

An annotated type catalogue of earwigs (Dermaptera) in the Zoological Museum Hamburg (ZMH)

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Abstract

The entomological collections of the Zoological Museum Hamburg (ZMH) contain one of the largest collections of earwigs (Dermaptera) in Germany, including many types. In total 312 species are housed in the collection with about 3200 individuals. The collection contains 74 type specimens, including 10 holotypes, 24 paratypes, 5 paralectotypes, and 35 syntypes belonging to 24 species (19 valid taxa and 5 synonyms).

Key words: Entomological collection, holotype, nomenclature, paratype, taxonomy

Introduction

The entomological collections of the Zoological Museum Hamburg (ZMH) have a long tradition. Once, one of the largest natural history museums in Germany, much of the collection was destroyed in the bombing in World War 2. However, while most of the material of holometabolous insects was lost, large parts of the collection of hemimetabolous insects and material conserved in alcohol were saved. After the war, the collections were rebuilt and the museum moved between different locations, yet never got back to its old status.

After an interim phase as Centre of Natural History (CeNak), in 2021, the ZMH fused with the Zoological Forschungsmuseum Alexander Koenig (ZFMK) to found the Leibniz Institute for the Analysis of Biodiversity Change (LIB). Specifically after this fusion and with the hiring of additional curators, the collections are restructured and digitized in a systematic manner. Part of this is the renewal and update of the type catalogues, which is progressing over the last years (Satori *et al.* 2016; Dey & Husemann 2018a, 2018b; Henningsen *et al.* 2020; Simoes *et al.* 2021; Zahiri *et al.* 2021a, 2021b, Botero *et al.* 2023; Nguyen *et al.* 2024).

The Dermaptera are one of the smaller orders within the insects with about 2000 species in 11 families (Hopkins *et al.* 2025a). They are often overlooked, yet, they are ecologically relevant and show interesting phenotypes, especially in the tropics. Also, the taxonomic work on this group is limited and often hampered due to limited accessibility of collections and few experts. Here, we provide an update to the type catalogues of Weidner (1964, 1977). We review the types listed in these previous publications and compare these to the ones found in the collection now. We update the taxonomy and also provide a list of the species available in the collection.

Materials and methods

The taxonomic classification is based on the catalogue of Steinmann (1989) and the Dermaptera Species File (Hopkins *et al.* 2025a; last accessed 9.2.2025). Each type specimen was provided with a label containing an individual identification number. All label data was transcribed as written on the labels. A double slash (//) separates data from different labels, a single slash (/) separates single lines within a label. In case of unreadable data, a question mark (?) was added. Additions from the authors were added in square brackets.

Images were taken with the Passport Portable Digital Imaging System from Visionary Digital (DUN Inc., California, USA). This system includes a Canon EOS 6D camera, a Canon MP-E 65 mm macro lens and a Canon Speedlite lighting system. During the imaging process ethanol-conserved specimens were slightly dried before taking the image to avoid reflections.

Results

Type specimen deposited at the ZMH

Class Insecta Linnaeus, 1758

Order Dermaptera De Geer, 1773

Family Anisolabididae Verhoeff, 1902

Subfamily Anisolabidinae Verhoeff, 1902

1. *Anisolabis westralica* Burr, 1911

Original combination

Anisolabis westralica Burr, 1911: 30.

Current combination

Anisolabis westralica Burr, 1911.

Type material

Paratype (1 female; in ethanol)

AUSTRALIA • ♀ (Fig. 1); “MUS. Hamburg! / Hill country. / Upper Blackwood district. / J. Whistler leg. ded // *Anisolabis* ♀ / *brunneri* Dohrn // ZMH 866030 // [the following label is found on the glass container that houses the specimen] 1 Stck. / *Anisolabis* / *westralica* Burr / Typen / Australien”

Type locality

Albany [Australia].

Current status

Valid species.

Remarks

Burr originally determined this specimen as *Anisolabis brunneri* (Dohrn, 1864) (see Burr 1908). The type of *A. brunneri* is male and located in the British Museum of Natural History, London. In Burr (1911), he states that all listed specimens in above-mentioned publication are in fact *Anisolabis westralica* Burr, 1911. Later on, he declares the specimen collected by Commander J. J. Walker R. N. in Albany as holotype (Burr 1912a). However, based on Steinmann (1989), the female specimen in Hamburg may be the holotype.

