet in combination with *Ergana*.

Additional material examined. Congo (Democratic Republic): 3 ex., Abimva, Haut Uele, 2°46'N/27°37'E, VI.1925, L. Burgeon (MRAC); 1 ex., Sandoa, 9°41'S/22°52'E, XI.1931, G. F. Overlaet (MRAC); 2 ex., Kibali-Ituri, Niarembe, 2°15'N/31°07'E, XI.1935, Ch. Scops (MRAC); 2 ex., Ituri, Akini, N. Aru, 1°34'N/30°15'E, V.1936, Dr. Pasteels (MRAC); 1 ex., Mt. Embe, P. N. G., 4°40'N/29°32'E, IV.1952, H. de Saeger (IRSN); 7 ex., Inimvua, P. N. G., V.1952, H. de Saeger (IRSN). **Ethiopia:** 1 ex. Abyssin., Steudner (MNHU); 5 ex., Abyssinia, 1876, (BMNH); 2 ex. Shoa-Prov., Gibbie Gorge, 9°00'N/39°00'E, VII.1971, G. de Rougemont (MRAC). **Kenya:** 1 ex., Nyangori, N-Kavirondo, 4800 ft, 0°04'N/34°48'E, V.1911, S. A. Neave (BMNH); 1 ex., Kaimosi, 0°8'N/34°56'E, 1932, A. Turner (NMK); 5 ex. Kisumu, 0°06'S/34°45'E, III.1936, H. J. A. Turner (NMK). **Malawi:** 2 ex., Zomba, 15°23'S/35°20'E, IX.1995, coll. Chikaonda (BMNH). **Nigeria:** 2 ex., Minna, 9°37'N/6°33'E, X.1910, J. J. Simpson (BMNH); 2 ex., Jos, 9°55'N/8°54'E, 1965/1968, E. Bot Gwong (MRAC). **Sudan:** 1 ex., Kadugli, 11°1'N/29°43'E, VII.1962, (BMNH). **Tanzania:** 1 ex., Mwamgongo, 4°40'S/29°35'E, XI.1943, Meneghetti (NMK). **Uganda:** 1 ex., Uganda, Fry coll. (BMHN); 1 ex., Buera, IV.1910, C. C. Gowdey (BMNH); 1 ex., West-Nile near river, IX.1925, Dr. G. D. H. Carpenter (BMNH); 4 ex., Karamoja, 2°45'N/34°15'E, IV.1950, T. H. E. Jackson (NMK); 2 ex., Karamoja, Labwor Hills, Aremo, 2°35'N/33°47'E, IV.1951, T. H. E. Jackson (NMK).

Ootheca chapuisi (Jacoby, 1899)

(Figs 24–28)

Ergana chapuisi Jacoby, 1899: 366.

Total length. 3.64–5.04 mm (mean: 4.19 mm, n = 10; Fig. 24).

Head. Yellowish- to reddish-brown. Antennae slightly paler, usually yellow basally, becoming darker brown from the fifth antennomere towards the apex; length ratio of second to third antennomere 0.60–0.91 (mean: 0.77); third to fourth antennomere 0.79–1.00 (mean: 0.93; Fig. 25). Maximal width of eye to minimal distance between eyes ratio 0.50–0.57 (mean: 0.53).

Thorax. Prothorax yellowish- to reddish-brown. Pronotum finely punctuated, latero-basal pronotal impression indistinct or lacking; width 1.52–2.00 mm (mean: 1.72 mm); length 0.96–1.28 mm (mean: 1.07 mm); slender, width to length ratio 1.50–1.68 (mean: 1.60). Elytra black, rarely with insignificant metallic blueish sheen, outer margin and epipleura sometimes lighter reddish-brown; much more coarsely punctuated than pronotum, the sutural punctures seriate giving the median third of the elytra a striped appearance; length 2.80–3.80 mm (mean: 3.26 mm), elytra nearly parallel-sided and slender, maximal width of elytra together 2.24–3.04 mm (mean: 2.64 mm); maximal width of elytra together to length of elytron ratio 0.72–0.86 (mean: 0.81). Scutellum reddish-brown to black. Meso- and metathorax dark brown. Legs dark brown to black, femoral apex, tibial base and three distal tarsomeres paler brownish-red; length ratio of basi-metatarsus to metatibia 0.21–0.27 (mean: 0.22).

Abdomen. Reddish-brown, in contrast with much darker metasternum.

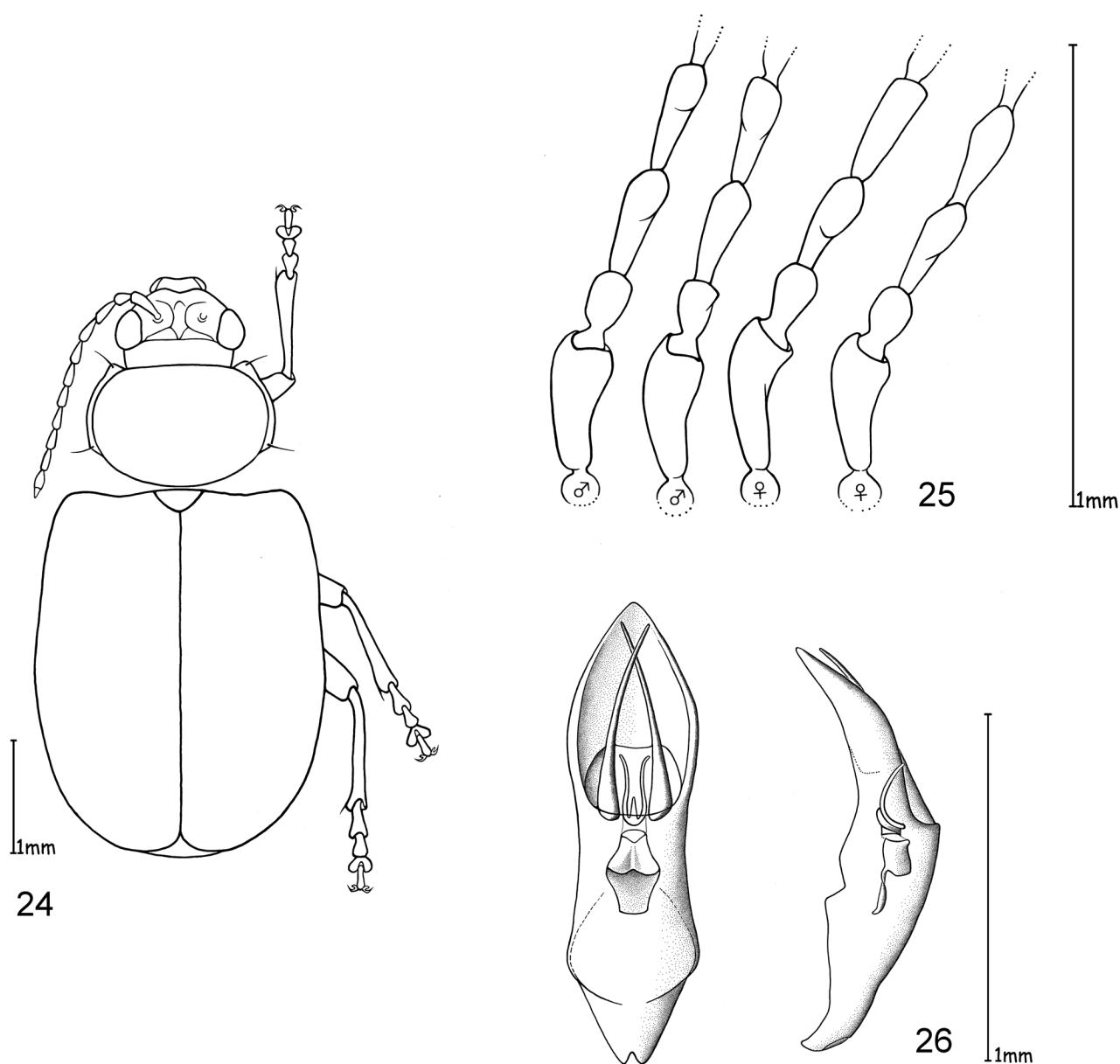
Male genitalia. The median lobe curved ventrally, becoming flatter towards non-incised apex. Tectum consists of two long, slender spurs, which nearly reach the apex of the median lobe, their tips crossing in the

distal third and ventrally curved. Endophallus with two very slender dorsally curved spines. Basal part of endophallus short, trapezoidal in dorsal view (Fig. 26).

Diagnosis. *Oothea chapuisi* is the smallest species of this group and can be effectively distinguished from most other species purely by size, the coarse and partly seriate elytral punctuation, and the contrast between the dark brown metasternum to the reddish-brown abdomen. Only *O. frontalis* also displays seriate elytral punctuation, but is larger (total length 4.70–5.95 mm; *O. chapuisi* 3.64–5.04 mm). Males longer than 4.50 mm should be identified by genitalic dissection. Of similar size is *O. julianae* **sp. n.** that has brownish-yellow elytra, usually with darker brown sutural and outer margins, and much finer punctuation. Some specimens of *O. kibonotensis* are of similar size and colouration as *O. chapuisi*, but possess a unicolourous, reddish-brown underside and a much finer elytral punctuation.

Distribution. Only known from some sites in south-eastern Democratic Republic of Congo along the western slopes of the Albertine Rift (Fig. 27).

Type material examined. Lectotype: female “Musée du Congo Moliro (J. Duvivier) Coll. Clavareau / Moliro J. Duvivier / Ergana Chapuisi Type Jac. / Type / AfriGa Specimen ID 883, specimen data documented 1.VI.2004” (MRAC; Fig. 28). This designation. Type locality: Congo, 8°13’S/30°34’E.



FIGURES 24–26. *Oothea chapuisi* (Jacoby, 1899). 24. Habitus, dorsal view; 25. Antennomeres 1–4 of two different males and two different females; 26. Median lobe: dorsal (left), lateral (right).

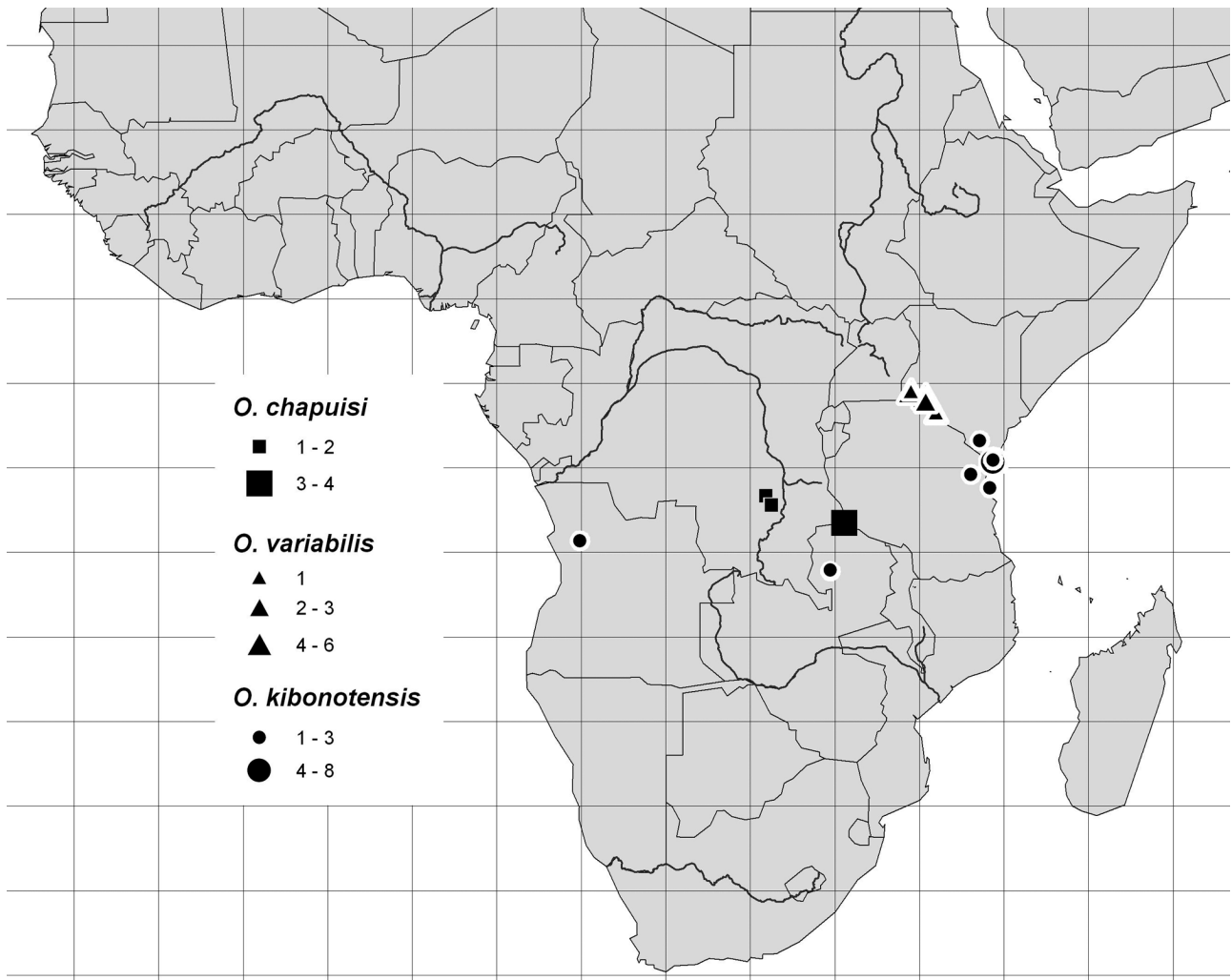


FIGURE 27. Distribution of *Oothecha chapuisi*, *O. variabilis* and *O. kibonotensis*.



28a



28b

FIGURE 28. Lectotype of *Ergana chapuisi* Jacoby, 1899, a. specimen with labels, b. close-up detail of specimen.

Paralectotypes: 6 ex., “Moliro (J. Duvivier), Coll. Clavareau / Moliro, J. Duvivier” (2 ex. BMNH, 4 ex. MRAC). Jacoby mentioned two specimens in his original publication, but there are seven specimens from the type locality (all with the same label) available. A lectotype is herein designated to fix the name to a single specimen.

Additional material. Congo (Democratic Republic): 2 ex., Kankunda s. affl. r. dr. Lufira (1300 m), 6°38'S/25°55'E, XI.1947, Miss. G. F. de Witte (MRAC); 2 ex., R. Kateko s. affl. Lufira (960 m), XII.1947, Miss. G. F. de Witte (MRAC).

***Ootheca orientalis* Weise, 1900**

(Figs 29–34)

Ootheca orientalis Weise, 1900: 453.

= *Ootheca flavipes* Laboissière, in litteris.

Total length. 4.20–6.55 mm (mean: 5.08 mm; n = 21; Fig. 29).

Head. All variations of brown from pale or nearly red to black. Antennae pale yellow with apical antennomeres brownish, in most specimens yellow basally with six to eight terminal antennomeres brownish to black, or in specimens with black head entirely dark brown; length ratios: second to third antennomere 0.50–0.80 (mean: 0.64); third to fourth antennomere 0.63–0.88 (mean: 0.76; Fig. 30). Maximum width of eye to minimal distance between eyes ratio 0.44–0.82 (mean: 0.56).

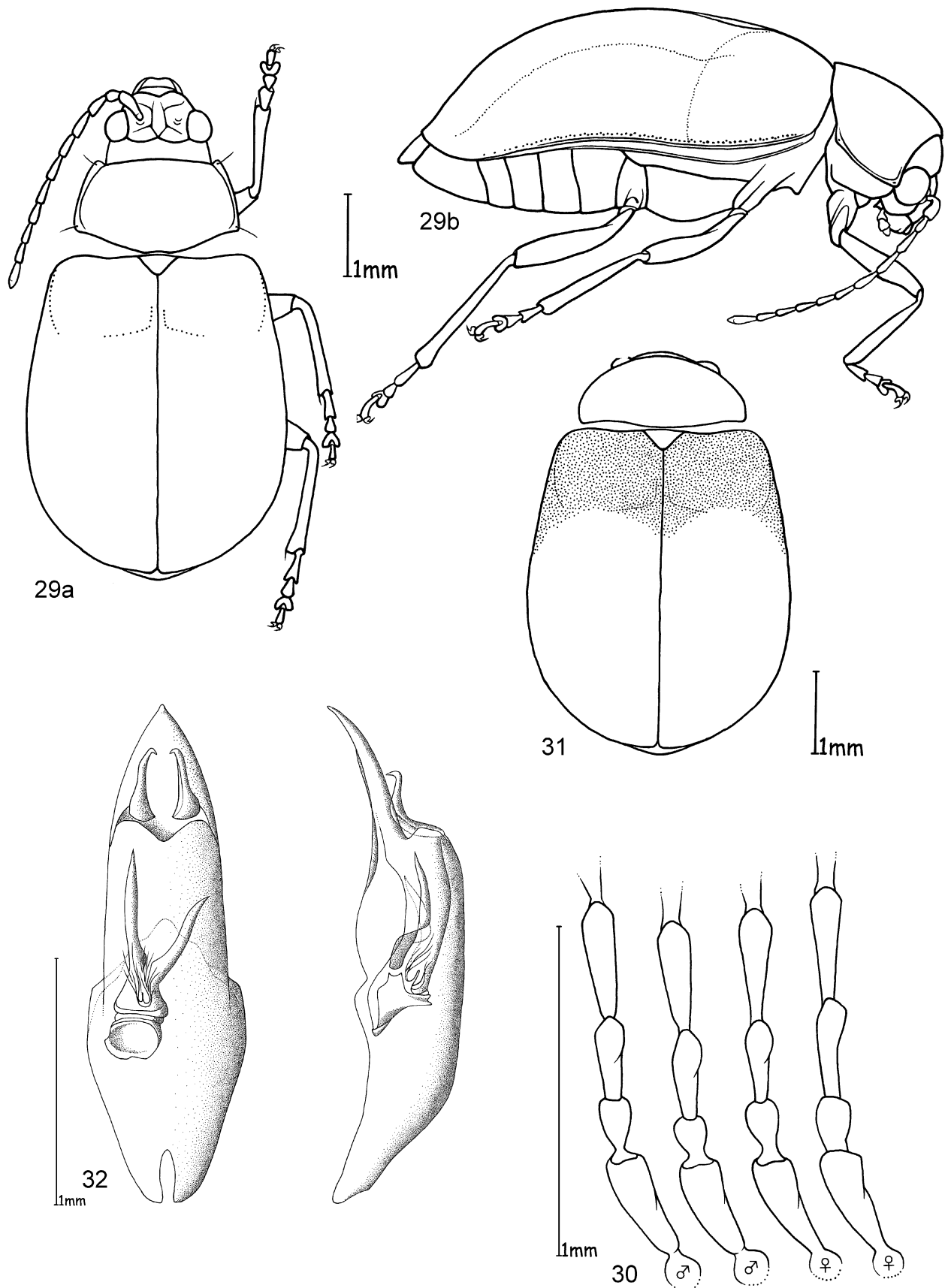
Thorax. Completely yellowish- to reddish-brown to black. Pronotum very finely punctuated, latero-basal impression often barely visible; width 1.65–2.75 mm (mean: 2.05 mm), length 1.00–1.60 mm (mean: 1.20 mm), pronotal width to length ratio 1.38–1.90 (mean: 1.72). Elytral colouration very variable: specimens with black head and prothorax have also black elytra, i.e. completely black (20% of material examined); 10 % entirely yellowish or brownish; about 40% of the specimens have yellowish head and prothorax and black elytra, further 3% pale yellow to light reddish-yellow elytra with broad black base where the black colouration extends to the elytral apex along outer margins (Fig. 31) and to a lesser extent along suture; finely and irregularly punctuated, punctuation more distinct than on pronotum; length 3.45–5.30 mm (mean: 4.16 mm); maximal width of elytra together 2.40–4.40 mm (mean: 3.29 mm); maximal width of elytra together to length of elytron 0.67–0.88 (mean: 0.79). Scutellum yellowish- to reddish-brown. Meso-, metathorax and legs yellowish- to reddish-brown, distal two thirds of tibiae usually darker brown. Length ratio of basi-metatarsus to metatibia 0.17–0.33 (mean: 0.24).

Abdomen. Yellowish-brown to brown; dark brown to black in some specimens with black dorsum.

Male genitalia. Basal half of median lobe very broad, with large orifice, apical half more slender, subconical with slightly protrudent tip, not incised apically (Fig. 32). In lateral view slightly curved with apical quarter distinctly flattened. Tectum unobtrusive, consisting of symmetrically arranged pair of slightly curved and apically hooked tectorial spurs. Endophallus very short and broad basally, asymmetrical, two robust spiculae differing in size and position and completely covered by median lobe.

Diagnosis. *Ootheca orientalis* is highly polychromatic. Only specimens with bicolourous elytra can relatively easily be assigned to this species. This pattern only also occurs in *O. mutabilis*, but the latter is on average slightly larger and has more coarsely punctuated elytra. Completely black specimens are only known from this species, with a few exceptions. However, specimens with other colour patterns cannot be distinguished from specimens of more abundant species by external characters alone. *Ootheca bennigseni* (4.75–6.76 mm) and *O. mutabilis* (4.75–6.30 mm) are on average larger than *O. orientalis* (4.20–6.55 mm). The humeri of *O. orientalis* appear to be more distinct and the body shape is more ovate, while *O. mutabilis* and *O. bennigseni* are almost parallel sided. However, in many cases only examination of the median lobe allows a reliable identification to species as stated by Weise (1900). The asymmetrical arrangement of the endophallic spiculae is a species specific character and unique in *Ootheca*. Small specimens resemble *O. chapuisi* and *O. frontalis*, which can be both distinguished by their much coarser, seriate elytral punctuation and the darker brown meso- and metasternum contrasting with the reddish-brown abdomen.

Distribution. Most known specimens were collected along the Albertine Rift, in eastern Democratic Republic of the Congo, Uganda, southern Kenya and Tanzania, but a few single records cover a larger area from Ghana in the West to Zimbabwe in the South (Fig. 33).



FIGURES 29–32. *Ootheca orientalis* Weise, 1900. 29. Habitus, a. dorsal view, b. lateral view; 30. Antennomeres 1–4 of two different males and two different females; 31. Colour pattern of some specimens; 32. Median lobe: dorsal (left), lateral (right).

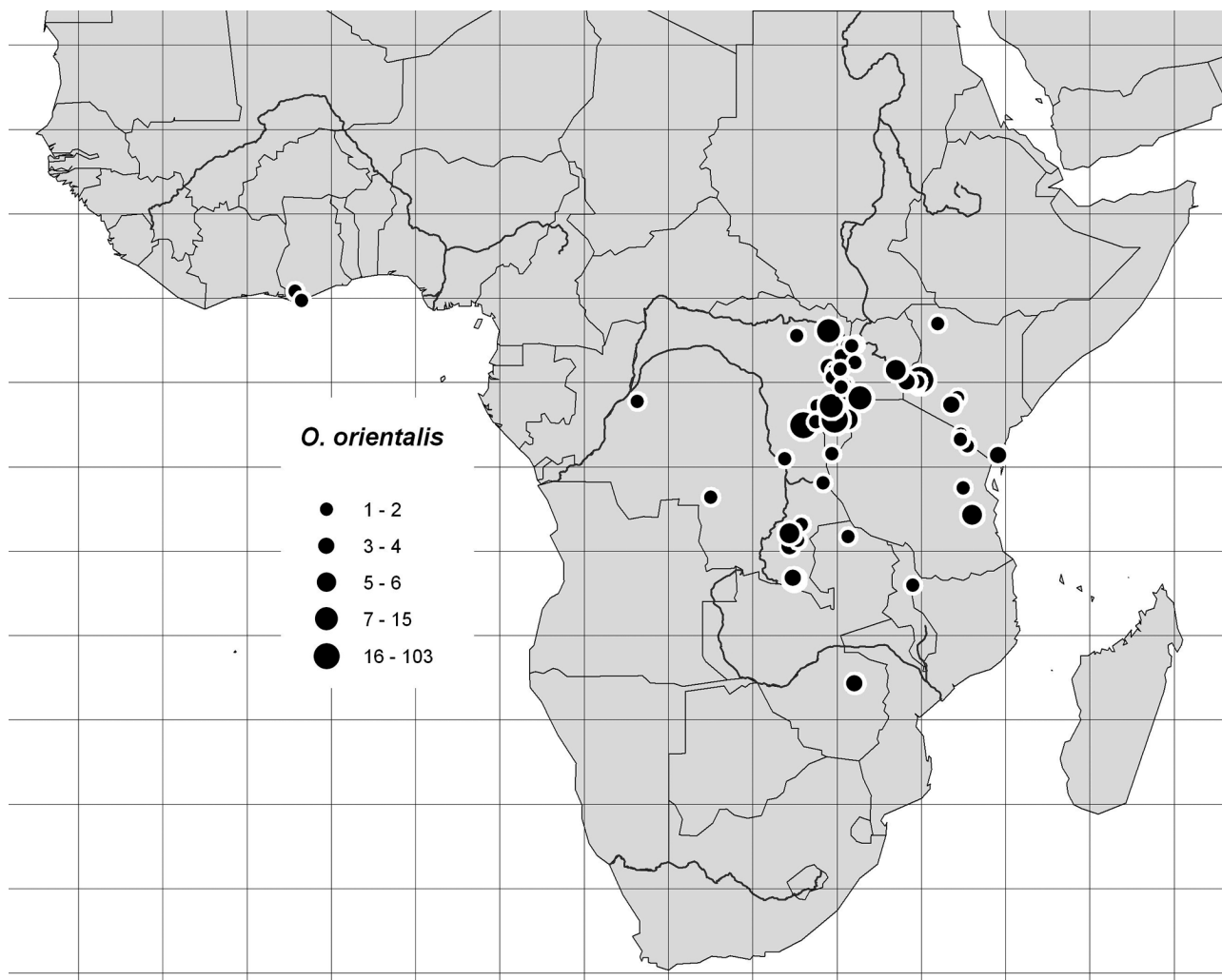


FIGURE 33. Distribution of *Ootheca orientalis*.

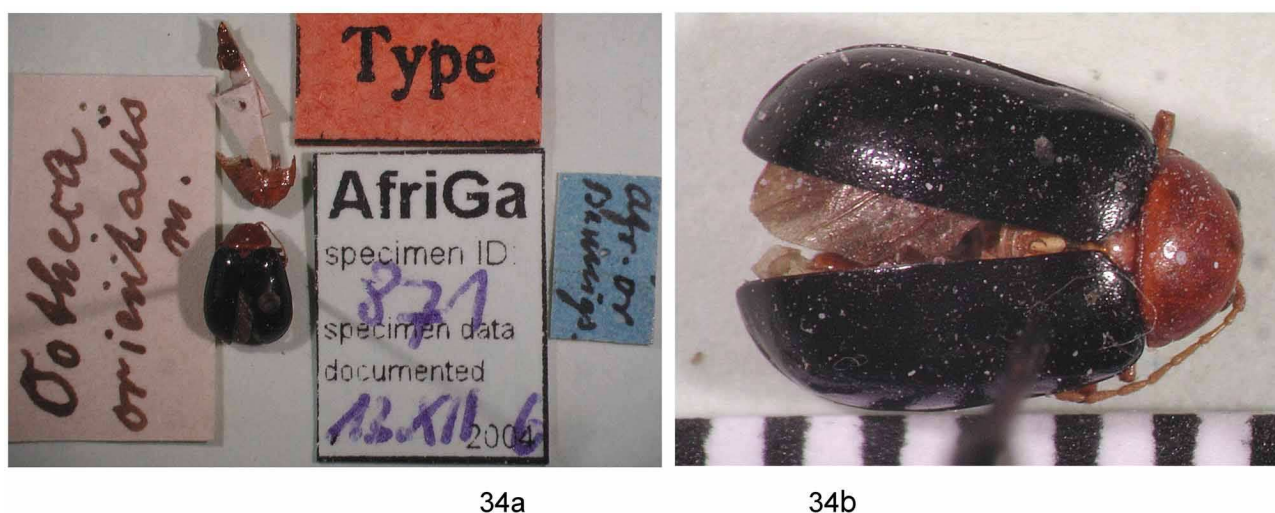


FIGURE 34. Lectotype of *Ootheca orientalis* Weise, 1900, a. specimen with labels, b. close-up detail of specimen.

Host plants and biology. Some specimens were collected feeding on Fabaceae, like the indigenous *Erythrina abyssinica*, and “haricots” (green beans).

Type material examined. *Ootheca orientalis*: Lectotype, male “Afr. Or Bennisigs. / Type / *Ootheca orientalis* m. / AfriGa Specimen ID 871, specimen data documented 13.XII. 2006” (MNHU; Fig. 34). This designation. Type locality with reference to the original publication “Zansibar, Usambara”. Paralectotypes: 2

females, same first label as lectotype, additional with “orientalis” or “ex coll. J. Weise” (MNHU). A lectotype is herein designated to fix the name to a single specimen.

Ootheca flavipes: 1 ex., Type: female, “Kapiri, XII.1912, Miss. Agric., Musée du Congo, R. Det. 4420, V. Laboissière det. *Ootheca flavipes*” (MRAC); 1 ex., Type: male, “Kapiri, XII.1912, Miss. Agric., Musée du Congo, R. Det. FF 4426, V. Laboissière det. *Ootheca flavipes*” (MRAC). Type locality: Democratic Republic of the Congo (=Congo (Zaire)), Kapiri, 9°42’S/27°13’E. The male has an identification label in Laboissière’s hand-writing. To our knowledge this species has not been described.

Additional material examined. Burundi: 1 ex., Mahembe, 1400 m, Terr. Nyanza, 4°13’S/29°43’E, I.1953, P. Basilewsky (MRAC). **Congo (Democratic Republic):** 1 ex., Kundelungus, 9°20’S/27°40’E, Mme. Tinant (MRAC); 1 ex., Masisi, Kivu, 1°24’S/28°49’E, (IRSN); 1 ex., Elisabethville, 11°40’S/27°28’E, XI.1911, Miss. Agric. (MRAC); 1 ex., Kapanga, Lulua, 6°48’S/22°32’E, XI.1932, F. G. Overlaet (MRAC); 4 ex., Kapiri, 9°42’S/27°13’E, XII.1912, Miss. Agric. (MRAC); 2 ex., Katolo, 8°24’S/27°54’E, XI.1912, Dr. Bequaert (MRAC); 1 ex., Albertville, 5°56’S/29°12’E, XII.1918, R. Mayné (MRAC); 14 ex., Watsa, Haut-Uele, 3°03’N/29°32’E, 1922, L. Burdeon (MRAC); 1 ex., Abimva, Haut-Uele, 2°46’N/27°37’E, VII.1925, L. Burgeon (MRAC); 3 ex., 18 m SW of Elisabethville, XI.1927, Dr. H. S. Evans (BMNH); 1 ex., Kibali-Ituri, Beni, 1°34’N/30°15’E, XI.1931, Mme. L. Lebrun (MRAC); 1 ex., Mulungu, Kivu, 2°20’S/28°47’E, XI.1932, L. Burgeon (MRAC); 1 ex., Elisabethville, 1935, Dr. Richard (MRAC); 1 ex., Mahagi-Niarembe, 2°15’N/3107’E, V.1935, Ch. Scops (MRAC); 2 ex., Mulungu, Kivu, XII.1938, Hendrichx (MRAC); 1 ex., P. N. A., Mutsora, 9°19’N/29°45’E, 1939, Hackars (IRSN); 6 ex., Lusinga, P. N. A., 8°56’S/27°12’E, XII.1947, G. F. de Witte (IRSN); 1 ex., Mbuye Bala, 1°07’S/18°10’E, III.1948, G. F. de Witte (IRSN); 103 ex., Rwankwi, Kivu, 2°30’S/28°00’E, IV./V.1946, XI./XII.1947, I./III.1948, VII./XII.1951, J. V. Leroy (MRAC); 1 ex., Ibanda, Kivu, 0°08’S/30°29’E, 1952, M. Vandellanotte (MRAC); 1 ex., Kyandolire, Massif Ruwenzori, 0°23’N/29°54’E, X.1952, P. Vanschuytbroeck & J. Kekenbosch (IRSN); 1 ex., Ndama (Mahagi), 2°11’N/30°53’E, V.1952, J. Hecq (MRAC); 6 ex., Kibali-Ituri, Nioka, 2°10’S/30°39’E, IV.1953, J. Hecq (MRAC); 1 ex., Migeri, Massif Ruwenzori, 0°23’N/29°54’E, IV.1953, P. Vanschuytbroeck & J. Kekenbosch (IRSN); 3 ex., Butambo, Kivu, 0°55’N/29°33’E, X.1955, Rev. P. Celis (MRAC); 1 ex., Kikura, Massif Ruwenzori, 0°35’N/29°57’E, X.1955, P. Vanschuytbroeck (IRSN); 1 ex., Tshiaberimu, 4°31’S/26°54’E, IV.1955, P. Vanschuytbroeck & R. Fonteyn (IRSN); 1 ex., Tshibinda, Kivu, 2°19’S/28°46’E, XI.1955, J. Hecq (MRAC); 1 ex., Kitemba, ex village près Katimbombo, 0°42’N/29°51’E, X.1957, P. Vanschuytbroeck (IRSN); 4 ex., Forest Kasapa, Shaba, 11°34’S/27°25’E, XII.1978, F. Malaisse (MRAC). **Ghana:** 2 ex., Takoradi, 4°53’N/1°45’W, Besnard (MRAC); 2 ex., Bondaye, 5°25’N/2°09’E, V.1914 (BMNH). **Kenya:** 4 ex., Yala, Kakumba Forest, 0°04’N/34°09’E, S. A. Neave (BMNH); 1 ex., Nairobi, 1°18’S/36°49’E, XI.1904, Ch. Alluaud (ZMUH); 1 ex. Lac Rudolphe, 3°30’N/36°00’E, 1905, M. de Rothschild, Jacoby Coll. (MNH); 4 ex., Kyangori, N. Kavirondo, 0°04’N/34°48’E, V.1911, V.1912, S. A. Neave (BMNH); 91 ex., Kaimosi, 0°11’N/34°57’E, 1932, A. Turner (NMK); 1 ex., Nairobi, VI.1933, McArthur (NMK); 1 ex., Muhorqni, KC, II.1936, A. Turner (NMK); 1 ex., Kisumu KC, 0°06’S/34°45’E, III. 1936, A. Turner (NMK); 1 ex., Makuyu, 0°54’S/37°11’E, X.1937, C. D. Knight (BMNH); 1 ex., Nairobi, IV.1943, Meneghetti (NMK); 2 ex., Kacheleba, Suk, VI.1949, T. H. E. Jackson (NMK); 3 ex., Diani Beach, 4°18’S/39°35’E, V., VII.1957, N. L. H. Krauss (BMNH); 3 ex., Kavura Forest, V.1972, P. Mureshi & M. Clifton (NMK). **Nigeria:** 1 ex., Ban. Carfa, le Moulte vend. via Reinbek 1957 (ZMUH). **Rwanda:** 1 ex., Gitarama, terr. Nyanza, 2°04’S/29°45’E, I.1953, P. Basilewsky (BMNH); 15 ex., Muhavura, 1°23’S/29°41’E, I.1953, P. Basilewsky (12 ex. MRAC, 3 ex. BMNH); 1 ex., Kirengeri, terr. Nyanza, 2°09’S/29°46’E, II.1953, P. Basilewsky (MRAC); 95 ex., Rubona, 2°11’S/29°52’E, 1966, I. S. A. R. (MRAC). **Tanzania:** 1 ex., Plantage Magritto bei Tanga, 5°07’S/38°45’E, G. Pfanneberg (MNHU); 1 ex., Kigonsera, Nyassa-See, 12°00’S/34°30’E, ex. Staudinger (MRAC); 2 ex., Litema-Berge, Kilimandjaro, 3°04’S/37°2’E, (MNHU); 1 ex., Moshi, 3°21’S/37°20’E, (MNHU); 2 ex., Kwasigi, 5°08’S/38°24’E, V.1904, (MNHU); 1 ex. Lewa-State, Bondei, V.1910, (MNHU); 1 ex. Kilimandjaro, Moshi, 800 m, IV. 1912, Alluaud & Jeannel (ZMUH); 5 ex., N. W. Usagara, 1300–1900 m, 2°41’S/33°0’E, XII.1912 (MNHU); 1 ex., Mkindu, Tanganyika, 6°15’S/37°30’E, VI.1953 (NMK). **Uganda:** 6 ex., Busso Busoga, 0°45’N/33°30’E, 1909, Dr. E. Bayon (ZMUH); 1 ex., Mbarara, Southern Toro, 0°37’S/30°39’E, X.1911, S. A. Neave (BMNH); 1 ex., Ankole, Toro Border, 0°15’S/30°15’E, X.1911, S. A. Neave

(BMNH); 1 ex., N. Ruwenzori, 0°48'N/30°12'E, XI.1911, S. A. Neave (BMNH); 5 ex., Mpanga Forest, Toro, 7°50'S/38°02'E, XI.1911, S. A. Neave (BMNH); 2 ex., Ebinamba, X.1926, H. Hargreaves (1 ex. BMNH, 1 ex. ZMUH); 11 ex., Bugomola, 0°55'S/31°23'E, IV.1927, H. Hargreaves (8 ex. BMNH, 3 ex. ZMUH); 2 ex., Dwoli, IV. 1927, H. Hargreaves (BMNH); 1 ex., Kiryanga, 1°12'N/31°04'E, IV.1927, H. Hargreaves (ZMUH). **Zambia:** 1 ex., N'Changa, C. T. Macnamara (BMNH) 1 ex., Kabwe, 9°07'S/30°40'E, II.1944, H. J. Bredo (IRSN). **Zimbabwe:** 3 ex., Salisbury, 17°50'S/31°03'E, XII.1898, G. A. K. Marshall (BMNH).

Ootheca bennigseni Weise, 1900

(Figs 35–40)

Ootheca bennigseni Weise, 1900: 453.

= *Ergana variceps* Laboissière, 1939: 122; syn. nov.

Total length. 4.75–6.75 mm (mean: 5.92 mm; n = 23; Fig. 35a); total height in lateral view 2.10–3.10 mm (mean: 2.55 mm; Fig. 35b).

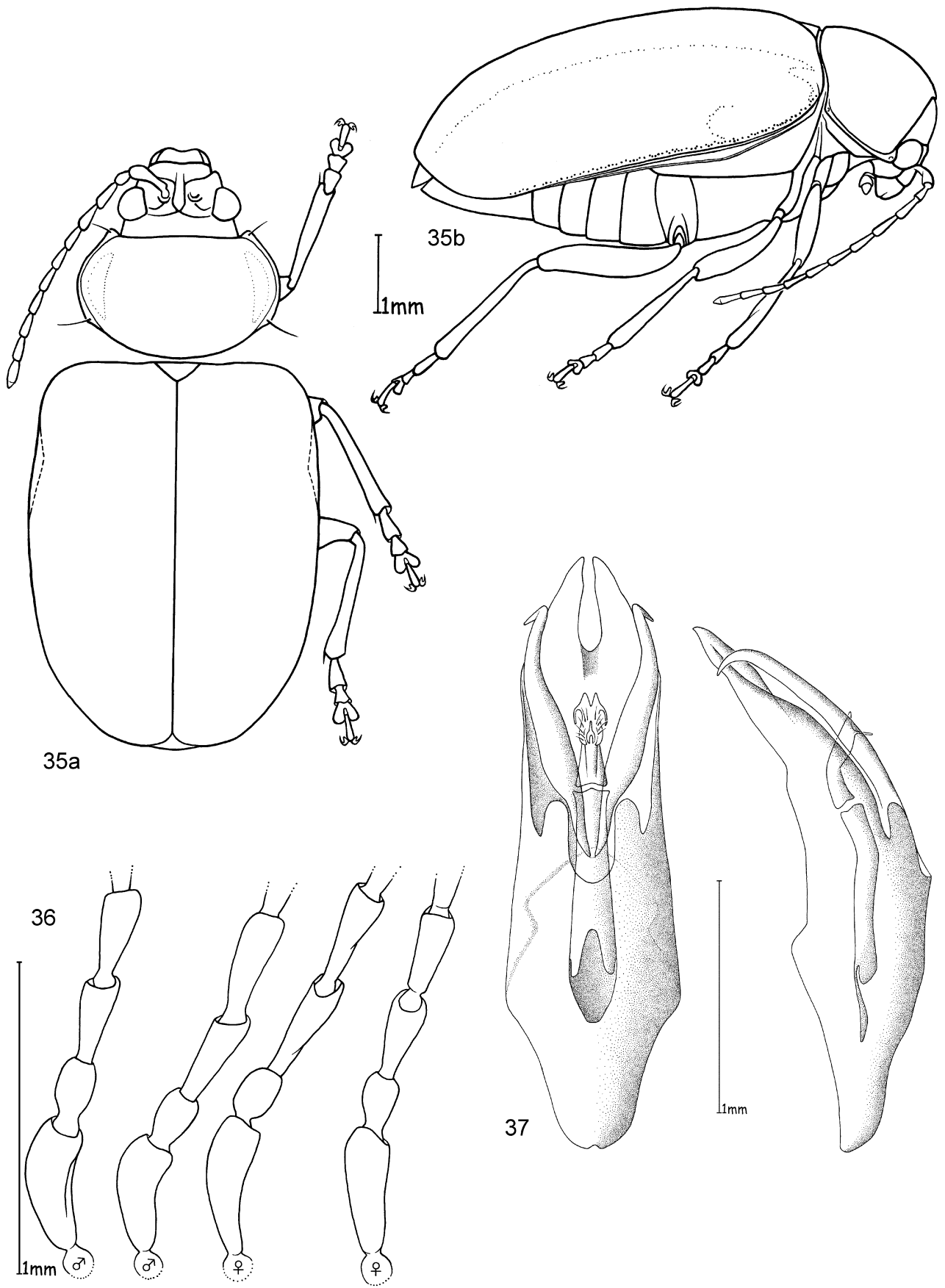
Head. Entirely brownish in many shades from yellowish- to reddish-, rarely dark brown. Antennae yellow to yellowish-red at base, becoming gradually darker towards apex, last five to six distal antennomeres usually black; length ratios: second to third antennomere 0.50–0.73 (mean: 0.59); third to fourth antennomere 0.77–1.00 (mean: 0.91; Fig. 36). Maximum width of eye to minimal distance between eyes 0.39–0.67 (mean: 0.52).

Thorax. All variations of yellowish- to reddish-brown, most specimens being the latter. Pronotum finely punctuated, latero-basal pronotal impression usually very distinct; width 1.95–2.85 mm (mean: 2.48 mm); length 1.10–1.75 mm (mean: 1.47 mm); pronotal width to length ratio 1.56–1.77 (mean: 1.69). Elytra in 99 % of specimens examined with unicolourous elytra either yellowish- or reddish-brown, and in the same colour as head and pronotum, or a contrasting dark brown to black; punctuation of elytra irregular, deeper and coarser than pronotum; length 3.95–5.35 mm (mean: 4.72 mm); maximal width together 2.90–4.40 mm (mean: 3.72 mm); maximal width of elytra together to length of elytron ratio 0.70–0.85 (mean: 0.79). Scutellum, meso- and metathorax yellowish- to reddish-brown. Legs rarely unicolourous yellowish- to reddish-brown as for thorax, most specimens bicolourous having distal three quarters of all tibiae and tarsi dark brown to black; length ratio of basi-metatarsus to metatibia 0.21–0.31 (mean: 0.24).

Abdomen. Yellowish- to reddish-brown.

Male genitalia. Median lobe broad, subconical and ventrally curved towards deeply incised apex. Tectum very large, with two broad, elongate, tectorial spurs, narrowing gradually towards apex where they are ventrally curved. Endophallus long and slender, basal part at least two times longer than apical part, usually clearly visible (Fig. 37).

Diagnosis. *Ootheca bennigseni* is, alongside *O. proteus* and *O. meridiana*, on average the largest species of the genus. In most external characters and colouration it shows considerable overlap with other, sometimes more abundant and widely distributed species such as *O. proteus*, *O. mutabilis*, *O. orientalis*, *O. kibonotensis*, *O. frontalis* and *O. eddae* **sp. n.** A reliable identification is not possible without dissection of the male genitalia, where the deeply apically incised median lobe is very characteristic. In a single population in the region of Elisabethville (Democratic Republic of the Congo), the median lobe in males is far less deeply incised apically. Differentiation between *O. bennigseni* and *O. meridiana* is based on differences in the male genitalia. The shape of the long ventrally curved tectorial spurs and the length ratio of the two parts of the endophallus, as recently described by E. Grobbelaar (2008). *Ootheca bennigseni* shows lobes, which are slender over the entire length and more so towards the apex, while *O. meridiana* has two elongate lobes, which are more rounded ventrally and in seem to be “inflated” in the apical half where the sclerites dilate before forming a distinct ventrally curved hook (Figs 37, 59). The basal part of the endophallus of *O. bennigseni* is at least double the length of the apical endophallic-brush part, while *O. meridiana* has a basal piece which is less than double the length of the apical piece.



FIGURES 35–37. *Ootheca bennigseni* Weise, 1900. 35. Habitus, a. dorsal view, b. lateral view; 36. Antennomeres 1–4 of two different males and two different females; 37. Median lobe: dorsal (left), lateral (right).

Host plants and biology. *Oothea bennigseni* is a well known pest species feeding on beans. This food-plant relationship can be also derived from various additional labels on prepared specimens: “sur haricot”, “on cowpea”, “on pigeonpea” (*Cajanus cajan*, Fabaceae), “damaging cowpea plants”, “frißt an Bohnen”, “defoliating beans”, “on dolichos” (= *Lablab purpureus*, Fabaceae), “ex cowpeas, ex grams, ex soya beans” (= *Glycine max*, Fabaceae). The following records are surely not host plants “on *Uapaka kirkiano* sp.”, “on maize”, “auf/an Sesam” (= *Sesamum indicum*, Pedaliaceae).

Distribution. An abundant species occurring from central, east and southern Africa, from the Democratic Republic of the Congo Basin in the west towards the Kenyan and Tanzanian Coast in the east and KwaZulu-Natal in the south (Fig. 38).

Type material examined. *Oothea bennigseni*: Lectotype: female “Zambesi, Nonfrid / *Oothea* *Bennigseni* m. / ex. coll. J. Weise / ♀ / AfriGa Specimen ID 861, specimen data documented 13.XII.2006 / Type” (MNHU; Fig. 39). This designation. Type locality after original publication “Dar-es-Salam, Pangani, Zambesi”.

Paralectotypes: 2 males, 1 female, same first label as lectotype (MNHU); 1 female “Dar-es-Salaam, v. Bennigs” (MNHU); 1 male, 2 females “Zambesi, nonfried (?)” (MNHU). This designation. Type locality: Tanzania, Dar-es-Salaam, Pangani, Zambesi. Weise mentioned several specimens in his original publication, and a lectotype is herein designated to fix the name to a single specimen.

Ergana variceps: Holotype: male “Bimbi, Oct. 1932 / Angola, Miss. sc. suisse, 1932–1933 / Type ♂ / *Oothea* *variceps* m. V. Laboissière – Dét. / Le Moulnt vend. via Reinbek, Eing. Nr. 1, 1957 / AfriGa Specimen ID 874, specimen data documented 13.XII. 2006” (ZMUH; Fig. 40). This designation. Type locality: Angola, Bimbi, 7°09’S/17°43’E.

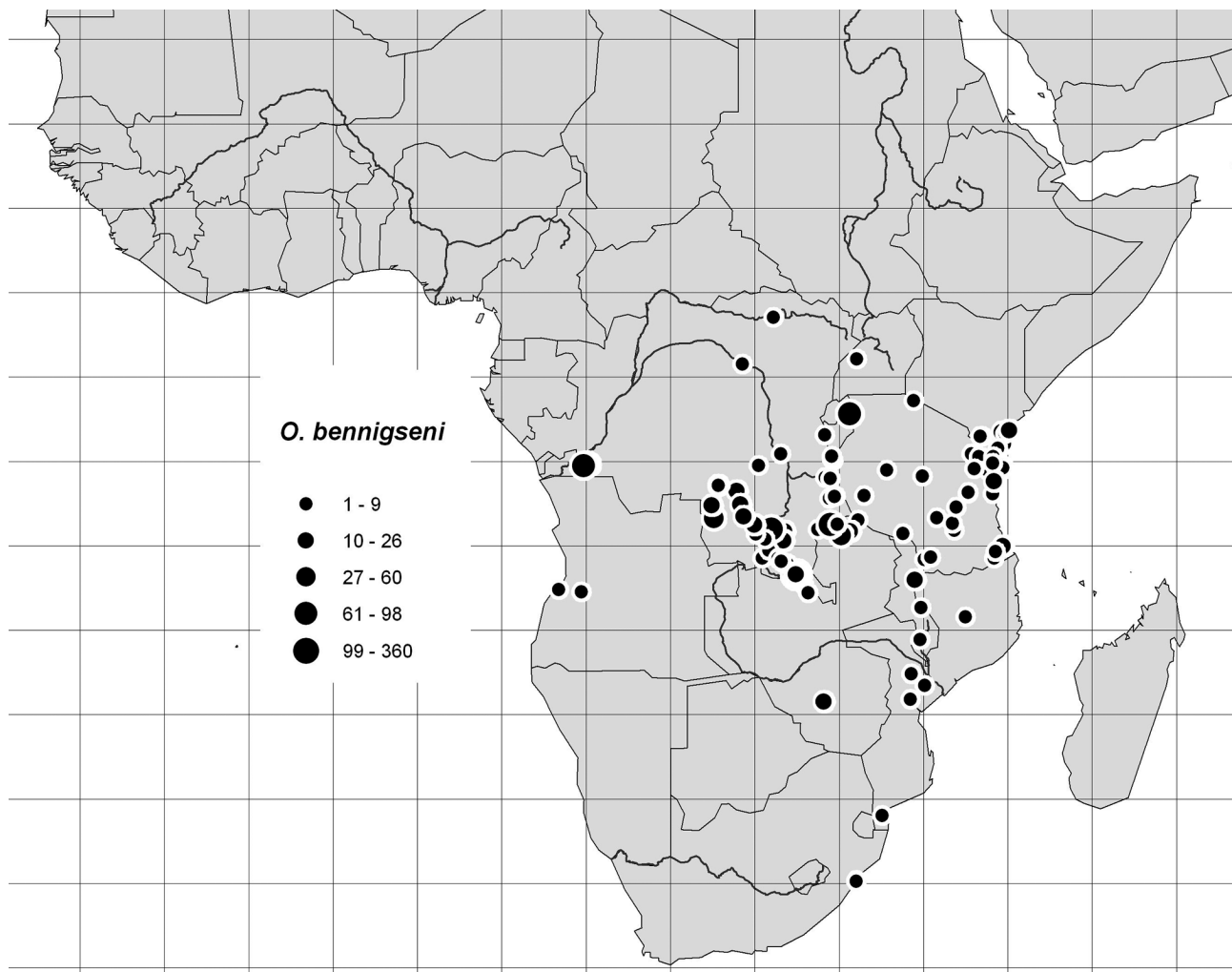


FIGURE 38. Distribution of *Oothea bennigseni*.