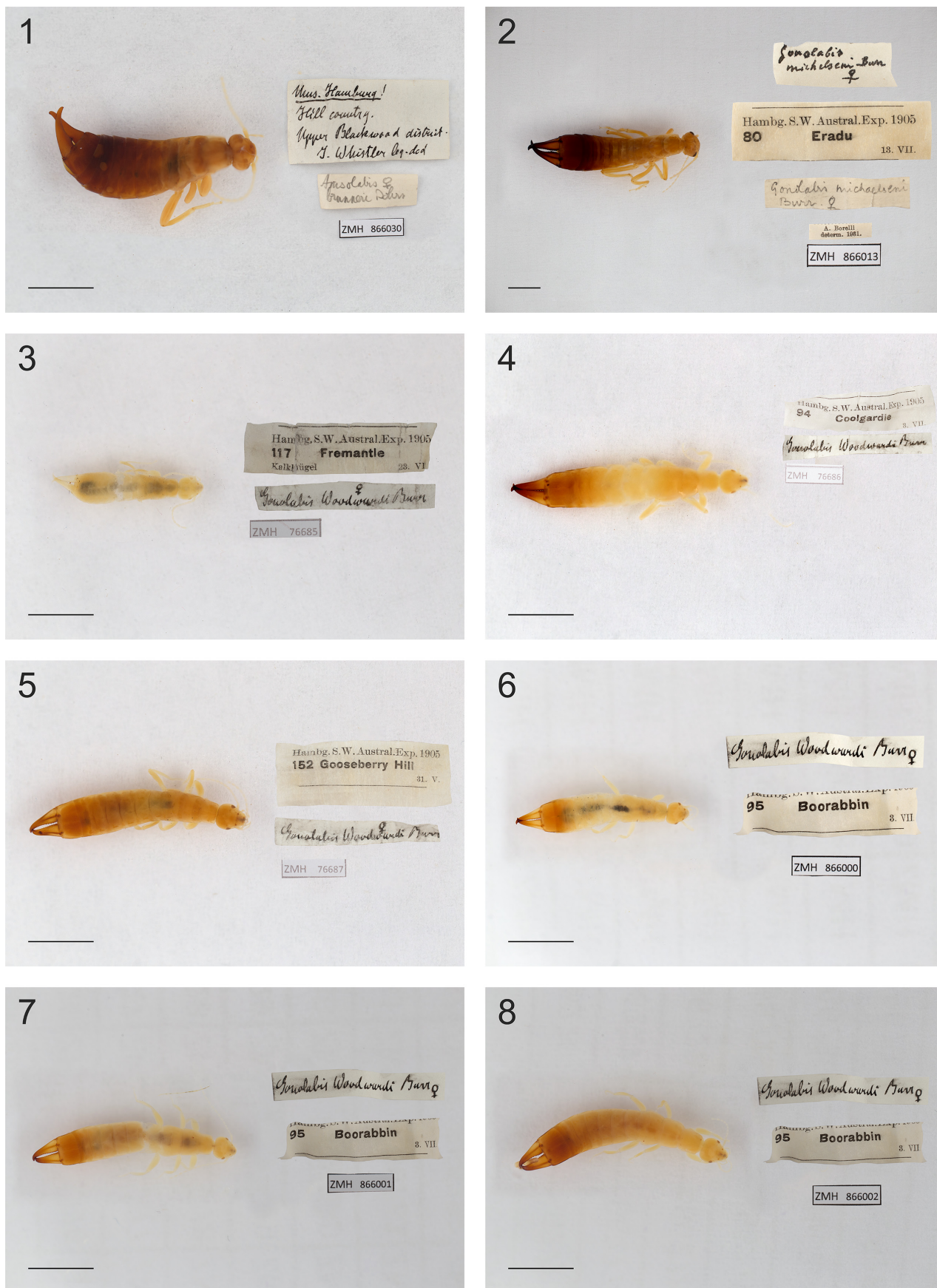


FIGURE 1. 1. *Anisulabius westralica* Burr, 1911. 2. *Gonolabis michaelsoni* Burr, 1908. 3–8. *Gonolabis woodwardi* Burr, 1908. Scale bar = 5 mm.

2. *Gonolabis michaelsoni* Burr, 1908

Original combination

Anisolabis occidentalis Kirby, 1896: 525–526.

Gonolabis michaelsoni Burr, 1908: 73–76.

Current combination

Carcinophora occidentalis (Kirby, 1896)—Steinmann, 1989: 249.

Type material

Syntype (1 female; in ethanol)

AUSTRALIA • ♀ (Fig. 2); “*Gonolabis / michaelsoni* Burr / ♀ // Hambg. S.W. Austral. Exp. 1905 / 80 Eradu / 13.VII. // *Gonolabis michaelsoni* / Burr ♀ // A. Borelli / determ. 1931 // ZMH 866013”

Type locality

[Western Australia].

Current status

Accepted synonym of *Carcinophora occidentalis* (Kirby, 1896).

3. *Gonolabis woodwardi* Burr, 1908

Original combination

Gonolabis woodwardi Burr, 1908: 76–79.

Current combination

Mongolabis woodwardi (Burr, 1908)—Steinmann, 1989: 296–297.

Type material

Syntypes (6 males, 16 females; in ethanol)

AUSTRALIA • 1 ♀ (Fig. 3); “Hambg. S.W. Austral. Exp. 1905 / 117 Fremantle / Kalkhügel 23.VII // ♀ / *Gonolabis woodwardi* Burr // ZMH 76685” • 1 ♀ (Fig. 4); “Hambg. S.W. Austral. Exp. 1905 / 94 Coolgardie / 3.VII. // *Gonolabis woodwardi* Burr // ZMH 76686” • 1 ♀ (Fig. 5); “Hambg. S.W. Austral. Exp. 1905 / 152 Gooseberry Hill / 31.V. // ♀ / *Gonolabis woodwardi* Burr // ZMH 76687” • 3 ♀ (Fig. 6–8); “*Gonolabis woodwardi* Burr ♀ // Hambg. S.W. Austral. Exp. 1905 / 95 Boorabbin / 3.VII. // ZMH 866000–866002” • 2 ♀ (Fig. 9–10); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 136 Harvey / 27.VII. // ZMH 866003–866004” • 1 ♂ (Fig. 11); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 136 Harvey / 27.VII. // ZMH 866005” • 2 ♀ (Fig. 12–13); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 136 Harvey / 27.VII. // ZMH 866006–866007” • 1 ♂ (Fig. 14); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 99 Lion Mill / 22.V. // ZMH 866008” • 2 ♀ (Fig. 15–16); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 99 Lion Mill / 22.V. // ZMH 866009–866010” • 1 ♂ (Fig. 17); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 99 Lion Mill / 22.V. // ZMH 866011” • 1 ♀ (Fig. 18); “*Gonolabis woodwardi* Burr // Hambg. S.W. Austral. Exp. 1905 / 99 Lion Mill / 22.V. // ZMH 866012” • 2 ♂ (Fig. 19–20); “Hambg. S.W. Austral. Exp. 1905 / 98 Wooroloo / 29.V. // *Gonolabis / woodwardi* Burr // ZMH 866024–866025” • 3 ♀ (Fig. 21–23); “Hambg. S.W. Austral. Exp. 1905 / 98 Wooroloo / 29.V. // *Gonolabis / woodwardi* Burr // ZMH 866026–866028” • 1 ♂ (Fig. 24); “Hambg. S.W. Austral. Exp. 1905 / 98 Wooroloo / 29.V. // *Gonolabis / woodwardi* Burr // ZMH 866029”

Type locality

[Western Australia].