39a



39b



40a



40b

FIGURES 39–40. *Ootheca benignem* Weise, 1900. Type material. 39. Lectotype of *Ootheca benignem* Weise, 1900, a. specimen with labels, b. close-up detail of specimen; 40. Holotype of *Ergana variceps* Laboissière, 1939, a. specimen with labels, b. close-up detail of specimen.

Paratype: 1 female, same data as holotype, but with “co-type, female”. Laboissière mentioned these two specimens in his original publication. The male is indicated with an additional as “type” that can be considered as holotype by original designation.

Additional material examined. Angola: 3 ex., Quela (Loanda), 9°53'S/14°50'E, Prinz Carolath (MNHU); 2 ex., Benguella, 12°35'S/13°24'E, Dr. Wellman (MRAC); 3 ex., de Dongo au Cubango, 12°35'S/13°24'E, 1914, Mission Rohan-Chabot (MNHN); 1 ex., Huela?, 1930, Coll. Guy Babault (MNHN); 6 ex., Bimbi, X.1931, Miss. Sc. Suisse, Le Moul't vend. via Reinbek 1957 (ZMUH); 2 ex., Ebanga, 12°44'S/14°44'E, XI.1932, Miss. Sc. Suisse (ZMUH). **Democratic Republic of the Congo:** 1 ex., Katanga, Kafakumba, 9°41'S/23°44'E, Coll. Le Moul't (IRSN); 1 ex., Albertville, 5°56'S/29°12'E, J. Duvivier (IRSN); 1 ex., Belg. Congo, Miss. De Witte (IRSN); 80 ex. Katanga-Sud, 9°00'S/26°00'E, J. Neynens (IRSN); 2 ex., Kinda, Katanga, 9°18'S/25°04'E, (MRAC); 1 ex., Congo, Bambili, 1907, Ribotti (ZMUH); 2 ex., Kayumbe-Mukuba, XI.1911, Dr. Rodhain (MRAC); 5 ex., Shinsenda, 12°20'S/27°56'E, XII.1911, Miss. Agric. (MRAC); 3 ex., Elisabethville, 11°40'S/27°28'E, II.1912, Miss. Agric. (MRAC); 1 ex., Elisabethville, 1913, Ternest (MRAC); 1 ex., E. Tanganyika, Kigoma, IX.1918, R. Mayne (MRAC); 3 ex., Luiswishi, Katanga, 11°32'S/27°26'E, I.1923, Chr. Seydel (MRAC); 195 ex., Elisabethville, I.1924, VIII.1925, XI.1950, VI.1951, Chr. Seydel (MRAC); 41 ex. Kisantu, 5°07'S/15°05'E, 1924, 1925, 1931, 1932, R. P.

Vanderyst (MRAC); 4 ex., Kisanga, Katanga, 10°55'S/26°35'E, II.1925, Chr. Seydel (MRAC); 1 ex., Kipako, Kwango, 8°20'S/35°48'E, X.1924, R. P. Vanderijst (MRAC); 1 ex., Katanga, Ditanto, 10°15'S/25°53'E, X.1925 (MRAC); 4 ex., Kinda, Katanga, 9°18'S/25°04'E, 1926, Coll. J. Muller (IRSN); 3 ex., Elisabethville, 1929, P. Quarre (MRAC); 1 ex., Kapolowe, 11°02'S/26°57'E, XII.1930, R. P. A. Ocuciaux (MRAC); 1 ex., Uvira, Reg. Lac Kivu, 3°24'S/29°09'E, 1930, Coll. Guy Babault (MNHN); 22 ex., Lomami, Kamina, 8°44'S/25°00'E, 1930, 1932, R. Massart (MRAC); 15 ex., Kafakumba, X.-XII.1931, II., XI.1933, G. F. Overlaet (MRAC); 10 ex., Lomami, Kaniama, 7°31'S/24°11'E, 1931, R. Massart (MRAC); 85 ex., Sandoa, Lulua, 9°41'S/22°52'E, XI./XII.1931, I.,III., X.-XII.1932, G. F.Overlaet (MRAC); 13 ex., Tshibamba, Lulua, 8°15'S/24°22'E, XII.1931, II.1932, G. F. Overlaet (MRAC); 20 ex., Katanga, Karavia, 11°40'S/27°28'E, I.1932, Chr. Seydel (MRAC); 2 ex., Uvira, 3°24'S/29°09'E, XII.1932, L. Burgeon (MRAC); 1 ex., Baudouinville, 7°03'S/29°47'E, I.1933, L. Burgeon (MRAC); 5 ex., Lac Tanganyika, Nyanza, 6°00'S/29°30'E, I.1933, L. Burgeon (MRAC); 60 ex., Kapanga, Lulua, XII.1931, X.-XII.1932, I.-III., V., X.-XI.1933, G. F. Overlaet (MRAC); 1 ex., Lulua, Kaongwesi, IX.1933, G. F. Overlaet (MRAC); 98 ex., Nioka, Ituri, 2°10'S/30°39'E, 1933/34, P. Lefevre (MRAC); 2 ex., Tshofa, 5°14'S/25°15'E, XII.1934, Mme. Gillardin (MRAC); 12 ex., Elisabethville, 1935, Dr. Richard (MRAC); 2 ex., Tang., Moero, Niunzu, 9°00'S/28°45'E, 1935, H. de Saeger (MRAC); 26 ex., Luashi, Lulua, 7°35'S/22°28'E, 1936, XI.1938, F. Freyne (MRAC); 24 ex., Lulua, Kabomba, 6°24'S/22°51'E, XI.1937, Vanderstichele (MRAC); 2 ex., Lulua, Kabomba, XII.1937, Carlier (MRAC); 2 ex., Lusaka, 7°10'S/29°27'E, 1937, R. P. Debbaudt (MRAC); 67 ex., Elisabethville, I., XII.1938, I.1939, H. J. Bredo (12 ex. IRSN, 55 ex. MRAC); 9 ex., Kasongo, Mwana, XII.1938, H. J. Bredo (IRSN); 51 ex., Mayidi, 5°11'S/15°09'E, 1942, 1943, 1945, P. van Eyen (MRAC); 2 ex., Mulungu, 2°54'S/27°56'E, 1947, P. Lefebvre (IRSN); 1 ex., R. Kanzenze-Lualaba, 10°43'S/25°28'E, 1948, P. Lefebvre (IRSN); 1 ex., Kapero, 1760 m, P. N. Upemba, I.1948, Miss. G. F. de Witte (IRSN); 2 ex., Kanonga, P. N. Upemba, 9°16'S/26°08'E, II.1949, Miss. G. F. de Witte (IRSN); 1 ex., Kenbwile r. g., Kalule Nord, P. N. Upemba, 9°36'S/25°37'E, II.1949, Miss. G. F. de Witte (IRSN); 13 ex., Gandajika, 6°45'S/23°57'E, XI.1948, X., XII.1950, XII.1953, P. de Francquen (MRAC); 8 ex., Tumba (Rukwa), 7°00'S/31°30'E, XII.1950, H. J. Bredo (IRSN); 30 ex., Elisabethville, XII.1952, H. Bomans (MRAC); 1 ex., Aka/2, V.1952, Miss. H. de Saeger (IRSN); 1 ex., Katanga, Kakanda (Mutaka), 10°44'S/26°23'E, 1953/1954, P. Th. de Caters (MRAC); 1 ex., Tanganjika, Moba, 7°03'S/29°47'E, II.1954, H. Bomans (MRAC); 7 ex., Elisabethville, Riv. Luamisamba, XII.1955, M. Lips (MRAC); 2 ex., Katanga, terr. Elisabethville, Riv. Kiswishi, XII.1955, M. Lips (MRAC); 45 ex., Kifumwanshi, 11°40'S/27°28'E, XII.1955, M. Lips (MRAC); 2 ex., Luano, XII.1955, M. Lips (MRAC); 13 ex., Riv. Fulubwe, Katanga, XII.1955-I.1956, M. Lips (MRAC); 5 ex., Kisangwe, I.1956, M. Lips (MRAC); 1 ex., P. N. Albert, Secteur Nord, Kasere (lieu-dit) et riv. affl. Kamasayi, 1100 m, XI.1956, P. Vanschuytbroeck (IRSN); 4 ex., Elisabethville, 1956/1957, don A. Allaer (MRAC); 4 ex., Jadotville, Numbi, 9°03'S/26°14'E, V.1957, P. Th. de Caters (MRAC); 5 ex., Kapolowe, Lualaba, 11°02'S/26°57'E, 1959, J. P. Herremans (MRAC); 2 ex., Reg. Thysville, Bas-Congo, 5°15'S/14°52'E, 1959, 1963, R. Michaux / A. Allaer (MRAC); 3 ex., Kasongo, 0°53'S/28°52'E, III.1960, P. L. G. Benoit (MRAC); 1 ex., Terr. de Kasongo, Riv. Lumami, 0°46'N/24°16'E, II.1960, P. L. G. Benoit (MRAC); 24 ex., Elisabethville, 1961, IV.1962, M. Lips (MRAC); 1 ex., Lubumbashi, Zaire, 11°40'S/27°28'E, II.1968, A. B. Stam (MRAC); 3 ex., Lubumbashi, III.1975, W. Beun (MRAC). **Gabon:** 1 ex., "Gabon", Coll. Duvivier (IRSN). **Kenya:** 1 ex., Afrique Orient. Angl., Boura (WA-Taita), 3°30'S/38°30'E, 1904, Ch. Alluaud (MNHN); 5 ex., Brit. E. Africa, 1907, L. Carpenter (BMNH); 12 ex., Sabaki, Lower Tana, 3°09'S/40°07'E, IV.-V.1932, Turner & McArthur (NMK); 1 ex., Shimba Hills, 4°13'S/39°25'E, VII.1939, Imp. Inst. Ent. Coll. (NMK); 3 ex., Malindi, Arabuku Forest, 3°20'S/39°52'E, VI.1940, T. H. E. Jackson (NMK); 15 ex., Kifili, 3°15'S/39°40'E, VII.1948, van Someren (BMNH); 14 ex., Kifili Distr., RRC Mtwapa, 3°57'S/39°45'E, VI.1989, G. I. Oduor (NMK); 1 ex., Mwatate, S. Taita, 3°30'S/38°23'E, XI.1997, M. Snizek (ZMUH). **Malawi:** 1 ex., btwn. Ft. Mangoche & Chikala Boma, 15°32'S/34°48'E, III.1910, S. A. Neave (BMNH); 7 ex., Fort Maguire, 13°39'S/34°53'E, III.1910, S. A. Neave (BMNH). **Mozambique:** 5 ex., Nyassa, 14°12'S/37°30'E, Thelwall, Fry Coll. 1905 (BMNH); 4 ex., Vallee du Pungoue Guengere, 19°05'S/34°15'E, I., II., XII.1906, G. Vasse (1 ex. ZMUH, 3 ex. MNHN); 1 ex., Zembé, Revoué, 18°16'S/35°05'E, XII.1928, P. Lesne (MNHN); 1 ex., Canxixe, Haut Sangadze, 17°35'S/34°18'E, I. 1929, P. Lesne (MNHN); 2 ex., Lourenco

Marques, 25°58'S/32°34'E, XII.1951, M. C. Ferreira (SANC).– **South Africa:** 1 ex., Durban, 29°48'S/31°02'E, (MNHU); 2 ex., Natal, 1 ex. coll. Weise (MNHU). **Tanzania:** 3 ex., Ost-Afrika, Madinula, S.P. de S. Hilaire (MNHU); 1 ex., Massai-steppe, Sammlung Dr. Chr. Schröder (MNHU); 1 ex., Mhonda, 6°07'S/37°34'E, T. Stichel (MNHU); 4 ex., Pareh Berge, 4°S/37°45'E, Sammlung Dr. Chr. Schröder (MNHU); 1 ex., Amani, T. T. Dist., Usambara, 5°22'S/39°43'E, T. H. E. Jackson (NMK); 1 ex., Bagamoyo, 4°33'S/37°52'E, (IRSN); 1 ex., Bismarckburg, 8°28'S/31°09'E, Zencke (MNHU); 11 ex., Tanganika, Miss. G. F. de Witte (IRSN); 5 ex., D. O. Afr., ex coll. Weise (MNHU); 1 ex., D. O. Afr., S. Trefurth (MNHU); 9 ex., D. Ost-Afrika, Coll. Clavareau (MRAC); 1 ex., Dar-es-Salam, 6°48'S/39°17'E, Krauss, Coll. Clavareau (MRAC); 1 ex. Dar-es-Salam, Stauding, Jacoby Coll. (BMNH); 1 ex., Dar-es-Salam, (MNHU); 1 ex., Dtsch. O. Afrika, Miss. G. F. de Witte (IRSN); 4 ex., Kigonsera, 10°48'S/35°03'E, S. G. Häfliger (MNHU); 4 ex., Kigonsera, ex coll. Weise (MNHU); 1 ex., Kigonsera, Lac Nyassa, 10°48'S/35°03'E, Rolle, Coll. Clavareau (MRAC); 1 ex., Kigonsera, Nyassa-See, ex Staudinger (MRAC); 7 ex., Kwirowo, 8°40'S/36°43'E (6 ex. MNHU, 1 ex. MRAC); 1 ex., Lindi, 10°00'S/39°43'E, Ex Musaeo L. Fairmaire 1893 / Coll. R. Oberthur 1952 (MNHU); 9 ex., Manow, 9°15'S/33°48'E, Miss. G. F. de Witte (8 ex. IRSN, 1 ex. ZMUH); 6 ex., Mikindani, 10°17'S/40°07'E, P. Lipp, S. Reimer & Schultz (MNHU); 3 ex. Mikindani, S. Berg (MNHU); 2 ex., Namupa, 10°19'S/39°17'E (NHRS); 18 ex., Njassasee, Afr. or., 12°00'S/34°30'E, Miss. G. F. de Witte (IRSN); 1 ex., Nyassa-See, Wiedhafen, 10°28'S/34°35'E, (MNHU); 1 ex., Peramiho, 10°39'S/35°27'E (MNHU); 9 ex., Tabora-Kigoma, 5°30'S/32°50'E, Lt. Stamper (MRAC); 2 ex., Tanga, 5°05'S/39°05'E, Le Moults vend. via Reinbek 1957 (ZMUH); 13 ex., Zanguelar, Le Moults vend. via Reinbek 1957 (ZMUH); 1 ex., D. O. A. Tanganjika, Le Moults vend. via Reinbek 1957 (ZMUH); 2 ex., Tanganyika, W. A. Collier (NNML); 5 ex., Tanzania (NMK); 1 ex., Usagara (MNHU); 7 ex., Zanzibar, 6°15'S/39°28'E (3 ex. IRSN, 4 ex. MNHU); 8 ex., Zanzibar (Zanguebar, Mhonda-Ouzigoua), 6°15'S/39°28'E, 1879/1880, Dr. Plason (4 ex. BMNH, 4 ex. MRAC); 17 ex., Mikindani, 1889, Alte Alkoholsammlung (MNHU); 2 ex., Magila, 5°08'S/38°46'E, O. Neumann (MNHU); 3 ex., Magila, V.1898, (BMNH); 9 ex., Pugu, 6°54'S/39°07'E, III. 1902, Dr. Holtz (MNHU); 44 ex., Lindi, 10°00'S/39°43'E, vor 1903, A. Zimmermann (MNHU); 1 ex., Kissarowe, VI.1903, Coll. Eichelbaum (MNHU); 7 ex., Lindi, 10°00'S/39°43'E, 1903, J. Vosseler / A. Zimmermann (5 ex. MNHN, 2 ex. ZMUH); 4 ex., Magamba-Bge. bei Masinde, 4°42'S/38°18'E, I.1905, ex coll. Schröder (MNHU); 14 ex. Amani, D.O.Afrika, XII.1905, Dr. Chr. Schröder (MNHU); 3 ex., Pangani-Steppe, Mombo-Masinde, 5°30'S/38°50'E, I.1906, ex coll. Dr. C. Schröder (MNHU); 1 ex., süd-östl. Kilimandjaro, 3°04'S/37°22'E, I.1906, ex coll. Dr. C. Schröder (MNHU); 1 ex., Tendaguru, Lindi, 10°03'S/39°07'E, I.1910, Janensch (MNHU); 18 ex., Amani, IV.1910, Biolog. Institut (MNHU); 2 ex., Landsch. Ugogo, Kilimatinde, 5°51'S/34°57'E, II.1911, Dr. E. Obst (MNHU); 5 ex., Mikindani, II./III.1911, H. Grote (MNHU); 4 ex., Udjidji, 4°55'S/29°39'E, III.1913, A. Zimmermann (MNHU); 1 ex., B. L. J. Amani, IV.1915, Tengeni (NMK); 1 ex., Utimbaru, 1°23'S/34°25'E, IV.1915, Dr. Holtz (MNHU); 1 ex., Tabora, 5°30'S/32°50'E, I.1916, Dr. Holtz (MNHU); 3 ex., Mtotohovu-Trockenwald, III.1916, Methner (MNHU); 6 ex., Makonde-Hochland, 10°43'S/39°12'E, XII.1916, Methner (MNHU); 3 ex., Tanganyika, Ruana (Kidatu), 7°42'S/36°57'E, VI.1945, R. Rijkebusch (NMK); 1 ex., Kipako, Kwango, 8°20'S/35°48'E, X.1924, R. P. Vanderijst (MRAC); 3 ex., Ruana, Kidatu, 7°42'S/36°57'E, VI.1945, R. Rijkebusch (NMK); 8 ex., Tumba (Rukwa), 7°00'S/31°30'E, XII.1950, H. J. Bredo (IRSN); 1 ex., Magadu, 6°52'S/37°39'E, IV.1954, R. Rijkebusch (NMK); 1 ex., Tanganyika, terr. Handeni, 5°26'S/38°10'E, IV.1957, P. Basilewsky & N. Leleup (MRAC); 3 ex., Ilonga, 9°04'S/36°51'E, III.1968, C. J. Thomas (BMNH); 1 ex., Uluguru Mts., 6°49'S/37°40'E, IV.1997, Werner & Litzler (MIZT). **Uganda:** 1 ex., Kiryanga, 1°5'N/31°3'E, IV.1927, H. Hargreaves (BMNH). **Zambia:** 10 ex., Kabwe, 9°07'S/30°40'E, II.1944, H. J. Bredo (IRSN); 34 ex., Mporokoso, 9°23'S/30°08'E, I.1944, H. J. Bredo (IRSN); 24 ex., Buleya, Mweru-Wantipa, 9°08'S/26°47'E, IV.1944, H. J. Bredo (IRSN); 1 ex., Jadotville=Likasi, 10°59'S/26°44'E, X.1945, P. Gravez (MRAC); 7 ex., Tupele, Mweru-Wantipa, 8°43'S/29°54'E, I.1944, H. J. Bredo (IRSN); 63 ex., Mweru-Wantipa, 8°45'S/29°30'E, I./II., IV.1945, I.1945, H. J. Bredo (IRSN); 3 ex., Mindolo, Mt. Kitwe, 12°46'S/28°11'E, XI.1967 (BMNH). **Zimbabwe:** 17 ex., (Unguu) Ungun, 19°50'S/29°07'E, 1913, Dr. Holtz (1 ex. IRSN, 14 ex. MNHU, 1 ex. MRAC, 1 ex. ZMUH).

Ootheca kibonotensis Weise, 1909

(Figs 27, 41–45)

Ootheca kibonotensis Weise, 1909: 199.

Total length. 4.30–5.90 mm (mean: 5.05 mm; n = 11; Fig. 41).

Head. Yellow, brownish-yellow or darker brownish-red, very rarely dark brown. Antennae pale yellow and either only last one to three antennomeres brownish, or becoming dark brown to black from fifth antennomere towards apex; length ratios: second to third antennomere 0.60–0.80 (mean: 0.71); third to fourth antennomere 0.62–0.83 (mean: 0.79; Fig. 42). Eyes large, ratio of maximal width of eye to minimal distance between eyes 0.57–0.86 (mean: 0.69).

Thorax. Pronotum: pale yellow to brownish-red, very rarely dark brown; very finely punctuated with latero-basal impression absent or indistinct; width 1.75–2.50 mm (mean: 2.04 mm); length 1.00–1.35 mm (mean: 1.18 mm); width to length ratio 1.60–1.86 (mean: 1.73). Elytral colouration ranges from brownish-yellow to brown, very rarely black, about 15% of specimens examined have dark brown to black elytral discs, i.e. elytra have paler brownish outer margins, suture and apex (Fig. 43); irregularly and somewhat more coarsely punctuated than pronotum, generally with fine punctuation; length 3.70–4.60 mm (mean: 4.06 mm); maximal width of elytra together 3.00–3.90 mm (mean: 3.31 mm); maximal width of elytra together to length of elytron ratio 0.76–0.85 (mean: 0.82). Scutellum, meso- and metathorax yellow to yellowish-brown. Legs entirely yellowish-brown, in about 30% of specimens examined distal three quarters of tibiae dark brown, in those specimens femora often also darker brownish colour. Length ratio of basi-metatarsus to metatibia 0.22–0.29 (mean: 0.25).

Abdomen. Yellow to brown.

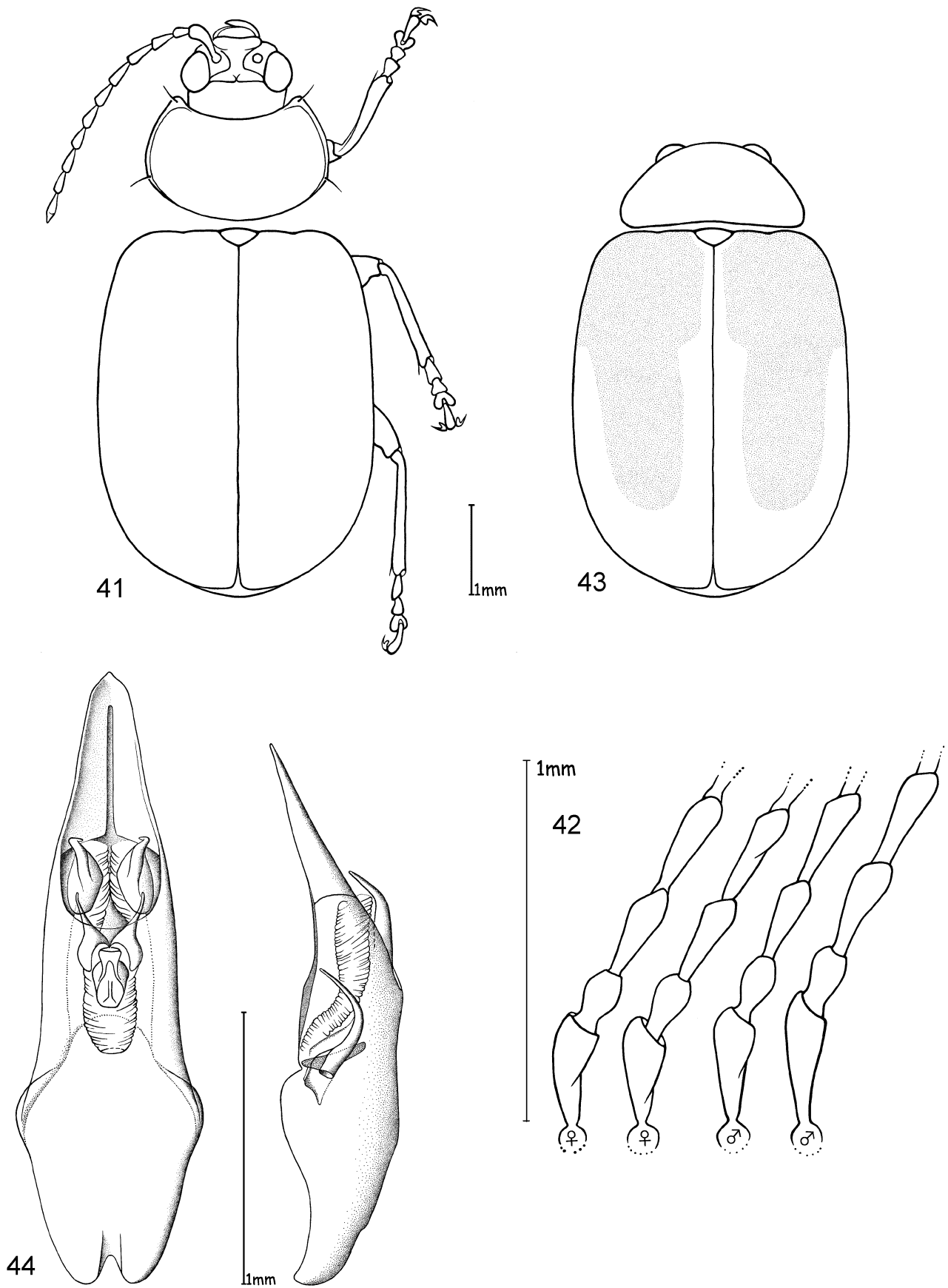
Male genitalia. Median lobe broad at base, nearly parallel-sided in the middle third, tapering towards non-incised apex. Tectum consists of one pair of short tectorial spurs, broad basally and hooked apically. Endophallus with very broad, short base and pair of slender, down-curved spines (Fig. 44).

Diagnosis. Only the specimens that are characterized by brownish to black discal spots on the elytra can be reliably assigned to *O. kibonotensis* by external characters, as these are markings unique to this species. *Ootheca kibonotensis* is on average significantly smaller (total length 4.30–5.90 mm), and has a finer dorsal punctuation, than the sympatrically occurring *O. mutabilis* (total length 4.75–6.30 mm) or *O. bennigseni* (total length 4.75–6.75 mm), and can be distinguished from those species in most cases by its large eyes (maximal width of eye to minimal distance between eyes 0.57–0.86; *O. mutabilis* 0.39–0.63; *O. bennigseni* 0.39–0.67), but here also, only the male genitalia allow a reliable identification in most cases.

Distribution. Most specimens known from a restricted area around Kilimandjaro to the coastal region in northern Tanzania southern Kenya including the Taita Hills and Zanzibar, few records far away in Angola and northern Zambia (Fig. 27).

Type material examined. Lectotype: male, “Kilimandj. Sjöstedt / Kibonoto 1’–1200 m. / 24 april / ♂ / Type. / Lectotypus Th. Wagner desig. 2008 *Ootheca kibonotensis* Wse. / AfriGa specimen ID 866 specimen data documented 4.X.2006” (NHRS; Fig. 45). This designation. Type locality: Tanzania, Kibonoto, 3°00’S/37°20’E. Paralectotypes: 7 ex., same basic data (at least “Kilimandjaro, Sjoestedt 1905”) as lectotype (4 ex. MNHU, 3 ex. NHRS). Weise mentioned eight specimens in his original publication, and a lectotype is herein designated to fix the name to a single specimen.

Additional material examined. **Angola:** 1 ex., Salazar, 9°18’S/14°55’E, 9.–15.III.1972, Southern African Exp. (BMNH). **Kenya:** 1 ex., Voi, 3°23’S/38°34’E, III.1911, S. A. Neave (BMNH); 8 ex., Shimoni, 4°39’S/39°23’E, XI.1911, Alluaud & Jeannel (ZMUH); 1 ex., Sekoke, VII.1932, A. Turner (NMK); 1 ex. Malindi, 3°13’S/40°07’E, V.1940, G. W. Jeffery (BMNH). **Tanzania:** 1 ex., Ramissi, V.1915, Methner (MNHU); 1 ex., Zanzibar, 6°10’S/39°11’E, Fairmaire, coll. Clavareau (MRAC); 1 ex., Kilimandjaro, 5°23’S/38°03’E, 1905, Sjöstedt (NHRS); 1 ex., Nairobi b. Tanga, 5°07’S/39°7’E, V.1915, Methner (MNHU). **Zambia:** 3 ex., Lake Bangweulu, N’Sumba Island, 11°05’S/29°45’E, XI.1946, M. Steele (BMNH).



FIGURES 41–44. *Oothecha kibonotensis* Weise, 1909. 41. Habitus, dorsal view; 42. Antennomeres 1–4 of two different males and two different females; 43. Colour pattern of some specimens; 44. Median lobe: dorsal (left), lateral (right).



45a

45b

FIGURE 45. Lectotype of *Ootheca kibonotensis* Weise, 1900, a. specimen with labels, b. close-up detail of specimen.

***Ootheca variabilis* (Laboissière, 1920)**

(Figs 27, 46–50)

= *Ergana variabilis* Laboissière, 1920: 132.

= *Ergana variabilis* var. *benardi* Laboissière, 1920: 132; syn. nov.

Total length. 4.40–6.70 mm (mean: 5.48 mm; n = 25; Fig. 46).

Head. Dark brown to black. Antennae short, antennomeres broad, basal four to five antennomeres yellowish, others gradually becoming more brownish to black towards the apex; length ratios: second to third antennomere 0.60–0.88 (mean: 0.76); third to fourth antennomere 0.80–1.00 (mean: 0.88; Fig. 47). Maximal width of eye to minimal distance between eyes 0.44–0.64 (mean: 0.54).

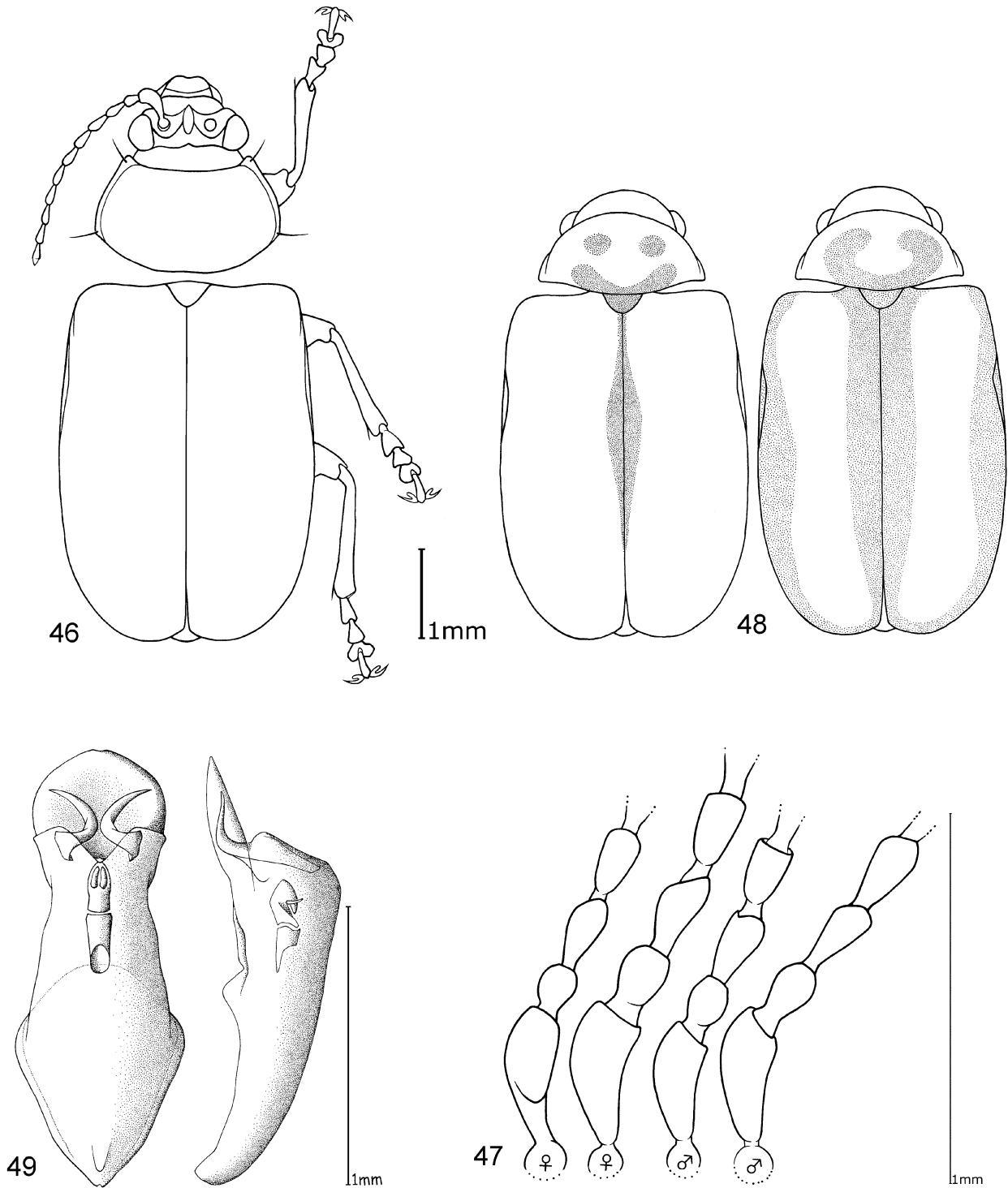
Thorax. Pronotum: yellow to yellowish-brown, in 30 % of specimens examined with various darker brown patterns, usually with two brown spots on the disc (Fig. 48), sometimes the darker brown colour covers the entire pronotum; finely punctuated, latero-basal impression distinct; width 1.75–2.45 mm (mean: 2.06 mm); length 0.95–1.40 mm (mean: 1.19 mm); pronotal width to length ratio 1.64–1.90 (mean: 1.74). Elytra yellowish- to reddish-brown with at least suture dark brown, but brown sutural colouration usually covers up to one third of the elytron and then outer elytral margins also dark brown to black for up to one quarter of the elytron width (Fig. 48); punctuation irregular, deeper and coarser than that of distinctly depressed; length 3.30–4.95 mm (mean: 4.27 mm); maximal width of elytra together 2.20–3.60 mm (mean: 3.01 mm); maximal width of elytra together to length of elytron ratio 0.65–0.74 (mean: 0.71), slender. Scutellum, meso- and metathorax, and legs dark brown to black; third to fifth tarsomeres paler brownish colour on all legs, length ratio of basi-metatarsus to metatibia 0.18–0.25 (mean: 0.21).

Abdomen. Dark brown to black.

Male genitalia. Median lobe constricted in the middle, with short, rounded apex. Tectum consists of a pair of strongly outwardly curved tectorial spurs. Endophallus small, slender, with one pair of very small dorsal spines (Fig. 49).

Diagnosis. Distinctive characters for this species include a completely dark brown to black head, legs and underside; short antennae with broad antennomeres; yellowish pronotum usually with darker brown discal spots and a distinct latero-basal pronotal impression; and yellowish elytra with a more or less broad dark brown to black suture. *Ootheca ugandae* sp. n. is most similar in colouration of the head, underside and legs, and also has a broad black elytral suture, but the outer elytral margins are always yellow and a submarginal longitudinal stripe is black; pronotum is either entirely yellowish-brown, or has darker brown medio-basal

patches; elytra are much more coarsely punctuated, and more convexly rounded; third antennomere is much longer than the second (length ratio of second to third antennomere 0.55–0.67; *O. variabilis* 0.60–0.88), and it is on average larger overall (total length 5.75–5.95 mm; *O. variabilis* 4.40–6.70 mm). Furthermore, *O. julianae* **sp. n.** is similar to *O. variabilis* in size and colouration, but the former has an entirely yellowish pronotum, yellow legs, and broad brown outer elytral margins and humeri. Since colour patterns are quite variable in most species of *Ootheca* the male genitalia should be checked in doubtful cases.



FIGURES 46–49. *Ootheca variabilis* (Laboissière, 1920). 46. Habitus, dorsal view; 47. Antennomeres 1–4 of two different males and two different females; 48. Colour pattern of some specimens; 49. Median lobe: dorsal (left), lateral (right).



50a

50b

FIGURE 50. Lectotype of *Ergana variabilis* Laboissière, 1920, a. specimen with labels, b. close-up detail of specimen.

Distribution. Only known from the eastern shores of Lake Victoria to montane regions along the East African Rift Valley in Kenya (Fig. 27).

Type material examined. *Ergana variabilis*: Lectotype: female, “Salt Marsh, Nyanza Province (B. E. A.) / G. B., Janv. 1913 / Type / *Ergana variabilis* m. V. Laboissière - Det./ AfriGa specimen ID 890, specimen data documented 20.IX.2004” (MNHN; Fig. 50). Type locality: Kenya, 0°30’S/34°30’E. Paralectotypes (including paralectotypes of *E. variabilis* var. *benardi* which cannot be clearly separated from the nominate taxon): 8 ex., same data as lectotype (1 ex. BMNH, 6 ex. MNHN 1 ex. ZMUH); 8 ex., “Amala River, Sotik (B. E. A.) / G. B., Janv. 1913”, 0°47’S/35°21’E (4 ex. MNHN, 4 ex. ZMUH); 1 ex., “Guasso Nyro (sud), Sotik (B. E. A.) / G. B., Janv. 1913” (1 ex. ZMUH); 4 ex., “Onjoro O Nyro, Masai (B. E. A.) / G. B., Janv. 1913”, 1°45’S/36°00’E (3 ex., MNHN, 1 ex. ZMUH); 3 ex., “Lemek Valley, Nyanza Province (B. E. A.) / G. B., Janv. 1913”, 1°06’S/35°23’E (2 ex. MNHN, 1 ex. ZMUH). This designation. Type locality: Kenya, Western Province, 0°46’S/35°07’E. Laboissière mentioned several specimens in his original publication from three locations and few specimens of the type series carry labels with “type” used by the author, thus a lectotype is herein designated to fix the name to a single specimen.

Additional material examined. Kenya: 1 ex., Kisii District, S. Kavirondo, 5000 ft, 0°45’S/34°25’E, V.1911, S. A. Neave (BMHN).

***Ootheca frontalis* Laboissière, 1923**

(Figs 21, 51–54)

Ootheca frontalis Laboissière, 1923: 183.

=*Ootheca tinantae* Laboissière, in litteris.

Total length. 4.70–5.95 mm (mean: 5.28 mm; n = 12; Fig. 51).

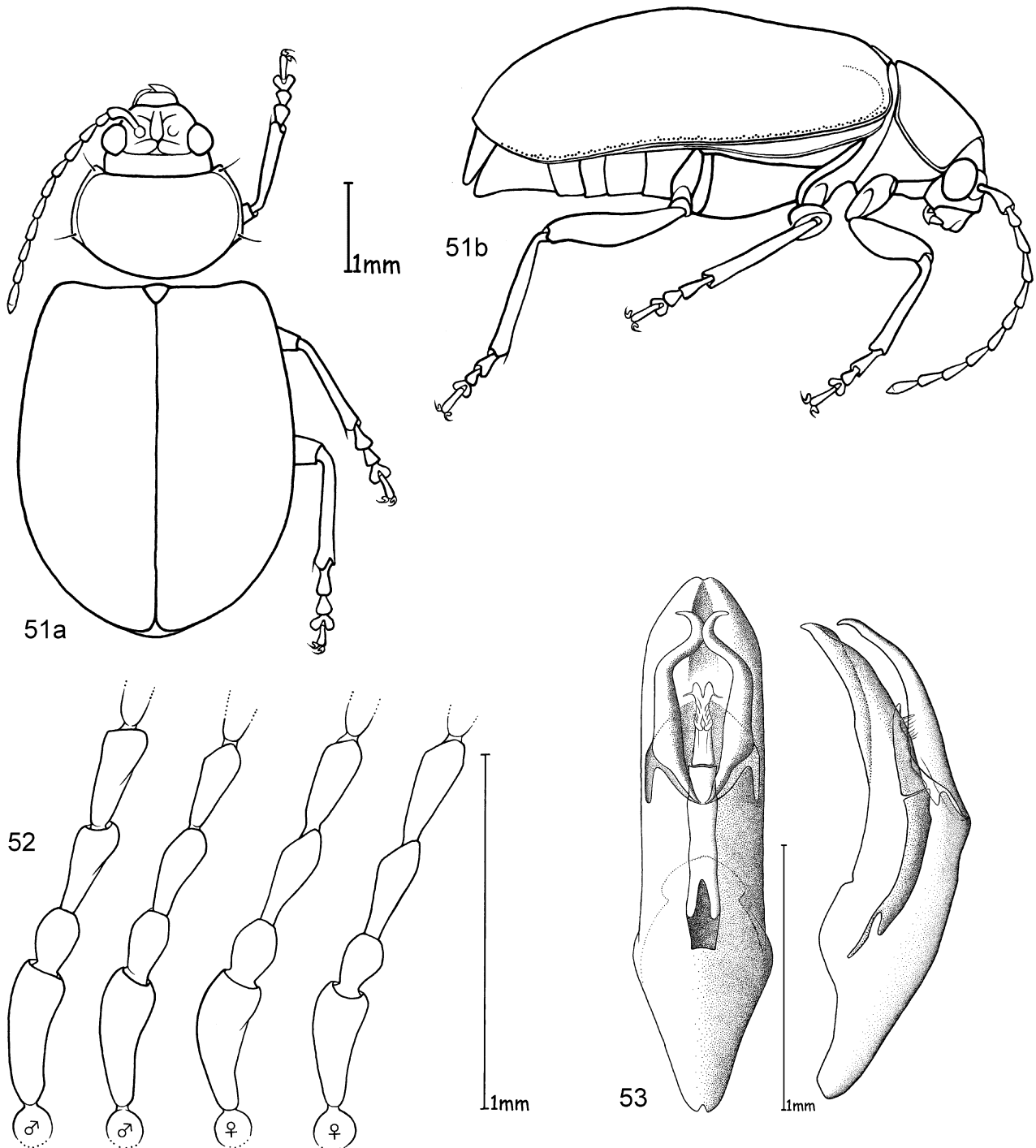
Head. Reddish-, rarely yellowish-brown, vertex darker. Antennae: basal four to six antennomeres same colour as head, others dark brown; length ratios: second to third antennomere 0.55–0.73 (mean: 0.65); third to fourth antennomere 0.75–1.00 (mean: 0.87; Fig. 52). Maximal width of eye to minimal distance between eyes 0.46–0.60 (mean: 0.54).

Thorax. Pronotum: brownish-red to brown, finely punctuated, latero-basal impression usually very distinct; width 1.90–2.40 mm (mean: 2.15 mm); length 1.15–1.40 mm (mean: 1.28 mm); width to length ratio 1.60–1.80 (mean: 1.68). Elytra black; punctuation much coarser than that of pronotum, distinctly seriate along suture giving elytra slightly striped appearance; length 3.35–4.47 mm (mean: 4.29 mm); maximal width of elytra together 2.80–3.60 mm (mean: 3.28); width of elytra together to length of elytra ratio 0.72–0.81 (mean:

0.76). Scutellum, meso- and metathorax light to dark brown. Legs dark brown to black, femoral apex and base of tibia and distal three tarsomeres reddish-brown, femora sometimes paler than tibiae; length ratio of basimetatarsus to metatibia 0.21–0.26 (mean: 0.23).

Abdomen. Yellowish- to dark brown.

Male genitalia. Median lobe slender, parallel-sided, rounded, with shallow apical incision. In lateral view evenly curved ventrally. Tectum consists of two robust tectorial spurs nearly as long as median lobe, and display peculiar curvature. Apex of endophallic brush free and clearly visible, endophallic structures symmetrically arranged with two slightly curved spines and group of bristles (Fig. 53).



FIGURES 51–53. *Ootheca frontalis* Laboissière, 1923. 51. Habitus, a. dorsal view, b. lateral view; 52. Antennomeres 1–4 of two different males and two different females; 53. Median lobe: dorsal (left), lateral (right).

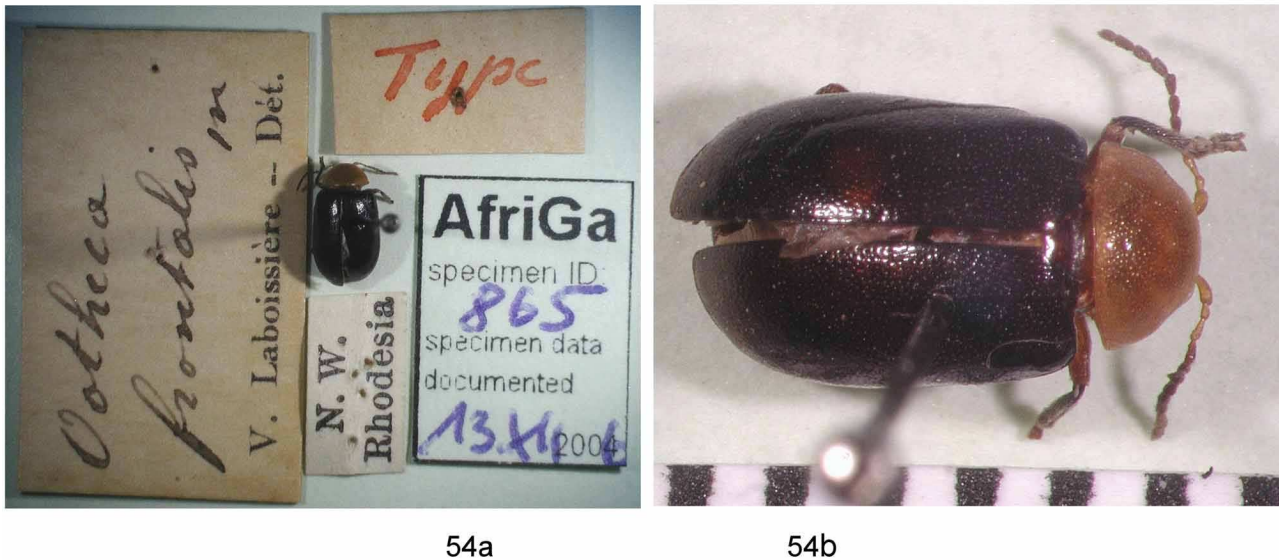


FIGURE 54. Lectotype of *Ootheca frontalis* Laboissière, 1923, a. specimen with labels, b. close-up detail of specimen.

Diagnosis. Very similar to bicolourous specimens of *O. mutabilis*, *O. bennigseni*, *O. orientalis*, *O. eddae* sp. n. and *O. tilmani* sp. n. that all show a more or less strong overlap in morphometrics. A good character to differentiate *O. frontalis* from these species is the seriate punctuation along the elytral suture. This character only occurs in one other species, *O. chapuisi*, which is smaller (total length 3.64–5.04 mm; *O. frontalis* 4.70–5.95 mm) and male specimens longer than 4.50 mm should be checked by genital dissection.

Distribution. Only known from a few sites in the Katanga province in south-eastern Democratic Republic of the Congo (Fig. 21).

Type material examined. Lectotype: female “N. W. Rhodesia / Type / *Ootheca frontalis* m. V. Laboissière - Dét. / AfriGa specimen ID 865 specimen data documented 13.XII.2006” (ZMUH; Fig. 54). Type locality: SW-Zambia, no details available. Paralectotypes: 1 female, same data as lectotype. Laboissière mentioned “2 females, collection Laboissière” and a lectotype is herein designated to fix the name to a single specimen.

Additional material examined. Congo (Democratic Republic): 5 ex., Kundelungus, 10.00S/28.00E, Mme. Tinant (MRAC); 11 ex., Elisabethville, 11°40’S/27°28’E, X./XI.1927, Dr. H. S. Evans (BMNH); 4 ex., Elisabethville, 1935, Dr. Richard (MRAC); 4 ex., Katanga, Kifumwanshi, terr. Elisabethville, XII.1955, M. Lips (MRAC). Two specimens from Kundelungus are labelled as type of *O. tinantae* by Laboissière, but to our knowledge this species was not described.

Ootheca meridiana Grobbelaar, 2008

(Figs 55–56)

This species was recently described and separated from the most similar *O. bennigseni*. As supplement to the detailed description, we give the following morphometric data on base of our own studies.

Measurements. Total length: 4.90–6.56 mm (mean: 5.84 mm, n = 15); antennal length ratios: second to third antennomere 0.55–0.75 (mean: 0.64); third to fourth antennomere 0.71–0.92 (mean: 0.83); maximal width of eye to minimal distance between eyes 0.47–0.59 (mean: 0.55); pronotal length 1.20–1.50 mm (mean: 1.38 mm); pronotal width 2.00–2.70 mm (mean: 2.30 mm); pronotal width to length ratio 1.47–1.80 (mean: 1.67); elytral length 3.95–5.05 mm (mean: 4.57 mm); elytral width 2.90–4.00 mm (mean: 3.54 mm); width of elytra together to length of elytron 0.66–0.86 (mean: 0.78).

Male genitalia. Median lobe broad, slightly conical and curved ventrally towards apex with deep incision (Fig. 55). Tectum nearly as large as half of median lobe consisting of two long, broad, tectorial spurs ventrally

curved at apex. In lateral view these spurs are dilated in upper half just before turning down into distinct hook towards apex. Endophallus, divisible in two parts, apical part with endophallic brush and simple basal part, which is less than double the length of apical part.