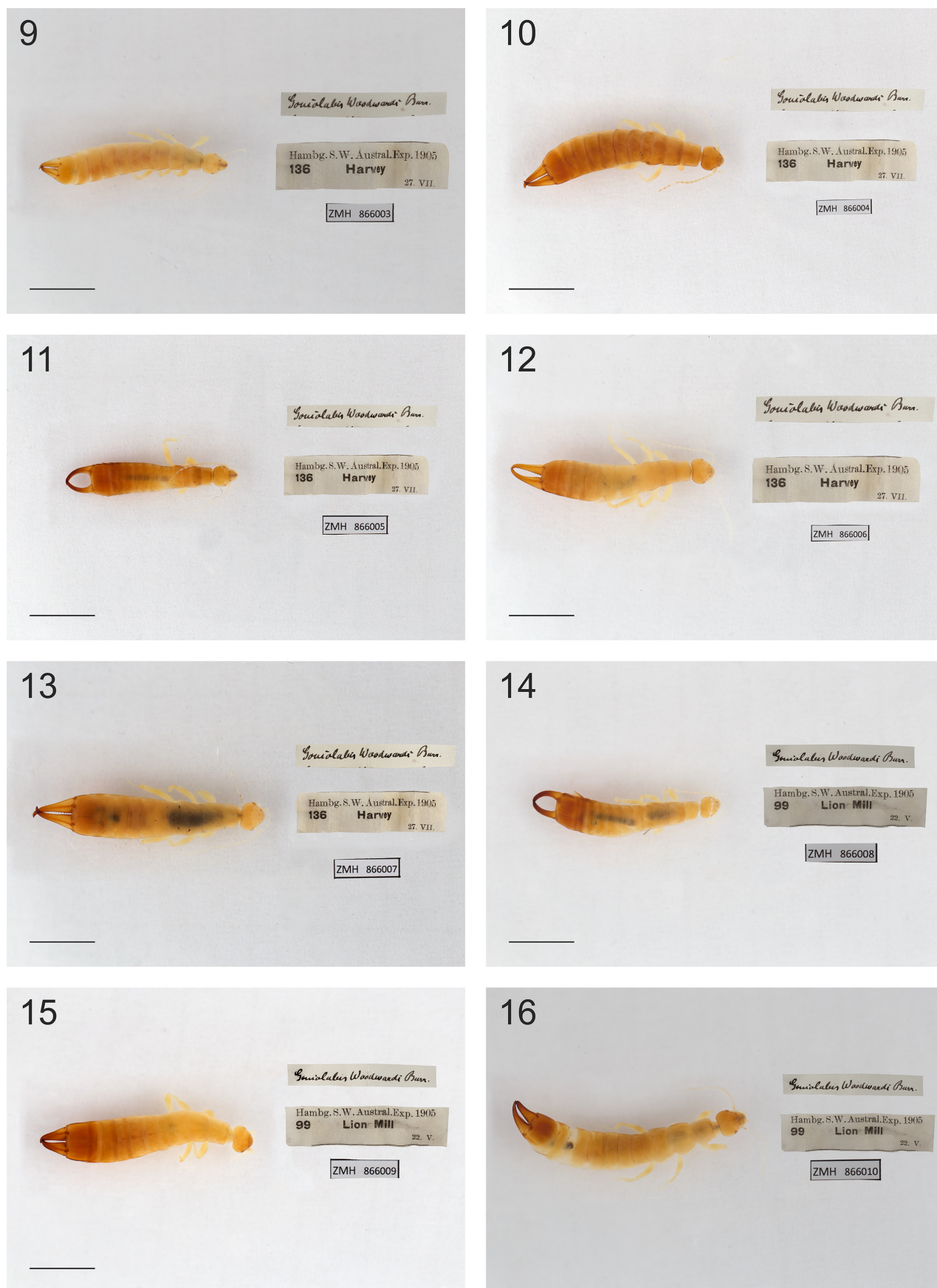


FIGURE 2. 9–16. *Gonolabis woodwardi* Burr, 1908. Scale bars = 5 mm.

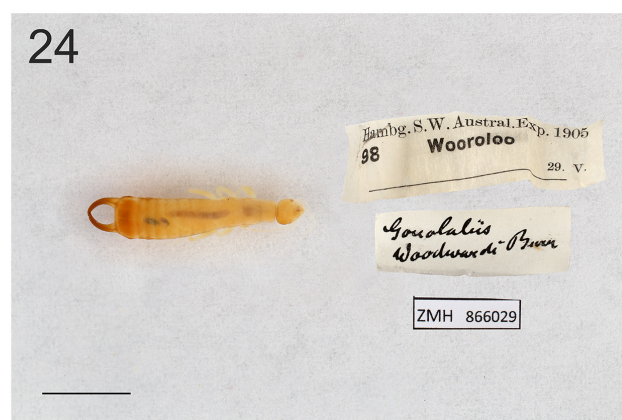
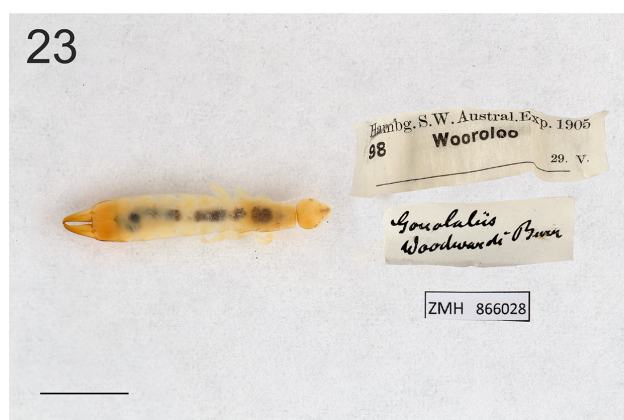
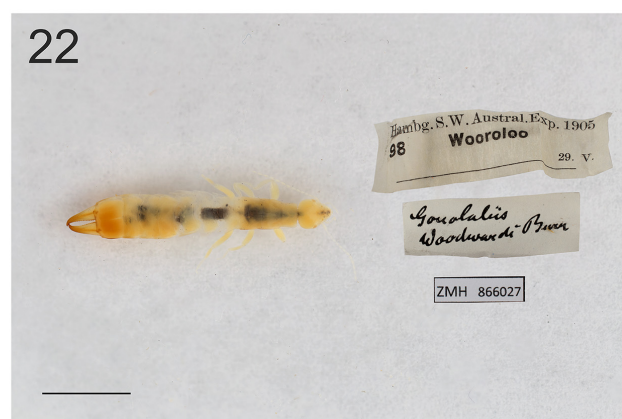
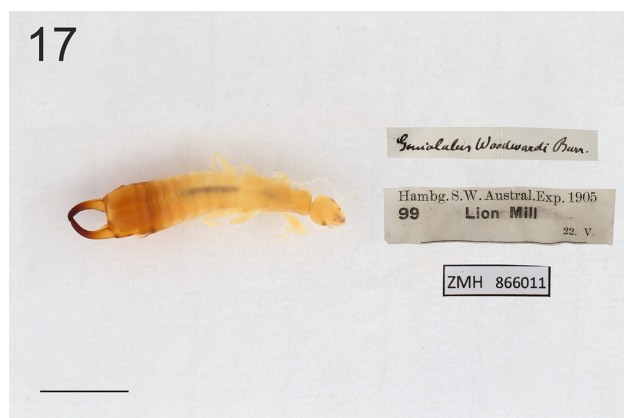


FIGURE 3. 17–24. *Gonolabis woodwardi* Burr, 1908. Scale bars = 5 mm.

Current status

Valid species.

Remarks

There are some inconsistencies between the specimen labels and the information written in the original publication regarding collecting dates. This might be due to a mistake done by the author. Comparing the collection information from our type specimens with those from other specimens collected during the expedition, we assume that the specimen labels show the correct data.

4. *Gonolabis woodwardi* var. *dentata* Burr, 1908**Original combination**

Gonolabis woodwardi var. *dentata* Burr, 1908: 76–79.

Current combination

Zacheria dentata (Burr, 1908)—Steinmann, 1989: 305.

Type material

Syntype (1 male; in ethanol)

AUSTRALIA • 1 ♂ (Fig. 25); “Hambg. S.W. Austral. Exp. 1905 / 144 Bridgetown / 30./31.VII. // var. *dentata* // [?] // ZMH 76678”

Type locality

[Western Australia].

Current status

Valid species.

5. *Gonolabis woodwardi* var. *forcipata* Burr, 1908**Original combination**

Gonolabis woodwardi var. *forcipata* Burr, 1908: 76–79.

Original combination

Gonolabis forcipata (Burr, 1908)—Steinmann, 1989: 287.

Type material

Syntype (1 female; in ethanol)

AUSTRALIA • 1 ♀ (Fig. 26); “Hambg. S.W. Austral. Exp. 1905 / 71 Northhampton / 15.VII. // *Goniolabis woodwardi* Burr / var. *forcipata* Burr. // ZMH 76679”

Type locality

Stat. 71, Northhampton, on the hills at 170 m [Australia].

Current status

Valid species.



FIGURE 4. 25. *Gonolabis woodwardi* var. *dentata* Burr, 1908. 26. *Gonolabis woodwardi* var. *forcipata* Burr, 1908. 27. *Geracodes paraguayensis* Borelli, 1932. 28. *Apachya feae* de Bormans, 1894. 29. *Arixenia jacobsoni* Burr, 1912. 30–31. *Diplatys insularis* Borelli, 1932. 32. *Vara nevermanni* Brindle, 1966. Scale bars = 5 mm.

Remarks

Weidner wrongly identified this type specimen as male (Weider 1964).

Subfamily Isolabidinae Verhoeff, 1902

6. *Geracodes paraguayensis* Borelli, 1932

Original combination

Geracodes paraguayensis Borelli, 1932: 95–97.

Current combination

Geracodes paraguayensis Borelli, 1932.