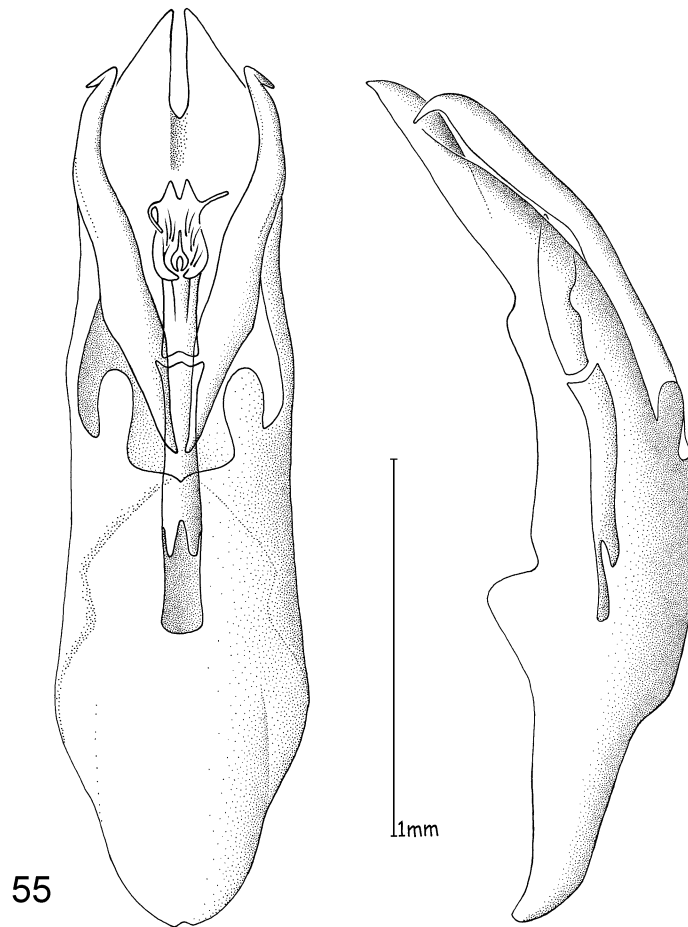


FIGURE 55. *Ootheca meridiana* Grobbelaar, 2008. 55. Median lobe: dorsal (left), lateral (right).

Diagnosis. *Ootheca meridiana* belongs together with *O. bennigseni* and *O. proteus*, the largest species in the genus. Because of a wide overlap with other species in colouration and external characters, a dissection of male genitalia is necessary for reliable identification. A great similarity of the median lobe of *O. meridiana* and *O. bennigseni* complicates the differentiation: only the shape of the elongate apical parts of the median lobe and the ratio of the basal to the apical part of the endophallus allows a differentiation. The basal part is less than two times longer than the apical part (Fig. 55). Nevertheless, not every male specimen can be identified without doubt.

Distribution. Occurs sympatrically with *O. bennigseni*, mostly recorded in southern Africa (South Africa, Zambia, Zimbabwe), but also in central Africa and rarely up to Ethiopia (Fig. 56). The distribution map includes all type material from Grobbelaar (2008) and additional specimens found by us.

Type material. Holotype: Gauteng Province, Pretoria, Jan. 1947, E. E. Anderssen, AcP. 4860. (on groundnuts). Type locality: South Africa, 25°45'S/28°11'E. Paratypes: Material listed in detail in the original description (Grobbelaar 2008); this material was not studied by us.

Additional material examined. **Angola:** 3 ex., Bimbi, X. 1931, Miss. Sc. Swiss, Le Moul't vend. via Reinbek 1957 (ZMUH). **Congo (Democratic Republic):** 179 ex., Garenganze, Port, W. Africa, (BMNH); 2 ex., Kinda, Katanga, 9°18'S/25°04'E, ex coll. Staudinger (MRAC); 4 ex. Kinda, Katanga, Don Cercle (MRAC); 1 ex., Katalla, XI.1911, Dr. Rodhain (MRAC); 1 ex. Shinsenda, 12°20'S/27°56'E, XII.1911, Miss. Agricol. (MRAC); 2 ex., Kasenga, 10°22'S/28°38'E, II.1912, Dr. Bequaert (MRAC); 1 ex., Leopoldville, 4°18'S/15°18'E, XII.1925, R. P. Hulstaert (MRAC); 1 ex., Lac Tanganyka, Nyanza, 6°0'S/29°30'E, I.1933,

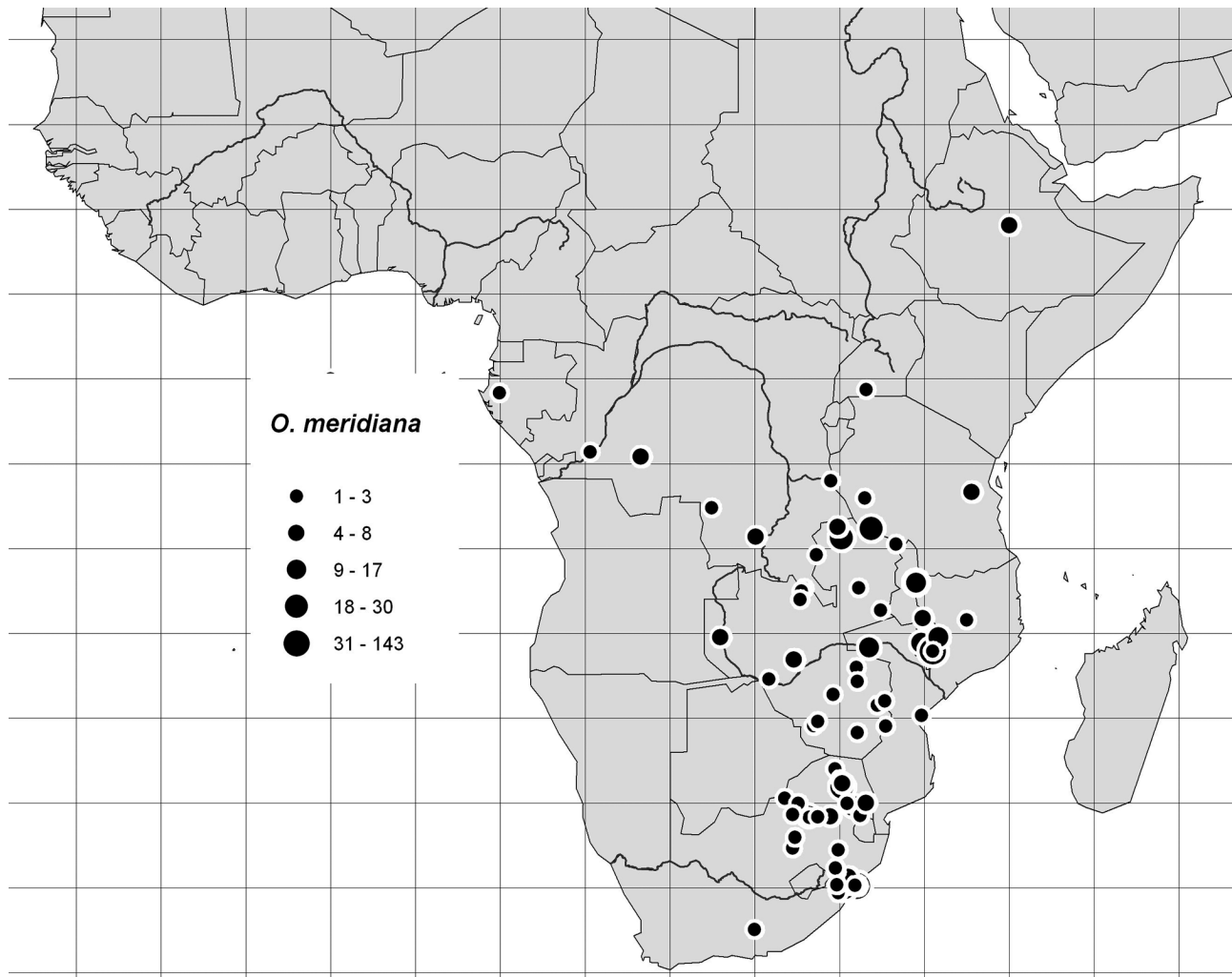


FIGURE 56. Distribution of *Ootheca meridiana*.

L. Burgeon (MRAC); 1 ex., Lulua, Luashi, 7°35'S/22°28'E, XI.1938, F. Freyne (MRAC); 29 ex., Tanganyka Territory, Mporokoso, 9°23'S/30°08'E, I.1944, H. J. Bredo (IRSN); 8 ex., Bas-Congo, Lemfu, 4°34'S/18°18'E, X.–XII.1944, 1945, P. de Beir (MRAC); 1 ex., Terr. Tanganika, Tumba (Rukwa), 7°0'S/31°30'E, XII.1950, H. J. Bredo (IRSN). **Ethiopia:** 4 ex., Uha, 9°04'N/40°12'E, X.1912, Holtz (MNHU). **Gabon:** 1 ex., N'Gomo, Sud Ogowe, 0°49'S/9°57'E, Junod (MRAC). **Malawi:** 1 ex., Nyassaland (BMNH); 4 ex., Nyasaland, btwn. Ft. Johnston & Monkey Bay, 14°5'S/34°55'E, III.1910, S. A. Neave (BMNH); 10 ex., Nyasaland, btwn. Ft. Mangoche & Chikala Boma, 4,000 ft., III.1910, S. A. Neave (BMNH); 143 ex., Mlanje, Nyasaland, 16°02'S/35°30'E, 1912–1914, S. A. Neave (BMNH); 1 ex., Namatandala, 2 km SSW Lufipa, Chitipa Dist., 9°43'S/33°20'E, XII. 1986, E. Holm / E. Marais (NMNW). **Mozambique:** 12 ex., Boroma, Zambesi, 15°48'S/31°45'E, (MNHU); 4 ex., Mozambique, Sandacca, 26°32'S/32°33'E, III.1903, V. Rolle (MNHU); 1 ex., Beira, 19°50'S/34°50'E, II.1903, P. A. Sheppard, Jacoby Coll. (BMNH); 2 ex., Nyassa, 14°12'S/37°30'E, Thelwall, Fry Coll. 1905 (BMNH); 12 ex., Nyasaland, SW of Lake Chilwa, 15°12'S/35°50'E, I.1914, S. A. Neave (BMNH). **South Africa:** 1 ex., Natal, 29°51'S/31°01'E, Le Moul't vend. via Reinbek 1957 (ZMUH); 61 ex., Natal, Miss. de Witte (IRSN); 3 ex., Natal (1 ex. MRAC, 2 ex. MNHU); 4 ex., Natal, ex coll. Staudinger (MRAC); 64 ex., Natal, dist. Richmond, Indaleni, 29°53'S/30°14'E, W. Hunt, ex coll. Breuning (MRAC); 8 ex., Kapland, (2 ex. IRSN, 6 ex. MNHU); 1 ex., Tigers Kloof, Natal, H. B. Marley (BMNH); 1 ex., Port Nanil ? (BMNH); 1 ex., Zoutpansberg, 800 m, Transvaal, 22°58'S/29°45'E, Coll. Clavareau (MRAC); 9 ex., Zoutpansberg, Mp`hôme, N.Transvaal, Magd. Knothe (MNHU); 4 ex., Natal, Frère, 29°51'S/31°01'E, XII.1893, XII. 1896, G. A. K. Marshall (BMNH); 3 ex., Estcourt, Natal, 29°0'S/

29°53'E, I.1894, G. A. K. Marshall (BMNH); 21 ex. Shilouvane, 24°03'S/30°23'E, I.1906, Rev. Junod (TMSA); 2 ex. New Hanover, Ntl., 29°51'S/30°32'E, XII.1914, Hardenberg (BMNH); 5 ex., Pretoria, 25°42'S/28°13'E, XII.1914, Ac.-P./ coll. D. Gunn (BMNH); 3 ex., Kroonstad, O.F.S., 27°39'S/27°14'E, 1923, J. W. Hunt (NMK); 1 ex., Middelburg, Transvaal, 24°42'S/26°46'E, II.1926, P. Wilhelm (MRAC); 2 ex., Tzaneen, 23°50'S/30°10'E, II.1932, D. O. van Velden (BMNH); 1 ex. Durban, 29°48'S/31°02'E, XII.1938, A. H. Newton (BMNH); 3 ex., Mt. Selinda, I. 1959, G. van Son (TMSA); 2 ex., Sabie, TVL., 25°06'S/33°29'E, VIII.1962, T. A. P. de Beer (TMSA). **Tanzania:** 1 ex., Rubugwa, 5°15'S/33°22'E, Trefurth (MNHU); 3 ex., Tanganyika-See, S. Böhm (MNHU); 2 ex., Uhehe, Iringa, 7°46'S/35°42'E, E. Nigmann (MNHU); 1 ex., Uhehe, Dabaga, 8°07'S/35°55'E, E. Nigmann (MNHU); 11 ex., Njassasee, Afr. or., 12°0'S/34°30'E, Miss. de Witte (9 ex. IRSN, 2 ex. ZMUH); 4 ex., Nyassa, S. B. Spey (2 ex. Sharp Coll., 1 ex. Baly Coll., 1 ex. Fry Coll.; BMNH); 8 ex., Nyassa, Andrewes Request, (BMNH); 2 ex., Lindi, 10°0'S/39°43'E, IV.1897, Fülleborn (MNHU); 1 ex., Nyassa-See, Wiedhafen, 10°28'S/34°35'E, II.1899, S. Fülleborn (MNHU). **Uganda:** 1 ex., Kakoma, 0°37'S/31°35'E, Dr. Böhm (MNHU). **Zambia:** 8 ex., N. W. Rhodesia, Miss. de Witte (IRSN); 2 ex., Rhodesia du Nord, Le Moul't vend. via Reinbek 1957 (ZMUH); 2 ex., Livingstone, Zambesi R., 17°36'S/25°50'E, III.1913, H. C. Dollmann (BMNH); 2 ex., Mwengwa, 13°0'S/27°40'E, II.1914, H. C. Dollmann (BMNH); 4 ex., Haut Zambèze, Lealui, 15°12'S/22°59'E, 1919, V. Ellenberger (MNHU); 2 ex., Musosa, 8°23'S/29°38'E, VII.1939, IV.1941, H. J. Bredo (IRSN); 20 ex., Abercorn, 8°50'S/31°52'E, XI.1942–IV.1944, H. J. Bredo (IRSN); 4 ex., Mweru-Wantipa, Chocha, 12°31'S/31°08'E, I.1944, H. J. Bredo (IRSN); 6 ex., Mweru-Wantipa, Tupele, 8°43'S/29°54'E, I.1944, H. J. Bredo (IRSN); 1 ex., Chingola district, 12°30'S/27°45'E, X.1960, L. J. Magic (BMNH); 1 ex., Southern Prov., Monze to Kafue, 16°40'S/27°25'E, XII.1970, M. Sedlacek (NNML). **Zimbabwe:** 2 ex., Mashonaland, 17°0'S/31°0'E, XII.1898, G. A. K. Marshall (BMNH); 2 ex., Salisbury, 17°50'S/31°03'E, XII.1984 und XII.1898, Coll. M(arshall) (BMNH); 1 ex., Mt. Chirinda, 19°14'S/32°14'E, XII.1901, G. A. K. Marshall (BMNH); 1 ex., Matopos, 20°25'S/28°29'E, I.1904, P. A. Sheppard (BMNH); 2 ex., Hope Fountain, 20°16'S/28°41'E, I.1922, Neville Jones (SANC); 1 ex., Salisbury, I.1944, E. C. G. Pinhey (SANC); 1 ex., Umtali, 18°58'S/32°40'E, I.1962, A. Carnegie (BMNH); 3 ex., Msekera, 13°37'S/32°26'E, II.2000 (BMNH).

Description of new species

Ootheca eddae sp. n.

(Figs 57–61)

Total length. 4.95–6.25 mm (mean: 5.48 mm, n = 22; Fig. 57).

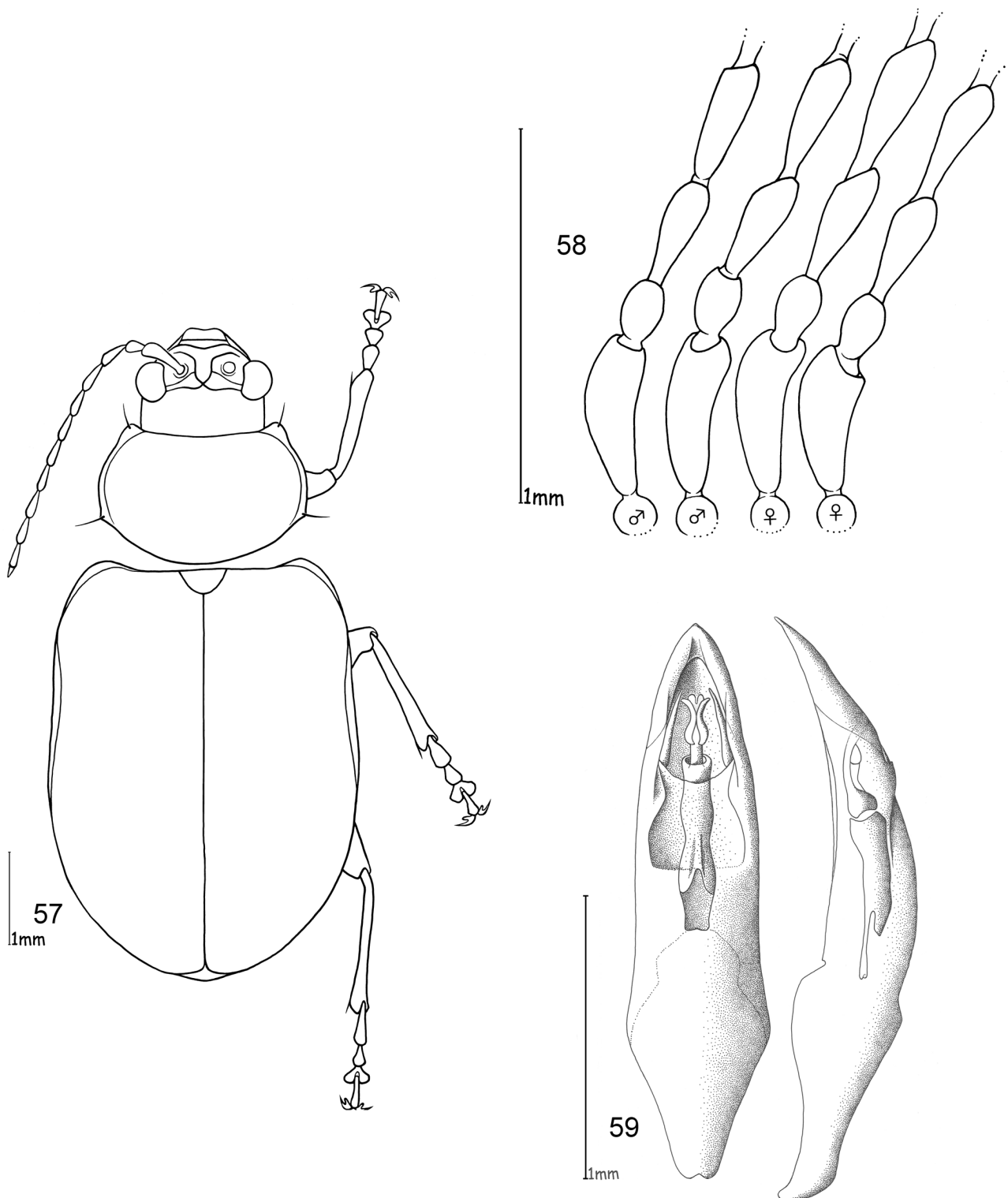
Head. Brownish, ranging from pale yellow to reddish-brown. Antennae three basal antennomeres same colour as head, becoming dark brown from fourth antennomere to black towards apical antennomere; length ratios: second to third antennomere 0.50–0.70 (mean: 0.60); third to fourth antennomere 0.83–1.00 (mean: 0.87; Fig. 58). Maximal width of eye to minimal distance between eyes 0.50–0.60 (mean: 0.53).

Thorax. Pronotum: same colour as head, only one specimen out of 36 has dark head and contrasting yellowish pronotum; finely punctuated, latero-basal pronotal impression usually distinct; width: 2.05–2.50 mm (mean: 2.29 mm); length 1.20–1.60 mm (mean: 1.36 mm); width to length ratio 1.60–1.80 (mean: 1.70). Elytra: black, only two possibly immature specimens have brown elytra; punctuation of elytra irregular, distinctly deeper and coarser than that of pronotum; length 4.00–5.10 mm (mean: 4.41 mm); maximal width of elytra together 2.90–4.00 mm (mean: 3.38 mm); maximal width of elytra together to length of elytron 0.68–0.85 (mean: 0.77); slender. Scutellum, pro-, meso- and metathorax, and legs yellowish to reddish-brown, distal two thirds to half of tibia and tarsomeres dark brown to black. Length ratio of basi-metatarsus to metatibia 0.22–0.29 (mean: 0.24).

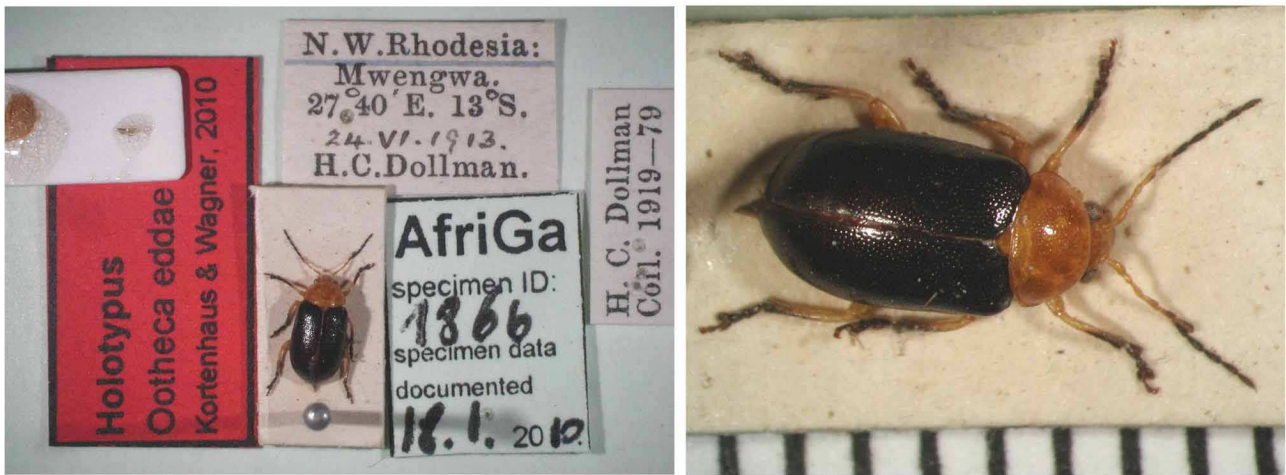
Abdomen. Yellow, red or brownish, corresponding with colour of thorax, i. e. underside unicolourous.

Male genitalia. Median lobe is slightly conical and slightly and evenly curved ventrally. Tectum consists of two short, slender, lateral tectorial spurs, partially covered by bulging margins of median lobe and widely

separated basally. Basal part of endophallus long, undulated in lateral view, apex of endophallus free and clearly visible with a pair of sigmoidally curved spines (Fig. 59).



FIGURES 57–59. *Ootheca eddae* sp. n.; 57. Habitus, dorsal view; 58. Antennomeres 1–4 of two different males and two different females; 59. Median lobe: a. dorsal (left), lateral (right).



60a

60b

FIGURE 60. Holotype of *Oothecha eddae* sp. n., a. specimen with labels, b. close-up detail of specimen.

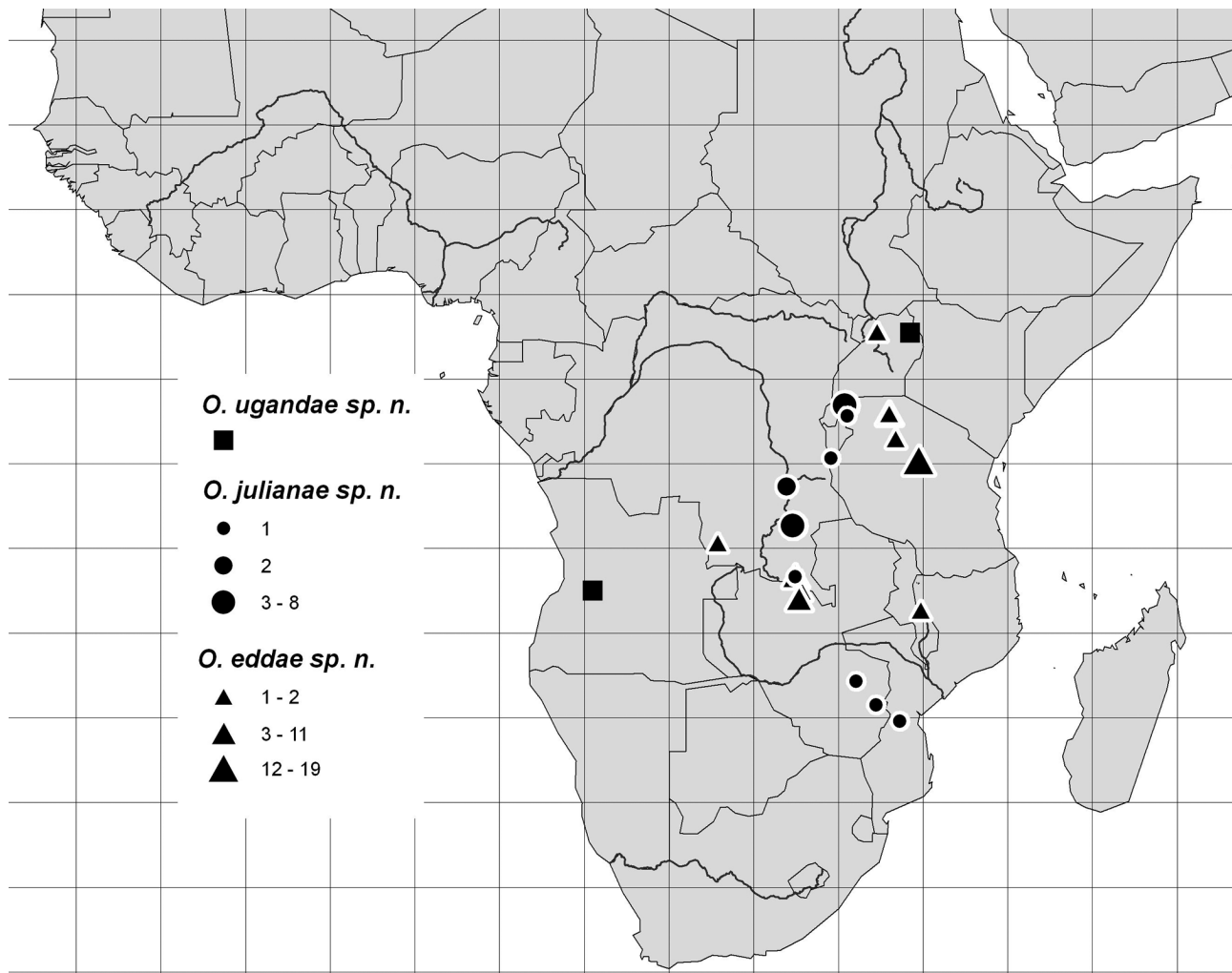


FIGURE 61. Distribution of *Oothecha eddae* sp. n., *O. juliana* sp. n. and *O. uganda* sp. n.

Diagnosis. *Oothecha eddae* sp. n. has a bicolourous dorsum with a yellowish- to reddish-brown head and pronotum and black elytra, as several other sympatrically distributed species. It is on average more slender

than the abundant and widely distributed *O. mutabilis* and *O. bennigseni*, but overlap is large and specimens can not reliably differentiated by morphometrics. The median lobe is somewhat similar to that of *O. mutabilis*, but more conical towards the apex, and differs in the endophallic armature and structure of the tectorial spurs (Figs 10, 55).

Distribution. Along the Rift Valley from Ethiopia towards Malawi, southern Democratic Republic of the Congo and Zambia (Fig. 61).

Etymology. Named after Sabine Kortenhaus' daughter Edda.

Type material. Holotype: male, "N. W. Rhodesia: Mwingwa., 27°40'E.13°S., 24.VI.1913, H. C. Dollman / H. C. Dollman Coll.1919-79 / Holotypus *Ootheca eddae* Kortenhaus & Wagner, 2010 / AfriGa specimen ID: 1866 specimen data documented 18.I.2010" (BMNH). Type locality: Zambia, 13°00'S/27°40'E. Paratypes: 10 ex., female, first label same as holotype (BMNH; Fig. 60); **Congo (Democratic Republic):** 6 ex., Elisabethville, 11°40'S/27°28'E, XI.1911, Miss. Agric. (MRAC); 2 ex., Sandoa, 9°41'S/22°52'E, XII.1931, F. G. Overlaet (MRAC). **Ethiopia:** 1 ex., Abessinien, Neumann (MNHU). **Malawi:** 1 ex., S.E. shore L. Nyasa, btwn. Ft. Maguire & Ft. Johnston, 13°39'S/34°53'E, III.1910, S.A. Neave (BMNH). **Rwanda:** 2 ex., Gabiro, 1°32'S/30°24'E, X.1932, L. Surgeon (MRAC). **Tanzania:** 1 ex., D. O. Afr., coll. Clavareau (MRAC); 1 ex., Uhehe, 1906/1907, Dr. Dempwolff (MNHU); 1 ex., Shinyanga, 3°33'S/33°24'E, XII.1934, E. Burt (BMNH); 19 ex., Msagaa/Mshughaa near Singida, 4°49'S/34°45'E, X. XII.1935, E. Burt (BMNH); 11 ex., Insel Ukerewe, 2°03'S/33°0'E, XII.1960, Father Conrads (1 ex. MNHU, 10 ex. NMK). **Uganda:** 1 ex., Gulu, 2°47'N/32°18'E, V.1925, Carpenter (BMNH). **Zambia:** 1 ex., Chingola district, 12°32'S/27°51'E, XI.1960, L. J. Magic (BMNH).

Ootheca julianae sp. n.

(Figs 61–66)

Total length. 3.72–4.96 mm (mean: 4.30 mm, n = 20; Fig. 62).

Head. Dark brown to black, labrum somewhat paler. Basal five to six antennomeres contrasting yellow to yellowish-brown, other antennomeres brownish to dark brown; length ratios: second to third antennomere 0.75–1.00 (mean: 0.88); third to fourth antennomere 0.73–0.90 (mean: 0.76; Fig. 63). Eyes large, maximal width of eye to minimal distance between eyes ratio 0.59–0.69 (mean: 0.64).

Thorax. Prothorax yellowish- to reddish-brown. Pronotum: delicately punctuated, latero-basal impression indistinct to absent; width 1.48–1.92 mm (mean: 1.70 mm); length 0.88–1.20 mm (mean: 1.00 mm); width to length ratio 1.56–1.71 (mean: 1.62). Elytra yellowish- to light brown elytra as finely punctuated as pronotum, with more or less brown to black sutural and outer elytral margins including the humerus, dark outer elytral margins usually widening in the middle (Fig. 64); length 3.00–4.00 mm (mean: 3.40 mm); maximal width of elytra together 2.32–2.96 mm (mean: 2.87 mm); maximal width of elytra together to length of elytron 0.71–0.82 (mean: 0.75); slender. Scutellum, meso- and metathorax dark brown to black. Legs: entirely yellowish-brown or distal two thirds of the tibiae and basal tarsomeres darker brown; length ratio of basi-metatarsus to metatibia 0.19–0.30 (mean: 0.24).

Abdomen. Yellowish- to light brown, paler than metasternum.

Male genitalia. The median lobe slightly constricted in the middle and strongly conical apically, with elongate, pointed tip. Tectum consists of two tectorial spurs, each with very broad base and upwardly curved apically. The sclerotised part of ductus ejaculatorius (basal part of the endophallus) very broad, apex of endophallus with two strong, ventrally curved, apically hooked spines that are covered by the tectum (Fig. 65).

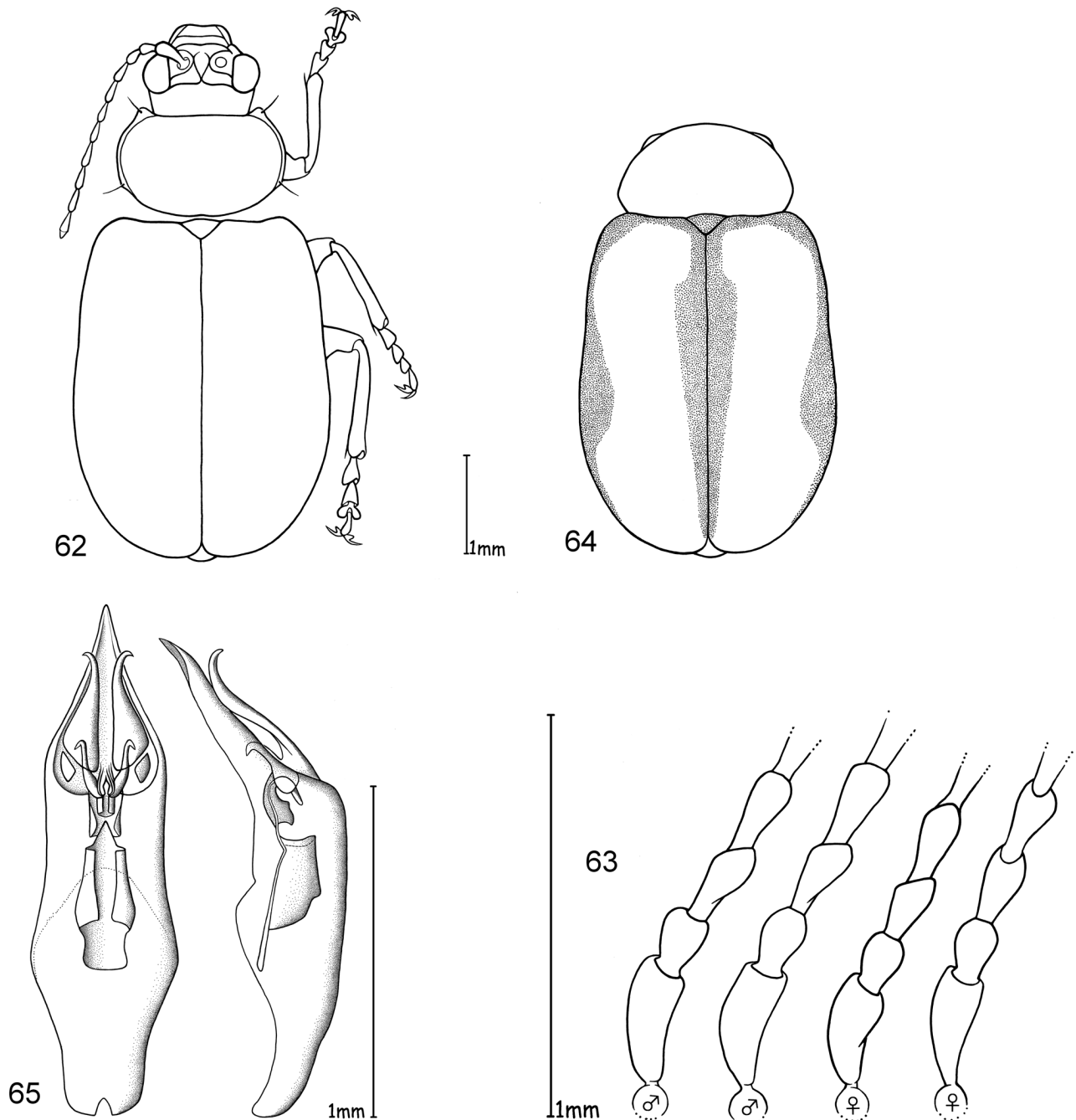
Diagnosis. This species can be identified comparatively easily by colouration and its small size. It is most similar to *O. variabilis* that has also a completely dark brown to black head, but a dark brown to black underside and legs, while *O. julianae* sp. n. has predominantly yellowish legs. In questionable cases dissection is necessary. In colouration is also similar to *O. ugandae* sp. n., but *O. julianae* sp. n. is much smaller (3.72–4.96 mm; *O. ugandae* sp. n. 5.75–5.95 mm), and *O. ugandae* sp. n. has much more coarsely

punctuated elytra, yellow outer elytral margins with a black sublateral stripe, and smaller eyes (maximal width of eye to minimal distance between eyes 0.53–0.60; *O. julianae* sp. n. 0.59–0.69). Furthermore, both species are allopatrically distributed.

Distribution. Occurs in south-eastern Democratic Republic of the Congo, Rwanda and northern Tanzania towards Mocambique and Zimbabwe (Fig. 61).

Etymology. Named after Sabine Kortenhaus' daughter Juliane.

Type material. Holotype: male, "Coll. Mus. Congo, Mitwaba (Manono), X.1947, H. Tazieff, col P. Basilewsky" / Holotypus *Ootheca julianae* Kortenhaus & Wagner, 2010 / AfriGa specimen ID: 1867 specimen data documented 18.I.2010 (MRAC; Fig. 66). Type locality: Democratic Republic of the Congo (=Congo (Zaire)), 8°38'S/27°20'E.



FIGURES 62–65. *Ootheca julianae* sp. n.; 62. Habitus, dorsal view; 63. Antennomeres 1–4 of two different males and two different females; 64. Colour pattern of some specimens; 65. Median lobe: dorsal (left), lateral (right).

Paratypes: **Congo (Democratic Republic):** 7 ex., same data as holotype (MRAC); 1 ex., Elisabethville, 11°40'S/27°28'E, X.1925, Ch. Seydel (MRAC); 2 ex. Katanga, Kasinga, 6°20'S/26°59'E, X.1925, Ch. Seydel (MRAC). **Mocambique:** 1 ex., Chibababa, Lower Buzi R., XII.1906, C. F. M. Swynnerton (BMNH). **Rwanda:** 1 ex., Kibungu, 2°10'S/30°32'E, X.1937, R. Verhulst (MRAC); 6 ex., Gabiro / terr. Biumba, 1300 m, 1°32'S/30°24'E, XI.1953, P. Basilewsky (MRAC). **Tanzania:** 1 ex., Mwamgongo, 4°40'S/29°35'E, XI.1943, Meneghetti (NMK). **Zimbabwe:** 1 ex., Salisbury, Mashonaland, 17°50'S/31°03'E, XII.1899, G. A. K. Marshall (BMNH); 1 ex., Chirinda Forest, Mashonaland, 19°14'S/32°14'E, V.1905, G. A. K. Marshall (BMNH).



FIGURE 66. Holotype of *Ootheca julianae* sp. n., a. specimen with labels, b. close-up detail of specimen.

***Ootheca tilmani* sp. n.**

(Figs 21, 67–70)

Total length. 4.88–6.60 mm (mean: 5.45 mm; n = 5; Fig. 67).

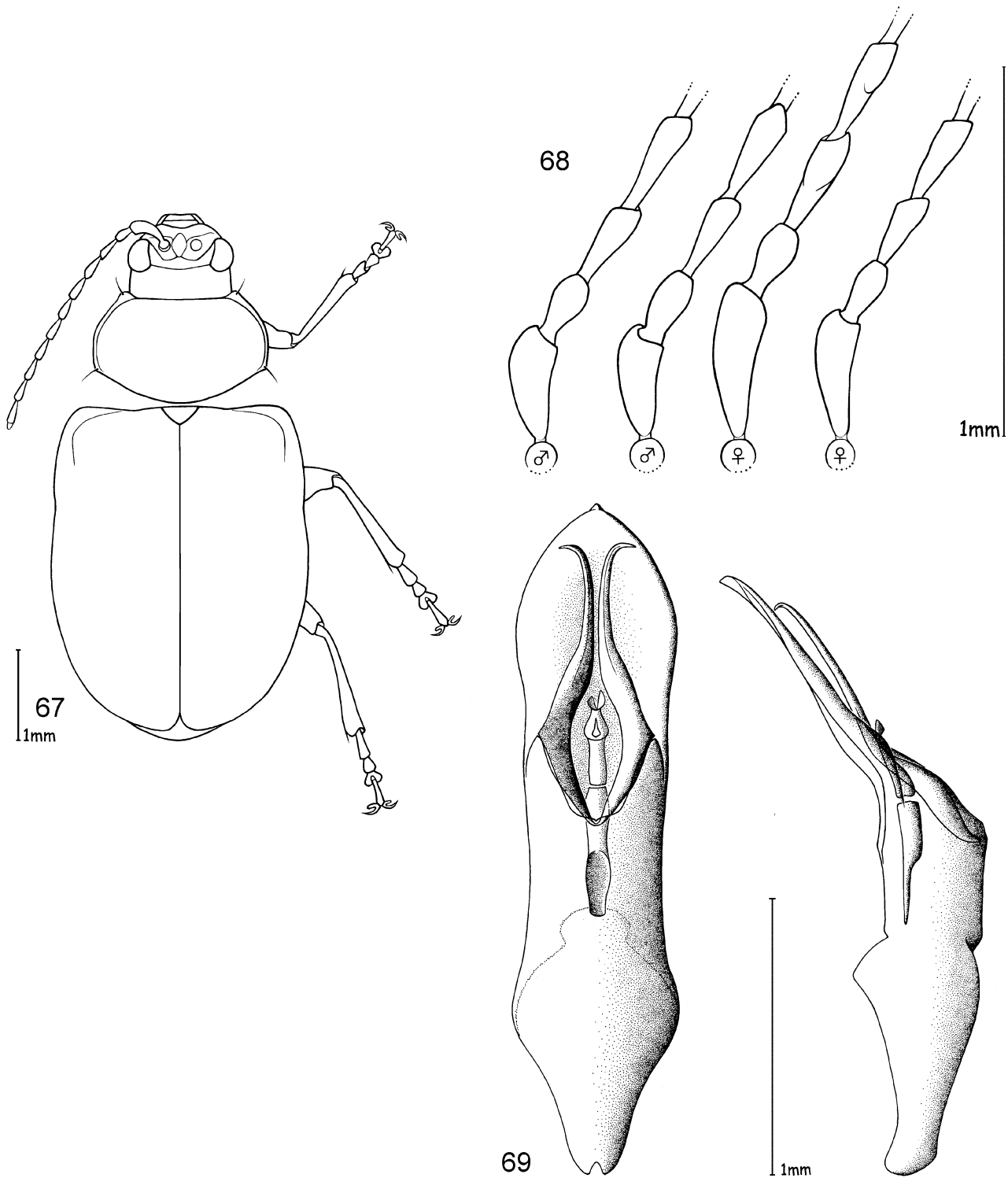
Head. Yellow. Antennae either entirely yellow or terminal four to six antennomeres brownish; length ratios: second to third antennomere 0.60–0.70 (mean: 0.67); third to fourth antennomere 0.83–1.00 (mean: 0.91; Fig. 68). Maximal width of eye to minimal distance between eyes ratio 0.48–0.54 (mean: 0.50).

Thorax. Yellow as for head. Pronotum finely punctuated, latero-basal impression indistinct, width 2.00–2.40 mm (mean: 2.11 mm); length 1.15–1.40 mm (mean: 1.21 mm); pronotal width to length ratio 1.71–1.83 (mean: 1.75). Elytra broad, bright reddish-brown, punctuation of elytra irregular, coarser than that of pronotum; length 3.90–4.60 mm (mean: 4.03 mm); maximal width of elytra together 2.80–3.60 mm (mean: 3.12 mm); maximal width of elytra together to length of elytron ratio 0.73–0.82 (mean: 0.77). Scutellum, meso-, metathorax and femora yellow. Distal three quarters, in particular the dorsal part of tibia and the tarsi, dark brown to black. Length ratio of basi-metatarsus to metatibia 0.23–0.26 (mean: 0.25).

Abdomen. Yellow to yellowish-brown.

Male genitalia. The median lobe widens slightly in the distal third and has a very small apical protruberance. In lateral view strongly bent ventrally forming a distinct angle of about 50°, apical half very flat in lateral view. Tectum consists of two long, slender, slightly curved and apically outwardly hooked tectorial spurs. Endophallus slender with indistinct apical spines (Fig. 69).

Diagnosis. The colouration is quite distinctive for this species, with the head, pronotum and underside entirely yellow, in contrast with the reddish-brown elytra. The median lobe is slightly enlarged in the apical third, with long, sigmoidally curved tectorial spurs (Fig. 69).



FIGURES 67–69. *Ootheca tilmani* sp. n.; 67a. Habitus, dorsal view; 68. Antennomeres 1–4 of two different males and two different females; 69. Median lobe: dorsal (left), lateral (right).

Distribution. Only known from coastal areas of southern Kenya and Tanzania (Fig. 21).

Etymology. Named after Sabine Kortenhaus' son Tilman.

Type material examined. Holotypus: male, "Mombasa, 3.21, van Someren" / Holotypus *Ootheca tilmani* Kortenhaus & Wagner, 2010 / AfriGa specimen ID: 1870 specimen data documented 9.II.2010 (NMK; Fig. 70). Type locality: Kenya, Mombasa, 4°03'S/39°40'E.

Paratypes: **Kenya**: 4 ex., Mobmasa [sic!], IX.1947, T. H. E. Jackson (NMK); 15 ex., Mombasa, III.1921, van Someren (BMNH). **Mozambique**: 1 ex., Port. O. Afr., M. Pucii (MNHU). **Tanzania**: 1 ex., Morogoro, 6°49'S/37°40'E, Le Moul't vend. via Reinbek (ZMUH).



70a

70b

FIGURE 70. Holotype of *Oothecha tilmani* sp. n., a. specimen with labels, b. close-up detail of specimen.

***Oothecha ugandae* sp. n.**

(Figs 61, 71–74)

Total length. 5.75–5.95 mm (mean: 5.83 mm; n = 4; Fig. 71).

Head. Dark brown with yellowish labrum. Four basal antennomeres yellowish, others gradually becoming darker towards apex; length ratios: second to third antennomere 0.55–0.67 (mean: 0.59); third to fourth antennomere 0.79–0.86 (mean: 0.81; Fig. 72). Maximal width of eyes to minimal distance between eyes ratio 0.53–0.60 (mean: 0.56).

Thorax. Prothorax dark brown. Pronotum yellowish usually with a small brown medio-basal spot; finely punctuated, anterior angles protruberant, latero-basal impression usually distinct; width 2.20–2.30 mm (mean: 2.24 mm); length 1.35–1.40 mm (mean: 1.38 mm); width to length 1.57–1.67 (mean: 1.62). Elytra: yellowish with a more or less broad dark brown to black sutural stripe (Fig. 72); punctuation much coarser than that of the pronotum; length 4.40–4.75 mm (mean: 4.47 mm); maximal width of elytra together 3.30–3.50 mm (mean: 3.38 mm); maximal width of elytra together to length of elytron 0.75–0.80 (mean: 0.76). Scutellum, meso- and metathorax dark brown. Legs: dark brown to black, femoral apex and base of tibia paler brownish colour; length ratio of basi-metatarsus to metatibia 0.19–0.28 (mean: 0.23).

Abdomen. Dark brown to black.

Male genitalia. Median lobe nearly rectangular in dorsal view, with a very small point at apex. Apical quarter very flat and strongly bent ventrally in lateral view. Tectum consists of two short, tectorial spurs, very broad basally and ventrally curved apically. Endophallus with basal part long and broad, one pair of spines, one close to the middle and the other almost beyond the apex (Fig. 73).

Diagnosis. *Oothecha ugandae* sp. n. is characterized by yellow elytra with a broad, dark brown to black stripe over the elytral suture. The stripe is usually wide basally near the scutellum and narrows towards the elytral apex. Furthermore, the yellow elytra have a narrow black sublateral stripe along the yellow lateral elytral margins. In size and colouration this species is most similar to some specimens of *O. proteus*, but the anterior pronotal angles are protruding distinctly in *O. ugandae* sp. n. while they are more rounded in *O. proteus* (Figs 17, 71). Without dissection of the male genitalia an allocation to one of these species is not

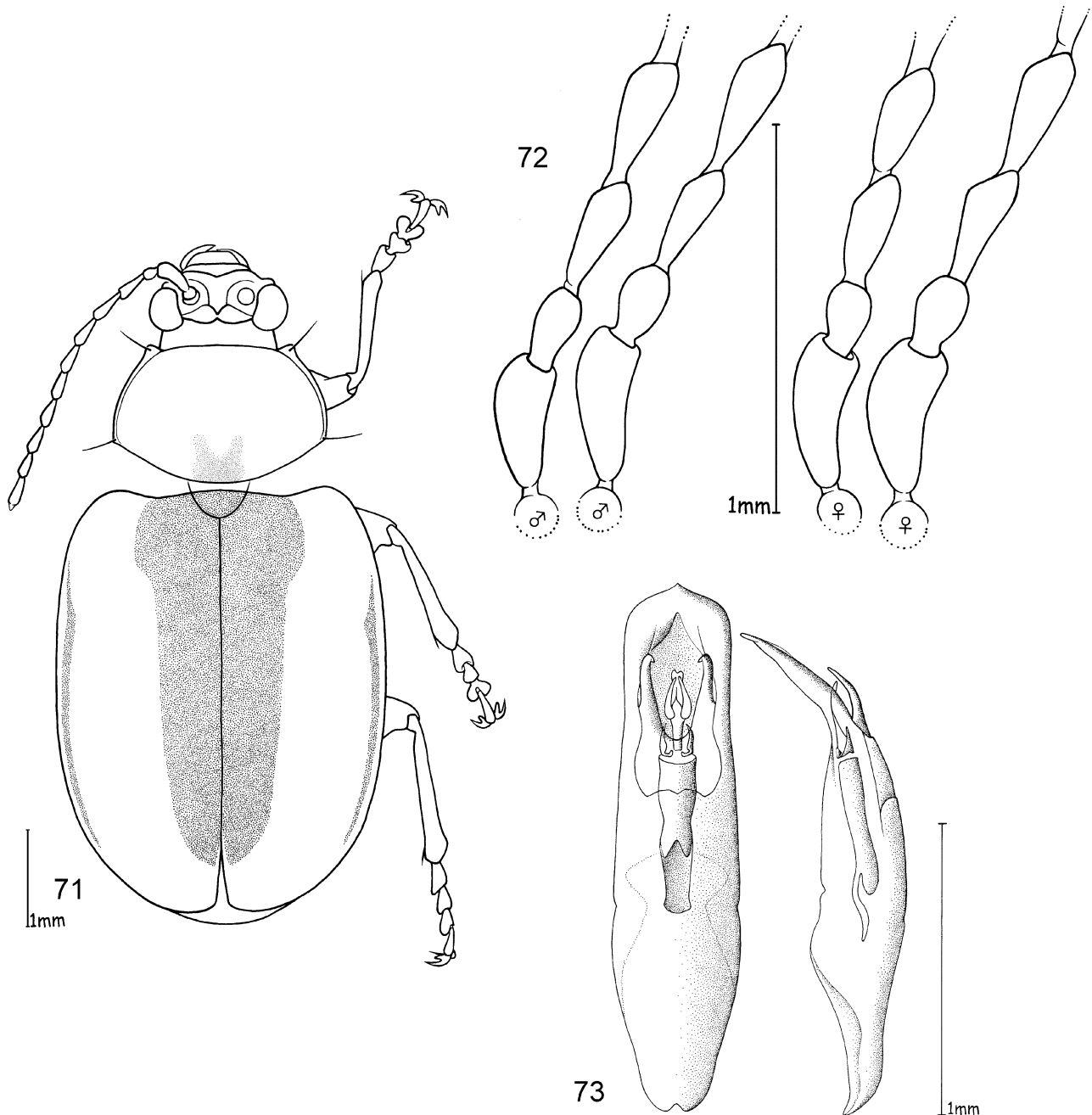
always possible, as specimens of *O. proteus* with the same colouration do occur sympatrically. Furthermore, *O. variabilis* and *O. julianae* **sp. n.** are similar in colouration, but are on average smaller, have dark brown to black outer margins, finer elytral punctuation and the elytra are less convex.

Distribution. Only known from few sites in Uganda and Ethiopia (Fig. 61).

Etymology. Named after the country where the majority of specimens have been collected.

Type material. Holotype: male, “Karamoja, Uganda, April 1950, T. H. E. Jackson” / Holotypus *Ootheca ugandae* Kortenhaus & Wagner, 2010 / AfriGa specimen ID: 1870 specimen data documented 18.I.2010 (NMK; Fig. 74). Type locality: Uganda 2°45’N/34°15’E.

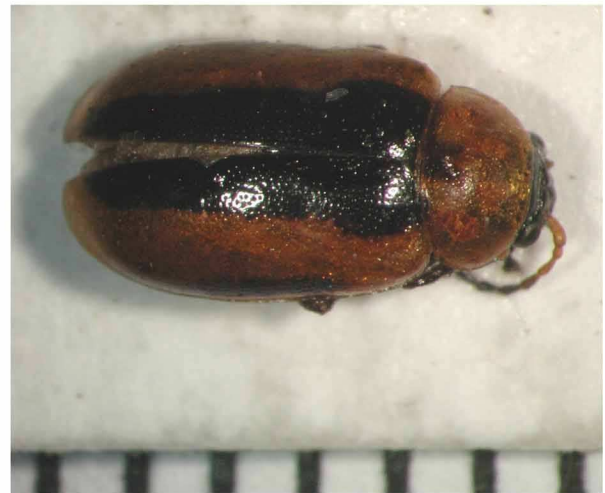
Paratypes: **Ethiopia:** 1 ex., Uha, X. 1912, Holtz (MNHU). **Uganda:** 2 ex., same data as holotype (NMK).



FIGURES 71–73. *Ootheca ugandae* **sp. n.**; 71a. Habitus, dorsal view; 72. Antennomeres 1–4 of two different males and two different females; 73. Median lobe: dorsal (left), lateral (right).



74a



74b

FIGURE 74. Holotype of *Ootheca ugandae* sp. n., a. specimen with labels, b. close-up detail of specimen.

Identification key

Few species of *Ootheca* can be identified reliably by external characters and often very variable colouration alone. Only the male genital structures allow reliable differentiation. Thus, the following key can be used to a certain extent for females, but is only conclusive for males.

- 1 Elytra yellowish, reddish or pale brown with darker brown to black longitudinal pattern, e. g. stripes along the suture, sometimes also along outer margins (Figs 19, 23, 48, 50, 71), or on elytral disc (Fig. 43)..... 2
- Elytra unicolourous, rarely with black humeri or elytral base entirely black, contrasting with apical part (Figs 12, 31) 6
- 2 Elytra with darker elytral disc (Fig. 43) in a few specimens of..... *O. kibonotensis*.
- Elytra with longitudinal pattern 3
- 3 Small, total length 3.72–4.96 mm, eyes large (maximal width of eye to minimal distance between eyes 0.59–0.69; Fig. 62), abdomen yellowish- to light brown, contrasting to the dark brown to black metasternum; median lobe conical and very pointed at apex (Fig. 65); East Africa from Kivu to Mocambique *O. julianae* sp. n.
- On average larger, total length 4.30–6.76 mm, eyes often smaller (maximal width of eye to minimal distance between eyes 0.44–0.73), abdomen and metasternum not contrasting; median lobe with broad apex (Figs 49, 73) or deeply incised at apex (Fig. 20) 4
- 4 Pronotum very broad, pronotal width to length 1.64–1.90 (Fig. 46), often with colour pattern (Fig. 48), basal antennomeres short (Fig. 47); median lobe very characteristic, with spoon-like apex (Fig. 49); restricted to south-western Kenya and northern Tanzania *O. variabilis*.
- Pronotum usually less broad, pronotal width to length 1.56–1.77 (Figs 17, 71) rarely with pattern or without pattern; basal antennomeres on average longer (Figs 18, 72); median lobe different (Figs 20, 73)..... 5
- 5 Posterior pronotal angles more rounded (Fig. 71); median lobe with very small apical point, not incised (Fig. 73); Uganda and Ethiopia *O. ugandae* sp. n.
- Posterior pronotal angles more pointed (Fig. 17); median lobe very characteristic, deeply incised at apex (Fig. 20); colour pattern of..... *O. proteus*.
- 6 Humeri or entire base of elytra black, contrasting with reddish, yellowish or brownish apical part (Figs 12, 31)..... 7
- Elytra unicolourous yellowish, brownish, reddish or black..... 8
- 7 Eyes smaller, maximum width of eye to minimal distance between eyes 0.39–0.63; median lobe slightly conical towards apex, endophallic structures symmetrical (Fig. 10) *O. mutabilis*.
- Eyes larger, maximum width of eye to minimal distance between eyes 0.44–0.82; median lobe strongly conical towards apex, endophallic structures asymmetrical (Fig. 32)..... *O. orientalis*.
- 8 Elytral punctuation coarse, at least on disc and distinctly seriate along suture; restricted to south eastern Democratic Republic of the Congo 9

- Elytral punctuation fine or coarse, but not seriate; the following species can be reliably identified by male genitalia only 10
- 9 Smallest species of the group, total length 3.64–5.04 mm, abdomen reddish-brown, strongly contrasting with the dark brown to black metasternum; median lobe with broad ovate apical half, tectorial spurs very long and slender (Fig. 26)..... *O. chapuisi*.
- Larger, total length 4.70–5.95 mm, abdomen and metasternum have the same colour; median lobe parallel-sided, tectorial spurs strong and significantly curved towards apex (Fig. 53) *O. frontalis*.
- 10 Median lobe deeply incised apically (Figs 20, 37, 55) 11
- Median lobe not distinctly incised apically 13
- 11 Incision very deep, median lobe slightly conical towards apex (Fig. 20); Nigeria, Democratic Republic of the Congo, in East Africa from Ethiopia towards Malawi..... *O. proteus*.
- Incision less deep, median lobe parallel-sided..... 12
- 12 Tectorial spurs long narrowing gradually towards apex, basal part of the endophallus at least double the length of apical part or longer (Fig. 37); abundant in Central and eastern Africa *O. bennigseni*.
- Tectorial spurs dilated in the basal half in lateral view, forming hook towards the apex. Basal part of endophallus is less than two times longer than apical part (Fig. 55); mainly south-eastern Africa *O. meridiana*.
- 13 Endophallic spiculae very robust, asymmetrical (Fig. 32), tectorial spurs very short; abundant in Kivu, Uganda, Kenya, Tanzania, rarely up to Ghana and Zimbabwe..... *O. orientalis*.
- Endophallic spiculae small, symmetrical, tectorial spurs long..... 14
- 14 Median lobe strongly conical and very narrow at apex, tectorial spurs short with broad base (Fig. 44); eyes large (Fig. 41), maximum width of eye to minimal distance between eyes 0.57–0.86; abundant around Kilimandjaro, Usambara Mountains, Taita Hills, rarely in northern Zambia and Angola..... *O. kibonotensis*.
- Median lobe slightly enlarged in the apical third, parallel-sided to slightly conical (Figs 10, 59, 69); eyes smaller, maximum width of eye to minimal distance between eyes 0.39–0.63 15
- 15 Median lobe slightly enlarged in the apical third, with long, sigmoidally curved tectorial spurs (Fig. 69); restricted to south-eastern Kenya and eastern Tanzania *O. tilmani* **sp. n.**
- Median lobe parallel-sided to slightly conical (Figs 10, 59) 16
- 16 Tectorial spurs widely separated basally, partly hidden by the bulged lateral margins of the median lobe (Fig. 59); Ethiopia towards Malawi, southern Democratic Republic of the Congo and Zambia *O. eddae* **sp. n.**
- Tectorial spurs touching basally, freely visible from above (Fig. 10); very abundant and widely distributed in western, central and south-eastern Africa *O. mutabilis*.

Checklist of *Ootheca*

The following list comprises all known species of *Ootheca* after our revision including synonymies:

- Ootheca bennigseni* Weise, 1900
 = *Ergana variceps* Laboissière, 1939; syn. nov.
- Ootheca chapuisi* (Jacoby, 1899)
- Ootheca eddae* **sp. n.**
- Ootheca frontalis* Laboissière, 1923
 = *Ootheca tinantae* Laboissière, in litteris
- Ootheca julianae* **sp. n.**
- Ootheca kibonotensis* Weise, 1909
- Ootheca meridiana* Grobbelaar, 2008
- Ootheca mutabilis* (Sahlberg, 1829)
 = *Malacosoma bicolor* Allard, 1889; syn. nov.
 = *Ootheca punctata* Laboissière, 1931; syn. nov.
- Ootheca orientalis* Weise, 1900
 = *Ootheca flavipes* Laboissière, in litteris
- Ootheca proteus* (Chapuis, 1879)
 = *Ootheca bifrons* Laboissière, 1925, in litteris
 = *Ergana bifrons* Laboissière, 1937; syn. nov.
- Ootheca tilmani* **sp. n.**

Oothea ugandae sp. n.

Oothea variabilis (Laboissière, 1920)

Species transferred to other genera

The following species were originally described in *Ergana* and *Oothea* but are not closely related phylogenetically. They have already been transferred to newly described genera in the past, or have been transferred to described genera by subsequent authors, cited in brackets. Species we recently found not to be congeneric with *Oothea*, but where the new combination has not yet been published or the generic allocation is not clear, are listed under “revision in preparation”.

Ergana apicicornis Laboissière, 1931; Togo (revision in preparation).

Ergana bicolor Jacoby, 1906; Tanzania; replacement name: *Exosoma aslami* Wilcox, 1975.

Ergana bourquii Laboissière, 1939; Angola (revision in preparation).

Ergana fulvipes Jacoby, 1903; South Africa (revision in preparation).

Ergana hertigi Laboissière, 1931; Angola (revision in preparation).

Ergana minuta Laboissière, 1937; Uganda (revision in preparation).

Ergana nigrilabris Laboissière, 1931; Togo (revision in preparation).

Ergana podagrica Laboissière, 1939; Angola (revision in preparation).

Ergana semicaerulea Jacoby, 1939; Congo (revision in preparation).

Ergana vittata Laboissière, 1921; Angola (revision in preparation).

Oothea apicalis Bryant, 1956; Rwanda (revision in preparation).

Oothea apicicornis Laboissière, 1931; Cameroon (revision in preparation).

Oothea coerulea Allard, 1889; Nigeria; transferred to *Bonesioides* Laboissière, 1925 (revised in Freund & Wagner 2003).

Oothea costulata Laboissière, 1931; Cameroon (revision in preparation).

Oothea cyaneovittata Fairmaire, 1880; Madagascar; transferred to *Glaucorhabda* Weise, 1910.

Oothea donckieri Laboissière, 1923; Tanzania (revision in preparation).

Oothea flavicollis Allard, 1889; Tanzania (revision in preparation).

Oothea laevipennis Jacoby, 1899; South Africa; transferred to *Exosoma* Jacoby, 1903 (Aslam 1972).

Oothea longula Weise, 1900; Tanzania (revision in preparation).

Oothea modesta Gahan, 1892; South Africa; transferred to *Exosoma* Jacoby, 1903 (Aslam 1972).

Oothea serricornis Thomson, 1858; Gabon; transferred to *Bonesia* Baly, 1865 (Jacoby 1888).

Oothea unicolor Laboissière, 1923; Senegal (revision in preparation).

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Oothecoides gen. nov. from tropical Africa, with redescription and description of six species (Coleoptera: Chrysomelidae, Galerucinae)

SABINE KORTENHAUS & THOMAS WAGNER*

Abstract. After our revision of *Ootheca* CHEVROLAT, 1837, a galerucine group restricted to tropical Africa, a number of species originally assigned, or later transferred to *Ootheca* have been eliminated from this group. Some of these species are herein transferred to the new genus *Oothecoides*. In particular the asymmetric endophallic structures allow a reliable identification of this group that comprise six species. Four species have been already described and are herein transferred to *Oothecoides* gen. nov. These are *Oothecoides bicolor* (= *Ergana bicolor* JACOBY, 1906; = *Exosoma aslami* WILCOX, 1973, syn. nov.) the type species of the new genus; *Oothecoides straminipennis* (= *Malacosoma straminipennis* WEISE, 1903); *Oothecoides maculicollis* (= *Exosoma maculicollis* WEISE, 1907) and *Oothecoides kibonotensis* (= *Exosoma kibonotensis*, WEISE 1909). Two species are newly described: *Oothecoides congoensis* sp. nov. and *Oothecoides ivorensis* sp. nov. Redescriptions or descriptions are given for all species. Studied material is listed in detail, photographs of the primary types, distribution maps and a key are provided.

Key words. Coleoptera, Chrysomelidae, Galerucinae, *Ootheca*, Africa, Afrotropical Region, revision, taxonomy, new genus, new species, new synonym, key.

Zusammenfassung. Nach unserer Revision von *Ootheca* CHEVROLAT, 1837, eine nur aus dem tropischen Afrika bekannte Gruppe der Galerucinae, werden hier nun einige Arten in die neue Gattung *Oothecoides* transferiert. Vor allem die asymmetrischen Strukturen des Endophallus erlauben eine sichere Zuordnung aller sechs bekannten Arten zu dieser Käfergruppe. Vier Arten waren bereits zuvor beschrieben: *Oothecoides bicolor* (= *Ergana bicolor* JACOBY, 1906; = *Exosoma aslami* WILCOX, 1973, syn. nov.), Typusart der neuen Gattung; *Oothecoides straminipennis* (= *Malacosoma straminipennis* WEISE, 1903); *Oothecoides maculicollis* (= *Exosoma maculicollis* WEISE, 1907) und *Oothecoides kibonotensis* (= *Exosoma kibonotensis*, WEISE 1909). Zwei weitere Arten werden neu beschrieben: *Oothecoides congoensis* sp. nov. und *Oothecoides ivorensis* sp. nov. Wieder- oder Neubeschreibungen umfassen für jede Art Zeichnungen zum Habitus, Färbungstyp, basale Antennenglieder und die Aedeagi. Das untersuchte Material wird im Detail aufgelistet. Hinzu kommen Fotografien der primären Typen, Verbreitungskarten und ein Bestimmungsschlüssel.

ized by an asymmetric armature of the endophallus, in particular its apical spurs. This specific character and its evidence for the reproduction are the main reason for the exclusion of *Oothecoides* gen. nov. from *Ootheca*.

Materials and methods

Our revision is based on 150 specimens from the following collections (with abbreviations used in parentheses; Tab. 1): The Natural History Museum, London (BMNH); Institute Royal des Sciences Naturelles de Belgique, Bruxelles (IRSN); Musée National d'Histoire Naturelle, Paris (MNHN); Museum für Naturkunde der Humboldt Universität, Berlin (MNHU); Musée Royal d'Afrique Centrale, Tervuren (MRAC); Museo Civico di Storia Naturale, Genova (MCGD); Museo de Zoología Barcelona (MZB); Museum of Comparative Zoology, Harvard University, Cambridge, USA (MCZH).

For morphometric data eight to 16 specimens of each species were measured, depending on the available material. Absolute measurements were made of the total length from labrum to the apex of elytra (TL); pronotal length (PL); maximal pronotal width (PW); length of elytra (EL); maximal width of both elytra combined (EW). Relative measurements were: pronotal width to pronotal length (PW/PL); maximal width of both elytra to elytral length (EW/EL); length of second to third antennomere (2./3.); length of third to fourth antennomere (3./4.); maximal width of eye to minimal distance between eyes (WE/DE); length of basimetatarsus to length of metatibia (TA/TI; Fig. 1)

For each species a standard set of figures is given. External characters are documented by dorsal semi-schematic illustration with left antenna and right-side legs, detailed illustrations of the four basal antennomeres, in some cases the illustrations are from lateral view and a drawing of the pronotal colour pattern.

Introduction

After our revision of *Ootheca* CHEVROLAT, 1837 (KORTENHAUS & WAGNER 2010), a number of species originally described in *Ootheca*, or later transferred to *Ootheca* from *Malacosoma* CHEVROLAT, 1837 or its replacement name *Exosoma* JACOBY, 1906 are excluded from this well known taxon. Several species are herein trans-

ferred to *Oothecoides* gen. nov. Like *Ootheca*, this group shows some similarities as the broad pronotum, convex dorsum, short antennae and legs. In contrast to *Ootheca*, *Oothecoides* gen. nov. possess lesser bulged elytrae, are more slender, and have not the closed ovate body shape. A clear distinction of the two groups is possible by dissection of the male genitalia. While specimens of *Ootheca* have symmetric structures of the median lobe, *Oothecoides* gen. nov. is character-

* 36th contribution to the taxonomy, phylogeny and biogeography of the Galerucinae

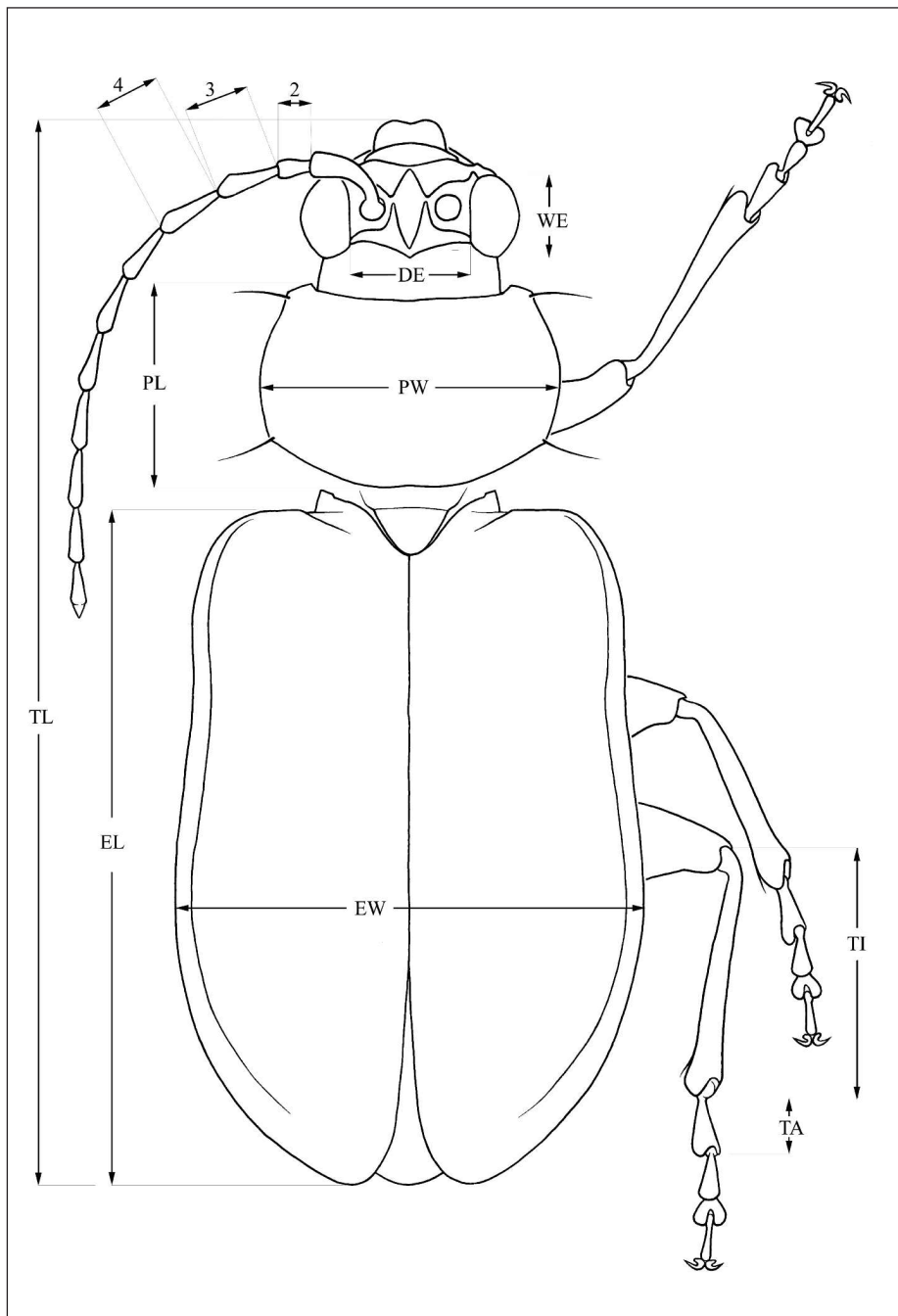


Fig. 1. Measurements taken. Absolute measurements: TL – total length from labrum to the apex of elytra; PL – pronotal length; PW – maximal pronotal width; EL – elytral length; EW – maximal width of elytra combined; 2., 3., 4. – length of second, third and fourth antennal article; DE – minimal distance between eyes; WE – maximal width of eye; TA – length of basimetatarsus; TI – length of metatibia.

The male genitalic structures are illustrated in dorsal and lateral view. For a better understanding of three-dimensionality and the comparability between species, coloured illustrations of male genitalic structures are additionally given. Variation in shape of the spermathecae is very low between species and is given only in the description of the genus for the genero-type. General patterns of the head, underside of the thorax and wing are very similar to *Ootheca* and details can be found in our recent revision of this group (KORTENHAUS & WAGNER 2010).

For primary type specimens, the label data are cited literally. For all other specimens localities are given as precisely as possible. Countries and localities (e.g. towns) on labels as traditional names are listed with their current names. Co-ordinates were taken from the geographical database GeoNames (www.geonames.org). If a location could not be found, mean co-ordinates of the given district or region were taken. In cases of doubt (one location with many possibilities of co-ordinates) we abstain from the option of specification.

Description of *Oothecoides* gen. nov.

Type species. *Ergana bicolor* JACOBY, 1906.

Etymology. The specimens are externally similar to *Ootheca*; the suffix “oides” means “similar as”. Gender: female.

Description. Total length. 3.60–5.75 mm; means of total length for the species range between 4.21–5.49 mm. Females are somewhat larger than males.

Head. Pale yellowish or sandcoloured to brown or black. Very broad, one species

Tab. 1. Numbers of examined specimens and studied collections.

	<i>Oothecoides bicolor</i>	<i>Oothecoides straminipennis</i>	<i>Oothecoides maculicollis</i>	<i>Oothecoides kibonotensis</i>	<i>Oothecoides congoensis</i> sp. nov.	<i>Oothecoides ivorensis</i> sp. nov.	
BMNH	19	8					27
IRSN		22	1	17			40
MCGD	1	1				2	4
MNHN	1	1				3	5
MNHU	8	3	8	1		15	35
MRAC		15			22	1	38
MZB						1	1
total	29	50	9	18	22	22	150

(*O. congoensis* sp. nov.) shows a bi-coloured head, where the frons is dark brown and the part between eyes and labrum is yellow. Maxillary palps brown or black, last palpomere conical and sometimes with a fine tip. Eyes convex and ovate; medially slightly backwards curved, transverse depression between the eyes divides frons from vertex; ratio for maximal eye width to minimal distance between eyes vary from 0.48–0.74 (means of species varies between 0.54 to 0.67). Labrum yellow to brown. Basal antennomeres usually yellowish, from the fourth or fifth antennomere to the terminal one gradually becoming dark-brown; mean antennal length to total body length ratio 0.61–0.72; mean length ratio of antennomeres two to three 0.53–0.75; mean length ratio of antennomeres three to four 0.77–0.88.

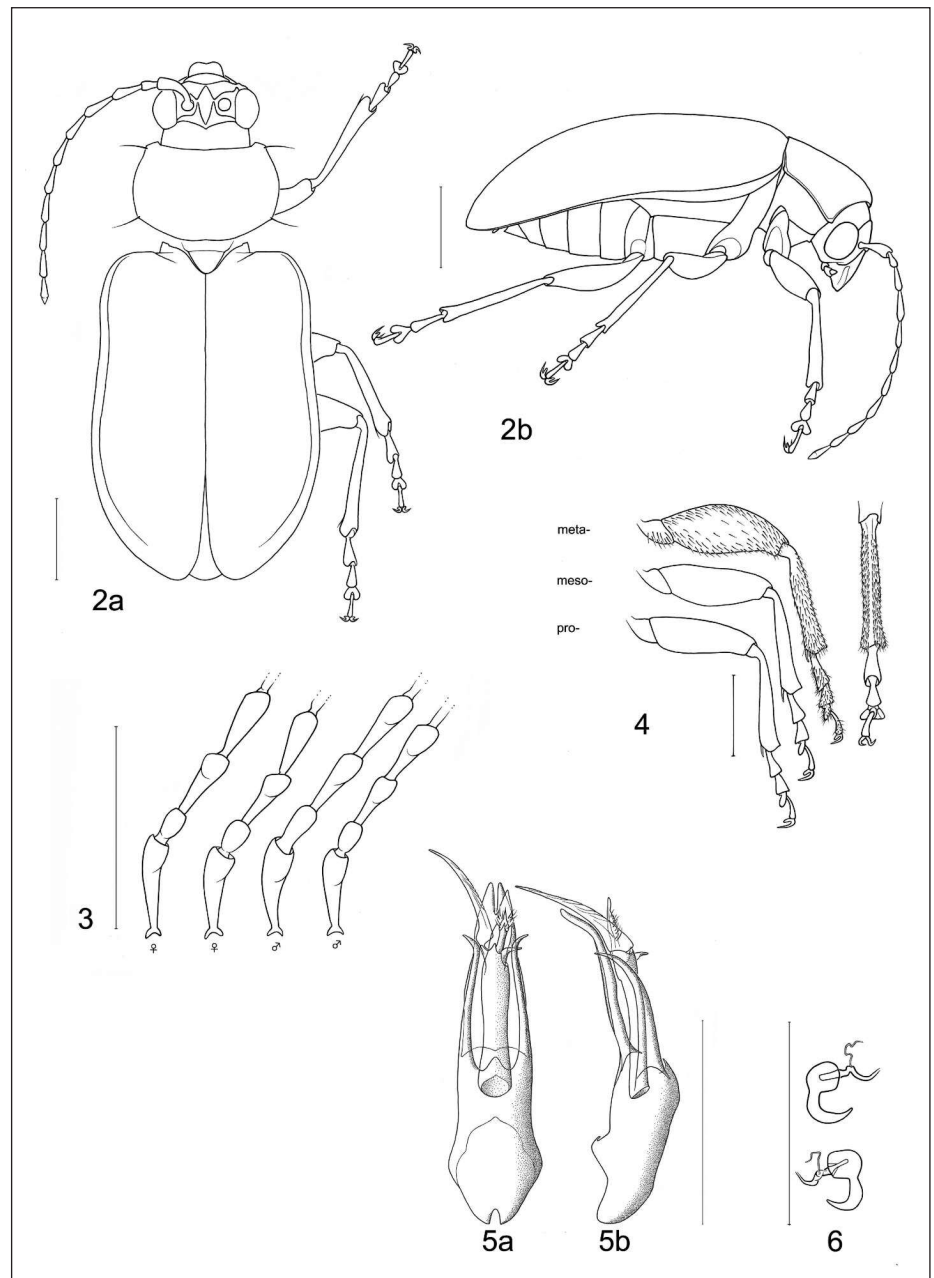
Thorax. Pronotum convexly rounded dorsally, lateral margins distinctly separated from disc, anterior angles rounded, disc less bulged, nearly flat; finely punctuated, mostly unicolourous pale yellow, dark brown or black. An exceptional case is *O. maculicollis* which displays a colour pattern (Fig. 12); pronotal length 0.90–1.40 mm (means of species varies between 1.01 to 1.26 mm); pronotal width 1.35–2.15 mm (means of species varies between 1.56 to 2.02 mm); pronotal width to length ratio 1.35–1.67. Prothorax brown. Elytral colouration yellowish to brown or black, unicolourous; coarsely and more deeply punctuated than pronotum; punctuation irregular; length of elytron 3.00–4.95 mm (means of species varies between 3.39 to 4.42 mm); width of elytron 2.00–3.50 mm (means of species varies between 2.32 to 3.12 mm); mean width of elytra together to length of elytron ratio 0.65–0.71. Scutellum obtusely, nearly triangular, yellow to black. Meso- and metathorax brown. Legs unicolourous brown, in one species (*O. congoensis* sp. nov.) the femur of prothoracic leg displays a lighter brown; mean length of metatarsus to length of metatibia ratio 0.25–0.29; claws appendiculate.

Abdomen. Five visible ventrites (seven sternites) possessing usually the same colour as the underside. Only *O. ivorensis* sp. nov. possess a strong contrast between the brown meso- and metathorax and the yellow abdomen. Anal sternite in females evenly rounded, males have two deep incisions at the outer apical margin.

Male genitalia. Median lobe and tectum symmetrical, endophallus with asymmetric apex, in particular with apical spines. Outline of the median lobe either slightly enlarged apically (Fig. 23a), parallel-sided (Fig. 10a), or conical towards apex (Figs 5a, 14a, 17a, 20a), and in lateral view slightly curved ventrally. Median lobe more or less deeply incised at apex. The tectum is usually divided into two tectorial spurs, with apical hook-like structures in some species. Endophallus slender in all cases with one large, remarkable endophallic spine, while the other is unobtrusive, small and thin. Orifice broad and ovoid.

Female genitalia. Spermatheca with spherical nodulus. Spermathecal duct slightly retreated in the nodulus, cornu slender, evenly and strongly curved (Fig. 6).

Diagnosis. *Oothecoides* gen. nov. are Galerucinae with convex, nearly parallel-sided elytra, and a pronotum only slightly narrower than elytra, giving the body an elongate-ovate shape (Fig. 2a). The head is very broad with widely separated, strongly protruding eyes. Large, triangular frontal calli separate the eyes. Legs are short and broad, the basi-tarsomere slightly enlarged and the claws appendiculate (Fig. 4).



Figs 2–6. *Oothecoides bicolor* (JACOBY, 1906). 2. Habitus, a. Dorsal view, b. Lateral view. 3. Basal antennomeres of each two different males and females. 4. Pro-, meso-, and metathoracic legs; metatibia and tarsomeres from lateral view. 5. Median lobe, a. Dorsal view, b. Lateral view. 6. Spermathecae of two different females. Scales: each 1 mm (different scales for body outline and antennomeres / genitalic structures; same for all following figures).

Antennae are short, the length of the second antennomere is about 60% of the third, and the length of third antennomere about 80% of the fourth (Fig. 3). Dorsal coloration either unicolorous, or bicolorous with yellow to sandcoloured or dark brown elytra and usually darker brown pronotum.

It is not easy to distinguish members of this genus from some other genera by external characters. Most similar are some species of *Exosoma* JACOBY, 1906, and *Ootheca* CHEVROLAT, 1838. *Oothecoides* gen. nov. can usually be differentiated from *Ootheca* by a more dorso-ventrally compressed body, the more rounded and less angular pronotum, while those of *Exosoma* are more depressed with nearly rectangular posterior angles. The only reliable method to distinguish specimens of this group, is by dissection of the male genitalia. The median lobe is short, less than four times longer than its maximal width in dorsal or ventral view. The basal quarter to third show a wide opening. The median lobe is usually conical towards the apex, in one case slightly asymmetric, nearly parallel-sided (Fig. 10a), or broadly rounded at apex (Fig. 23a). The apex has a more or less deep apical incision, one species displays a such deep incision that the apical half of the median lobe is divided separate. The median lobe in lateral view is more or less evenly bent ventrally.

A further characteristic structure of *Oothecoides* gen. nov. is the tectum that is specifically modified. It consists of two dorsal, more or less slender, often apically hooked tectorial spurs that are attached approximately in the middle of the median lobe and extend from its middle sometimes towards the apex. These moveable spurs surely play an important role during copulation. The apical part of the endophallus is directly visible between the base of the tectorial spurs.

Very specific for *Oothecoides* gen. nov. are the asymmetric shape of the two spines, at the apex of the endophallus, where the left one (in dorsal view) is always much larger, longer, and often specifically curved, than the tiny left one. While males can be reliably identified on base of their genitalia, spermathecae in females are not distinctive at species level and are thus only given for the genotype species *O. bicolor*. In sympatric

species a reliable identification of females is sometimes not possible without males from the same population.

Host plants and biology. Unknown.

Redescription of known species

***Oothecoides bicolor* (JACOBY, 1906) comb. nov.**

= *Ergana bicolor* JACOBY, 1906: 48.
 = *Exosoma aslami* WILCOX, 1973; syn. nov.
 Replacement name for *Malacosoma bicolor* ALLARD, 1889, transferred to *Ootheca* by WILCOX (1975).

Holotype. ♂, “Tanga Ostafrika, Dr. Brauns/ Ergana bicolor Jac./ Jacoby Coll. 1909-28a/33/Type H.T.” (BMNH; Fig. 24).
Type locality. Tanzania, 5.07S/39.05E. JACOBY gave no number on specimens in his original publication. Since there is only one specimen in his collections (BMNH, MCZH) available, we treat this as holotype.

Further material examined. Kenya. 1 ex., D. O. Afrika, Kwakiyembo, 2°03’S/37°29’E, V. 1916, METHNER (MNHU); 1 ex., Africa or. Ikutha, 2°04’S/38°11’E, 1937, WEISE (MNHU); 4 ex., Arabuko Forest, Malindi, 3°13’S/40°07’E, V.1940, T. H. E. JACKSON (BMNH); 1ex., Mwingi Kitui, 0°56’S/38°04’E, XI.1940, T. H. E. JACKSON (BMNH); 1 ex., Olgasalio, 1°34’S/36°27’E, V.1943, MENEGHETTI (MCGD). - Tanzania. 1 ex., Tanga, 5°04’S/39°06’E, IV.1893, Dr. BRAUNS (BMNH); 4 ex., D. O. Afrika, Dar-es-Salam, 4°48’S/39°17’E, IV.1902, Dr. HOLTZ

(MNHU); 1 ex., Sakarré, 4°59’S/38°26’E, IX. 1902, WEISE (MNHU); 1 ex., Afrique orient. ang., Pori de Seringhéthi, de Boura a Tavéta, 2°20’S/34°50’E, III.1904, CH. ALLUAUD (MNHN); 1 ex., D. O. Afrika, Bzk. Usandawi, 3°49’S/33°14’E, XII. 1929, S. FLIEGNER (MNHU); 3 ex., Shinyanga, 3°40’S/33°26’E, XII.1934, E. BURTT (BMNH); 5 ex., Tanga, I.1936, N. L. H. KRAUSS (BMNH); 5 ex., Tanga, Prov. Mlingano, Geigletz Estate, 5°04’S/38°55’E, R. C. H. SWEENEY (BMNH).

Description. Total length. 4.25–5.65 mm (mean: 4.96 mm; n = 15; Fig. 2a); total height in lateral view 1.40–2.00 mm (mean: 1.75 mm; Fig. 2b).

Head. Dark brown, labrum yellowish-brown. Maximum width of eye to minimal distance between eyes 0.57–0.74 (mean: 0.67). Length of second to third antennomere 0.46–0.67 (mean: 0.53), length third to fourth antennomere 0.79–0.93 (mean: 0.88; Fig. 3). Three to four basal antennomeres yellow, beginning from the fourth or fifth one becoming brown towards the apex.

Thorax. Pale to dark brown as head, or slightly paler. Pronotum brown with delicate punctuation on the flat disc. Pronotal width 1.55–2.05 mm (mean: 1.79 mm), length of pronotum 1.05–1.40 mm (mean: 1.22 mm), pronotal width to length 1.35–1.67 (mean: 1.46). Elytra yellow to yellowish-brown with irregular, fine punctuation. Elytral length 3.30–4.50 mm (mean: 4.03 mm), maximal width of both elytra 2.30–3.10 mm (mean: 2.70 mm),

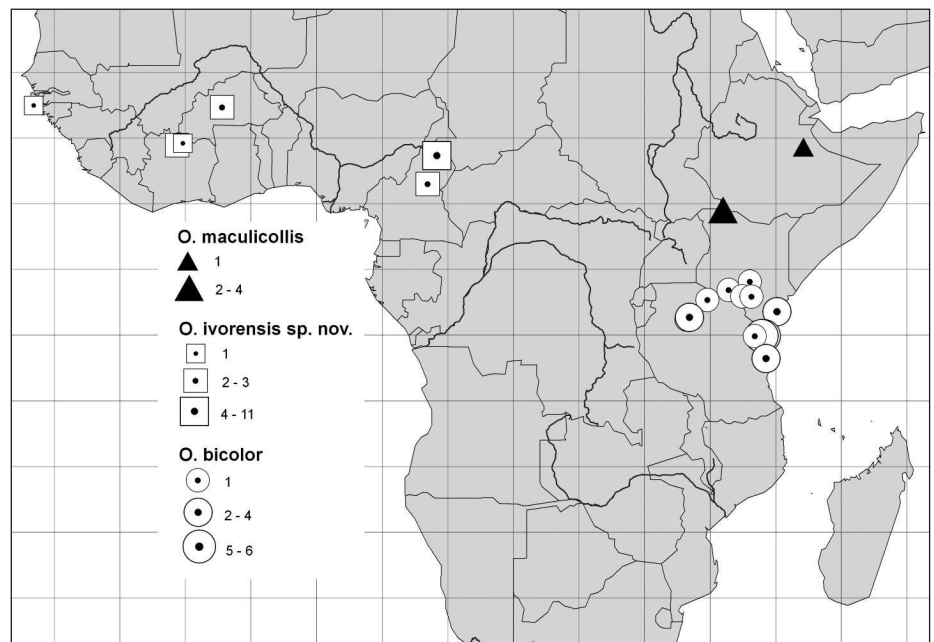
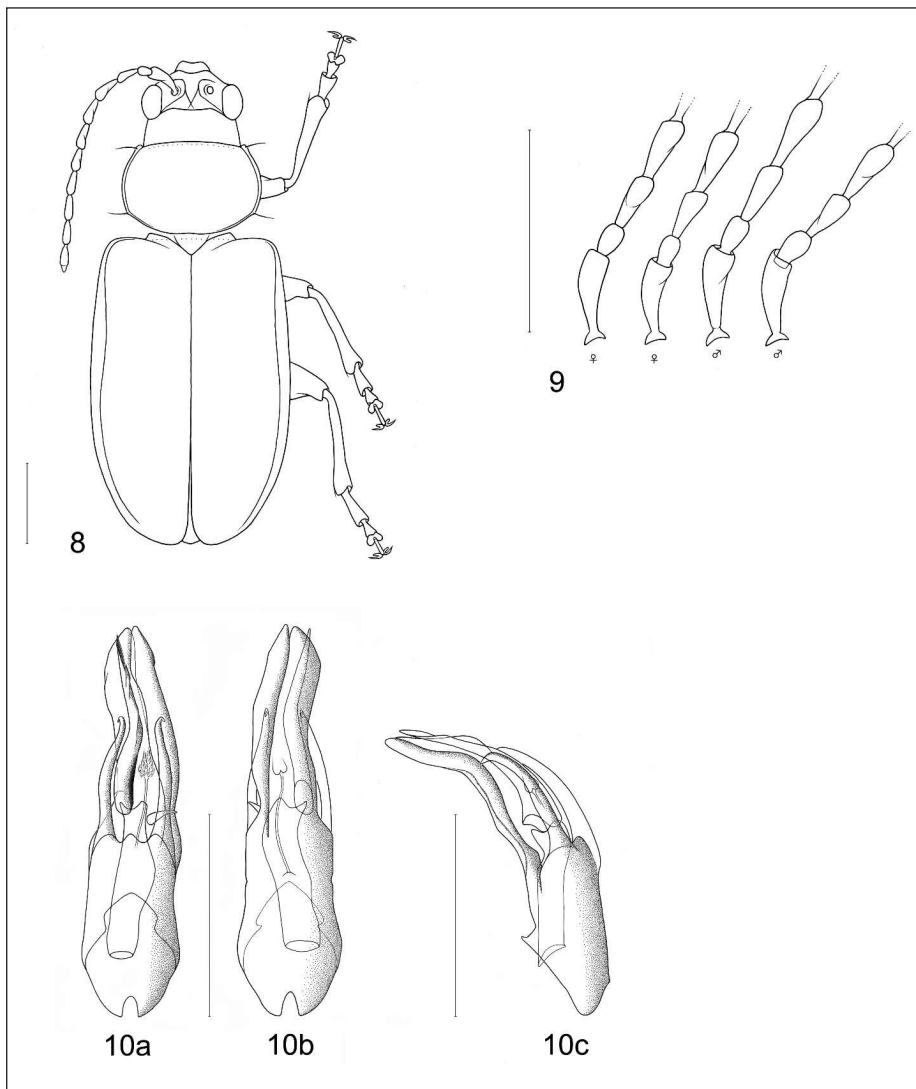


Fig. 7. Known distribution of *O. bicolor* (JACOBY, 1906), *O. maculicollis* (WEISE, 1907), and *O. ivorensis* sp. nov.



Figs 8–10. *Oothecoides straminipennis* (WEISE, 1903). **8.** Habitus, dorsal view. **9.** Basal antennomeres of each two different males and females. **10.** Median lobe, **a.** Dorsal view, **b.** Ventral view, **c.** Lateral view.

ratio of maximal width of elytra to length of elytron 0.63–0.74 (mean: 0.67). Scutellum dark brown. Underside and legs entirely brown, proximal part of tibia often paler. Outer tibia without long setae (Fig. 4). Length of basimetatarsus to length of metatibia 0.24–0.33 (mean: 0.28).

Abdomen. Brown as underside of thorax.

Male genitalia. The conical aedeagus is slightly curved ventrally. The apical quarter of the median lobe bent ventrally (Fig. 5b), apex with an incision (Fig. 5a). The tectum consists of two symmetrical spurs. These spurs are tapered and converge towards apex, tips are bent outside. The endophallus possess two spines. The left one (from dorsal view) is remarkable long, and homogeneously curved outside laterally (Fig. 5a) and ventrally (Fig. 5b). This spine is contorted. The other spine is much smaller,

curved and broad. The apical part of endophallus is slender and delicate with a brush (Fig. 30). Base of endophallus broad.

Diagnosis. On base of external characters *O. bicolor* can be only easily confused with *O. straminipennis*. Both species possess a pale to dark brown head and pronotum contrasting to the unicolorous yellowish elytra, while all other species show an unicolorous yellowish dorsum. Since there is no external character to differentiate both species reliably, only the male genitalia can be used for this purpose. The median lobe of *O. bicolor* is symmetric with a short incision at apex, while *O. straminipennis* shows an apically asymmetric median lobe with very deep and narrow incision (Figs 10a, b).

Distribution. Known from Kenya and Tanzania, in particular from coastal areas (Fig. 7).

Oothecoides straminipennis (WEISE, 1903) comb. nov.

= *Malacosoma straminipennis* WEISE, 1903: 207.

Holotype. ♀, “Nguelo, Kraatz / Malacosoma straminipennis m.” (MNHU; Fig. 25). **Type locality.** Tanzania, 4.45S/38.30E. WEISE gave no number on specimens in his original publication. Since there is only one specimen in his collections (MNHU, NHRS) available, we treat this as holotype.

Further material examined. Congo (Zaire). 4 ex., Dungu, 3°37'N/28°34'E, IV. 1920, VAN DEN PLAS (MRAC); 22 ex., Parc National de la Garamba, 3°40'N/29°00'E, Miss. DE SAEGER, 1951/1952, H. DE SAEGER, J. VERSCHUREN (IRSN); 10 ex., Bas Congo, Mayidi, 5°11'S/15°09'E, 1942, 1943, 1945, P. VAN EYEN (MRAC); 1 ex., Thysville, 5°15'S/14°52'E, 1959/1963, R. MICHAUX (MRAC). – Guinea-Bissau. 1 ex., Guinea Portugese, Bolama, 11°35'N/15°28'W, XII. 1899, L. FEA (MCGD). – Kenya. 1 ex., Cote d’Afrique or. angl., Likoni, 4°05'S/39°39'E, XI. 1911, ALLUAUD & JEANNEL (MNHN). – Sierra Leone. 1 ex., Njala, 8°07'N/12°05'W, VI. 1936, E. HARGREAVES (BMNH). – Tanzania. 1 ex., Tang, DO Afrika, 5°05'S/39°05'E (MNHU); 1 ex., Africa or. Katona, Shirati, 1909 (MNHU). – Uganda. 1 ex., Entebbe, 0°04'N/32°27'E, II. 1914, C. C. GOWDEY (BMNH); 5 ex., Kampala, 0°18'N/32°33'E, IV. 1927, G. L. R. HANCOCK (BMNH); 1 ex., Bukakata, Lake Victoria, 0°18'S/32°02'E, X. 1929, Dr. G. A. K. MARSHALL (BMNH).

Description. Total length. 4.35–5.15 mm (mean: 4.71 mm; n = 15; Fig. 8).

Head. Brown to dark brown. Maximum width of eye to minimal distance between eyes 0.48–0.62 (mean: 0.54). Basal three to four antennomeres yellow to yellowish-brown, outer antennomeres brown to dark brown. Length of second to third antennomere 0.50–0.70 (mean: 0.59), length of the third to fourth antennomere 0.75–0.92 (mean: 0.82; Fig. 9).

Thorax. Pale to dark brown, pronotum brown, very finely punctuated, margins homogeneously rounded, disc flat, anterior pronotal margin slightly bulged in the middle. Pronotum 1.55–2.00 mm (mean: 1.73 mm) wide, pronotal length 1.00–1.25 mm (mean: 1.14 mm), pronotal width to length 1.44–1.63 (mean: 1.52). Elytra yellowish to sandcoloured-brownish, with very fine, irregular punctation. These points vary in their depth. Elytral length 3.38–4.10 mm (mean: 3.71 mm), maximal width of both elytra 2.30–2.90 mm (mean: 2.59 mm), ratio of max-

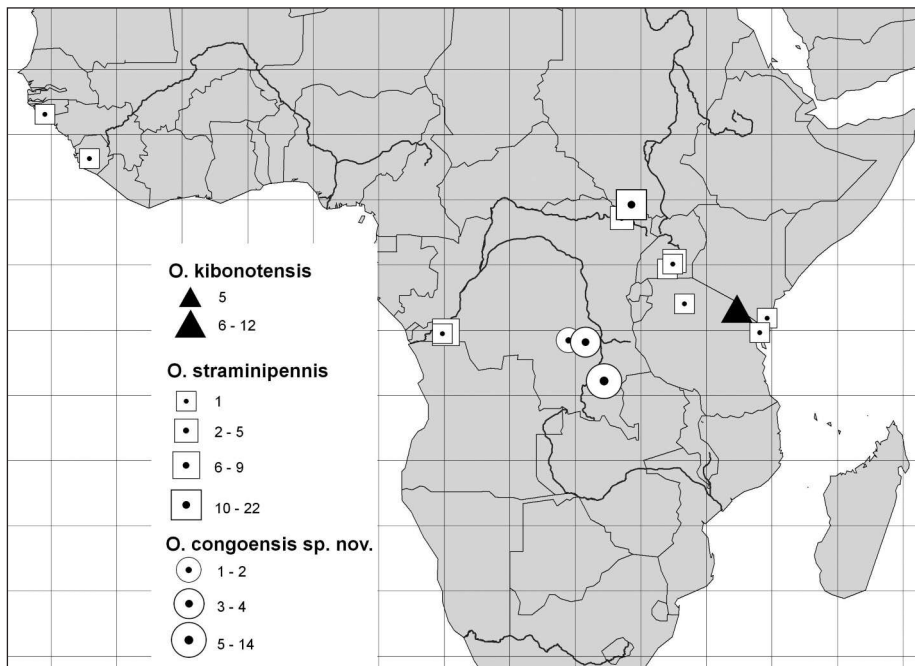


Fig. 11. Known distribution of *O. straminipennis* (WEISE, 1903), *O. kibonotensis* (WEISE, 1909), and *O. congoensis* sp. nov.

imal width of elytra to length of elytron 0.61–0.75 (mean: 0.70). Scutellum dark brown. Pro-, meso- and metathorax are unicolourous brown. Legs brown with paler proximal part of the tibiae. Length of basimetatarsus to length of metatibia 0.26–0.32 (mean: 0.29).

Abdomen. Brown.

Male genitalia. The apical half of the median lobe is asymmetric, and slightly bent to the left (in dorsal view; Figs 10a, 31), while the basal half is nearly cylindrical. The apex is deeply and narrowly incised. Tectorial spures symmetrical, hooked ventrally at apex. Endophallus with two spines, the left one long, slightly curved, reaching towards the apex of the median lobe, the right one is short and small. Endophallus broad at base, with small brush at apex (Figs 10a, c; 31).

Diagnosis. *Oothecoides straminipennis* can be easily mistaken with *O. bicolor*, the only other species with contrasting brownish head and pronotum to the yellowish elytra. Differentiation of both species can be only done by male genital dissection (see discussion of *O. bicolor*). Geographic distribution can help to identify the species since *O. bicolor* occurs with respect to the current data in Kenya and Tanzania only, while *O. straminipennis* is recorded through the Congo Basin towards the western Coast of tropical Africa.

Distribution. Recorded from Gambia and Sierra Leone, the Congo Basin through Uganda up to the Coast in Kenya and northern Tanzania (Fig. 11).

Oothecoides maculicollis (WEISE, 1907) comb. nov.

= *Exosoma maculicollis* WEISE, 1907: 218.

Lectotype. ♂, „Abyssin., Neumann / Malacosoma maculicollis m.“ (MNHU; Fig. 26). *Type locality.* Ethiopia, three localities are given in the original description (Djala, Banka, Omo). There are eight specimens from the three type localities available and we designate a lectotype to fix the name on a single specimen.

Paralectotypes. 3 ex., same label as lectotype (MNHU); 2 ex., N. O. Afrika, Banka, O. Neumann (MNHU); 1 ex., N. O. Afrika Süd-Aethiop., Djala-Dorf, O. Neumann (MNHU); 1 ex., N. O. Afrika, Süd-Aethiop., Omo-Fl., 4°31'N/35°59'E, O. Neumann (MNHU).

Further material examined. Ethiopia. 1 ex., Harrar, 9°18'N/42°07'E (IRSN).

Description. *Total length.* 4.50–5.50 mm (mean: 4.99 mm; n = 8; Fig. 12).

Head. Either completely brown or frons brown becoming lighter towards labrum. Maximum width of eye to minimal distance between eyes 0.53–0.62 (mean: 0.56). Basal antennomeres sandcoloured, beginning from antennomere five the

colour is becoming darker. Length of second to third antennomere 0.50–0.67 (mean: 0.62), length third to fourth antennomere 0.75–0.86 (mean: 0.78; Fig. 13).

Thorax. Pro-, meso- and metathorax brown. Pronotum sandcoloured, very finely punctuated with a pattern of several darker brownish (Fig. 10) spots differing in size and outline. Pronotum 1.58–1.90 mm (mean: 1.73 mm) wide, pronotal length 1.05–1.20 mm (mean: 1.13 mm), pronotal width to length 1.47–1.62 (mean: 1.53).

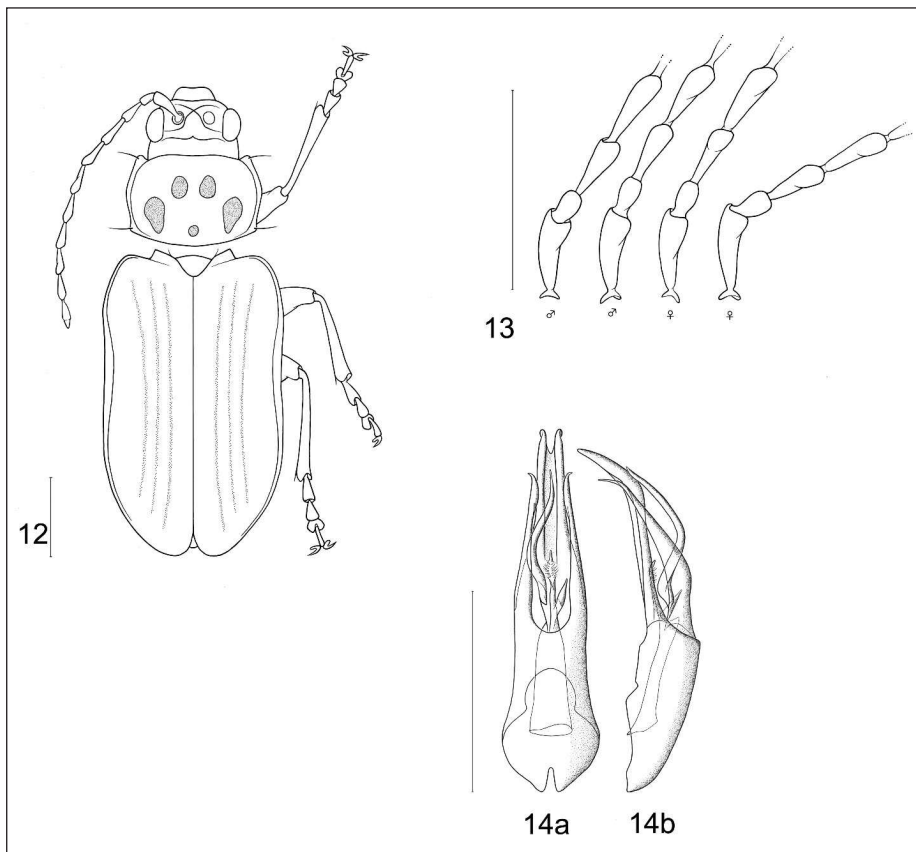
Elytra sandcoloured, with coarse, irregular and deep punctuation, very finely darker brown along the suture. Elytra show a weakly expressed crenation from base to the apex. Elytral length 3.55–4.35 mm (mean: 3.95 mm), maximal width of both elytra 2.20–3.10 mm (mean: 2.58 mm), ratio of maximal width of elytra to length of elytron 0.60–0.71 (mean: 0.65). Scutellum yellow or brown. Legs are to darker brown. Length of basimetatarsus to length of metatibia 0.24–0.29 (mean: 0.26).

Abdomen. Brown.

Male genitalia. Median lobe slender, strongly conical and ventrally curved towards apex, broadly incised at apex (Figs 14a, b, 32). The tectum consists of two symmetrically flat, leaf-shaped spures, which are tight to the margins of the median lobe. These spures are broad at base in lateral view and strongly narrowed to the apex (Figs 14b, 32). The endophallus possess two spines: one is large, very sharp, contorted, and reaches nearly half the length of the entire aedeagus. The other spine is much smaller and straight.

Diagnosis. *Oothecoides maculicollis* has the yellowish elytra with *O. bicolor*, *O. straminipennis*, and *O. ivorensis* sp. nov. in common. The pronotum of *O. maculicollis* possess a characteristic pattern of brownish spots that allows a quite reliable identification on base of external characters. It is furthermore, the only species of this group known from Ethiopia. In doubtful cases, an identification by the peculiar male genitalic pattern is possible (Fig. 14).

Distribution. Only known from Ethiopia (Fig. 7).



Figs 12–14. *Oothecoides maculicollis* (WEISE, 1907). 12. Habitus, dorsal view. 13. Basal antennomeres of each two different males and females. 14. Median lobe, a. Dorsal view, b. Lateral view.

0.88 (mean: 0.75), length third to fourth antennomere 0.67–0.90 (mean: 0.77; Fig. 16).

Thorax. Pronotum yellowish-sand-coloured, finely punctuated. Pronotum 1.35–1.85 mm (mean: 1.56 mm) wide, pronotal length 0.90–1.20 mm (mean: 1.01 mm), pronotal width to length 1.47–1.65 (mean: 1.55). Elytra dark brown, finely punctured and slightly wrinkled, with dull appearance. Elytra of some specimens show a weakly expressed crenation from base to the apex. Elytral length 3.00–4.00 mm (mean: 3.39 mm), maximal width of both elytra 2.00–2.60 mm (mean: 2.32 mm), ratio of maximal width of elytron to length of elytron 0.63–0.73 (mean: 0.68). Scutellum darker than elytra, black. Colour of legs dark brown like underside of pro-, meso- and metathorax. Length of basimetatarsus to length of metatibia 0.24–0.33 (mean: 0.28).

Abdomen. Dark brown as thorax.

Male genitalia. Median lobe slightly conical and evenly ventrally curved towards

Oothecoides kibonotensis (WEISE, 1909) comb. nov.

= *Exosoma kibonotensis* WEISE, 1909: 201.

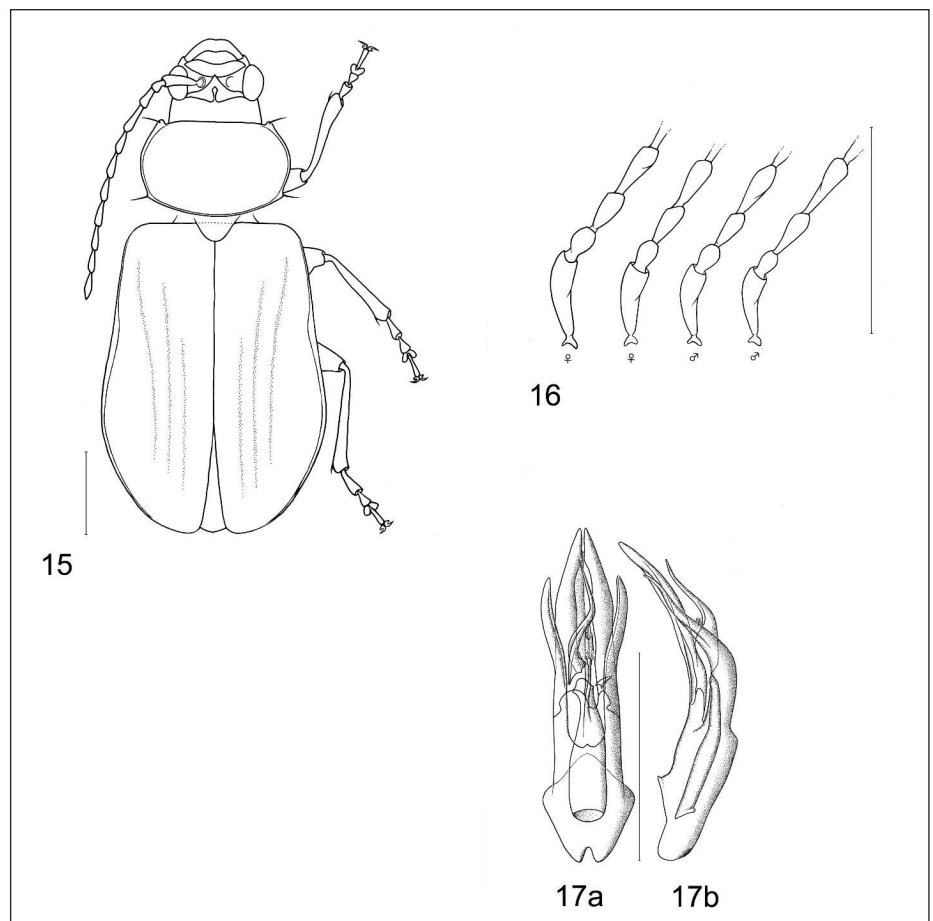
Lectotype. ♂, „Kibonoto Sjoestedt / 7. nov. / *Exosoma kibonensis* m.” (MNHU; Fig. 27). **Type locality.** Tanzania, Kibonoto, 3°09'S/36°51'E. WEISE mentioned three specimens in his original publication, and we herein designate a lectotype to fix the name on a single specimen.

Paralectotypes. 2 ex., Flusspferdseen, Meru Niederung 5. März (NHRS).

Further material examined. Tanzania. 2 ex., Kilimandjaro, zone inférieure, 3°21'S/37°20'E, IV.1904, CH. ALLUAUD (IRSN); 15 ex., Kilimandjaro, Versant Sud-Est, Neu-Moshi, 800 m, IV.1912, ALLUAUD & JEANNEL (IRSN).

Description. Total length. 3.60–4.95 mm (mean: 4.21 mm; n = 16; Fig. 15).

Head. Brownish to dark brown, labrum may be somewhat paler. Maximum width of eye to minimal distance between eyes 0.50–0.64 (mean: 0.57). Antenna brown, basal three antennomeres yellow. Length of second to third antennomere 0.67–



Figs 15–17. *Oothecoides kibonotensis* (WEISE, 1909). 15. Habitus, dorsal view. 16. Basal antennomeres of each two different males and females. 17. Median lobe, a. Dorsal view, b. Lateral view.



Figs 24–29. Primary types of the species of *Oothecoides* gen. nov.; a. With all labels, b. Detail. – 24. *Oothecoides bicolor* (JACOBY, 1906). 25. *Oothecoides straminipennis* (WEISE, 1903). 26. *Oothecoides maculicollis* (WEISE, 1907). 27. *Oothecoides kibonotensis* (WEISE, 1909). 28. *Oothecoides congoensis* sp. nov. 29. *Oothecoides ivorensis* sp. nov.

apex (Fig. 17b), slightly and narrowly incised at apex (Figs 17a, 33). The tectum consists of two large, flat spures. These spures fit close to the middle of the median lobe. Endophallus with two spines, the left one sigmoid curved, long and slender, the right one tiny (Figs 17, 33).

Diagnosis. *Oothecoides kibonotensis* has the brown elytral colouration in common with *O. congoensis* sp. nov. while all other species of *Oothecoides* possess yellowish elytra. Elytra of *O. kibonotensis* have a dull surface that cannot be found in the other species. While *O. kibonotensis* has a completely brown head, that of *O. congoensis* sp. nov. is bicolourous with a yellow to yellowish-brown frons and a black

vertex. The median lobe of *O. kibonotensis* is also different in size, outline and endophallic armature from *O. congoensis* sp. nov., that furthermore occurs allopatric.

Distribution. Only known from the area around Moshi in the southern slopes of the Kilimandjaro Mountain (Fig. 11).

Description of new species

***Oothecoides congoensis* sp. nov.**

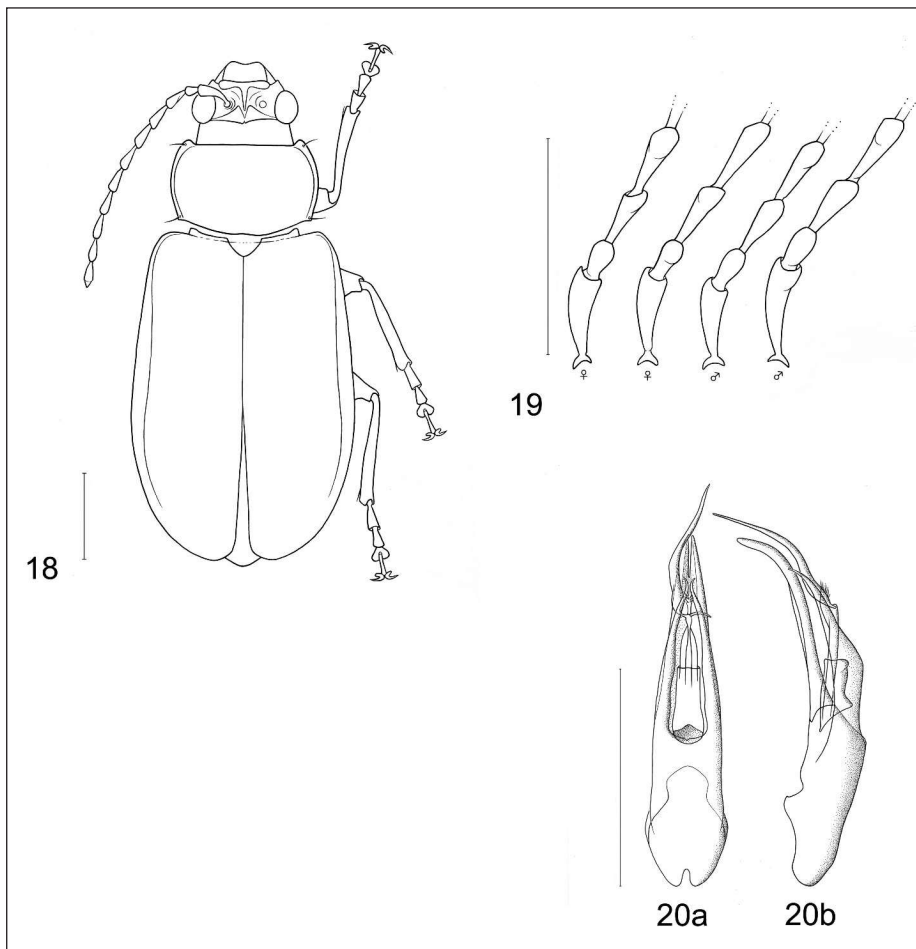
Holotype. ♂, “Congo Belge: P. N. U., Lusinga (1.700 m), 1-8-XII.1947, Miss. G. F. DE WITTE, 1123A” (MRAC; Fig. 28). **Type locality.** Congo (Zaire), Lusinga, 8°56’S/27°1’E.

Paratypes. Congo (Zaire): 2 ex., Lulua, Kapananga, 5°56’S/25°47’E, XII.1932, G. F. OVERLAET (MRAC); 2 ex., Lulua, Kapananga, X.1933, G. F. OVERLAET (MRAC); 1 ex., Mayidi, 5°11’S/15°09’E, 1942, P. VAN EYEN (MRAC); 14 ex., Lusinga, 1700 m, 8°56’S/27°1’E, XII.1947, Miss. G. F. DE WITTE (MRAC); 1 ex., Mbuye Bala, 1750 m, III.1948, Miss. G. F. DE WITTE (MRAC); 2 ex., Sankuru, Gandajika, 5°46’S/24°32’E, XI.1948, P. DE FRANCOUEN (MRAC).

Etymology. Named after the country where this species exclusively occurs.

Description. Total length. 4.35–5.25 mm (mean: 4.83 mm; n = 15; Fig. 18).

Head. Frons yellow to yellowish-brown, vertex sharply contrasting black. Maximum width of eye to minimal distance



Male genitalia. Median lobe strongly curved ventrally at apex, conical and rather pointed, apex with an incision (Figs 20a, b). The tectum consists of two symmetrical flat spurs (Figs 20a, 34). Endophallus with two spines. The left one is remarkable long and contorted. The other spine is thin, much smaller and curved. Slender and delicate endophallus with a brush. Base of endophallus broad.

Diagnosis. *Oothecoides congoensis* sp. nov. has brown elytra as *O. kibonotensis*, but its surface is smooth and shining, while the elytra of *O. kibonotensis* displays a dull and slightly wrinkled appearance. Both species can be further distinguished by the bicolourous head of *O. congoensis* sp. nov. and its slender median lobe (Figs 33, 34). The endophallus possesses two spines, the shorter one is thin, small and curved, which differs from all other comparable structures found in *Oothecoides* gen. nov.

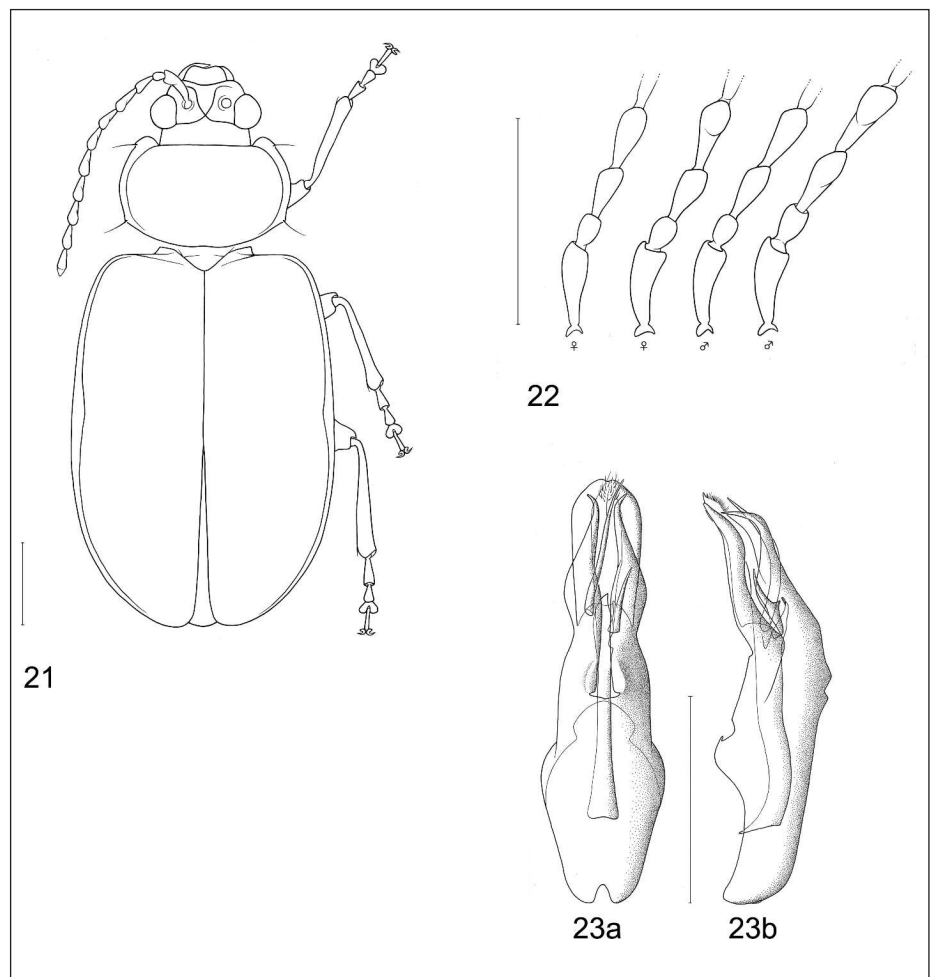
Figs 18–20. *Oothecoides congoensis* sp. nov. 18. Habitus, dorsal view. 19. Basal antennomeres of each two different males and females. 20. Median lobe, a. Dorsal view, b. Lateral view.

between eyes 0.48–0.62 (mean: 0.55). Antenna brown, basal three antennomeres yellow. Length of second to third antennomere 0.50–0.80 (mean: 0.64), length third to fourth antennomere 0.71–0.93 (mean: 0.83; Fig. 19).

Thorax. Prothorax yellow, pronotum very finely punctuated, 1.50–1.90 mm (mean: 1.72 mm) wide, 1.00–1.23 mm (mean: 1.11 mm) long, pronotal width to length 1.44–1.65 (mean: 1.55). Meso- and metathorax including elytra brown to darkbrown with irregular, fine punctuation, closer than punctuation on pronotum. Elytal length 3.25–4.15 mm (mean: 3.73 mm), maximal width of both elytra 2.35–2.90 mm (mean: 2.65 mm), ratio of maximal width of elytra to length of elytron 0.68–0.77 (mean: 0.71). Scutellum dark brown. Legs brown. Length of basimetatarsus to length of metatibia 0.24–0.31 (mean: 0.26).

Abdomen. Dark brown as meso- and metathorax.

Figs 21–23. *Oothecoides ivorensis* sp. nov. 21. Habitus, dorsal view. 22. Basal antennomeres of each two different males and females. 23. Median lobe, a. Dorsal view, b. Lateral view.



Distribution. Only known from central and southern Congo (Fig. 11).

Oothecoides ivorensis sp. nov.

Holotype. ♂, “Kamerun int., Rei Buba, 3.-7.VI.09, RIGGENBACH S.G.” (MNHU; Fig. 29). **Type locality.** Cameroon, Rei Buba, 8°40’N/14°10’E.

Paratypes. Burkina Faso. 2 ex., Nanoro, Boulkiemdá, 12°20’N/2°10’W, VII.1996, D. GIANNASSO (MCDG). – Cameroon. 3 ex., Adamaua, Uli-Djurum, 6°30’N/13°30’E, VI.1901, S. GLAUNING (MNHU); 10 ex., Kamerun int., Rei Buba, 8°40’N/14°10’E, VI.1909, RIGGENBACH (MNHU); 1 ex. Kamerun int., Lagdo Bge., VI.1909, RIGGENBACH (MNHU). – Ivory Coast. 1 ex., Ferkessédougou, 9°36’N/5°12’W, V.1964, L. DECELLE (MRAC); 2 ex., Korhogo, R. C. I., 9°27’N/5°38’W, V.1980, MONNET (MNHN). – Mali. 1 ex., I. R. C. T., M’Pesoba, VII.1970, G. PIERRARD (MNHN). – Senegal. 1 ex., Oussonye, 12°29’N/16°32’W, VII.1968, SALAM (MZB).

Etymology. Named after the Ivory Coast.

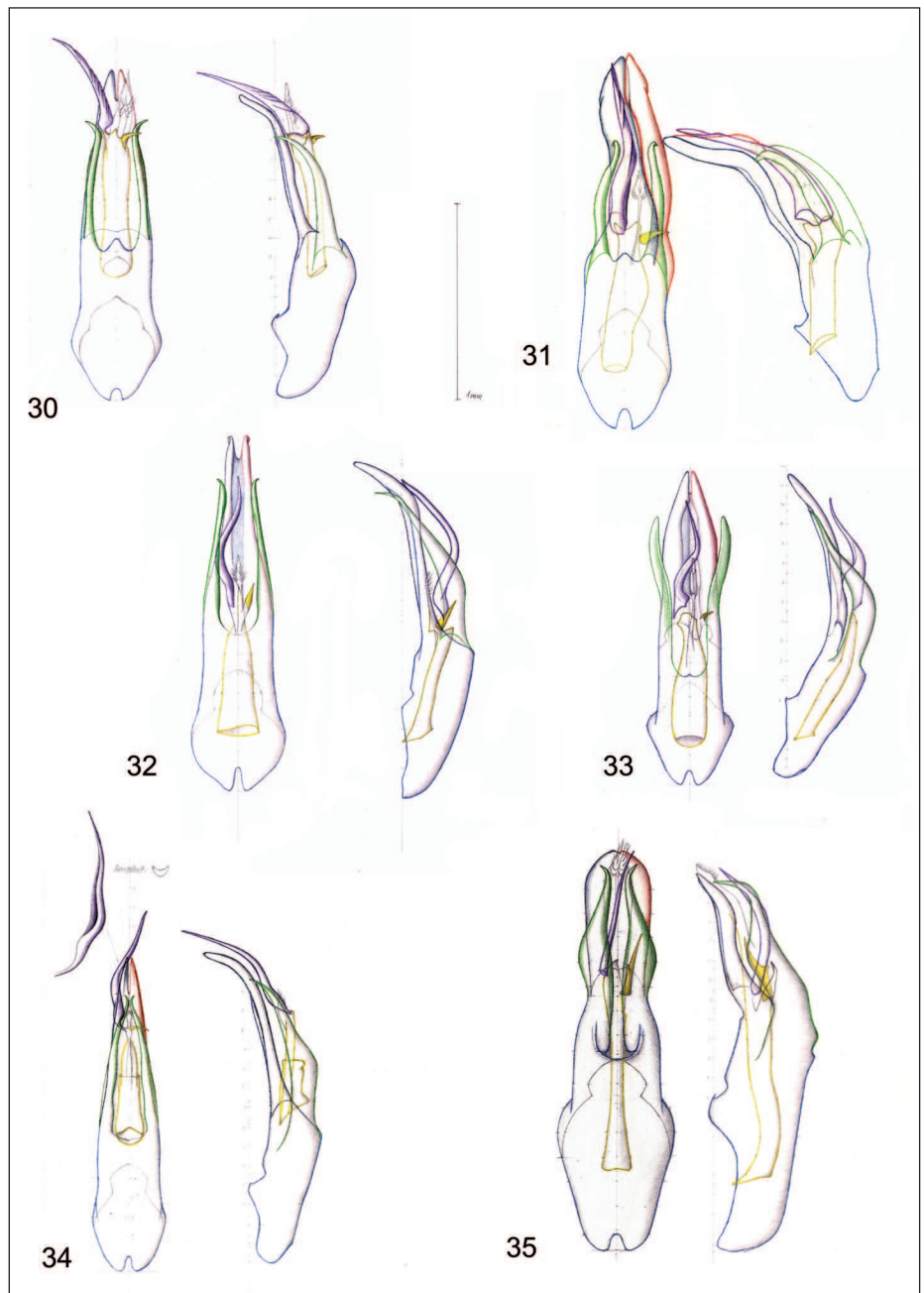
Description. Total length. 5.00–5.75 mm (mean: 5.49 mm; n = 15; Fig. 21).

Head. Slightly bicolorous, yellowish-brown becoming paler towards labrum. Maximum width of eye to minimal distance between eyes 0.59–0.71 (mean: 0.64). Basal three antennomeres and the base of the fourth antennomere yellow, then the colour changes to brown. Length of second to third antennomere 0.50–0.73 (mean: 0.60), length third to fourth antennomere 0.67–0.86 (mean: 0.78; Fig. 22).

Thorax. Underside with exception of the pronotal hypopleura dark brown. Pronotum yellowish-brown, very finely punctuated. Pronotum 1.80–2.15 mm (mean: 2.02 mm) wide, pronotal length 1.15–1.35 mm (mean: 1.26 mm), pronotal width to length 1.54–1.67 (mean: 1.61). Elytra yellowish-brown, i.e. upper side unicolorous, with irregular, fine punctuation. Elytral length 4.10–4.95 mm (mean: 4.42 mm), maximal width of both elytra 2.90–3.50 mm (mean: 3.12 mm), ratio of maximal width of elytra to length of elytron 0.65–0.77 (mean: 0.71). Scutellum dark brown. Legs dark brown as underside. Length of basimetatarsus to length of metatibia 0.23–0.26 (mean: 0.25).

Abdomen. Yellowish.

Male genitalia. Median lobe slightly conical and ventrally curved towards apex,



Figs 30–35. Median lobes of the known species of *Oothecoides* gen. nov. for direct comparisons; same colour for homologous structures; dorsal view (left), lateral view (right). Red: left side of the apical part; blue: right side of the apical part; green: tectorial spurs; purple: long, asymmetric spine of the endophallus; yellow: base and small spine of the endophallus. **30.** *Oothecoides bicolor* (JACOBY, 1906). **31.** *Oothecoides straminipennis* (WEISE, 1903). **32.** *Oothecoides maculicollis* (WEISE, 1907). **33.** *Oothecoides kibonotensis* (WEISE, 1909). **34.** *Oothecoides congoensis* sp. nov. **35.** *Oothecoides ivorensis* sp. nov. (scale: 1 mm).

with a small incision at the broad apex (Figs 23a, 35). The tectum consists of two long symmetrical spures, which overlap the median lobe laterally (Fig. 23a). The tips of the spures are bent ventrally. Endophallus shows two spines, a long and slender one on the left side that is strongly curved ventrally (Figs 23, 35). The other spine is half as long as the other and shows a ramification. The endophallus is divided in a short, leaf-shaped dorsal part and a long ventral part with the endophallic brush.

Diagnosis. *Oothecoides ivorensis* sp. nov. has not only a yellowish pronotum but also yellow pronotal hypopleura, while all other species possess a completely brownish underside. Also a contrasting yellow abdomen to the brownish meso- and metathorax are characteristic for this species. The median lobe has a broad apical part that differs remarkably from all other species (Figs 23, 35).

Distribution. Known from western Africa (Fig. 7).

Identification key of *Oothecoides* gen. nov.

- 1 Pronotum unicolorous yellowish-brown to dark brown; elytra unicolorous yellow to brown; not known from Ethiopia **2**
- Pronotum yellowish with distinct dark brown spots (Fig. 12); elytra yellowish, sometimes with darker brown suture; restricted to Ethiopia.
 ***O. maculicollis* (WEISE, 1907)**
- 2 Elytra brown **3**
- Elytra yellowish **4**
- 3 Elytra dull, microsculptured, head entirely brown; on average smaller (total length 3.60–4.95 mm); only known from Kilimandjaro Mountain
 ***O. kibonotensis* (WEISE, 1909)**
- Elytra shiny, not microsculptured, head bicolorous with yellow frons and contrasting black vertex; on average larger (total length 4.35–5.25 mm); restricted to Central and southern Congo ***O. congoensis* sp. nov.**
- 4 Dorsum bicolorous, head and pronotum brown elytra contrasting yellowish; under side entirely brown; only males can be reliably distinguished by shape and armature of the median lobe; West, Central or East Africa . . . **5**
- Dorsum unicolorous yellow to yellowish-brown; underside brown with con-

trasting yellow pronotal hypopleura and abdomen; only known from Western Africa ***O. ivorensis* sp. nov.**

- 5 Eyes on average larger (maximum width of eye to minimal distance between eyes 0.57–0.74), antennomeres on average more slender (Fig. 3); median lobe conical with long protruding endophallic spine (Figs 5, 30); restricted to Kenya and Tanzania
 ***O. bicolor* (JACOBY, 1906)**
- Eyes on average smaller (maximum width of eye to minimal distance between eyes 0.48–0.62), antennomeres on average shorter (Fig. 9); median lobe conical with broad and asymmetric apical part, long endophallic spine on protruding the apex of the median lobe (Figs 10, 31); known from Guinea-Bissau through western Africa, the Congo Basin towards northern Tanzania
 ***O. straminipennis* (Weise, 1903)**

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Description of *Ootibia* gen. n. from tropical Africa with revision of two described species and description of three new species (Coleoptera: Chrysomelidae: Galerucinae)[‡]

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After our recent revision of the Afrotropical species of *Oothea* Chevrolat, 1837, and the description of *Ootheoides* Kortenhaus & Wagner, 2011, five galerucine species that are closely related to *Oothea* and form a distinct monophyletic group, need to be transferred to a new genus, *Ootibia* gen. n. Two of these species have already been described in the genus *Ergana* Chapuis, 1879, a junior synonym to *Oothea*. New combinations are *Ootibia podagrica* (Laboissière, 1939), the genotype of the new genus, and *Ootibia bimbina* (Laboissière, 1939) stat. n., originally described as a subspecies of the former *E. podagrica*. Three new species are described: *Ootibia bredoi* sp. n., *Ootibia striata* sp. n., and *Ootibia viridis* sp. n. Species of *Ootibia* gen. n. are characterized by a broad body shape with a broad pronotum, convex dorsum, short antennae and legs, similar to those of *Oothea*. Males show characteristic sexual dimorphism in the shape and length of the metatibia. Genitalic structures, in particular the distinctive shape of median lobe, allow reliable species identification. Descriptions or redescriptions are given for each of the five species, including semi-schematic illustrations depicting the habitus outline, colouration, shape of the basal antennomeres and the median lobe. The material examined is listed in detail, and photographs of the name-bearing types, distribution maps and a key to the species are provided.

Key words: Afrotropical Region, *Oothea*, *Ootheoides*, revision, taxonomy, new genus, new species, key.

INTRODUCTION

Having completed a revision of the well-known galerucine genus *Oothea* Chevrolat, 1837 (Kortenhaus & Wagner 2010; for publication date of Dejeans catalogue see Madge 1988), a number of species originally described in *Oothea*, or its junior synonym *Ergana* Chapuis, 1879, were identified that had to be excluded from this taxon. Some of them, characterized by asymmetrical structures of the median lobe and a comparatively dorso-ventrally compressed body shape, have already been transferred to *Ootheoides* Kortenhaus & Wagner, 2011. Five more species have a peculiar male genitalic pattern in common, that can be considered synapomorphic, and these taxa are herein transferred to the newly described genus *Ootibia* gen. n. The latter has a similar body shape to *Oothea*, with a broad pronotum, convex dorsum, and short antennae and legs. In contrast

to *Oothea*, which displays no sexual differences in the shape and length of the metatibia, male specimens of *Ootibia* gen. n. can clearly be identified by sexually dimorphic characters of the metatibia. Laboissière (1939) already noticed a characteristic morphologic pattern when he described one species from this group as *Ergana podagrica*. Additionally, dissection of the male genitalia gives confident differentiation between *Ootibia* gen. n., *Oothea* and *Ootheoides*. Spermathecae in female specimens are not unique at species level and do not allow differentiation between these three genera. Males of *Ootibia* gen. n. have a symmetrical median lobe, similar to that of *Oothea*, which is characteristically short and broad with a sub-rectangular shape and two protruding structures at the apex, a dorsally curved projection and a protruding endophallic brush. The endophallus has two symmetrical triangular appendices and two additional symmetrically arranged sclerites on either side.

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[‡]39th contribution to the taxonomy, phylogeny and biogeography of the Galerucinae.

Table 1. Numbers of examined specimens in the studied collections.

	<i>Ootibia podagrica</i>	<i>Ootibia bimbina</i>	<i>Ootibia bredoi</i> sp. n.	<i>Ootibia striata</i> sp. n.	<i>Ootibia viridis</i> sp. n.	Total
BMNH					2	2
IRSN			15		2	17
MNHU					8	8
MRAC	67	9	6	12	37	131
ZMUH	5	2				7
Total	72	11	21	12	49	165

MATERIAL AND METHODS

Our revision is based on 165 specimens from the following collections (abbreviations in brackets; Table 1): The Natural History Museum, London (BMNH); Institut Royal des Sciences Naturelles de Belgique, Brussels (IRSN); Museum für Naturkunde der Humboldt Universität, Berlin (MNHU); Musée Royal de l'Afrique Centrale, Tervuren (MRAC); Zoologisches Institut und Museum der Universität Hamburg (ZMUH). For measurements and ratios between 11 and 30 specimens were measured per species, depending on the number of available specimens. Absolute measurements included: total length from apex of labrum to apex of elytra (TL); maximum height in lateral view; pronotal length (PL); maximum pronotal width (PW); length of elytra (EL); maximum width of both elytra combined (EW) (Fig. 1). Relative measurements were: pronotal width to pronotal length (PW/PL); maximum width of elytra combined to elytral length (EW/EL); length of second to third antennomere (2/3); length of third to fourth antennomere (3/4); maximum width of eye to minimum distance between eyes (WE/DE); and length of basimetatarsus to length of metatibia (TA/TI) (Fig. 1).

For each species a standard set of figures is given. External characters are documented by a dorsal semi-schematic habitus illustration, including the left antenna, detailed illustrations of the four basal antennomeres of males and females, and legs on the right-hand side of the body. In some cases the illustrations depict the pronotal and/or elytral colour pattern, and in *O. podagrica*, lateral views of the habitus. The male genitalic structures are illustrated in dorsal and lateral views. Variation in spermathecal shape is very small between species and therefore only given in the description of the genus. General structure of the head, underside of

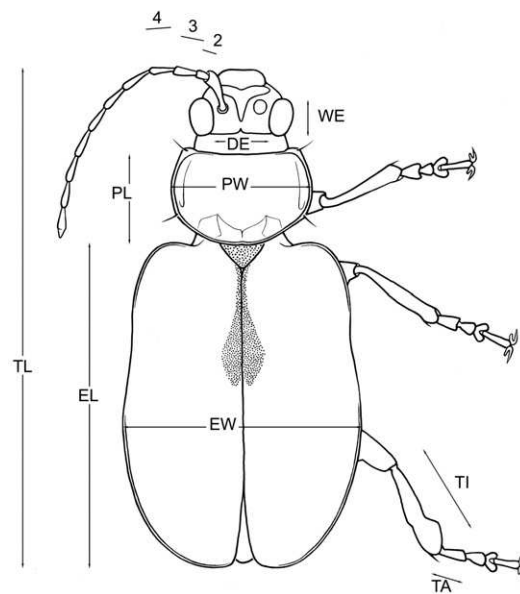


Fig. 1. Measurements taken. Absolute measurements: TL, total length from apex of labrum to apex of elytra; PL, pronotal length; PW, maximum pronotal width; EL, elytral length; EW, maximum width of elytra combined; relative measurements: 2, 3, 4, length of second, third and fourth antennomeres; DE, minimum distance between eyes; WE, maximum width of eye; TA, length of basimetatarsus; TI, length of metatibia

the thorax and metathoracic wing are very similar to those of *Oothea*, and details can be found in our revision of that genus (Kortenhaus & Wagner 2010). Due to the close relationship between *Oothea* and *Ootibia* gen. n. the above-mentioned detailed illustrations are omitted for *Ootibia* gen. n.

For name-bearing type specimens, the label data are cited verbatim and sexes (symbols) are given; data for all other specimens has been standardized and includes the following information: Country, Province, numbers of specimens, locality, latitude, and longitude coordinates, altitude, date, collector

and depository (in brackets). Localities are given as precisely as possible. Countries and localities (e.g. towns) recorded as traditional names on labels are listed together with their current names; coordinates were taken from the geographical database GeoNames (www.geonames.org); if a location remains unidentified, mean coordinates of the given district or region were used; in cases where there was one location with many coordinate possibilities, we did not allocate coordinates. Data were imported into the program ArcGis (ESRI-Arc-Map. Version 9.3) to produce GIS-based distribution maps.

Description of *Ootibia* gen. n.

Type species. *Ergana podagrica* Laboissière, 1939.

Etymology. Combination of 'Ootheca' and 'tibia', which refers to the sexually dimorphic metatibial character; gender: female.

Total length. 4.90–7.85 mm; means of total length for the species range between 5.93 and 6.67 mm. Females are somewhat larger than males.

Head. Yellowish, brown or black. Labrum brown or black. Maxillary palps brown or black, last palpomere conical and sometimes with a fine apex. Eyes convex and ovate; a transverse depression, slightly curved posteriad medially between the eyes, divides the frons from the vertex; ratio for maximum eye width to minimum distance between eyes varies from 0.47–0.71 (means of species vary between 0.56 and 0.61). Large, triangular frontal calli separate the eyes. Antennae brown, antennomeres yellowish basally, gradually becoming dark-brown towards the apex. Mean antennal length to total body length ratio 0.65–0.71; mean length ratio of antennomeres two to three 0.55–0.63; mean length ratio of antennomeres three to four 0.68–0.74.

Thorax. Pronotum convexly rounded dorsally, lateral margins distinctly differentiated from disc, anterior angles rounded, disc convexly rounded; finely punctate, unicolourous yellow, brown or black, sometimes with dull metallic greenish or bluish sheen; length 1.10–1.60 mm (means of species vary between 1.25 and 1.34 mm); width 1.75–2.80 mm (means of species vary between 2.04 and 2.26 mm); pronotal width to length ratio 1.50–1.88 (means of species vary between 1.61 and 1.76). Prothorax brown. Elytra unicolourous (*O. podagrica*, *O. bredoi* sp. n., *O. viridis* sp. n.), dark brown to black and brownish apically (*O. bimбина*) and with a metallic sheen, or yellowish-brown

with a dark brown sutural spot or longitudinal lateral stripes (some specimens of *O. podagrica*, *O. striata* sp. n.); coarsely and more deeply punctate than pronotum; punctuation irregular, sometimes striate; length of elytron 3.80–6.15 mm (means of species vary between 4.68 and 5.25 mm); maximum width of elytra combined 2.70–4.50 mm (means of species vary between 3.40 and 3.99 mm); mean of maximum width of elytra combined to length of elytron ratio 0.67–0.79. Scutellum almost triangular, yellow to black with a smooth surface. Meso- and metathorax in same colour: brown, only *O. podagrica* displays a difference in colour between meso- and metathorax. Legs unicolourous, brown, coxae and distal and proximal parts of other segments sometimes paler brown, shape and length of metatibia differs dependent on sex. Male specimens frequently with a yellowish spot in the middle of tibia. Because of sexual dimorphism, the legs of male and female specimens have to be mentioned separately. Mean length of metatarsus to length of metatibia in males 0.24–0.36 (means of species vary between 0.28 and 0.32), in females 0.20–0.30 (means of species vary between 0.24 and 0.27). Claws appendiculate.

Abdominal ventrites. Five visible ventrites (seven sternites) usually of the same colour as the pro-/meso- and metathorax. Bicolourous in *O. podagrica* only, with yellowish-brown pro-/mesothorax and abdominal ventrites, and dark brown metasternum. Visible apical sternite in females evenly rounded, males with two deep incisions in outer apical margin.

Male genitalia. Median lobe, tectum and endophallus symmetrical (Fig. 5a). Median lobe appears obtuse and compact, nearly rectangular in dorsal view, only very slightly conical towards apex, parallel-sided, slightly down-curved in lateral view (Fig. 5b). Median lobe with two 'ear-like' ventrally situated convexities (in dorsal view), which taper to one or two points (in lateral view). Endophallus with a peculiar endophallic brush and two symmetrical triangular appendices. Two additional pointed sclerites are arranged symmetrically alongside the endophallus, curved outwards and have elongate, flat endings. The basal aedeagal orifice very dilatated.

Female genitalia. Spermatheca with spherical nodulus. Spermathecal ductus slightly sunken within the nodulus, cornu slender, strongly and evenly curved (Fig. 6).

Diagnosis. The species of *Ootibia* gen. n. are

Galerucinae that have an elongate-ovate body shape, are convexly rounded with almost parallel-sided elytra, and their pronotum is slightly narrower than the elytra (Fig. 1). Head very broad with widely separated, strongly protruding eyes. Legs short and robust, the basi-tarsomeres are slightly enlarged and the claws appendiculate (Fig. 1). The shape and length of the metatibia are very characteristic, and dependent on sex. Males possess a significant dilatation in the distal half and an inner brush of setae in the proximal half (Fig. 4). This character is unique and enables differentiation between *Ootibia* gen. n., *Ootheca* and *Oothecoides*, if a male specimen is available. Antennae short, length of the second antennomere is about 60 % of the third, and length of third antennomere about 70 % of the fourth (Fig. 3). *Ootibia* gen. n., as in *Oothecoides*, have longer antennae than *Ootheca* (mean antennal length to total body length ratio of *Ootibia* gen. n. is 0.66–0.71, *Oothecoides* 0.61–0.72), whilst *Ootheca* measures 0.47–0.61. Elytral colouration either unicolourous with blue or green metallic sheen, brown with yellow apically or bicolourous with brown or black patterns on yellow to yellowish-brown elytra. Neither *Ootheca* nor *Oothecoides* has elytra with a metallic sheen. *Ootibia* gen. n. shows a similar maximum height in lateral view to *Ootheca*, whilst the body is more dorso-ventrally compressed in *Oothecoides* (Figs 3a, 3b).

Due to significant overlap in body size, measurements and colouration, definitive differentiation of the latter three genera is in many cases only possible based on the male genitalia. The median lobe of *Ootibia* gen. n. appears obtuse, compact, almost rectangular, parallel-sided, slightly conical towards apex, slightly down-curved in lateral view, and has a very dilated basal orifice. Apically, the median lobe displays two ventrally situated projections, like 'ears' (in dorsal view), which taper to form one or two points (in lateral view). The endophallus has a peculiar endophallic brush and two symmetrical triangular appendices. Two additional sclerites are arranged symmetrically alongside the endophallus and have long flat appendices (Fig. 5a).

The symmetrical median lobe of *Ootheca* is usually parallel-sided, slightly conical towards the apex, or constricted in the middle. The apex can either be rounded or pointed without an apical incision, or have a deeply u-shaped apical incision. In lateral view the median lobe is more or less

evenly down-curved. The tectum is very characteristic in *Ootheca*, consisting of two dorsal, more or less slender, often apically hooked, tectorial spurs that are attached at the base of the apical third of the median lobe, and extend from its middle sometimes to near its apex. The apical part of the symmetrical endophallus can usually be seen distinctly between the bases of the tectorial spurs.

The median lobe of *Oothecoides* is usually conical towards the apex, in one species slightly asymmetrical, nearly parallel-sided or broadly rounded at apex. The apex has a variably deep apical incision that differs from the u-shaped incision in *Ootheca*. The median lobe, in lateral view, is more or less evenly down-curved.

The tectum of *Oothecoides* is characterized by two dorsal, slender, often apically hooked tectorial spurs that are attached approximately in the middle of the median lobe, extending from its middle sometimes towards its apex. The apical part of the endophallus is directly visible between the bases of the tectorial spurs. Two asymmetrical spines at the apex of the endophallus are very specific to *Oothecoides*. One of them is always much larger, longer, and often specifically curved, than the other one which is very small.

The following applies for *Ootibia* gen. n. as well as for *Ootheca* and *Oothecoides*: while males can reliably be identified on the basis of their genitalia; spermathecae in females are not distinctive at genus or species level. In sympatric species reliable identification of females is sometimes not possible without males from the same population.

Host plants, biology and immature stages. Unknown.

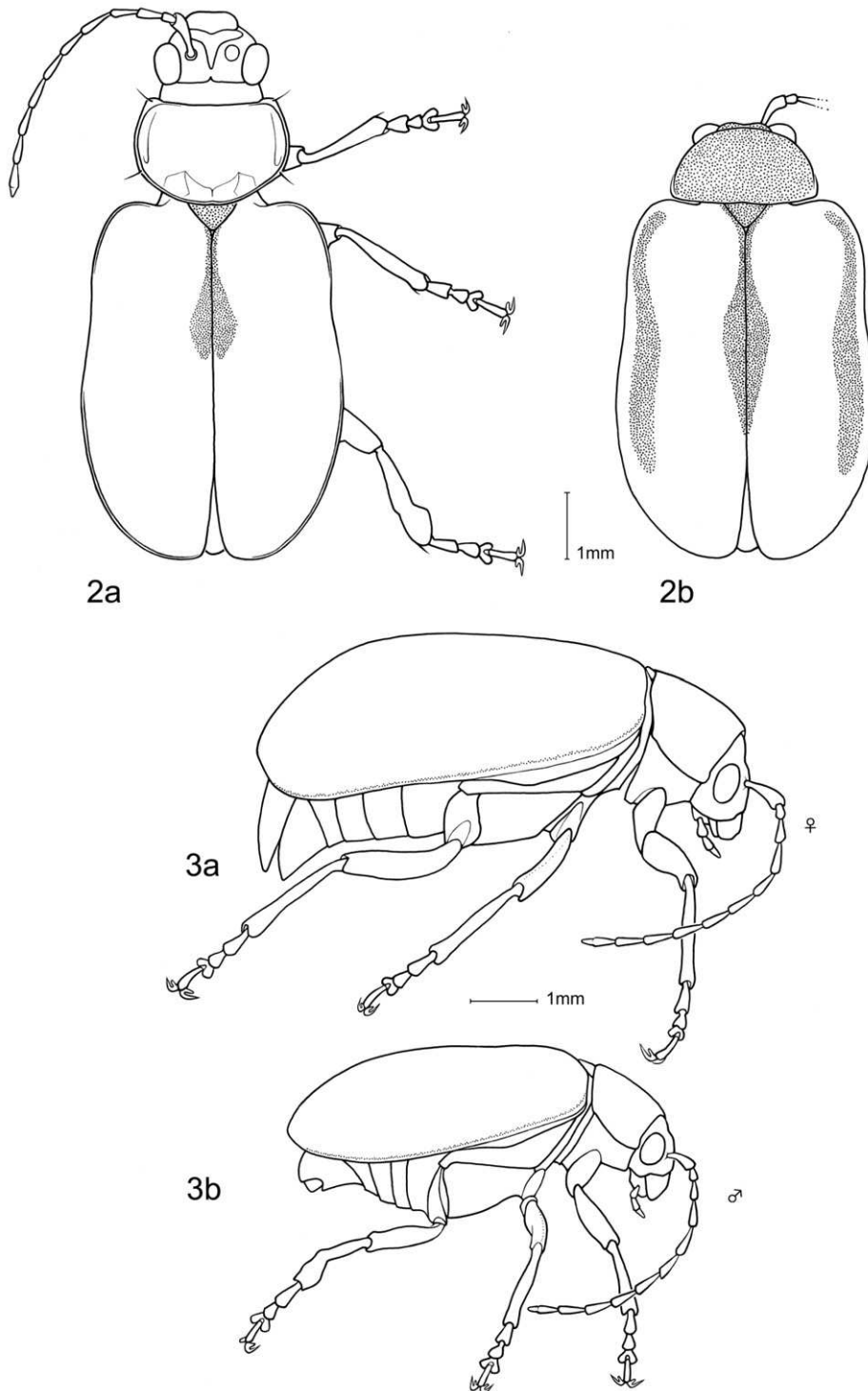
REDESCRIPTIONS AND DESCRIPTIONS OF SPECIES

Ootibia podagrica (Laboissière, 1939) comb. n., Figs 2–9

Ergana podagrica Laboissière, 1939: 114.

Measurements. $n = 30$ (15♂, 15♀). Total length 5.80–7.30 mm (mean 6.65 mm); maximum height in lateral view 2.10–3.35 mm (mean 2.70 mm) (Figs 3a, 3b).

Head. Yellowish-brown, labrum in same colour. Eyes small (Fig. 2a), maximum width of eye to minimum distance between eyes 0.53–0.71 (mean 0.60). Antennae either entirely brown, or only three basal antennomeres yellowish; length ratio of second to third antennomere 0.57–0.75



Figs 2–3. *Ootibia podagrica*. **2a**, Habitus, semi-schematic dorsal view, male. **2b**, Habitus, dorsal view with different colouration. **3a**, Habitus, lateral view, female. **3b**, Habitus, lateral view, male.

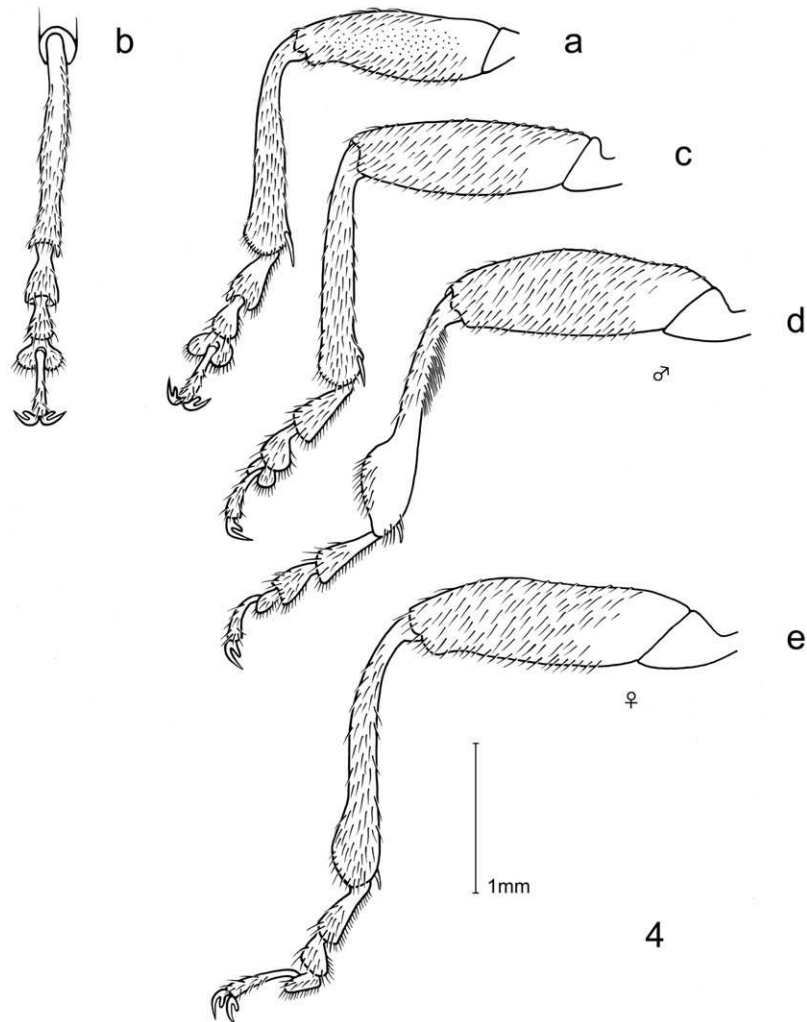
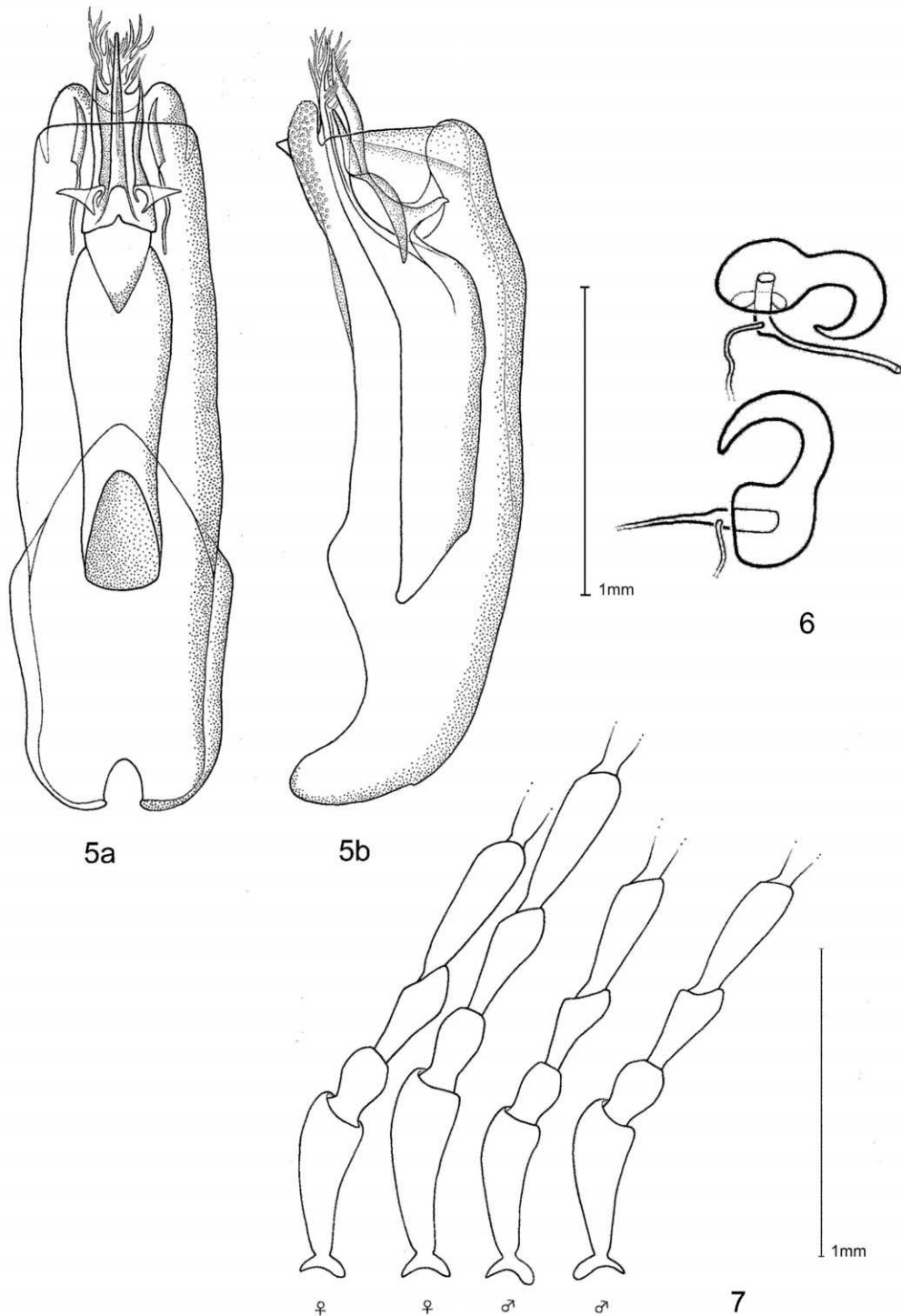


Fig. 4. *Ootibia podagrica*. Legs: **a**, prothoracic leg; **b**, protibia; **c**, mesothoracic leg; **d**, metathoracic leg (male); **e**, metathoracic leg (female).

(mean 0.63) and third to fourth antennomere 0.55–0.78 (mean 0.68) (Fig. 7). Mean antennal length to total body length ratio 0.65.

Thorax. Prothorax unicolourous yellowish- to reddish-brown, similar in colour to head. Pronotum finely punctured, with latero-basal impression distinct in large specimens; pronotal width 2.00–2.80 mm (mean 2.26 mm), pronotal length 1.15–1.60 mm (mean 1.34 mm), ratio of pronotal width to length 1.56–1.88 (mean 1.69). Pronotum yellowish- to reddish-brown, rarely dark brown. Elytra either unicolourous dull bluish to greenish metallic or yellowish-brown, then often with dark brown/black elongate sutural spot in the

middle (Fig. 2a). The spot can be drawn-out, causing the entire suture to be black (Fig. 2b); or rarely, as in most of the type specimens, the elytra have an additional black lateral stripe, extending from the humerus to a short distance from the elytral apex (Figs 9, 9b). Elytral punctation irregular, coarser than that of pronotum; punctation sometimes arranged in single rows; surface between punctures shiny; without microsculpture; length 4.55–5.95 mm (mean 5.08 mm); maximum width of elytra combined 3.40–4.50 mm (mean 3.99 mm); maximum width of elytra combined to length of elytron ratio 0.73–0.85 (mean 0.79). Scutellum brownish or dark brown. Underside of mesothorax



Figs 5–7. *Ootibia podagrica*. 5, Median lobe; **a**, dorsal; **b**, lateral; **c**, additional sclerite lateral of the endophallus; **d**, symmetrical triangular appendices; **e**, basal orifice. 6, Spermathecae of two different females. 7, Basale four antennomeres of two different males and two different females.

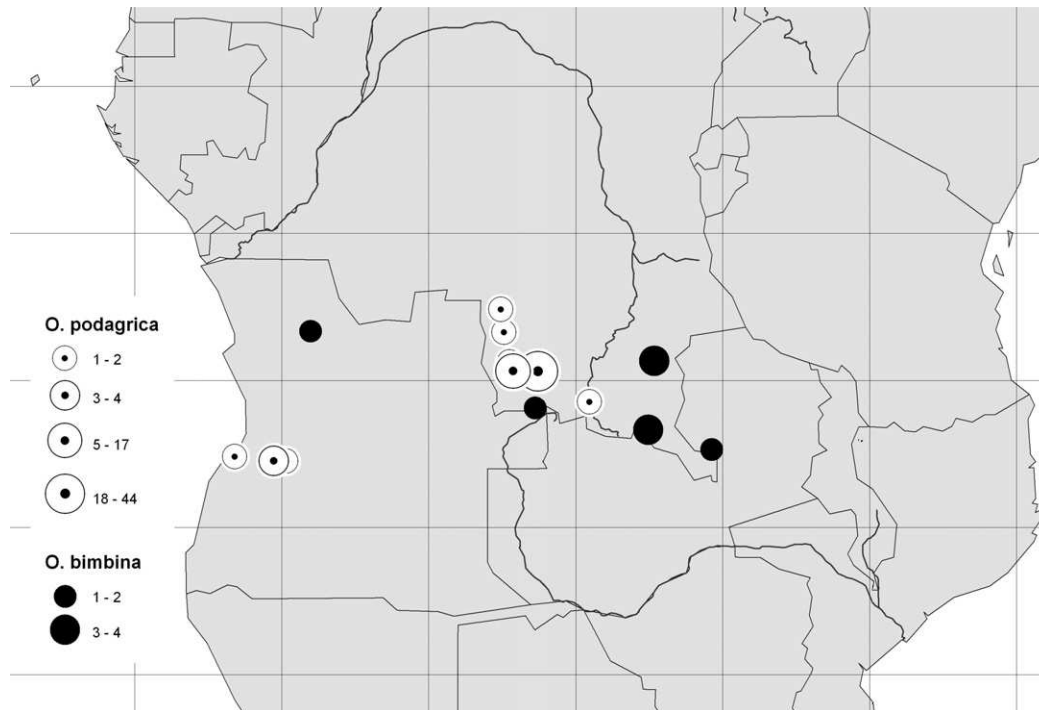


Fig. 8. Distribution of *Ootibia podagrica* and *O. bimbina*.

(like prothorax) yellowish-brown, metathorax dark brown. Legs entirely dark brown, coxae and proximal ends of other segments sometimes pale brown, shape and length of tibia differs dependent on sex (Fig. 4); length ratio of basimetatarsus to metatibia: male 0.28–0.36 (mean 0.32), female 0.24–0.29 (mean 0.27).

Abdominal ventrites. Yellowish-brown.

Male genitalia. Median lobe very slightly conical towards the apex, apex with two small rounded symmetrical projections ventrally (Fig. 5). Entire apical third of median lobe slightly down-curved, with a distinctive endophallic brush protruding beyond the apex. The base of endophallus opens dorsally, and the apical endophallic brush has a pair of symmetrical triangular appendices, one on either side, situated in its apical third. The endophallus appears to have a ventral slit in some specimens. There are two additional endophallic sclerites, symmetrically arranged lateral of the endophallus, do not extend beyond the apex of the median lobe. These endophallic sclerites are gentle curved outwards, elongate and have flat endings alongside of endophallus. Basal orifice of aedeagus strongly dilated, covering nearly a third of the whole structure (Fig. 5a).

Diagnosis. Specimens without metallic elytral colouration are only known for *O. podagrica* and *O. striata* sp. n. *Ootibia podagrica* usually has entirely yellowish-brown elytra, often with small sutural spot (Fig. 2a), and rarely with an entirely black suture and lateral stripes (2b), the typical colouration for *O. striata* sp. n. (Fig. 19). For specimens with this colouration, dissection of the male genitalia is required, as these species can be differentiated by the armature at the apex of the endophallus, and the apical structure of the median lobe (Figs 5, 21). Specimens of *O. podagrica* with completely black elytra have at least a dull metallic sheen, but are often significantly greenish- or bluish-metallic, while the elytra in *O. striata* sp. n. are rarely black. Metallic elytral colouration is also typical for *O. bredoi* sp. n. and *O. viridis* sp.n. The latter two also have at least a metallic frons, whilst the head of *O. podagrica* is entirely brown. Dissection of genital structures enables definitive identification. The shape of the median lobe, in particular the two small rounded symmetrical projections ventrally at the apex will allow differentiation (Fig. 5).

Distribution. Known from Angola and the Democratic Republic of Congo (Fig. 8).

Type material examined. Lectotype: ♂ 'Ebanga en /

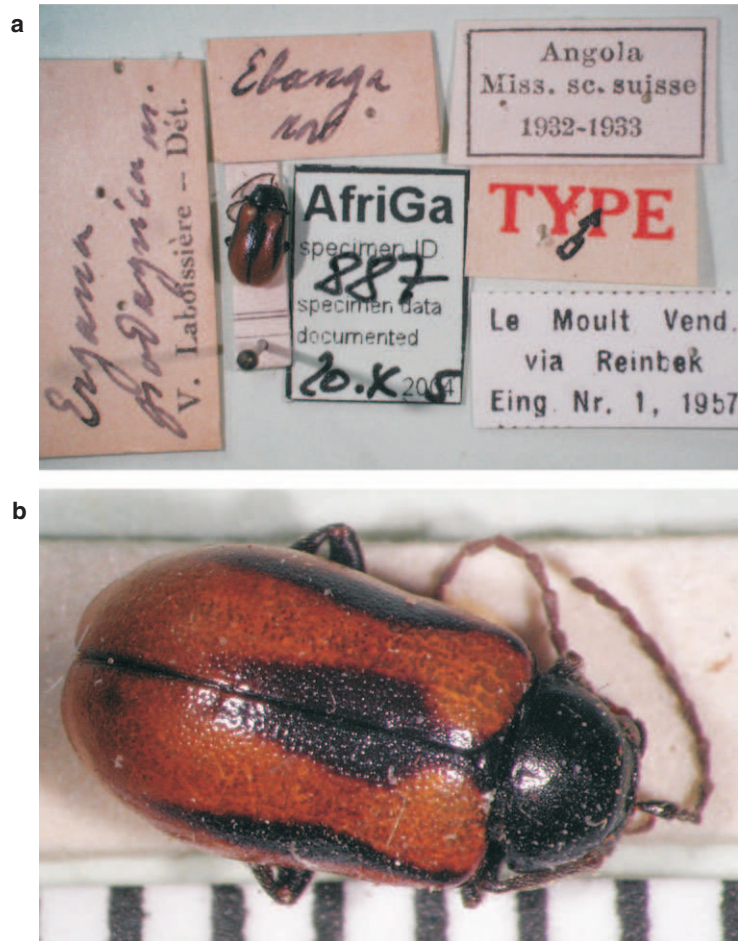


Fig. 9. Lectotype of *Ootibia podagrica*. **a**, Overview with labels; **b**, close-up detail of specimen.

Angola, Miss. sc. suisse, 1932–33 / Le Moulit vend. via Reinbek Eing. Nr.1, 1957 / Type male / *Ergana podagrica* m. V. Laboissière – Dét.' (ZMUH; Fig. 9). Type locality: Angola, Ebanga 12°44'S 14°44'E – Paralectotypes: 3 exx., 'Ebanga nov.', other labels as lectotype (ZMUH).

Laboissière gave no number on type specimens. Together four syntypes are available. We here designate a lectotype to fix the species name on a single specimen. Laboissière mentioned further two females from Elende as 'var. a' and seven specimens from Elende and Ebanga as 'var. b'. One specimen from Elende, signed as 'var. a' is also available (ZMUH). It cannot be included in the type series (see. ICZN 72.4.1.)

Additional material examined. ANGOLA. 2 exx., Benguelle [Benguela], 12°34'S 13°24'E, Wellmann, Coll. Clavareau (MRAC). – DEMOCRATIC REPUB-

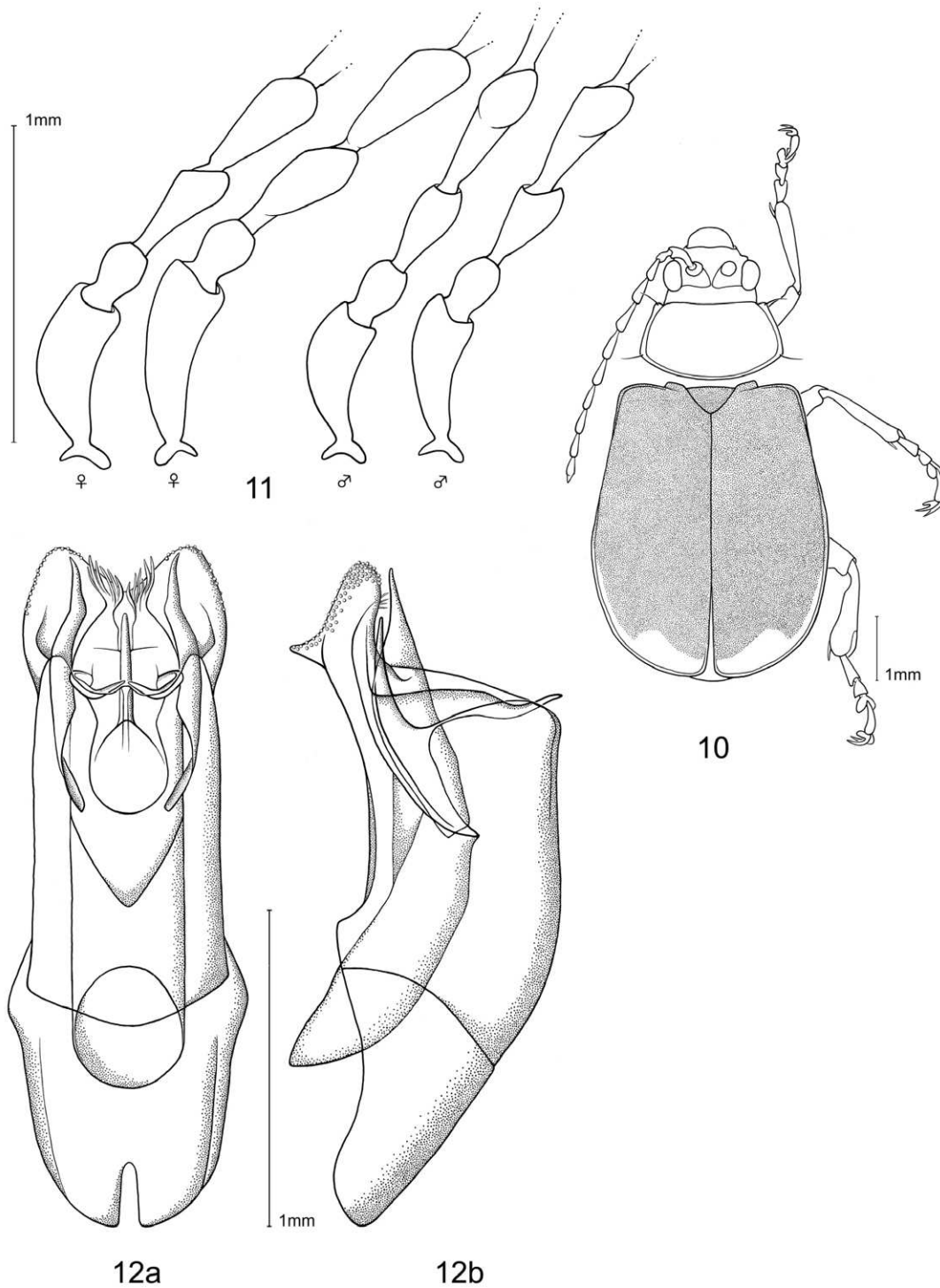
LIC OF CONGO. 17 exx., Lulua, Sandoa, 09°41'S 22°52'E, X.1930–XII.1931, G.F. Overlaet (MRAC); 1 ex., Lulua, Muteba, 09°22'S 22°46'E, V.1932, G.F. Overlaet (MRAC); 1 ex., Kapanga, 08°21'S 22°35'E, I. 1933, G.F. Overlaet (MRAC); 44 exx., Kafakumba, 09°41'S 23°44'E, XII.1931–XI.1933, G.F. Overlaet (MRAC); 1 ex., Katanga, Luashi, 07°35'S 22°28'E, XII. 1933, Freyne (MRAC); 1 ex., Katanga, Kolwezi, 10°43'S 25°28'E, X.1962, DrV. Allard (MRAC).

***Ootibia bimbina* (Laboissière, 1939) comb. n., stat. n., Figs 8, 10–13**

Ergana podagrica var. *bimbina* (Laboissière, 1939: 116)

Measurements. $n = 11$ (7♂, 4♀). Total length 5.15–7.20 mm (mean 6.17 mm, maximum height in lateral view 2.00–2.75 mm (mean 2.43 mm).

Head. Most specimens have a brown to black



Figs 10–12. *Ootibia bimбина*. 10, Habitus, semi-schematic dorsal view, male. 11, Basal four antennomeres of two different males and two different females. 12, Median lobe; **a**, dorsal; **b**, lateral.

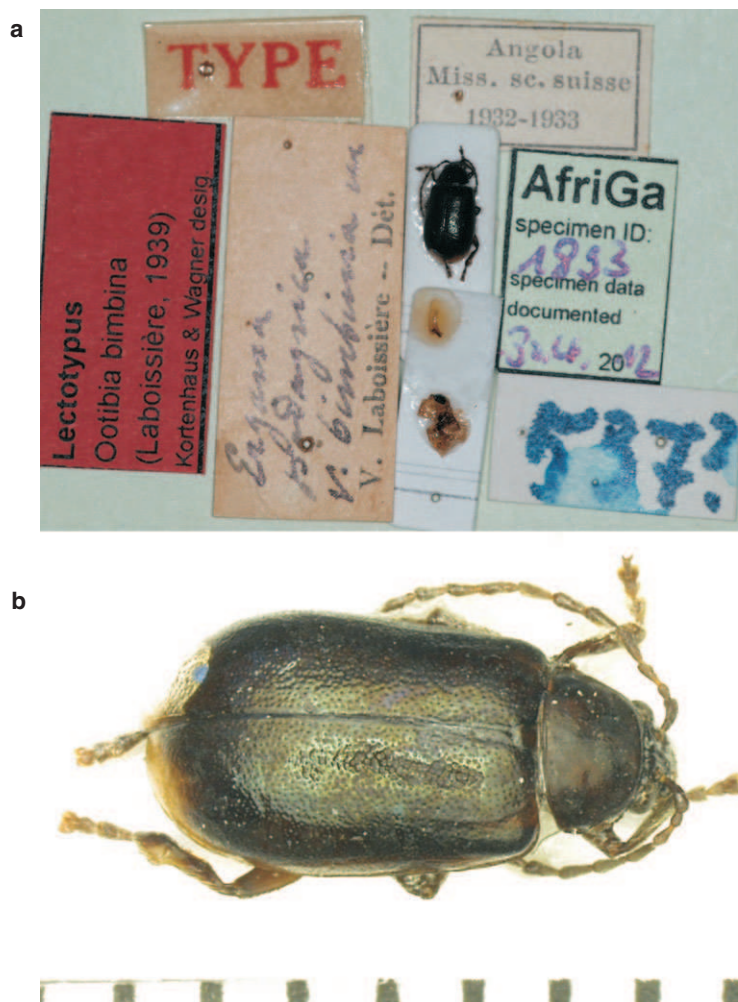


Fig. 13. Lectotype of *Ootibia bimbina*. **a**, Overview with labels; **b**, close-up detail of specimen.

head, one specimen has a yellow head, whilst another one has a brown head with a yellow labrum and two yellow spots between the eyes. Eyes small, maximum width of eye to minimal distance between eyes 0.48–0.64 mm (mean 0.56 mm; Fig. 10). Antennae with annulate colouration, due to the antennomeres being yellowish at their base and dark brown at the apex; length ratio of second to third antennomere 0.50–0.79 (mean 0.63), third to fourth antennomere 0.63–0.88 (mean 0.73) (Fig. 11). Mean antennal length to total body length ratio 0.71.

Thorax. Prothorax yellowish-brown on the underside. Pronotum dark brown, rarely with insignificant dull metallic sheen and yellowish-brown margins, finely punctured; pronotal width

1.85–2.60 mm (mean 2.23 mm), pronotal length 1.10–1.50 mm (mean 1.27 mm), ratio of pronotal width to length 1.67–1.85 (mean 1.76). Scutellum yellowish to dark brown with a smooth surface. Elytra dark brown with yellow marking in apical third (Fig. 10), elytral margin yellowish; punctuation irregular, coarser than pronotum; punctuation sometimes arranged in single rows; surface between punctures shiny, without microsculpture; length 4.00–5.75 mm (mean 4.68 mm); maximum width of elytra combined 3.10–4.30 mm (mean 3.65 mm); maximum width of elytron combined to length of elytron ratio 0.75–0.82 (mean 0.78). Meso- and metathorax dark brown. Legs entirely dark brown, coxae and proximal and distal parts of other segments sometimes pale brown, shape and

length of tibiae differs, dependent on the sex of the specimen (Fig. 10); length ratio of basimetatarsus to metatibia: male 0.27–0.33 (mean 0.29), female 0.23–0.26 (mean 0.25).

Abdominal ventrites. Brown.

Male genitalia. Median lobe very short and broad, with two rounded symmetrical projections ventrally (Fig. 12). Apically median lobe conical in lateral view, forming two very small pointed projections. The apical third of aedeagus very slightly down-curved, the curved apex and endophallic brush do not project beyond the median lobe. Base of endophallus opens dorsally and the endophallic brush has two symmetrical triangular appendices; in passive state, they seem to clasp the apical opening of the median lobe. There are two additional endophallic sclerites, symmetrically arranged lateral of the endophallus. These endophallic sclerites are marginal curved, elongate with flat endings alongside of endophallus. Basal orifice of aedeagus strongly dilated, covering nearly half of the whole structure (Fig. 12b).

Diagnosis. *Ootibia bimbina* is distinctly characterized by dark brown elytra with yellow markings in the apical third.

Distribution. Known from Angola and the Democratic Republic of Congo (Fig. 8).

Type material examined. Lectotype. ♂, 'Bimbi / Angola, Miss. sc. suisse, 1932–1933 / Le Moul't vend. via Reinbek Eing. Nr.1, 1957 / TYPE / Ergana podagrica v. bimbina m. V. Laboissière – Dét./537?' (ZMUH; Fig. 13). Type locality: Angola, Bimbi 08°20'S 15°58'E. – Paralectotype. 1♀, same data as lectotype (ZMUH).

Laboissière mentioned three males and two females from Bimbi in his original publication under his 'variation bimbina'. Only two specimens are available to us. After the International Code of Zoological Nomenclature, Article 45.6.4. 'variety' names not expressly given infrasubspecific rank and published before the year 1961 are subspecific names, available as species-group names. We here designate a lectotype to fix the name on a single specimen.

Additional material examined. DEMOCRATIC REPUBLIC OF CONGO. 3 ex., Kundelungus, 09°20'S 27°40'E, Mme Tinant (MRAC); 1 ex., Elisabethville, 11°40'S 27°28'E, XI.1911, Miss. Agric. (MRAC); 1 ex., Elisabethville, XI. 1925, Ch. Seydel (MRAC); 1 ex., Katanga, Kakyelo, 12°21'S 29°37'E, XI.1930, G.F. de Witte (MRAC); 1 ex., Katanga: Luashi, 10°56'S 23°37'E, XII. 1933, Freyne (MRAC);

1 ex. Elisabethville, 1935, Dr Richard (MRAC); 1 ex., Elisabethville, XII.1952, H. Bomans (MRAC).

***Ootibia bredoi* sp. n., Figs 14–18**

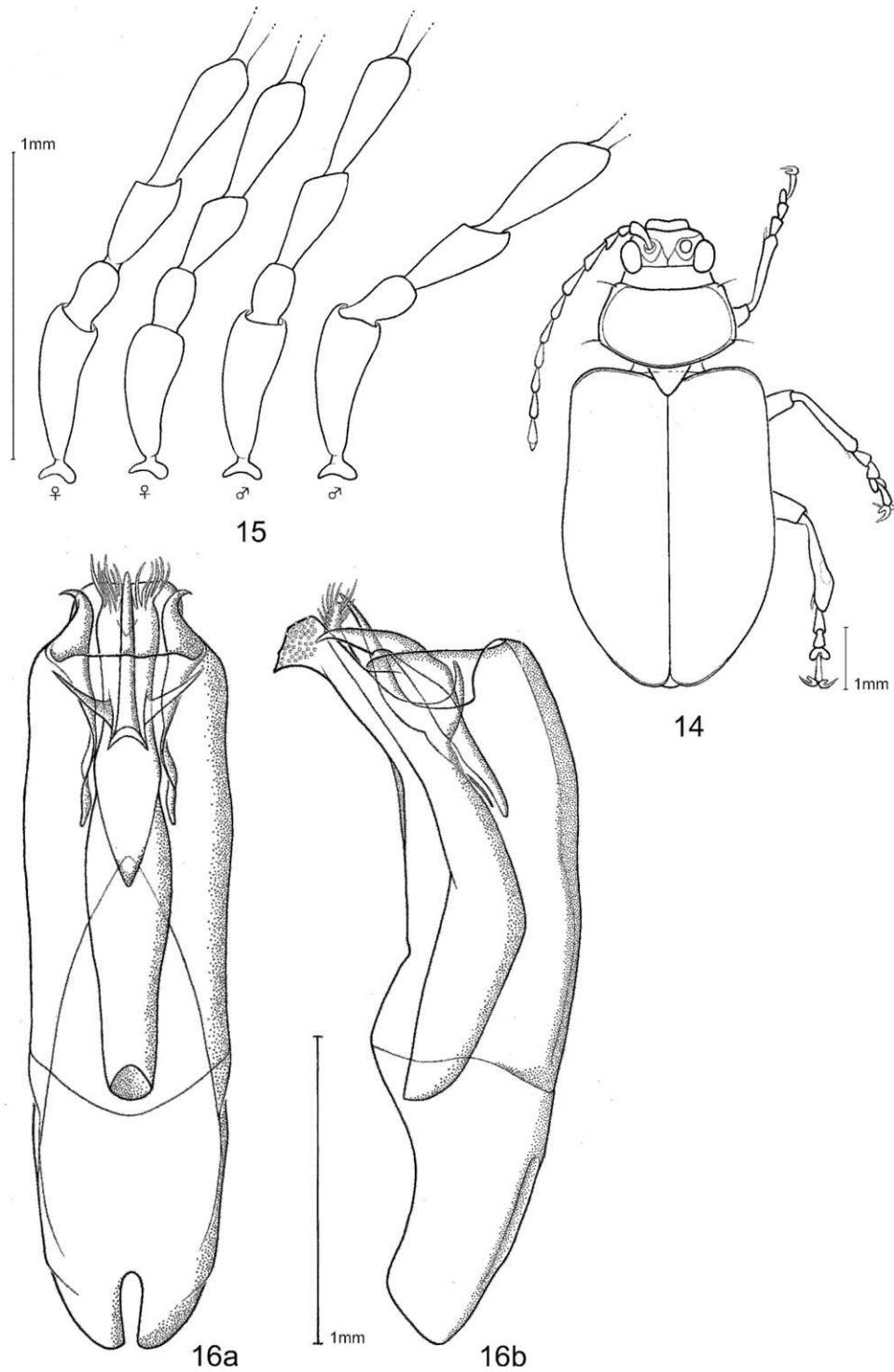
Measurements. $n = 19$ (13♂, 6♀). Total length 5.65–7.85 mm (mean 6.67 mm; maximum height in lateral view 2.25–3.15 mm (mean 2.62 mm).

Head. Black, with metallic sheen above eyes, labrum brown. Eyes small, maximum width of eye to minimum distance between eyes 0.47–0.70 (mean 0.57). Antennae entirely brown; length ratio of second to third antennomere 0.50–0.62 (mean 0.55), third to fourth antennomere 0.65–0.80 (mean 0.71; Fig. 15). Mean antennal length to total body length ratio 0.66.

Thorax. Prothorax unicolourous yellowish- to reddish-brown. Pronotum yellowish- to reddish brown with a darker brown contour, and very finely punctured; pronotal width 1.80–2.40 mm (mean 2.09 mm), pronotal length 1.10–1.48 mm (mean 1.25 mm), ratio of pronotal width to length 1.61–1.82 (mean 1.67; Fig. 14). Elytra dark blue or with a metallic green sheen; punctuation irregular, very coarse, punctuation sometimes arranged in single rows; surface between punctures shiny, without microsculpture; length 4.90–6.15 mm (mean 5.25 mm); maximum width of elytra combined 3.20–3.90 mm (mean 3.53 mm); maximum width of elytra combined to length of elytron ratio 0.61–0.74 (mean 0.67). Scutellum black without a metallic sheen. Meso- and metathorax brown. Legs entirely dark brown, male specimen with a yellowish spot in the middle of tibia, shape and length of the tibia differs dependent on the sex of the specimen; length ratio of basimetatarsus to metatibia: male 0.26–0.31 (mean 0.29), female 0.22–0.28 (mean 0.25).

Abdominal ventrites. Yellowish-brown.

Male genitalia. Median lobe very slightly ovoid; the apex somewhat more extended ventrally, with a small medial indentation (Fig. 16). Apical quarter of the median lobe, especially the elongate ventral section, is down-curved and has a large hook. The endophallus with two long triangular symmetrical, outwardly aligned appendices. Two additional endophallic sclerites, symmetrically arranged lateral of the endophallus. These endophallic sclerites are robust, strongly bent outwards and have elongate and flat endings alongside of endophallus. Basal orifice of aedeagus dilated, covering more than half of the whole structure.



Figs 14–16. *Ootibia bredoi*. **14**, Habitus, semi-schematic dorsal view, male. **15**, Basal four antennomeres of two different males and two different females. **16**, Median lobe; **a**, dorsal; **b**, lateral.

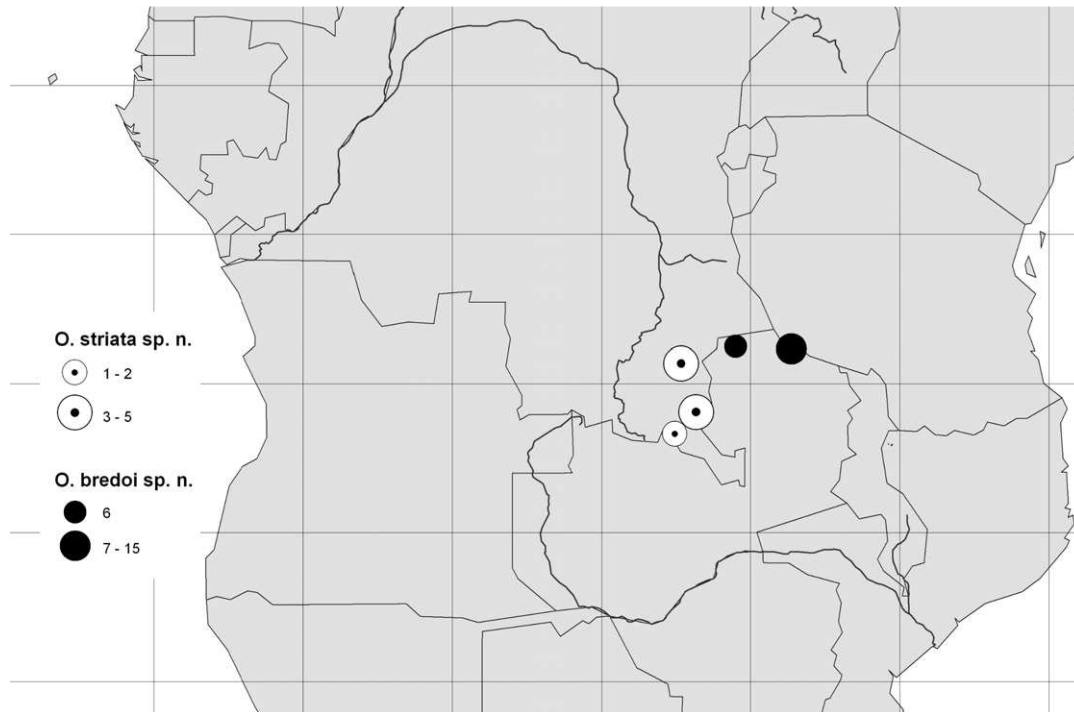


Fig. 17. Distribution of *Ootibia bredoi* and *O. striata*.

Diagnosis. In *Ootibia bredoi* sp. n. the elytra have a metallic sheen, similar to some *O. podagrica* and all known specimens of *O. viridis* sp. n. While *O. podagrica* has always the head and pronotum of the same yellowish-brown colour, and *O. viridis* sp. n. usually has a completely dark metallic dorsal colouration, while *O. bredoi* sp. n. always have a strong contrast between a black head and brownish pronotum. Differentiation between *O. bredoi* sp. n. and those specimens of *O. viridis* sp. n. with a brownish pronotum, is possible by examination of the male genitalia. The shape of the apex of the median lobe, in particular the examination of the two ventrally directed, small rounded symmetrical projections of the latter species allows a clear distinction (Figs 16, 25).

Distribution. Known only from northern Zambia (Fig. 17).

Holotype. ♂ 'Rhodésie, Mweru-Wantipa, H.J. Brédo / R. Mus. Hist. Nat. Belg. I.G. 15.333' (IRSN; Fig. 18). Type locality: Zambia, Mweru-Wantipa, 08°45'S 29°30'E.

Paratypes. ZAMBIA. 5 exx., as holotype (IRSN); 15 exx., Rhodésie du Nord, Abercorn [Mbala] 08°50'S 31°21'E, V.-XII.1943, H.J. Brédo (IRSN).

***Ootibia striata* sp. n., Figs 17, 19–22**

Measurements. $n = 10$ (3♂, 7♀). Total length 4.90–7.00 mm (mean 5.93 mm; maximum height in lateral view 1.98–3.0 mm (mean 2.58 mm).

Head. Brownish, labrum the same colour. Eyes small, maximum width of eye to minimum distance between eyes 0.56–0.67 (mean 0.60). Antennae entirely brown; length ratio of second to third antennomere 0.55–0.71 (mean 0.63), third to fourth antennomere 0.67–0.85 (mean 0.74) (Fig. 20). Mean antennal length to total body length ratio 0.68.

Thorax. Prothorax unicolourous, brown to reddish-brown colour similar to that of head. Pronotal width 1.75–2.65 mm (mean 2.10 mm), pronotal length 1.10–1.55 mm (mean 1.25 mm), ratio of pronotal width to length 1.59–1.83 (mean 1.68). Pronotum yellowish or reddish-brown with fine punctation. Elytra yellowish-brown with black markings (Fig. 19) or very rarely entirely black. Punctation irregular, coarser than that of pronotum; elytral length 3.80–5.50 mm (mean 4.69 mm); maximum width of elytra combined 3.15–4.15 mm (mean 3.52 mm); maximum width of elytra combined to length of elytron ratio 0.66–0.83

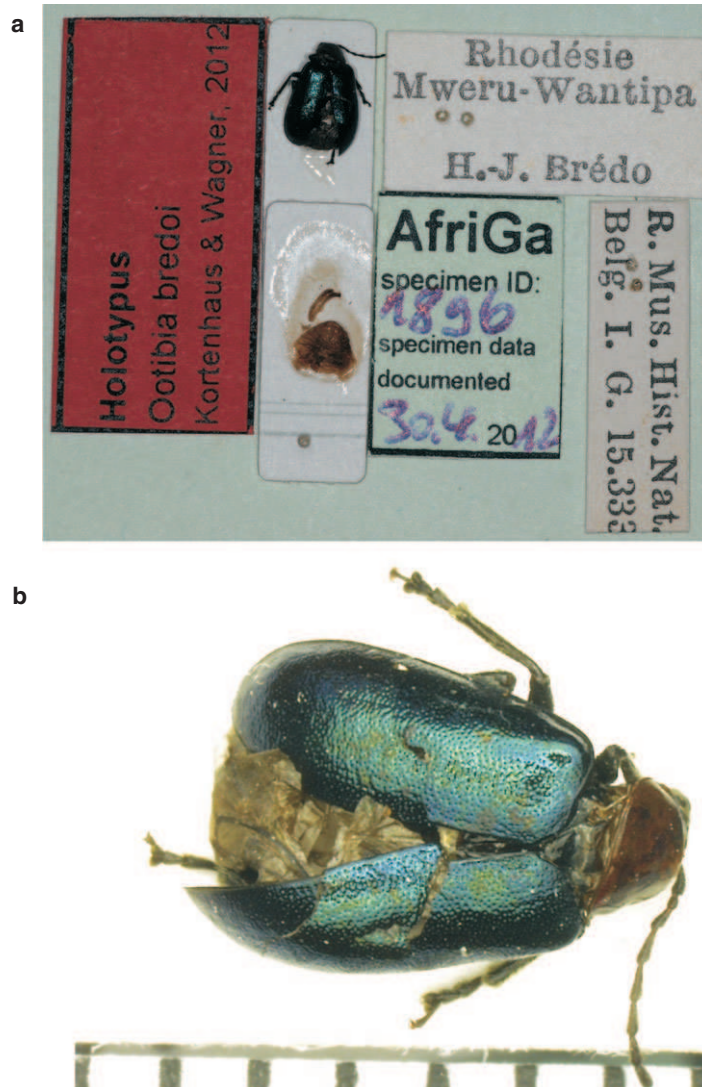


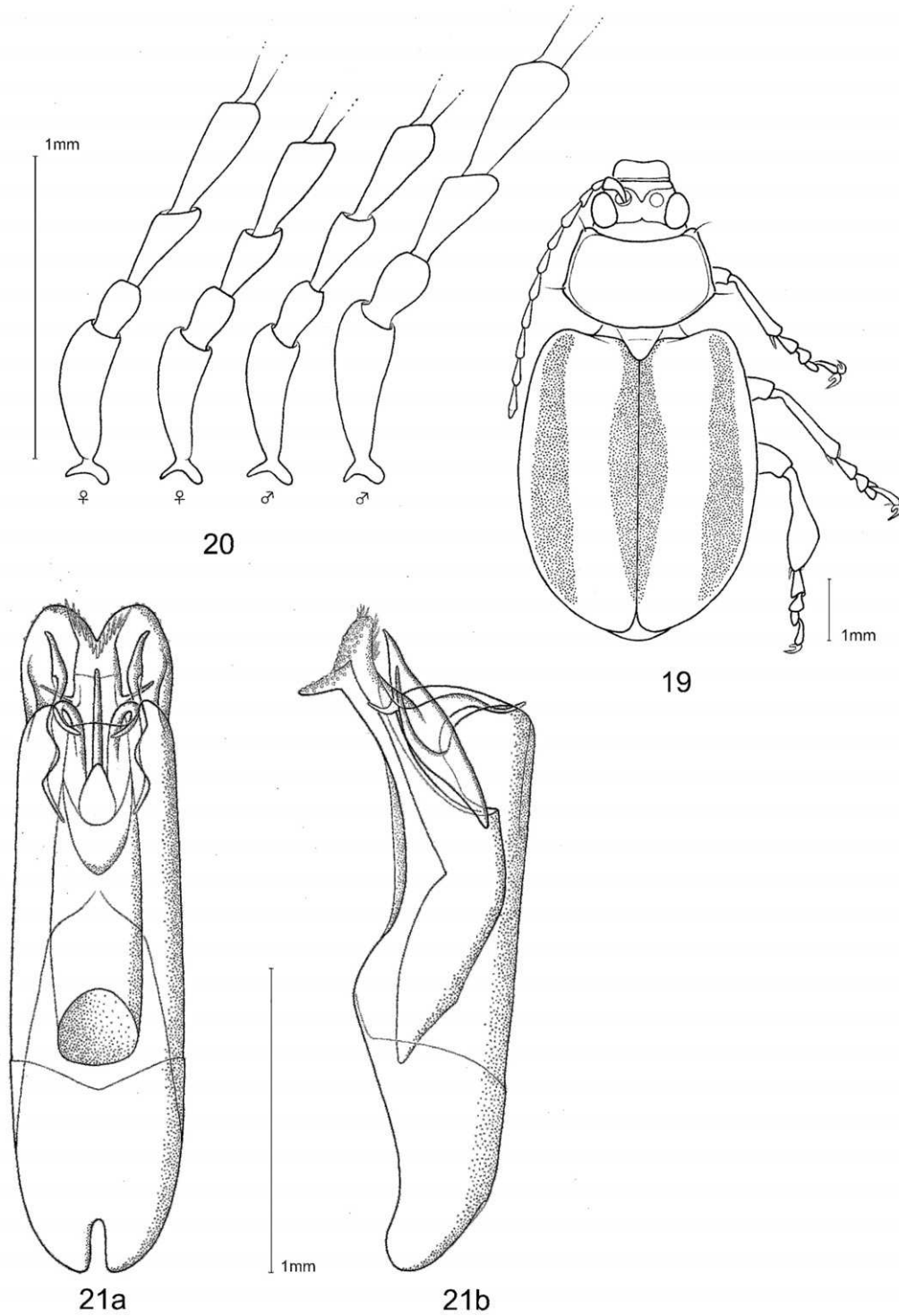
Fig. 18. Holotype of *Ootibia bredoi*. **a**, Overview with labels; **b**, close-up detail of specimen.

(mean 0.75). Scutellum dark brown or black, integrated in the markings. Meso- and metathorax dark brown. Legs entirely dark brown, except proximal part of tibia which is yellowish-brown, shape and length of the tibia differs dependent on the sex of the specimen; length ratio of basimetatarsus to metatibia: male 0.26–0.29 (mean 0.28), female 0.24–0.30 (mean 0.25).

Abdominal ventrites. Brown to black.

Male genitalia. Median lobe very slightly conical towards apex (Fig. 21). Apex extended ventrally with two rounded symmetrical projections. In lateral view this elongation of the median lobe

forms a cone with two very small ventrally directed projections. A thin endophallic projection dorsally is curved narrow apex with a distinctive endophallic brush, protruding in the apical quarter, but not beyond the apex. Endophallus has two pairs of symmetrical appendices: the apical pair short and narrow, the basal pair elongate, triangular. The latter seem to clasp the apical opening of the median lobe. Two additional endophallic sclerites, symmetrically arranged lateral of the endophallus, are bent outwards and have elongate and flat endings alongside of endophallus. The basal aedeagal orifice dilatated.



Figs 19–21. *Ootibia striata*. **19**, Habitus, semi-schematic dorsal view, male. **20**, Basal four antennomeres of two different males and two different females. **21**, Median lobe; **a**, dorsal; **b**, lateral.

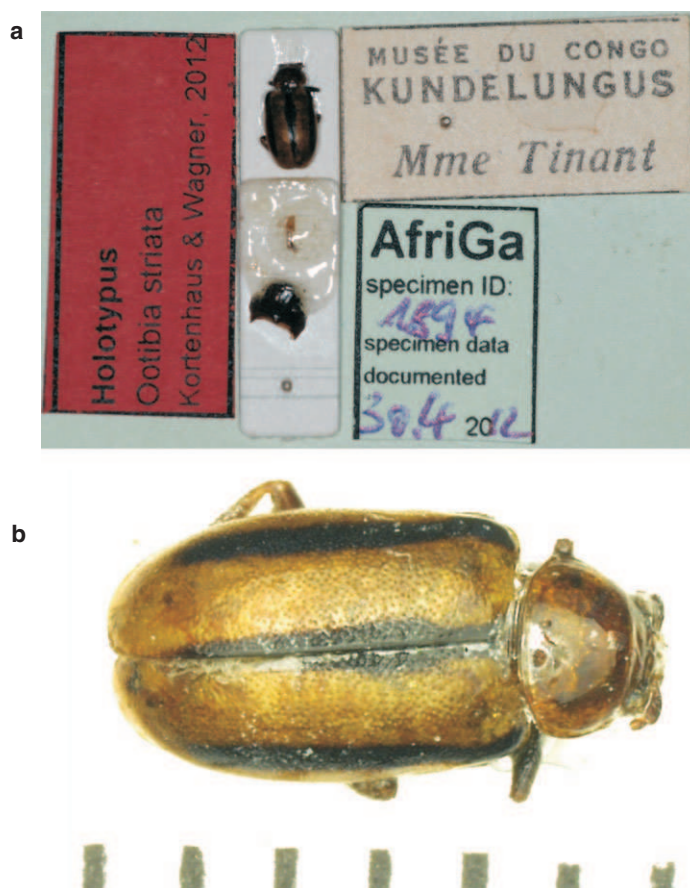


Fig. 22. Holotype of *Ootibia striata*. **a**, Overview with labels; **b**, close-up detail of specimen.

Diagnosis. *Ootibia striata* sp. n. is characterized by yellowish-brown elytra with black markings in the form of sutural and lateral stripes. One of the specimens examined has entirely black elytra. *O. striata* sp. n. is the only species in the genus that lacks metallic elytral colouration. In *O. podagrica* striped elytral markings only occur in a few species in the genus (e.g. the types), the stripes are usually broader, enlarged medially, particularly in the middle of the suture (Figs 2a, 2b). Since further specimens of this new species with completely black elytra may be encountered, and the metallic elytral colour in *O. podagrica* is sometimes insignificant, a check of the male genitalia is necessary to clearly differentiate these species.

Distribution. Known from the Katanga Province, Democratic Republic of Congo (Fig. 17).

Holotype. ♂ 'Musée du Congo, Kundelungus, Mme Tinant' (MRAC; Fig. 22). Type locality:

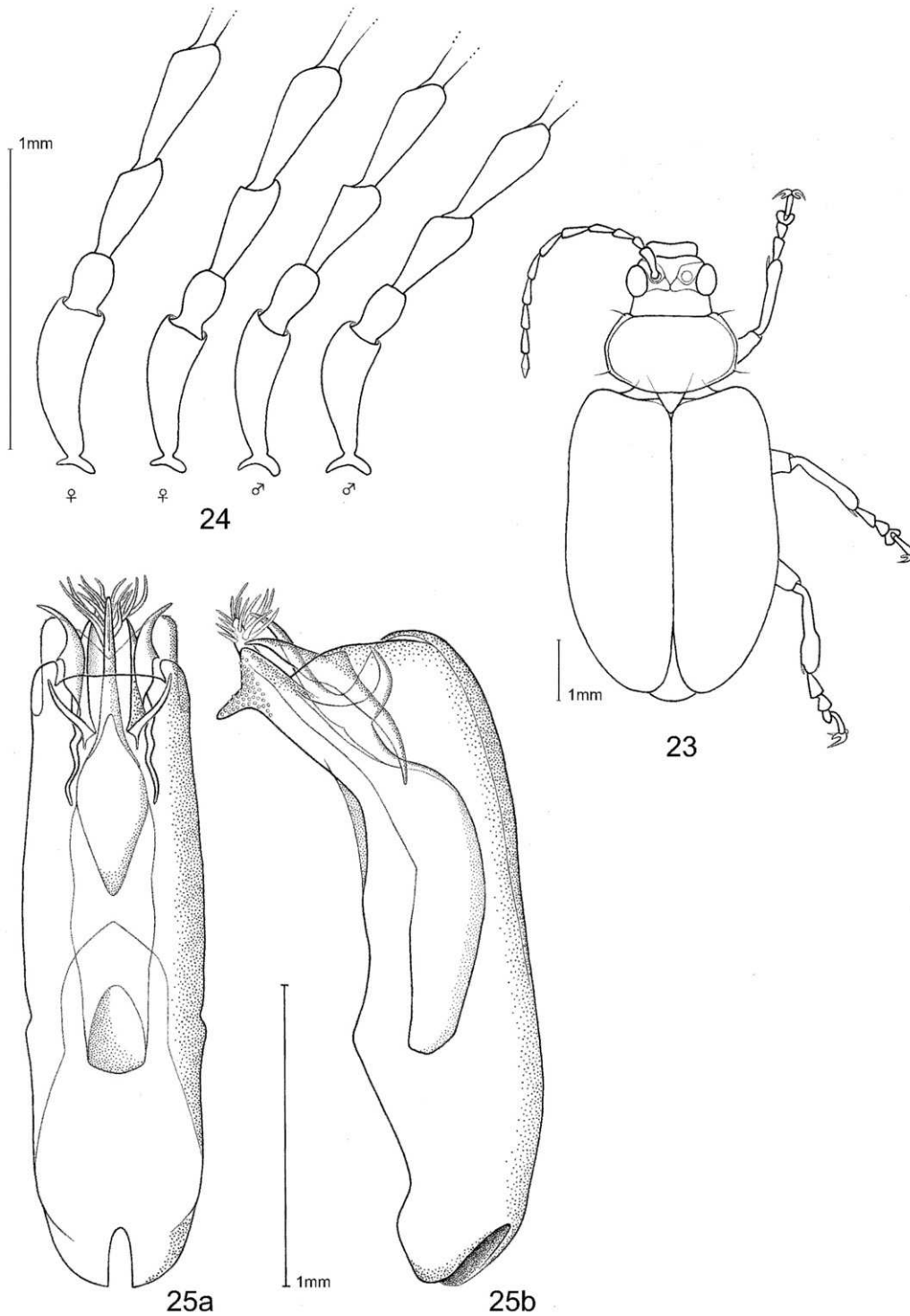
Democratic Republic of Congo, Kundelungus, 09°20'S 27°40'E.

Paratypes. DEMOCRATIC REPUBLIC OF CONGO. 4 exx., like holotype (MRAC); 4 exx., Mufungwa Sampwe, 10°57'S 28°10'E, XII.1911, Dr Bequaert (MRAC); 2 exx., Elisabethville, 11°40'S 27°28'E, XI.1928, Ch. Seydel (MRAC); 1 ex., Elisabethville, XI.1930, R. Massart (MRAC).

***Ootibia viridis* sp. n., Figs 23–26**

Measurements. $n = 20$ (10♂, 10♀). Total length 5.50–7.15 mm (mean 6.25 mm); maximum height in lateral view 2.20–2.85 mm (mean 2.47 mm).

Head. Entirely brown or frons black with a metallic sheen, labrum brown. Eyes small, maximum width of eye to minimum distance between eyes 0.55–0.67 (mean 0.61). Antennae entirely brown; length ratio of second to third antennomere 0.46–0.67 (mean 0.55), third to fourth antennomere 0.67–0.82 (mean 0.74; Fig. 24). Mean



Figs 23–25. *Ootibia viridis*. **23,** Habitus, semi-schematic dorsal view, male. **24,** Basal four antennomeres of two different males and two different females. **25,** Median lobe; **a,** dorsal; **b,** lateral.

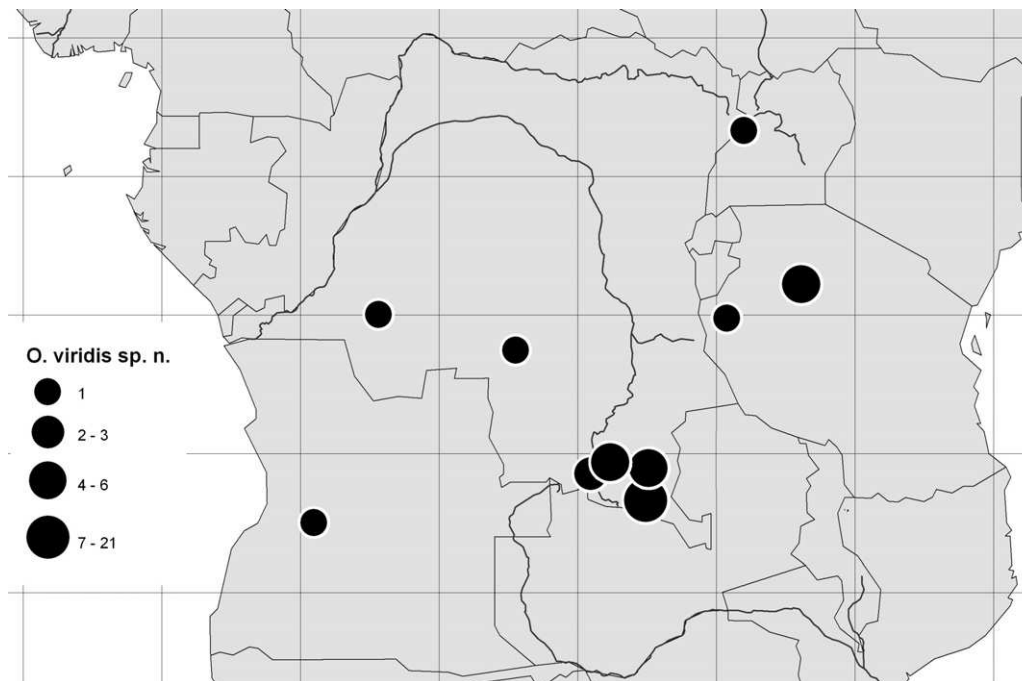


Fig. 26. Distribution of *Ootibia viridis*.

antennal length to total body length ratio 0.66.

Thorax. Prothorax usually dark green or blue, with slight metallic sheen, rarely reddish-brown without any sheen, very finely punctured; pronotal width 1.80–2.23 mm (mean 2.04 mm), pronotal length 1.05–1.45 mm (mean 1.27 mm), ratio of pronotal width to length 1.50–1.73 (mean 1.61). Elytra green to blue metallic; punctation irregular, very coarse, sometimes arranged in single rows; elytral length 4.20–5.60 mm (mean 4.78 mm); maximum width of elytra combined 2.70–3.70 mm (mean 3.42 mm); maximum width of elytra combined to length of elytron ratio 0.53–0.79 (mean 0.72). Scutellum black. Meso- and metathorax brown. Legs dark brown to black, tibia in males with brownish-red to yellowish colouration dorsally and ventrally. Shape and length of tibia differs dependent on sex; length ratio of basimetatarsus to metatibia: male 0.24–0.31 (mean 0.28), female 0.2–0.27 (mean 0.24).

Abdominal ventrites. Pale yellow to yellowish-brown.

Male genitalia. Median lobe with two rounded symmetrical projections ventrally and a dilated basal orifice (Fig. 25). In lateral view the median lobe forms a small cone apically, with one or two very small, closely associated, projections. The

apical quarter of median lobe is slightly down-curved. Endophallus and endophallic brush distinctive, protruding in the apical quarter, and beyond the apex of the median lobe. In some specimens the apex has a ventral slit. Endophallus has two symmetrical triangular appendices. Two additional endophallic sclerites, symmetrically arranged lateral of the endophallus, are bent outwards and have elongate and flat endings alongside of endophallus.

Diagnosis. About 90 % of the examined specimens of *O. viridis* sp. n. have a completely dark greenish to bluish elytral dorsum. This colouration occurs exclusively in this species. *Ootibia bimbina* look completely dark metallic at a first glance, but in looking at this species in detail, the non-metallic elytral apices can clearly be seen from behind. Specimens of *O. podagrica* and *O. bredoi* sp. n. with entirely metallic blue elytra are most similar to *O. viridis* sp. n. *Ootibia podagrica* has an entirely brown- to reddish-brown head and pronotum, while *O. viridis* sp. n. and *O. bredoi* sp. n. have at least a metallic frons, but the head is usually entirely dark metallic. *Ootibia viridis* sp. n. has an entirely dark brown, but usually slightly metallic, pronotum, whilst the pronotum of *O. bredoi* sp. n. is yellowish- to reddish-brown.

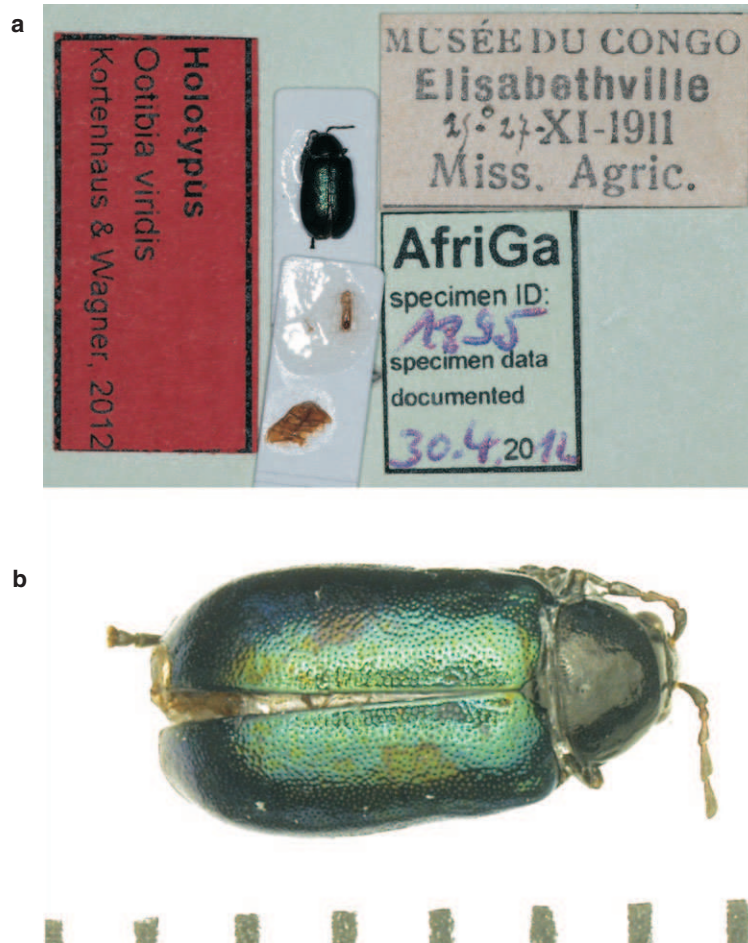


Fig. 27. Holotype of *Ootibia viridis*. **a**, Overview with labels; **b**, close-up detail of specimen.

Distribution. Known from Angola, Democratic Republic of Congo and Tanzania (Fig. 26).

Holotype. ♂ 'Musée du Congo, Elisabethville', 25–27 XI.1911, Miss. Agric.' (MRAC; Fig. 27). Type locality: Democratic Republic of Congo, Lubumbashi, 11°40'S 27°28'E.

Paratypes. ANGOLA: 1 ex., Uha, 12°28'S 15°30'E (MNHU). DEMOCRATIC REPUBLIC OF CONGO. 1 ex., nördl. v. Alb. Edw. See, Ruwenzori Westseite, 2000 m, II.1908, Exp. Herzog A. Friedr. zu Mecklenburg (MNHU); 9 ex., like holotype (MRAC); 4 ex., Kapiri, 10°18'S 26°10'E, X.1912, Miss. Agric. (MRAC); 1 ex., Elisabethville, XI.1923, Ch. Seydel (MRAC); 2 ex., Katanga, Ditanto, 10°15'S 25°53'E, X.1925, Ch. Seydel (MRAC); 1 ex., Katanga, Nafiunda, XI.1928, Ch. Seydel (MRAC); 6 ex., Elisabethville, XI.1930, R. Massart (MRAC); 4 ex., Katanga, Lukafu, 10°31'S 27°33'E, XII.1930,

G.F. de Witte (MRAC); 3 ex., Elisabethville, 1935, Dr Richard (MRAC); 2 ex., P. N. U. (Parc national de l'Upemba) Lusinga, 1760 m, 06°05'S 22°35'E, XII.1947, Miss. G.F. de Witte (IRSN); 1 ex., P. N. U., Kankunda, 1300 m, 06°15'S 22°47'E, XI.1947, Miss. G.F. de Witte (IRSN); 2 ex., P. N. U., Kankunda s. affl. Lufira, 1300 m, 10°19'S 30°03'E, XII.1947, Miss. G.F. de Witte (MRAC); 1 ex., Elisabethville, 1950/51, Ch. Seydel (MRAC); 2 ex., Lualaba, Kolwezi, 10°43'S 25°28'E, XI.1953, Dr.V. Allard (MRAC); 1 ex., Katanga, Kipopo, 04°58'S 17°50'E, XI.1961, R. Maréchal (MRAC); 1 ex., Katanga: Kolwezi, II./XI.1952, L. Gilbert (MRAC). TANZANIA. 1 ex., Ost-Tanganyika, Kwa-Mtau, Uvinsa, 05°06'S 30°23'E, X. 1899, Glauning (MNHU); 6 ex., O.Tanganyika, Ugaga (Uvinsa), 03°53'S 33°03'E, XI.1899, Glauning (MNHU); 2 ex., 150–200 miles W of Kambove, 3500–4000 ft, 1907 (BMNH).

**IDENTIFICATION KEY OF *OOTIBIA* GEN. N.;
in some cases only for males**

1. Elytra mainly dark brown, yellow apically (Fig. 13b); known from Angola and southern Democratic Republic of Congo
..... *O. bimbina* (Laboissière, 1939)
- Elytra either entirely metallic green or yellowish-brown, unicolourous or with longitudinal stripes and/or a dark brown sutural spot..... 2
2. Elytra yellowish- to reddish-brown, often with distinct dark brown to black sutural spot or longitudinal stripes (Figs 2, 9b, 22b) . 3
- Elytron unicolourous black, with or without metallic sheen (Figs 18b, 27b) 4
3. Elytron either unicolourous, or with dark brown sutural spot which can be drawn-out in a variety of forms (Fig. 2a), suture sometimes entirely black with central enlargement (Fig. 2b), and rarely with additional lateral longitudinal stripes; median lobe without ventral spine (Fig. 5b); Angola and southern Democratic Republic of Congo
..... *O. podagrica* (Laboissière, 1939)
- Elytra with always black longitudinal stripes (Figs 19, 22b); median lobe with long protrudent ventral spine (Fig. 21); only known from the Katanga Province, Democratic Republic of Congo
..... *O. striata* sp. n.
4. Elytra dark bluish or greenish metallic 5
- Elytra black, without metallic sheen, rare variation of *O. striata* sp. n.
5. Head and pronotum of same colour, yellowish- to reddish brown (Fig. 2a)
..... *O. podagrica* (Laboissière, 1939)
- Head and pronotum either of same colour, but dark brown to black, dull metallic, or head black and pronotum reddish-brown . . 6
6. Dorsum entirely dull metallic (Fig. 27b); widely distributed from northeastern Democratic Republic of Congo to Angola and eastern Tanzania (Fig. 26)
..... *O. viridis* sp. n.
- Head black, pronotum yellowish or reddish, elytra metallic dark green or blue (Fig. 18b) 7
7. Median lobe with small ventral spine (Fig. 25b) *O. viridis* sp. n.
(rare colour variation)
- Median lobe with strong, hammer-like ventral spine (Fig. 16b); northern Zambia
..... *O. bredoi* sp. n.

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***Oosagitta* gen. nov. from tropical Africa with revision of two species and description of four new species (Coleoptera: Chrysomelidae, Galerucinae)**

"running title" *Oosagitta* gen nov. from tropical Africa

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** Footnote: 42nd contribution to the taxonomy, phylogeny and biogeography of the Galerucinae

The present paper has not been submitted to another journal, nor will it be in the 6 months after initial submission to EJT. All co-authors are aware of the present submission.

Abstract. After our taxonomic revision of *Oothea* Chevrolat, 1837, the description of *Ootheoides* Kortenhaus & Wagner, 2011 and *Ootibia* Kortenhaus & Wagner, 2012, further four galerucine species, closely related to the above named taxa, form a distinct monophyletic group and are herein transferred to or newly described in *Oosagitta* gen. nov. *Exosoma angolensis* Laboissière, 1939, which is the type species of the new genus, and *Ergana minuta* Laboissière, 1937 are newly combined with *Oosagitta* gen. nov. Four species, *O. anningae* sp. nov., *O. gescheae* sp. nov., *O. melanopicta* sp. nov. and *O. thomasi* sp. nov. are newly described. Species of *Oosagitta* gen. nov. are characterized by a broad body and pronotum, more or less convex dorsum and short legs, that are most similar to the other above named genera. The antennae of *Oosagitta* gen. nov. are distinctly longer than those of *Oothea*, *Ootheoides* and *Ootibia*. Genitalic structures of the males allow a reliable identification of the genus. Descriptions or redescription are given for all species, including semi-schematic illustrations depicting the habitus outline, shape of the basal antennomeres and the median lobe. Photographs of the name-bearing types and distribution maps are provided.

Key words: Afrotropical Region, taxonomy, *Oothea*, new genus, new species.

Introduction. During the last years we revised a number of species, originally described in the galerucine genus *Oothea* Chevrolat 1837 (Kortenhaus & Wagner 2010), its junior synonym *Ergana* Chapuis, 1879 or species later transferred from *Malacosoma* Chevrolat, 1837 – and its replacement name *Exosoma* Jacoby, 1906 – to *Oothea*. We identified several species, which have to be excluded from *Oothea*. Some of them, characterized by asymmetrical structures of the median lobe and a comparatively dorsoventrally compressed body shape, have been transferred to *Oothecoides* Kortenhaus & Wagner, 2011. Further two species with sexual dimorphic characters of the metatibia and a distinct male genitalic pattern have been transferred and recently described in *Ootibia* Kortenhaus & Wagner 2012. Two other species, *Exosoma angolensis* Laboissière, 1939, and *Ergana minuta* Laboissière, 1937 do not belong to these taxa and have to be transferred together with four newly described species to a new genus that is herein described. *Oosagitta* gen. nov. has the broad pronotum, more or less convex dorsum, short legs and also the shape of the spermatheca in common with *Oothea*, *Oothecoides* and *Ootibia*, but the antennomeres are significantly more elongated in *Oosagitta* gen. nov. The most distinctive character for this new group is the male genitalia that possesses a peculiar arrow-like apical part of the endophallus, a very long median tectum and a pair of very long, elongated tectorial spures that can be considered as a synapomorphic character.

Material and methods. Our revision is based on 1433 specimens from the following collections (abbreviations in brackets; Tab. 1): The Natural History Museum, London (BMNH); Hungarian Natural History Museum, Budapest (HNHM); Institute Royal des Sciences Naturelles de Belgique, Bruxelles (IRSN); Museo Storia di Naturale "Diacomo Doria", Genova (MCGD); Musée National d'Histoire Naturelle, Paris (MNHN); Museum für Naturkunde der Humboldt Universität, Berlin (MNHU); Musée Royal d'Afrique Centrale, Tervuren (MRAC); National Museums of Kenya, Nairobi (NMK); Zoologisches Forschungsmuseum Alexander Koenig, Bonn (ZFMK); Zoologisches Museum der Universität Hamburg (ZMUH).

	<i>Oosagitta angolensis</i> (Laboissière, 1939)	<i>Oosagitta minuta</i> (Laboissière, 1937)	<i>Oosagitta amingae</i> sp. nov.	<i>Oosagitta geescheae</i> sp. nov.	<i>Oosagitta thomasi</i> sp. nov.	<i>Oosagitta melanopicta</i> sp. nov.	total
BMNH	1	1		1			3
IRSN	42	7		7			56
HNHM				1			1
MCGD		1					1
MNHN			2				2
MNHU	5	1	1	2			9
MRAC	1348	2	8	5	6	5	1374
NMK				2			2
ZMUH		1					1
ZFMK	15						15
total	1411	13	11	18	6	5	1464

Table1. Numbers of examined specimens in the studied collections.

For measurements 11 to 30 specimens were measured per species, depending on the number of available specimens. Absolute measurements included: total body length from apex of labrum to apex of elytron (TL); maximum height in lateral view; pronotal length (PL); maximum pronotal width (PW); length of elytron (EL); maximum width of both elytra combined (EW). Relative measurements were: pronotal width to pronotal length (PW/PL); maximum width of both elytra combined to elytral length (EW/EL); length of second to third antennomere (2./3.); length of third to fourth antennomere (3./4.); maximum width of eye to minimum distance between eyes (WE/DE) and length of basimetatarsus to length of metatibia (TA/TI; Fig. 1).

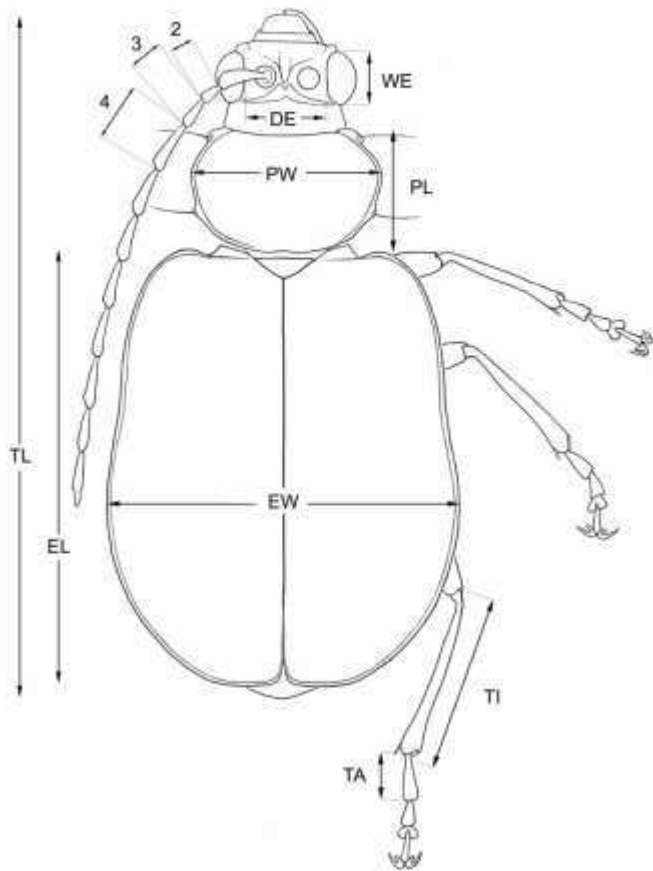


Fig. 1. Measurements taken. Absolute measurements: TL, total length from apex of labrum to apex of elytron; PL, pronotal length; PW, maximum pronotal width; EL, elytral length; EW, maximum width of elytra combined; relative measurements: 2, 3, 4, length of second, third and fourth antennomeres; DE, minimum distance between eyes; WE, maximum width of eye; TA, length of basimetatarsus; TI, length of metatibia.

For each species a standard set of figures is given. External characters are documented by dorsal semi-schematic habitus illustration, including the left antenna, detailed illustrations of the four basal antennomeres of males and females, and legs on the right-hand side of the body. In one case the illustration depict the elytral colour pattern. The male genitalic structures are illustrated in dorsal and lateral views. Variation in spermatecal shape is very small between species and therefore only given in the description of the genus. General structures of the head, underside of the thorax and metathoracic wing are very similar to those of *Ootheca*, and details can be found in our revision of that genus (Kortenhaus & Wagner 2010). For name-bearing type specimens, the label data are cited verbatim and sexes are given; data for all other specimens has been standardized and includes the following information: Country, Province, numbers of specimens, locality, latitude and longitude coordinates, altitude, date, collector and depositary (in brackets). Localities are given as

precisely as possible. Countries and localities (e.g. towns) recorded as traditional names on labels are listed together with their current names; coordinates were taken from the geographical database GeoNames (www.geonames.org); if a location remains unidentified, mean coordinates of the given district or region were used; in cases of doubt, where there was one location with many coordinate possibilities, we did not allocate coordinates. Data were imported into the program ArcGis (ESRI-Arc-Map Version 9.3) to produce GIS-based distribution maps.

Results

Arthropoda

Insecta

Neoptera

Holometabola

Coleoptera

Chrysomeloidea

Chrysomelidae

Galerucinae

Description of *Oosagitta* gen. nov.

Type species. *Exosoma angolensis* Laboissière, 1939

Etymology. Combination of “*Oothea*” and “*sagitta*”, which refers to the arrow-like shape of the endophallus; gender: female.

Total length. 3.10–6.20 mm; means of total body length for the species range from 3.75 to 5.54 mm. Females are somewhat longer than males.

Head. Yellowish to dark brown, labrum in the same colour as head, only in *O. geescheae* spec. nov. the yellowish head is becoming darker towards labrum. Rarely (*O. melanopicta* sp. nov.) with dark brown to black patch behind the eye Maxillary palps yellowish to brown, last palpomere conical with fine apex. Eyes convex and ovate; triangular frontal calli separate eyes and a transverse, curved depression divides the frons from the vertex (Fig. 1); ratio for maximum eye width to minimum distance between eyes varies from 0.55–0.92 (means of species varies between 0.67 and 0.83). Antennae completely yellowish (*O. anningae* sp. nov., *O. melanopicta* sp. nov.), brown (*O. angolensis*), yellowish and the apical antennomere with darker apex (*O. geescheae* spec. nov.),

basal first antennal article yellowish, antennomeres 2–11 brown (*O. thomasi* sp. nov.) or basal four antennomeres yellowish, antennae becoming darker towards apex (*O. minuta*). Mean antennal length ratio to total body length ratio 0.60–0.93; mean length ratio of antennomere two to three 0.43–0.64; mean length ratio of antennomere three to four 0.69–0.83.

Thorax. Pronotum convexly rounded dorsally, lateral margins clearly differentiated from disc, anterior angles rounded (Fig. 1), disc convexly rounded; finely punctate, unicolourous yellowish or brown; pronotal length 0.65–1.30 mm (means of species varies between 0.81 and 1.17 mm); pronotal width 1.00–2.00 mm (means of species varies between 1.28 and 1.85 mm); pronotal width to length ratio 1.41–1.94 mm (means of species varies between 1.56 and 1.76 mm). Prothorax dark brown to yellowish. Elytron unicolourous or with a brown base and apex of elytron in only one species (*O. geescheae* sp. nov.); elytron coarsely and more deeply punctate than pronotum; punctation irregular; length of elytron 2.35–4.95 mm (means of species varies between 2.82 and 4.33 mm); maximum width of elytra combined 1.80–3.70 mm (means of species varies between 2.23 and 3.31 mm); maximum width of elytra combined to length of elytron ratio 0.66–0.88 (means of species varies between 0.72 and 0.88). Scutellum almost triangular, dark brown/black or yellowish. Meso- and metathorax in same colour. Legs unicolourous yellowish to brown or dark brown with paler brown coxae and distal/proximal parts of femur and tibia (*O. minuta*). Mean length of metatarsus to length of metatibia 0.24–0.35 (means of species varies between 0.29 and 0.32).

Abdominal ventrites. Five visible ventrites (seven sternites; Fig. 3) of the same colour as the pro-/meso- and metathorax. Apical sternite in females evenly rounded, males with two incisions in outer apical margin.

Male genitalia. Median lobe, tectum and endophallus symmetrical (Figs 7, 12, 17, 21, 25, 29). Median lobe slightly waisted in the middle and conical towards apex, where it is pointed (Figs 12.A, 29.A) or shallowly incised (Figs 7.A, 17.A, 21.A, 25.A). In lateral view median lobe is more or less curved ventrally (Figs 7.C, 12.C, 21.C, 25.B, 29.B) sometimes with significant hook (Fig. 17.C). The tectum with broad base and strongly narrowed to apex, long as the ventral part of the median lobe (Figs 7.A, 17.A, 21.A, 25.A, 29.A) or shorter (Fig. 12.A), covering most parts of the endophallus by forming a tapering tip (Figs 7, 25, 29), a slender, rectangular structure (Fig. 21) or a shorter, conical apex (Figs 12, 17). The median part of the tectum has moveable, slender tectorial spures on each side that are straight at apex (Figs 7, 21, 25, 29), hooked (Fig. 12) or crossed (Fig. 17, 29). The endophallus possesses two triangular appendices at its apex giving it an arrow-like appearance (Figs 7.B, 12.B, 17.B, 21.A, 25.A, 29.A). The basal aedeagal orifice is very dilated with an incision (Figs 7.A, 12.A, 17.A, 21.A, 25.A, 29.A).

Female genitalia. Spermatheca with spherical nodulus. Spermathecal ductus slightly sunken in the nodulus, cornu slender, strongly and evenly curved (Fig. 6)

Diagnosis. *Oosagitta* gen. nov. are Galerucinae with an elongate-ovate body shape, elytron slightly widened in the posterior half, convexly rounded, and a pronotum slightly narrower than the elytra (Figs 2, 10, 15, 19, 23, 27). Head broad with widely separated, strongly protruding eyes (Fig. 1). Legs short and robust, the basi-tarsomeres are slightly enlarged and the claws appendiculate (Fig. 4).

From *Ootibia* it can be differentiated by the characteristic shaped metatibia of the male specimens. From this genus, as from *Ootheca* and *Oothecoides* it can be differentiated by the long and slender antennomeres. The mean antennal length to total body length ratio of *Oosagitta* is 0.60–0.93, where only in *O. minuta* with a ratio of 0.60 is overlapping to the other three genera. Thus *Oosagitta* gen. nov. can be differentiated from *Ootheca* (mean antennal length to total body length ratio 0.47–0.61), from most specimens of *Oothecoides* (0.61–0.72), and *Ootibia* (0.66–0.71). Length of the second antennomere is about 60 % of the third and length of the third antennomere about 70 % of the fourth (Figs 5, 11, 16, 20, 24, 28). Relating to the maximum height in lateral view, *Oosagitta* gen. nov. (Fig. 3) is similarly dorso-ventrally compressed as *Oothecoides*, while *Ootheca* and *Ootibia* are more bulged. Due to significant overlap in body size, measurements and colouration at least of some species, a reliable identification of these four genera is doubtless possible by dissection of the male genitalia.

The symmetric median lobe of *Oosagitta* gen. nov. is poorly conical towards apex, slightly down-curved in lateral view, tapering to two more or less elongated tectorial spurs separated by an incision and has dilated basal orifice. The tectum possesses a broad base and a narrow apex. The endophallus shows two triangular appendices at its apex (Figs 7.A, 12.A, 17.A, 21.A, 25.A, 29.A). The endophallus brush is emerging from this arrow-like structure (Figs 7.B, 12.B, 17.B, 21.A, 25.B, 29.A). This endophallus -"armature" of *Oosagitta* gen. nov. allows a clear differentiation to the shape of endophallus of *Ootheca*. The similarity between aedeagal structures of *Oosagitta* gen. nov. and those of *Ootheca* is obvious: the symmetrical median lobe of *Ootheca* is usually parallel-sided, slightly conical towards apex, or constricted in the middle. The apex can either be rounded or pointed without an apical incision, or have a deeply u-shaped apical incision. In lateral view the median lobe is more or less evenly down-curved. The tectum is very characteristic in *Ootheca*, consisting of two dorsal, more or less slender, often apically hooked, tectorial spurs that are attached at the base of the apical third of the median lobe, and extend from its middle sometimes to near its apex. But no long median tectum occurs in *Ootheca*. The apical part of the symmetrical endophallus can usually be seen distinctly between the bases of the tectorial spurs.

The main difference between *Oosagitta* gen. nov. and *Oothecoides* concerns the endophallus: only *Oosagitta* gen. nov. possesses a symmetrical triangular, arrow-like apex of endophallus, *Oothecoides* has two very specific asymmetrical spines. Aedeagal shape of *Oosagitta* gen. nov. differs strongly from that of *Ootibia*. The shape of the median lobe in *Ootibia* (obtuse, compact, almost rectangular, parallel-sided, slightly conical towards apex, slightly down-curved in lateral view, with a very dilated basal orifice) is also different. Apically, the median lobe of *Ootibia* displays two ventrally situated projections, like “ears” (in dorsal view), which taper to form one or two points (in lateral view). The endophallus has a peculiar endophallic brush and two symmetrical triangular appendices.

Host plants, biology and immature stages. Unknown.

Redescriptions and descriptions of species.

Oosagitta angolensis (Laboissière, 1939) comb. nov.

Exosoma angolensis Laboissière, 1939: 112–113.

Measurements. $n = 30$, total length 4.90–6.20 mm (mean 5.54 mm; Fig. 2); maximum height in lateral view 1.75–2.35 mm (mean 2.00 mm); (Fig. 3).

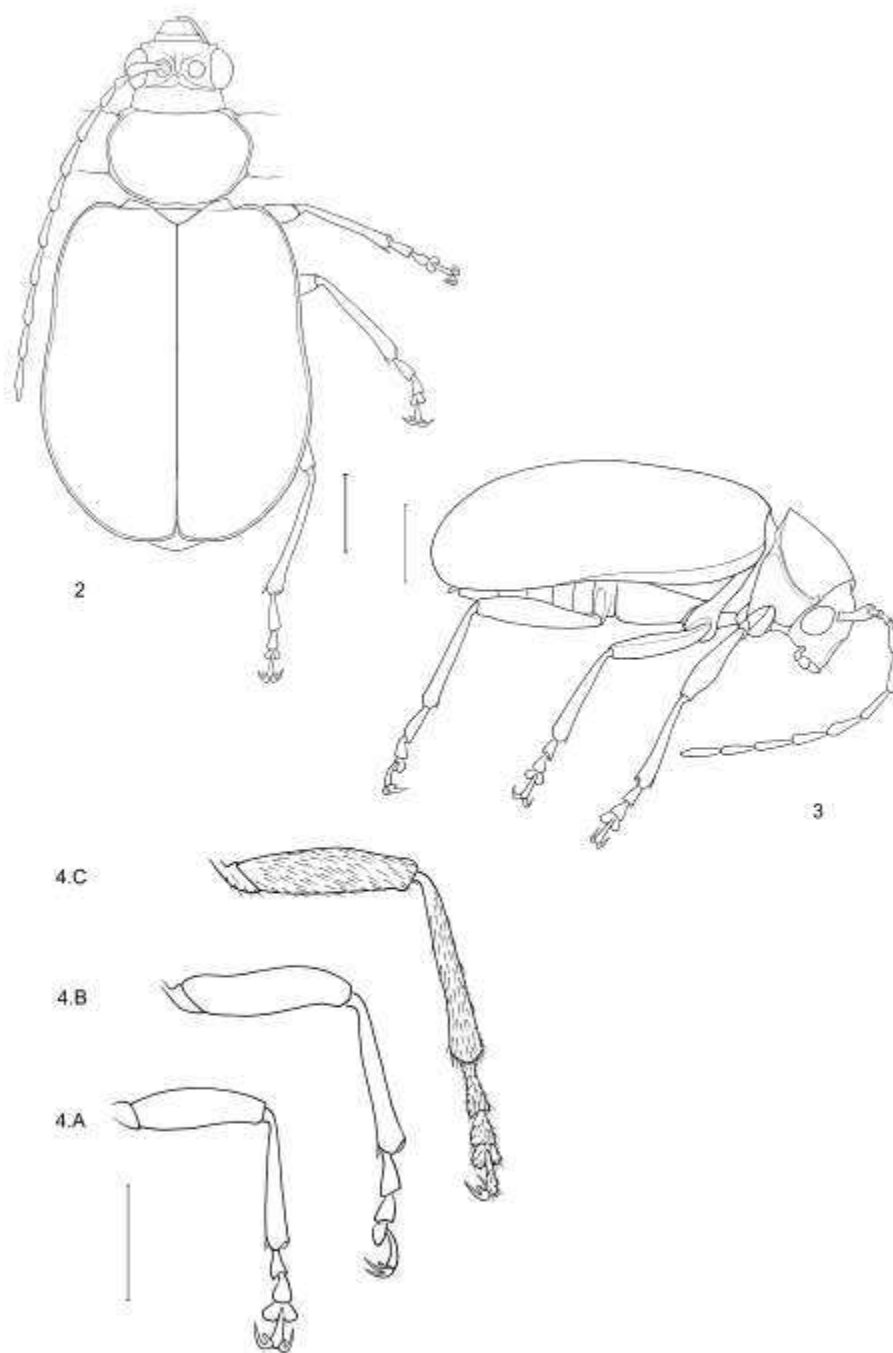
Head. Brown. Maximum width of eye to minimum distance between eyes 0.57–0.77 (mean 0.67). Length of second to third antennomere 0.46–0.75 (mean 0.58), length third to fourth antennomere 0.59–0.81 (mean 0.69; Fig. 5). Antennae brown. Mean antennal length to total body length ratio 0.82.

Thorax. Brown as head. Pronotum brown with delicate punctation on the flat disc. Pronotal width 1.60–2.00 mm (mean 1.85 mm), length of pronotum 1.00–1.30 mm (mean 1.17 mm), pronotal width to length 1.43–1.67 (mean 1.59). Elytron yellow to yellowish-brown with irregular, coarse punctation. Elytral length 3.70–4.75 mm (mean 4.28 mm), maximum width of both elytra combined 2.80–3.70 mm (mean 3.31 mm), ratio of maximum width of elytra combined to length of elytron 0.71–0.87 (mean 0.77). Scutellum brown, delicate punctation like pronotum. Underside and legs entirely brown. Length of basimetatarsus to length of metatibia 0.27–0.31 (mean 0.30).

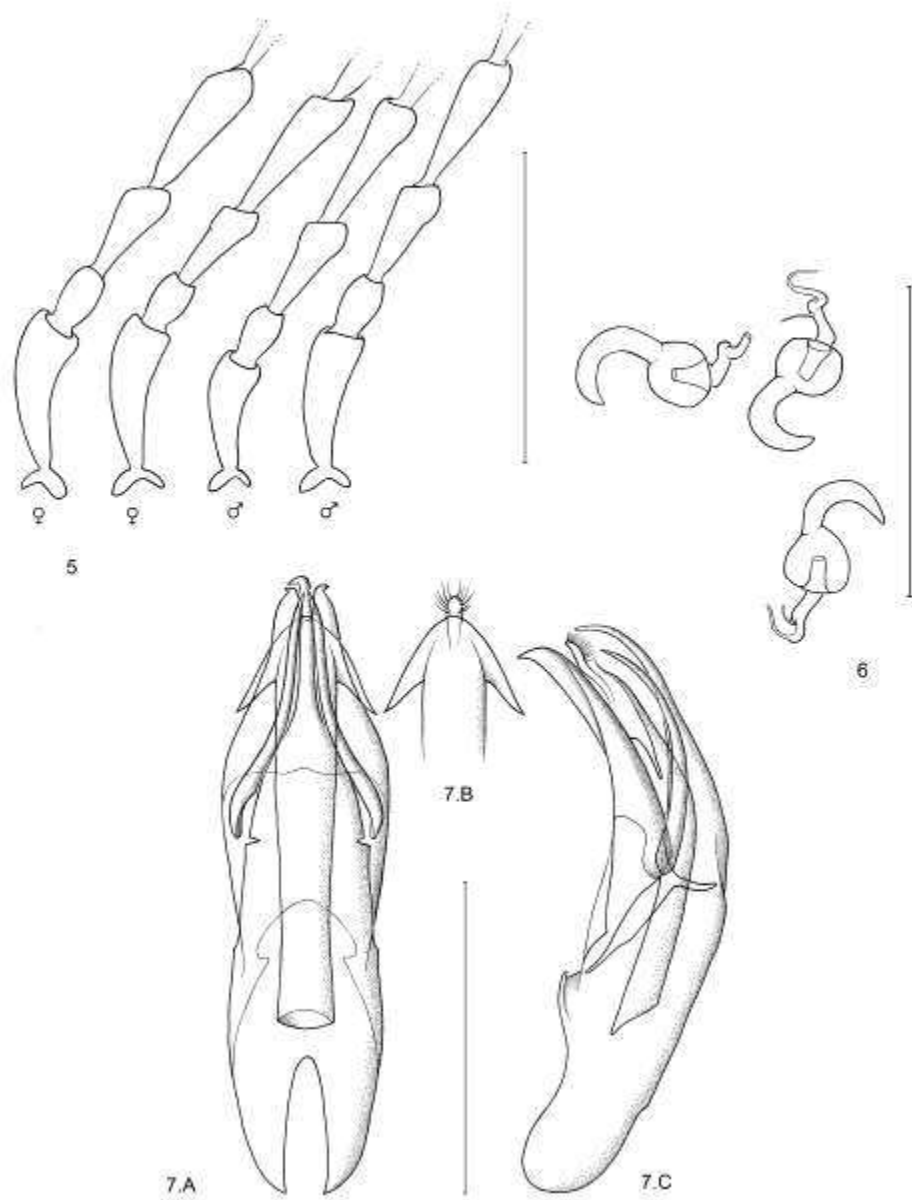
Abdomen. Brown.

Male genitalia. Median lobe slightly waisted in dorsal view (Fig. 7.A), conical and incised at apex. Tectum is conical with a very elongated, slender apical part that is bent ventrally at the apex. It has long, slender tectorial spures at each side (Figs 7.A, 7.C). Endophallus brush is emerging from broad, arrow-like structure (Fig. 7.B). Orifice of median lobe is ovoid with a rather deep incision (Fig. 7.A).

Diagnosis. *Oosagitta angolensis* has a brown head and pronotum and yellowish elytron, brown legs and underside, while *O. geescheae* sp. nov. has a brown pattern on yellowish elytron, legs and underside yellowish, *O. thomasi* sp. nov. is yellowish with brown antennae –except the basal antennal article, *O. melanoptica* sp nov. and *O. anningae* sp. nov. are completely yellowish and *O. minuta* has a dark brown elytron, legs and underside and is much smaller. *Oosagitta angolensis* is on average the largest species of the group, and can be in the majority of cases simply differentiated by size from other species. Total body length varies between 4.90 mm and 6.20 mm (*O. geescheae* spec. nov. 4.50–4.80 mm, *O. anningae* spec. nov. 4.25–5.35 mm, *O. minuta* 3.10–4.20 mm, *O. thomasi* sp. nov. 4.65–5.50 mm, *O. melanoptica* sp. nov. 4.15–4.70 mm). The shape of the median lobe with slender, incised apex, long tectum with very slender tectorial spures allows a clear identification of the males.



Figs 2–4. *Oosagitta angolensis*. 2, Habitus, semi-schematic dorsal view, female. 3, Habitus, lateral view, female. 4. Legs: A, prothoracic leg; B, mesothoracic leg; C, metathoracic leg. Scale bar: 1mm.



Figs 5–7. *Oosagitta angolensis*. 5, Basale four antennomeres of two different males and two different females. 6, Spermathecae of three different females. 7, Median lobe; A, dorsal; B, detail: apex of endophallus; C, lateral. Scale bar: 1mm.

Distribution. Widely distributed in Central, East and Southern Africa, from the Congo Basin towards Kenya in the northeast and Zambia and northern Namibia in the South (Fig. 8)

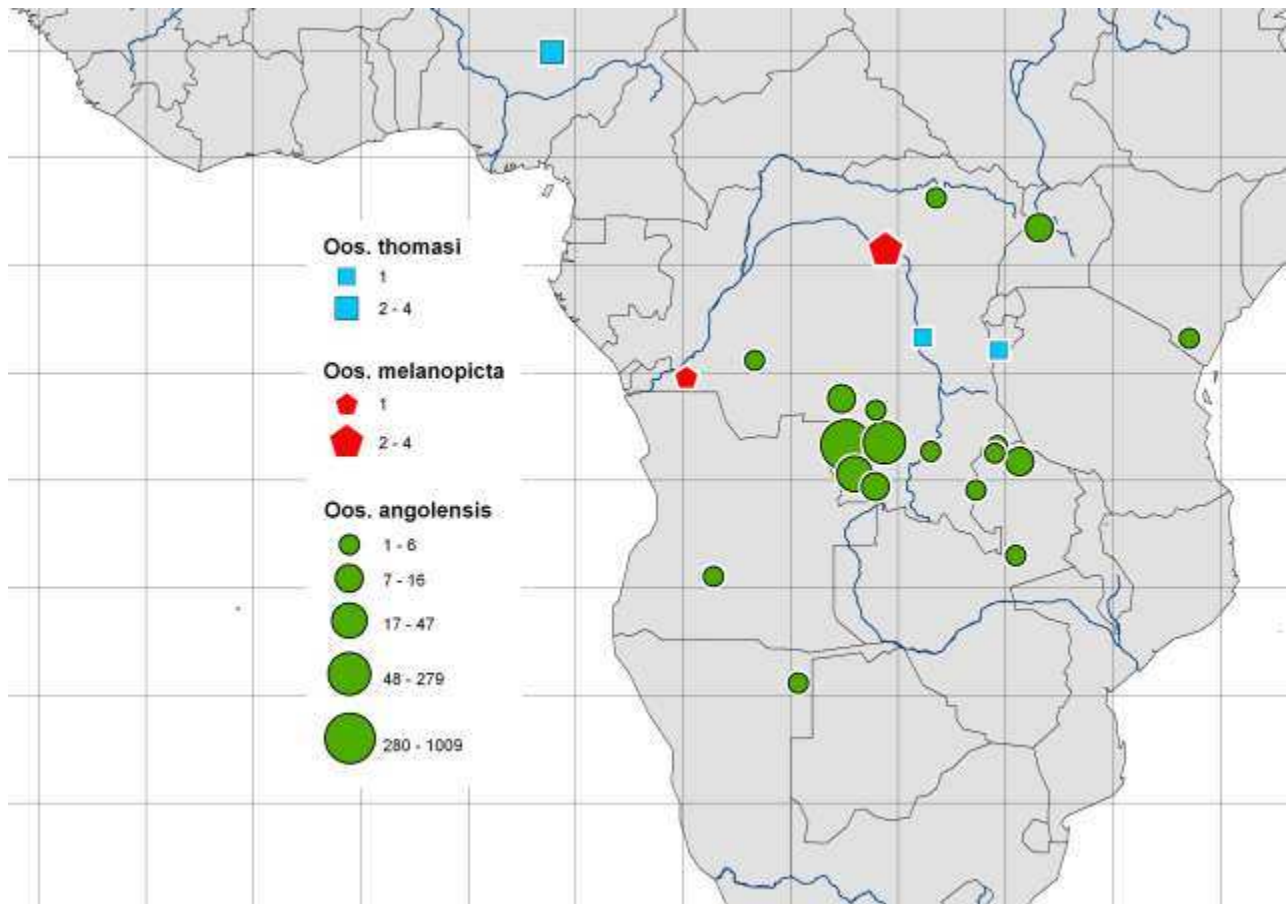


Fig. 8. Distribution of *O. angolensis*, *O. melanopicta* sp. nov., and *O. thomasi* sp. nov.



Fig. 9. Holotype of *Oosagitta angolensis*. A, Overview with labels; B, close-up detail of specimen.

Holotype. Male, “Kuvangu mars 1933 / Angola Miss. Sc. Suisse, 1932-33 / Coll. R. I Sc. N. B. / *Exosoma angolensis* m., V. Laboissière – Det. 1939 / Holotype / AfriGa specimen 753, documented 25.VII.2005” (IRSN). (Fig. 9) Type locality: Angola, -14.4/16.4.

Further material examined. – Democratic Republik of Congo: 2 exx., Kasenga, -10.36 / 28.63, Feb.1912, Dr. Bequaert (MRAC), 68 exx., Lulua, Kapanga, -8.35 / 22.58, Dec.1931, G. F. Overlaet (MRAC); 6 exx., Lulua, Sandoa, -9.68 / 22.86, Jan./Dec.1931, G. F. Overlaet MRAC); 5 exx., Lulua, Tshibamba, -8.25 / 24.37, Dec.1931, G. F. Overlaet (MRAC); 41 exx., Lulua, Sandoa, Jan.– Dec.1932, G. F. Overlaet (MRAC); 274 exx., Lulua, Tshibamba, Jan./Feb.1932, G. F. Overlaet (MRAC); 1 ex., Kafakumba, -9.68 / 23.73, Dec.1932, G. F. Overlaet (MRAC); 625 exx., Lulua, Kapanga, Sep.–Dec.1932, G. F. Overlaet (MRAC); 316 exx., Lulua, Kapanga, May–Dec.1933, G. F. Overlaet (MRAC); 11 exx., Mukonkoto, -10.30 / 23.95, Jan.1937 (IRSN); 7 exx., Lulua: Kabomba, -6.20 / 22.37, Nov.1937, Vanderstichele (MRAC); 1 ex., Lulua: Kabomba, Dec.1937, Garlier (MRAC); 1 ex., Ngowa-Kwango, Dec.1938, P. J. Mertens (IRSN); 1 ex., Maka-Lualaba, 3.13 / 26.78, Jan.1939, H. J. Bredo (IRSN); 2 exx., Musosa, -8.38 / 29.63, Sep.1939, H. J. Bredo (IRSN); 4 exx., Mabwe, r.E. lac Upemba, 585 m, -8.65 / 26.52, Dec.1948, Miss. G. F. de Witte (IRSN); 1 ex. Sankuru, Gandajika, -6.75 / 23.95, Oct.1950, de Francquen (MRAC); 1 ex., Bas-Congo, Kimwanza, -4.427 / 18.33, May 1956, Van Eyen (MRAC). – Kenya: 1 ex., Voi, 2000 ft, -3.39 / 38.56, Nov.1948, J. G. Williams (BMNH). – Namibia: 1 ex., Bushmanland: Klein Dobe, -19.42 / 20.35, Feb.1992, Namibia Expedition ZMB, M. Uhlig (MNHU). – Uganda: 15 exx., District Masindi, Budono Forest n. Sonso, 1.75 / 31.58, Jul.1995, Th. Wagner (ZFMK). – Zambia: 16 exx., Kabwé, -9.12 / 30.67, Feb.1944, H. J. Bredo (IRSN), 6 exx., Mweru-Wantipa, -8.75 / 29.50, Mar.1944, H. J. Bredo (IRSN); 4 exx., 29 km NW Chipata, Kamanga, 825 m, -13.50 / 30.48, Mar.1993, M. Uhlig (MNHU).

***Oosagitta minuta* (Laboissière. 1937) comb. nov.**

Ergana minuta Laboissière, 1937: 151–152.

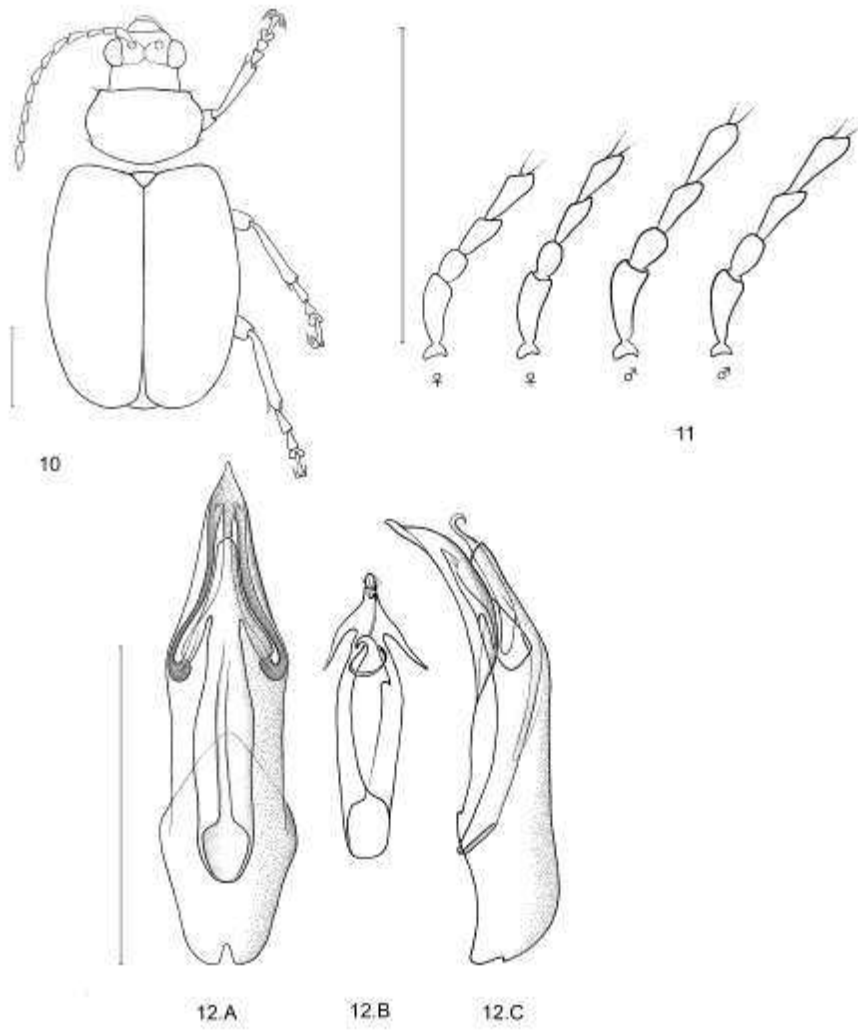
Measurements. n = 12, total length 3.10–4.20 mm (mean 3.75 mm; Fig. 10), maximum height in lateral view 1.30–1.50 mm (mean 1.40 mm).

Head. Yellowish to brown, mandibles dark brown. Maximum width of eye to minimum distance between eyes 0.55–0.78 (mean 0.68). Length of second to third antennomere 0.5–0.75 (mean 0.64), length third to fourth antennomere 0.67–0.89 (mean 0.78; Fig. 11). Basal antennomeres yellowish, antennae becoming darker towards the apex. Mean antennal length to total body length ratio 0.60.

Thorax. Pronotum yellowish with very delicate punctation. Pronotal width 1.00–1.50 mm (mean 1.28 mm), length of pronotum 0.65–0.95 mm (mean 0.81 mm), pronotal width to length 1.41–1.77 (mean 1.57). Elytron dark brown, irregular punctation, coarser than pronotum. Elytral length 2.35–3.25 mm (mean 2.82 mm), maximum width of both elytra combined 1.80–2.60 mm (mean 2.23 mm), ratio of maximum width of elytra combined to length of elytron 0.73–0.88 (mean: 0.79). Pro-, meso- and metathorax, abdomen and legs dark brown, coxae and distal/proximal parts of tarsomeres yellowish or light brown. Tibia has all around setae and is gently curved. Length of basimetatarsus to length of metatibia 0.25–0.35 (mean 0.30).

Male genitalia. The symmetric median lobe tapers and is down-curved in lateral view. The tectum is shorter than median lobe and nearly triangular (Fig. 12.A). Tectorial spurs are very slender, the basal two thirds covered by the tectum, the apices very fine and dorsally hooked (Figs 12.A, 12.C). Endophallus with broad base fine “arrow-hooks” (Figs 12.A, 12.B). Basal orifice of median lobe ovoid with an incision (Fig. 12.A).

Diagnosis. *Oosagitta minuta* is the smallest species of the genus with a total body length between 3.10 and 4.20 mm. There is no other specimen of the other five species of such small size known. Antennae of *O. minuta* are shorter than those of the other described species: mean antennal length to total body length is 0.56–0.65 (other species 0.75–1.00). Also the coloration differs strongly from the other species, since *O. minuta* has dark brown elytron, while all other species show yellowish to yellowish-brown elytron throughout or yellow with brownish base and apex (*O. geescheae* sp. nov.).



Figs 10–12. *Oosagitta minuta*. 10, Habitus, semi-schematic dorsal view. 11, Basale four antennomeres of two different males and two different females. 12, Median lobe; A, dorsal; B, detail: apex of endophallus; C, lateral. Scale bar: 1mm.

Distribution. Known from southern Uganda, southeastern Congo and northern states of South Africa (Fig. 13).

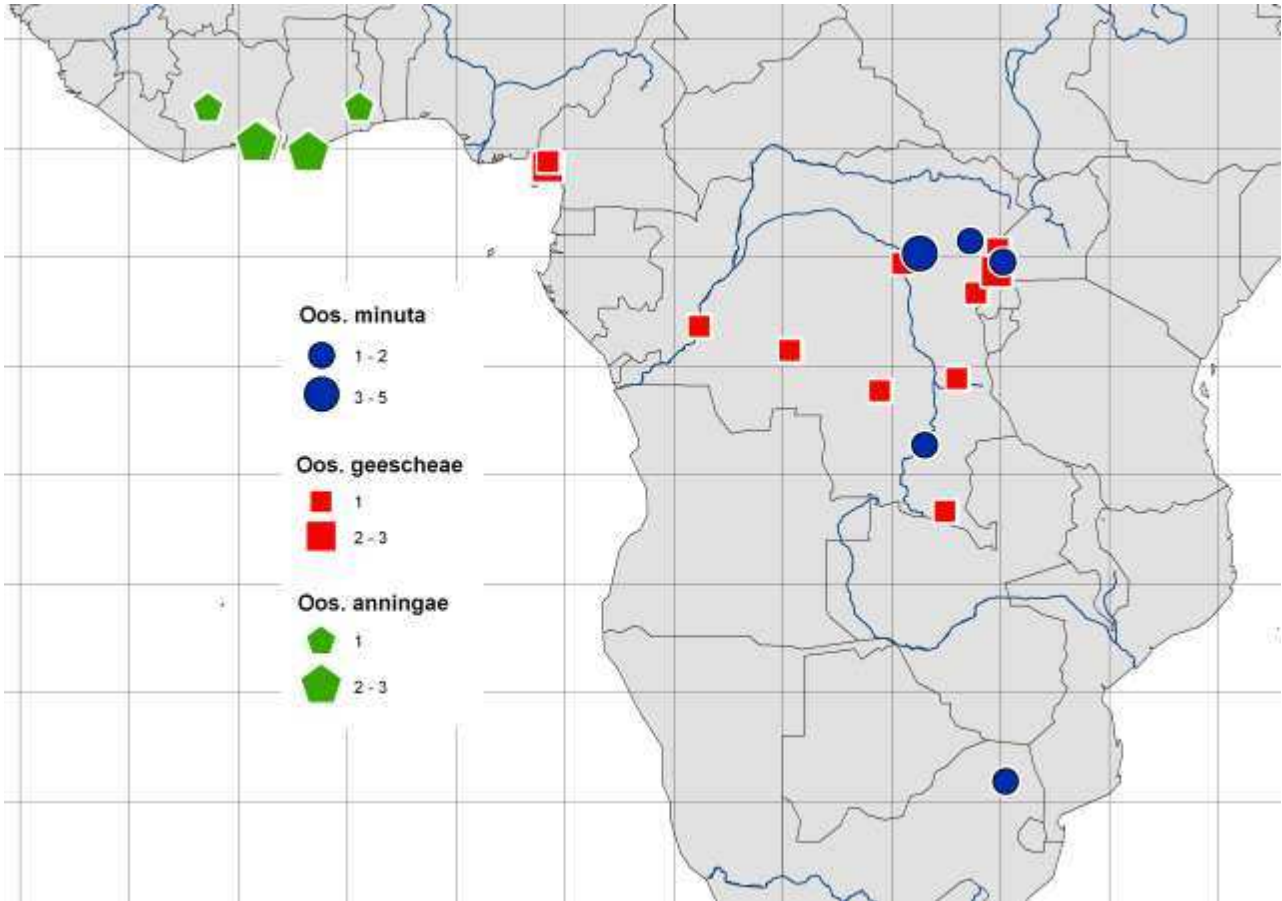


Fig. 13. Distribution of *O. minuta*, *O. anningae* sp. nov., and *O. geescheae* sp. nov.

Lectotype: Male, “Uganda, Busso Busoga, May 1909, Dr. E. Bayon / Mus. Civ. Genova / Type male / *Ergana minuta*, m, V. Laboissière m. V. Laboissière – Det. / AfriGa specimen ID 885, 17.IV.2004” (MCGD). (Fig. 14) Type locality: Uganda, Bussoga, -0.23/30.11. – Paralectotype: 1 male, same data as lectotype, additionally “Le Moulnt vend. via Reinbek, Eing. Nr. 1, 1957” (ZMUH). A lectotype is herein designated to fix the name on a single specimen.



Fig. 14. Lectotype of *Oosagitta minuta*. A, Overview with labels; B, close-up detail of specimen.

Further material examined. – Democratic Republic of Congo: 2 exx., Parc Nat. de la Upemba, affl. Lusinga (1585 m), 0.733 / 28.62, Dec.1947, Miss. G. F. de Witte (IRSN); 5 exx., Parc Nat. de la Upemba, Lusinga (1760 m), 0.167 / 26.30, Dec.1947, Miss. G. F. de Witte (IRSN); 2 exx., Parc Nat. de la Upemba, Mabwe (r. E. lac Upemba), 585 m, -8.65 / 26.52, Dec.1948, Miss. G. F. de Witte (MRAC). – South Africa: 1 ex, Natal, Malvern, C.I.E. Coll. No. 15946, G. E. Bryant det.: *Ergana proteus* (BMNH); 1 ex., Südafrika: Transvaal, Iekgalameetse Nat. Res., -24.08 / 30.25, Dec.1995, F. Koch (MNHU).

***Oosagitta anningae* sp. nov.**

Etymology: Named after Sabine Kortenhaus' daughter Anning.

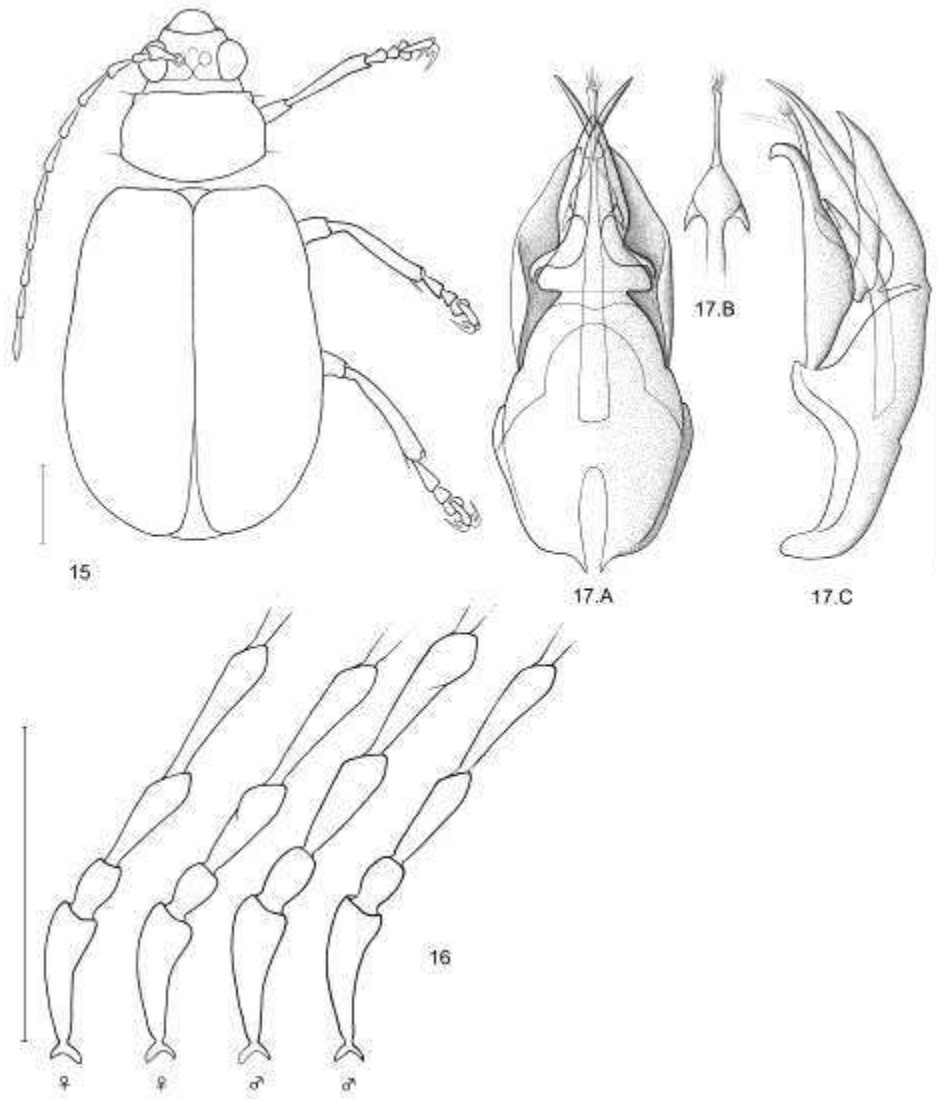
Measurements. n = 11, total length 4.25–5.35 mm (mean 4.85 mm; Fig. 15); maximum height in lateral view 1.60–2.05 mm (mean 1.80 mm).

Head. Yellowish, mandibles darker brown. Maximum width of eye to minimum distance between eyes 0.73–0.83 (mean 0.79). Length of second to third antennomere 0.36–0.50 (mean 0.43), length third to fourth antennomere 0.69–0.83 (mean 0.75; Fig. 16). Antennae yellowish. Mean antennal length to total body length ratio 0.91.

Thorax. Pronotum yellowish with very delicate punctation. Pronotal width 1.50–1.90 mm (mean 1.71 mm), length of pronotum 0.90–1.20 mm (mean 1.05 mm), pronotal width to length 1.50–1.73 (mean 1.62). Elytron is yellowish and has irregular punctation, only a bit coarser than pronotum. Elytral length 3.35–4.25 mm (mean 3.91 mm), maximum width of both elytra combined 2.50–3.45 mm (mean 3.04 mm), ratio of maximum width of elytra combined to length of elytron 0.73–0.83 (mean: 0.78). Pro-, meso- and metathorax, abdomen and legs are yellowish. Tibia is gently curved. Length of basimetatarsus to length of metatibia 0.24–0.32 (mean 0.29).

Male genitalia. Aedeagus very broad, rather erect, only the outermost apex of median lobe and tectum curved ventrally (Fig. 17.C). The slightly waisted, broad tectum covers basal two thirds of very long, slightly bent and apically crossed tectorial spurs that are much longer than the ventral part of the median lobe (Fig. 17.A). Endophallus long, with slender base, two short “arrow-hooks” and very slender and long apical part that is emerging out of the median lobe (Figs 17.A, 17.B). Orifice of median lobe ovoid with a rather deep incision (Fig. 17.A).

Diagnosis. *Oosagitta anningae* sp. nov. is completely yellowish, while *O. angolensis* has a brown head and pronotum and yellowish elytron, *O. geescheae* sp. nov. has a brown pattern on yellowish elytron, *O. thomasi* sp. nov. has brown antennomeres, *O. melanoptica* sp. nov. has a dark brown postocular patch and *O. minuta* has dark brown elytron. It is the only species from tropical western Africa and occurs allopatrically with all other species. A definitive identification is possible by examination of the shape of male genitalia (Fig. 17).



Figs 15–17. *O. anningae* sp. nov. 15, Habitus, semi-schematic dorsal view. 16, Basale four antennomeres of two different males and two different females. 17, Median lobe; A, dorsal; B, detail: apex of endophallus; C, lateral. Scale bar: 1mm.

Distribution. Western Africa from Ivory Coast towards Togo (Fig. 13).

Holotype: Male, "Coll. Mus. Tervuren Cote d'Ivoire: Bingerville, Sep.1963, J. Decelle / AfriGa specimen ID 1898, 26.XI.2012" (MRAC). Type locality: Cote d'Ivoire: Bingerville, 5.36 / -3.89. (Fig. 18)

Paratypes. – Ghana: 3 exx., Takoradi, 4.88 / -1.75, Besnard (MRAC). – Ivory Coast: 2 exx., Adiopodoumé, 5.34 / -4.13, Aug.1952 (MNHN); 1 ex., Adiopodoumé, Feb.1957, P. Dessart (MRAC); 1 ex., Zepreghe-Koffikro (Daloa), 6.91 / -6.37, Jul.1961, J. Decelle (MRAC); 2 exx., Bingerville, 5.36 / -3.89, Feb.1963, J. Decelle (MRAC). – Togo: 1 ex., Togo: Misahöhe, 6.95 / 0.58, May 1894, E. Baumann (MNHU).

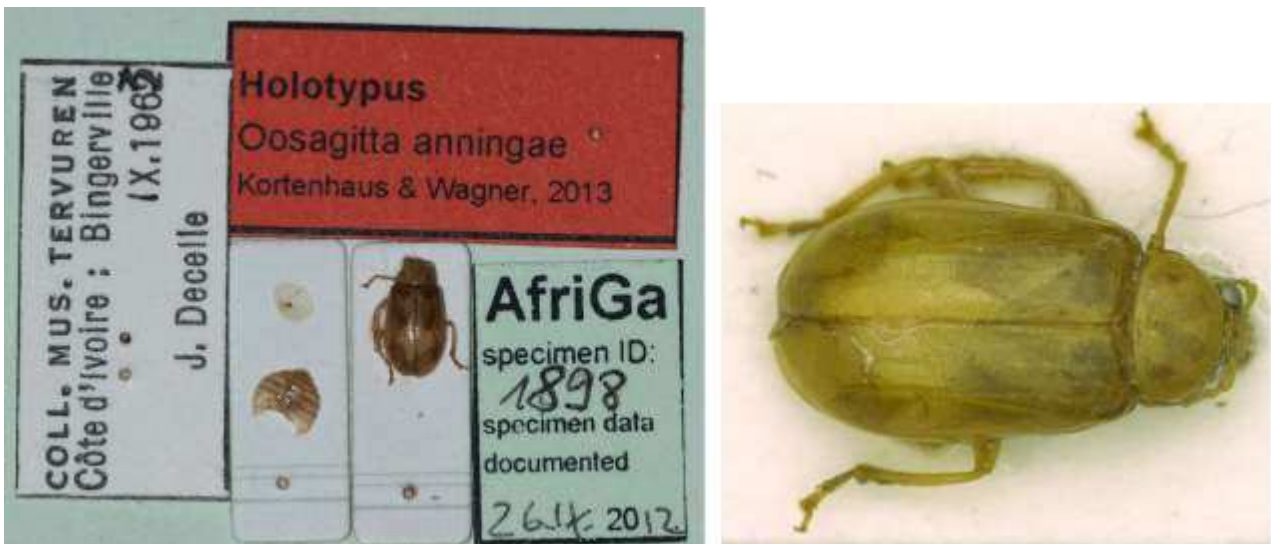


Fig. 18. Holotype of *O. anningae* sp. nov. a, Overview with labels; b, close-up detail of specimen.

***Oosagitta geescheae* sp. nov.**

Etymology: Named after Sabine Kortenhaus' daughter Geesche.

Measurements. n = 15, total length 4.50–5.80 mm (mean 5.33 mm; Fig. 19); maximum height in lateral view 1.50–2.50 mm (mean 2.01 mm).

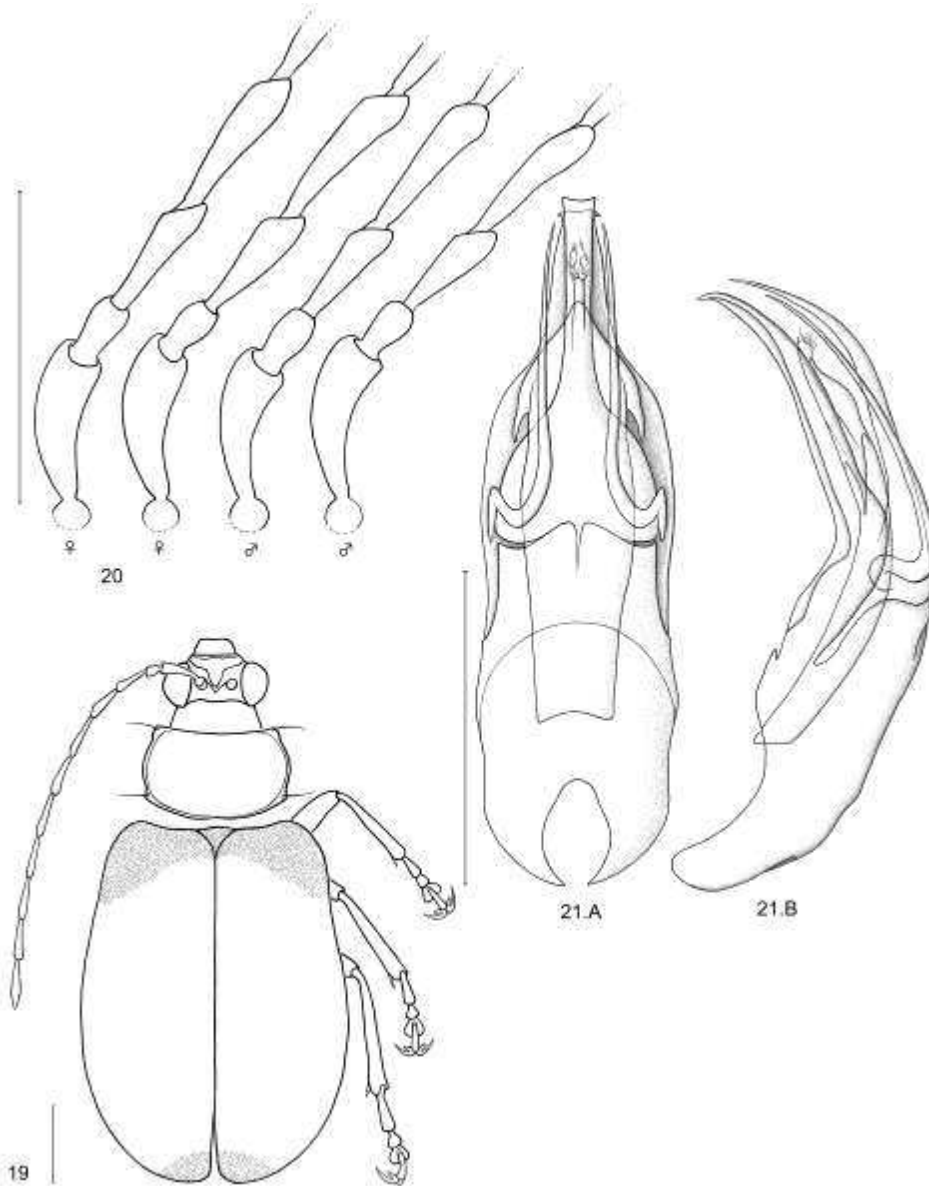
Head. Yellowish, becoming darker towards labrum. Maximum width of eye to minimum distance between eyes 0.69–0.92 (mean 0.83). Length of second to third antennomere 0.38–0.57 (mean 0.48), length third to fourth antennomere 0.63–0.75 (mean 0.69; Fig. 20). Antennae yellowish, terminal antennomere with darker apex. Mean antennal length to total body length ratio 0.93.

Thorax. Colour like head, pronotum and disc of elytron. Pronotum yellowish with delicate punctation. Pronotal width 1.50–1.95 mm (mean 1.77 mm), length of pronotum 0.88–1.10 mm (mean 1.04 mm), pronotal width to length 1.62–1.86 (mean 1.71). The yellowish elytron has a brownish base and apex of elytron (Fig. 19) and an irregular coarse punctation. Elytral length 3.73–4.95 mm (mean 4.33 mm), maximum width of both elytra combined 2.75–3.50 mm (mean 3.22 mm), ratio of maximum width of elytra combined to length of elytron 0.67–0.81 (mean 0.75).

Scutellum integrated in the pattern of elytron (Fig. 19). Pro-, meso- and metathorax, abdomen and legs yellowish. Length of basimetatarsus to length of metatibia 0.29–0.33 (mean 0.32).

Male genitalia. The symmetric conical aedeagus slightly curved ventrally (Fig. 21.B), median lobe tapers to two short points, separated by a tiny incision (Fig. 21.A). Tectum with very broad base, which narrows to a ventrally bent, spatulate, nearly rectangular structure. Tectorial spures nearly circular bent at base, very long and slender towards the apex (Figs 21.A, 21.B) Endophallus possesses two acute tapering appendices at its apex. Endophallus brush is emerging from this arrow-like endophallus Fig. 21.B). Orifice of median lobe ovoid with a rather great incision (Fig. 21.A).

Diagnosis. *Oosagitta geescheae* sp. nov. is the only species of the genus that possesses a brownish elytral base and apex on yellowish elytron. The endophallus with slender, spatula-like tectum and the very long, slender tectorial spures are very characteristic for this species.



Figs 19–21. *Oosagitta gescheae* sp. nov. 19, Habitus, semi-schematic dorsal view. 20, Basale four antennomeres of two different males and two different females. 21, Median lobe; A, dorsal; B, lateral. Scale bar: 1mm.

Distribution. Cameroon, Congo Basin and western Uganda (Fig. 13).

Holotype. Male, “Musée du Congo Lomami: Kaniama, 1931, R. Massart / AfriGa specimen ID 1897, 26.XI.2012” (MRAC). Type locality: Democratic Republic of Congo, Kaniama, -6.13 / 24.48. (Fig. 22).



Fig. 22. Holotype of *O. geescheae* sp. nov. A, Overview with labels; B, close-up detail of specimen.

Paratypes. – Cameroon: 2 exx., Johann Albrechtshöhe [Mt. Cameroon], 4.15 / 9.21, ex. Coll. J. Weise, 1 ex. with additional label "Type / *Candezea transversicollis* Jac. Typ." in Weise's handwriting; this species was not described (MNHU), 1 ex., Kamerun, Barombi, 4.40 / 9.25, Conrad (HNHM). – Democratic Republic of Congo: 1 ex., Bena-Bendi, Sankuru, -4.28 / 20.35, Jan.1895, L. Cloetens (IRSN); 1 ex., Kassai, 1904, E. Taymans (IRSN), 1 ex., Elisabethville [Lubumbashi], -11.67 / 27.47, Nov.1911, Miss. Agric. (MRAC); 1 ex., Kwamouth, -3.18 / 16.20, Jun.1913, Dr. J.Maes (MRAC); 1 ex., Tang. Moero, Niunzu, 1935, H. De Saeger (MRAC); 1 ex., PNA, Secteur Nord, riv. Talya, affl. dr. Lume, 1215 m, Jul.1956, P. Vanschuytbroeck (IRSN); 2 ex., PNA, Secteur Nord, riv. Talya, affl. dr. Lume, 1280 m, Jul.1956, P. Vanschuytbroeck (IRSN); 1 exx. PNA, Massif Ruwenzori, riv. Talya, affl. Lume, 1870 m, 0.38 / 29.90, Sep.1956, P. Vanschuytbroeck (IRSN); 1 ex., PNA, Secteur Nord, Gundu, affl. rive dr. Semliki, rég. Kyla, 840 m, -1.65 / 28.87, Jan.1957, P. Vanschuytbroeck (IRSN); 1 ex., Tshuapa, Bamanga, -0.28 / 25.53, 1960, P. Hulstaert (MRAC). – Uganda: 3 exx., Bwamba, -0.65 / 29.83, Jun.1948, Van Someren (1 ex. BMNH, 2 exx. NMK).

***Oosagitta thomasi* sp. nov.**

Etymology: Named after Sabine Kortenhaus' husband Thomas.

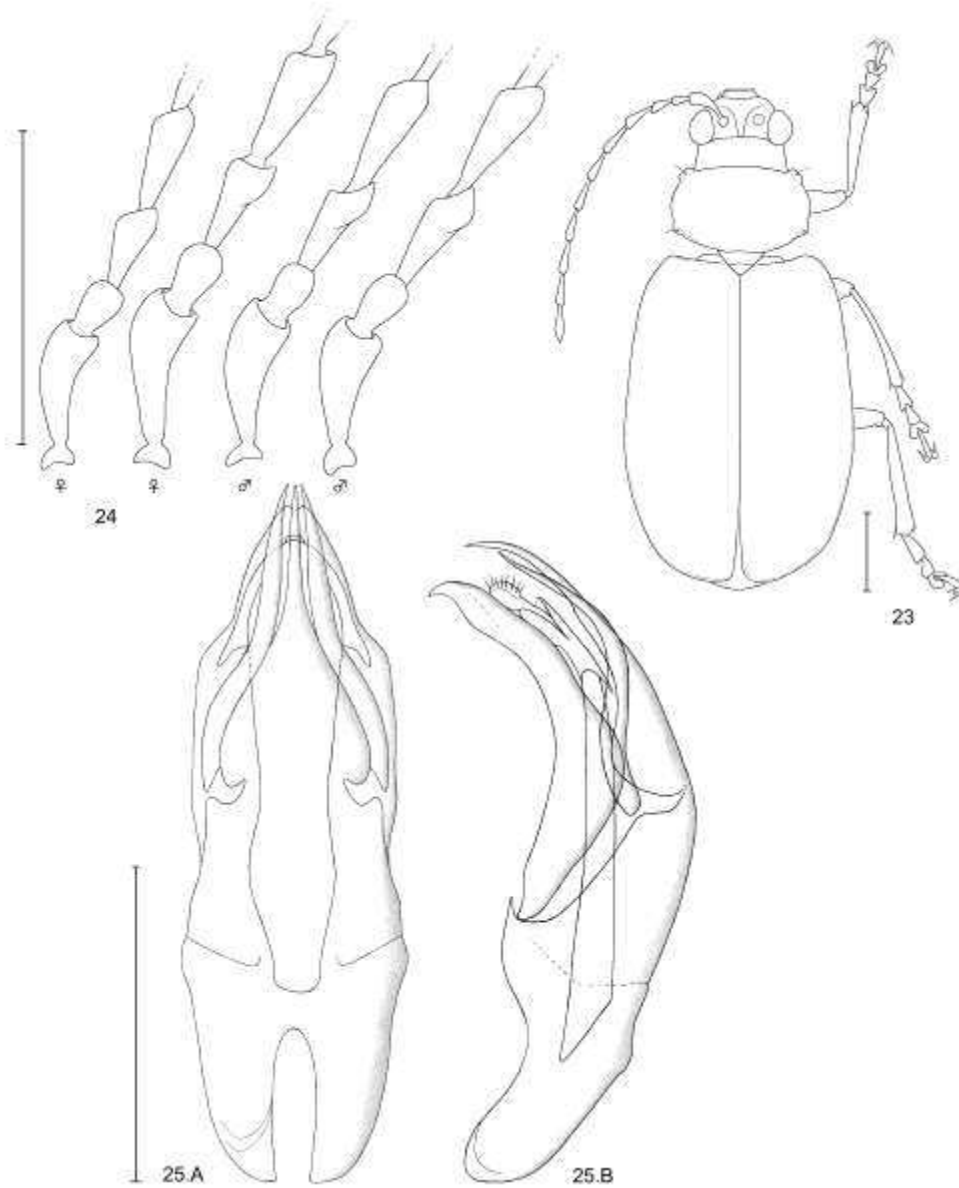
Measurements. n = 6, total length 4.65–5.50 mm (mean 5.12 mm; Fig. 23); maximum height in lateral view 1.85–2.20 mm (mean 2.02 mm).

Head. Yellowish. Maximum width of eye to minimum distance between eyes 0.61–0.75 (mean 0.67). Maxillary palps and mandibles brown. Length of second to third antennomere 0.55–0.62 (mean 0.59), length third to fourth antennomere 0.69–0.79 (mean 0.75; Fig. 24). Basal antennal article yellowish, following antennomeres brown. Antennal length to total body length 0.75–0.82 (mean: 0.78).

Thorax. Yellowish like head, pronotum and disc of elytron. Pronotum with very delicate punctation. Pronotal width 1.50–1.80 mm (mean 1.65 mm), length of pronotum 0.95–1.10 mm (mean 1.06 mm), pronotal width to length 1.50–1.63 (mean 1.56). The yellowish elytron has an irregular coarse punctation. Elytral length 3.90–4.40 mm (mean 4.13 mm), maximum width of both elytra combined 2.60–3.30 mm (mean 2.97 mm), ratio of maximum width of elytra combined to length of elytron 0.66–0.80 (mean 0.72). Pro-, meso- and metathorax, abdomen yellowish. Legs yellowish, only basal part of tibia and tarsi brownish. Length of basimetatarsus to length of metatibia 0.30–0.33 (mean 0.31).

Male genitalia. Median lobe broad, conical in the apical quarter, strongly curved ventrally (Figs 25.A, 25.B), apex with shortly curved tip (Fig. 25.B). Tectum short, very broad at base, apical half very narrow reduces to an elongated, ventrally bent, apical point. It has comparatively short, slender tectorial spures, which are nearly as long as the tectum (Figs 25.B). Endophallus brush is emerging from a very broad, arrow-like structure (Fig. 25). Orifice of median lobe ovoid with a great incision (Fig. 25.A).

Diagnosis. With regard to elytral coloration, *O. thomasi* sp. nov. differs from *O. geescheae* sp. nov. (with basal and apical pattern) and *O. minuta* (dark brown elytron). The basal antennomere is yellowish and all following ones are brown, while *O. angolensis* has completely brown antennae and *O. anningae* sp. nov. and *O. melanopicta* sp. nov. have yellowish antennae. Only *O. minuta* has a similar antennal coloration, but is significant smaller. Clear differentiation is given by the shape of median lobe: the tectorial spures are nearly as long as tectum (Figs 25.A, 25.B), while *O. angolensis* has a longer, more curved tectum (Fig. 7.C). Tectum of *O. geescheae* sp. nov. is spatulate (Fig. 21.A) and *O. melanoptica* sp. nov. has longer, more slender and crossed tectorial spures (Fig. 29.B). Median lobes of *O. minuta* (Fig. 12.A) and *O. anningae* sp. nov. (Fig. 17.A) are clearly different.



Figs 23–25. *Oosagitta thomasi* sp. nov. 23, Habitus, semi-schematic dorsal view. 24 Basale four antennomeres of two different males and two different females. 25, Median lobe; A, dorsal; B, lateral. Scale bar: 1mm.

Distribution. Nigeria, Congo Basin, Burundi (Fig. 8).

Holotype. Male, "Coll. Mus. Tervuren, Nigeria: Jos, X/XII. 1965, E. Bot Gwong / AfriGa specimen ID 1899, 15.III.2012" (MRAC). Type locality: Nigeria, Jos, 9.92 / 8.09 (Fig. 26).

Paratypes. 1 male, 2 female, same data as Holotype. – Burundi: 1 male, Urundi: Bururi, -3.95 / 29.69, R.P. Giraudin, ex coll. Breuning (MRAC). – Democratic Republic of Congo: 1 male, I.R.S.A.C., Kivu, Kavimvira [Karimviza], -3.35 / 29.16 (Uviva), Jan. 1956, G. Marlier (MRAC).



Fig. 26. Holotype of *O. thomasi* sp. nov. A, Overview with labels; B, close-up detail of specimen.

***Oosagitta melanopicta* sp. nov.**

Etymology: Named after the significant dark brown postocular patch.

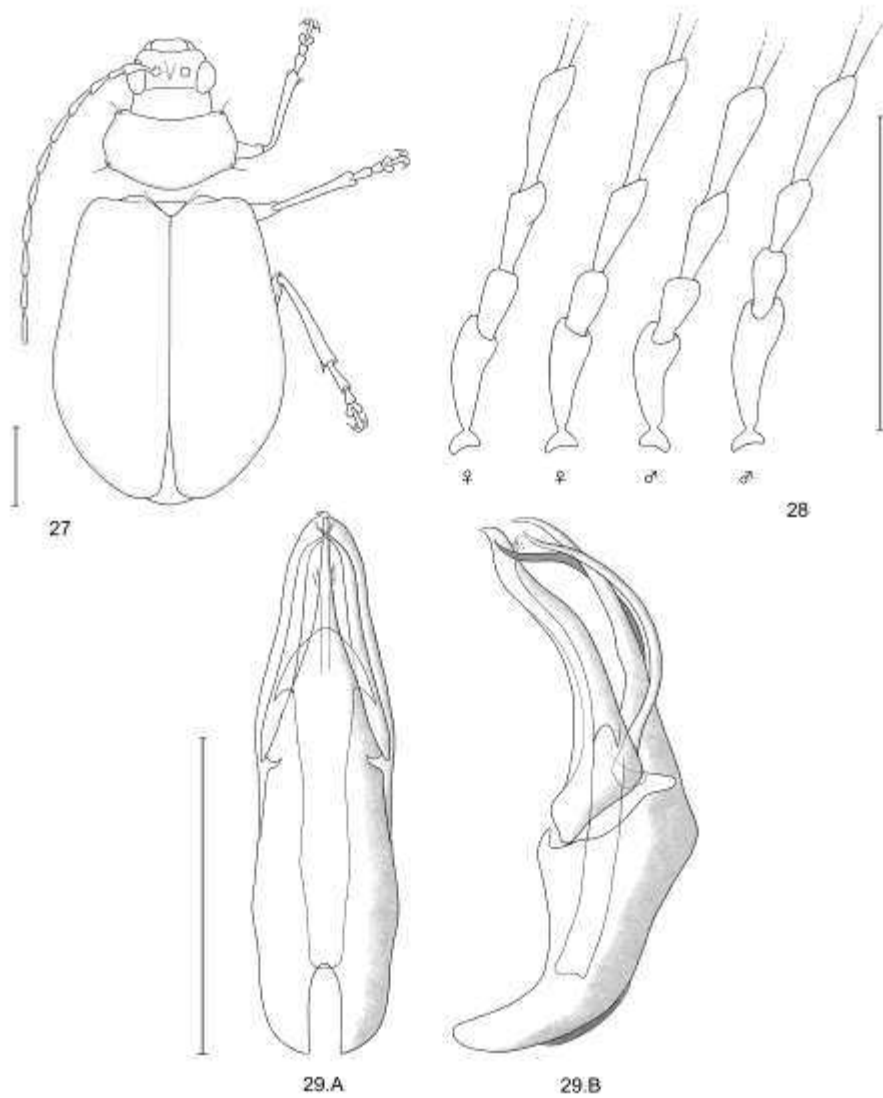
Measurements. n = 5, total length 4.20–4.70 mm (mean 4.42 mm; Fig. 27); maximum height in lateral view 1.80–2.20 mm (mean 1.95 mm).

Head. Yellowish, dark brown postocular patch, labrum brown. Maximum width of eye to minimum distance between eyes 0.63–0.75 (mean 0.71). Length of second to third antennomere 0.58–0.67 (mean 0.61), length third to fourth antennomere 0.63–0.77 (mean 0.70; Fig. 28). Antennae yellowish. Antennal length to total body length 0.87–0.98 (mean:0.91).

Thorax. Yellowish. Pronotum yellowish nearly without punctation. Pronotal width 1.50–1.75 mm (mean 1.61 mm), length of pronotum 0.85–1.00 mm (mean 0.92 mm), pronotal width to length 1.65–1.94 (mean 1.76). The elytron is yellowish and has delicate brown margins and an irregular coarse punctation. Elytral length 3.05–3.75 mm (mean 3.35 mm), maximum width of both elytra combined 2.60–3.15 mm (mean 2.94 mm), ratio of maximum width of elytra combined to length of elytron 0.81–0.97 (mean 0.88). Metathorax more yellow than pro- and mesothorax and abdomen. Legs paler yellowish. Length of basimetatarsus to length of metatibia 0.29–0.33 (mean 0.31).

Male genitalia. The symmetric conical aedeagus slightly curved ventrally, median lobe tapers to a short point (Figs 29A, 29B). Tectum with very broad base, which narrows to a ventrally bent, flattened structure. Very long, slender and strongly curved tectorial spurs intersect themselves nearly at the apex. Apically these structures are curved dorsally (Figs 29.A, 29B). Endophallus brush is emerging from the arrow-like endophallus (Fig. 29.A). Orifice of median lobe ovoid with a rather great incision (Fig. 29.A).

Diagnosis. *Oosagitta melanopicta* sp. nov. has a peculiar character in the significant black patch behind the eye. Further differentiation is possible by the characteristic broad shape of the median lobe.



Figs 27–29. *Oosagitta melanopicta* sp. nov. 27, Habitus, semi-schematic dorsal view. 28, Basale four antennomeres of two different males and two different females. 29, Median lobe; A, dorsal; B, lateral. Scale bar: 1mm.

Distribution. Only known from two sites along the Congo River (Fig. 8).

Holotype. Male, "Coll. Mus. Congo, Stanleyville: Yangambi, km 7, 29.V.1956, R. Damoiseau, C.00.53 / Récolté sur Canavalia curiformis / AfriGa specimen ID 1900, 15.III.2013" (MRAC).
 Type locality: Democratic Republic of Congo, Stanleyville [Kisangani], Yangambi, 0.81 / 24.43,
 Paratypes. 1 male, 2 female, same data as Holotype. – Democratic Republic of Congo:
 1 ex., male, Mayidi, -5.19 / 15.15, 1942, P. Van Eyen (MRAC).



Fig. 30. Holotype of *O. melanopicta* sp. nov. A, Overview with labels; B, close-up detail of specimen.

Identification key

- 1 Elytra dark brown, total body length < 4.20 mm, tectum shorter than median lobe with hooked tectorial spurs (Figs 12.A, 12.C); Uganda, SE- Congo and northern states of South Africa (Fig. 13) *Oosagitta minuta* (Laboissière, 1937)
- Elytra mainly yellowish, total body length > 4.20mm 2
- 2 Elytron yellowish with a light brown base and apex (Fig. 19), median lobe with tectum narrows to a rectangular, spatulate structure (Fig. 21.A); Cameroon, Congo Basin towards western Uganda (Fig. 13) *Oosagitta gescheae* sp. nov.
- Elytron unicolor pale yellowish to yellowish-brown 3

3 Pronotum and head dark brown, contrasting to the yellowish to yellowish-brown elytra, median lobe with incised apex, ventrally bent, elongated, slender tectum (Fig. 7.A); widely distributed in central, east and southern Africa (Fig. 8) *Oosagitta angolensis* (Laboissière, 1939)

- Head, pronotum and elytra unicolorous yellowish 4

4 Scapus yellowish, antennomere 2–11 brown, median lobe broad, tectum very broad at base stringly narrowed in the apical half (Figs 25.A, 25.B); known from Nigeria, Congo Basin and Burundi (Fig. 8) *Oosagitta thomasi* sp. nov.

- Antennae yellowish throughout 5

5 Head yellow with significant postocular dark brown to black spot, ventral part of median lobe about the same length as tectum and tectorial spures (Fig. 29); only knowm from to sites along the Congo River (Fig. 8) *O. melanopicta* sp. nov.

5 Head yellow throughout, ventral part of median lobe much shorter than the tectm and the apically crossed tectorial spures (Fig. 17); restricted to western Africa from the Ivory Coast to Toge (Fig. 13) *Oosagitta anningae* sp. nov.

Discussion

During our revision of *Oothea*, a group of galerucines endemic to tropical Africa, it became quickly aware that according to the generotype *Oothea mutabilis* Sahlberg, 1823 only a “core” group will be remain in that genus. There was obviously no clear generic concept of *Oothea* in the eighteenth century, as for many other insect genera, and several leaf beetle species having a “compact” body shape, with broad pronotum, strongly bulged dorsum and short antennae and legs are described in combination with *Oothea*. Weise (1900) has given a first revision of *Oothea*. He critically revised the characters of *O. mutabilis* that he attributed to Chapuis, and described three new species from German East Africa (Tanzania). He corrected some misinterpretations, e. g. the prothoracic coxal cavities that Chapuis described as “ouvertes”, but he found as completely closed, what now could be confirmed. Weise (1900) also referred to the problems the generic delimitation of *Oothea* cause and the complexity to distinguish the species, but found good evidence for species identification in the male genitalia. This underlines the high quality of his work, since more than one hundred years ago, dissection of genitalia was an unusual method to delimitate insect species. In our recent revision, the male genital characters are most crucial for the identification of

single species, and also for the delimitation of *Oothecca* to other galerucine groups taking phylogenetic principles into account. Several characters of the median lobe and endophallic armature can be interpreted as apomorphic characters. After the recent description of *Ootheccoides* and *Ootibia* we herein split the third group from *Oothecca*, where in total six species are characterized by a distinct endophallic pattern that does not, to our knowledge, occur in any other group of Afrotropical galerucines. There are some more species originally described in *Oothecca*, *Ergana*, and some further described in *Exosoma* that are most likely closely related to the genera named above, but not yet revised. Some work is left for the future.

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