Type material

Holotype (1 male; dried, on cardboard)

PARAGUAY • 1 ♂ (Fig. 27); “K. Fiebrig leg. / J. Vosseler ded. / 15.11.1911. // Paraguay / San Bernardino / 22.2. // *Geracodes* / *paraguayensis* / typus Borelli // A. Borelli / detem. 1931. // Holotype // Type // ZMH 76598”

Type locality

Paraguay: San Bernardino.

Current status

Valid species.

Family Apachyidae Verhoeff, 1902

Subfamily Apachyinae Verhoeff, 1902

7. *Apachya feae* de Bormans, 1894

Original combination

Apachya feae de Bormans, 1894: 373–375.

Current combination

Apachyus feae de Bormans, 1894—Kirby, 1891: 503.

Type material

Syntype (1 male; dried, on pin)

MYANMAR • ♂ (Fig. 28); “Paratypoid // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Carin / Asciuii Chebà / 1200–1300 m. / L. Fea. I—88. // ZMH 76580”

Type locality

Carin Chebà & Asciuii Chebà [Myanmar].

Current status

Valid species.

Remarks

Weidner wrongly identified this type specimen as female (Weider 1964). The status of the type is not entirely clear. It is labelled as Paratype and according to Steinmann (1989), the Holotype is located in the Museum of Genua. Yet, in the original description no Holotype was determined. Hence, we list the specimen as Syntype.

Family Arixeniidae Jordan, 1909

8. *Arixenia jacobsoni* Burr, 1912

Original combination

Arixenia jacobsoni Burr, 1912b: 76–79.

Current combination

Xenaria jacobsoni (Burr, 1912)—Nakata & Maa, 1974: 319.

Type material

Syntype (1 male, in ethanol)

INDONESIA • 1 ♂ (Fig. 29); “Systematisch und / biologisch hochinter- / essant. / cfr. Burr in Holländ. / Zeitschr. für Entomologie / 1919 oder 1911. // E. Jacobson ded. / 29.V.1912. // *Arixenia jacobsoni* / Burr ♂ / det. Burr // E. Jacobson. / Babakan. (Ban- / joemas) / Java Mrt. 1911 / Goewa Lawa / (grot) // 29/63 // ZMH 76677 // [all following labels belong to the lost female syntype] *Arixenia jacobsoni* / Burr ♀ / det. Burr // ♀ in der / Schausamm- / lung // E. Jacobson. / Babakan. (Ban- / joemas) / Java Mrt. 1911 / Goewa Lawa / (grot)”

Type locality

Java, Banjoumas Residency, Gouwa Lawa cave near the seashore at Babakan [Indonesia].

Current status

Valid species.

Remarks

Originally the ZMH housed a male and female specimen of *Arixenia jacobsoni*. The female specimen was taken from the collection to be displayed in the exhibition. During the bombing of the city in 1943 this particular specimen was lost in the fire (Wagner 1964). However the original labels survived as they were never removed from the glass that once held all type specimens of this species. Therefore, we included the transcription of those labels as well.

Family Diplatyidae Verhoeff, 1902

Subfamily Diplatyinae Verhoeff, 1902

9. *Diplatys insularis* Borelli, 1932

Original combination

Diplatys insularis Borelli, 1932: 87–88.

Current combination

Mesodiplatys insularis (Borelli, 1932)—Kamimura & Ferreira, 2018: 93.

Type material

Holotype (1 male; dried, on cardboard)

MADAGASCAR • 1 ♂ (Fig. 30); “Nossibé / O’Swald u Co / 11.2.1907 / ♀ dans l’alcool // Type // Diplatys / insularis / nov. sp. / ♂ Borelli / typus // Holotype // ZMH 76576”

Paratype (1 female; in ethanol)

MADAGASCAR • 1 ♀ (Fig. 31); “Diplatys / n. sp. ♀ / ♂ a secco // Diplatys / insularis / Borelli / ♀ nov. sp. // Nossibé / Wm O’Swald u Co / ded. 11.2.1907 // A. Borelli / determ. 1931 // ZMH 76683”

Type locality

Nosy Be [Madagascar].

Current status

Valid species.

Remarks

In the original description, Borelli (1932) states that these type specimens were collected by O’Svvaldu. Comparing this name with the information from the specimen labels we can safely assume that the ZMH received these specimens through a trading company named “Wm. O’Swald & Co.” instead.

Family Forficulidae Latreille, 1810

Subfamily Ancistrogastriinae Verhoeff, 1902

10. *Vara nevermanni* Brindle, 1966

Original combination

Opisthocosmia anomalia Rehn, 1903: 308–309.

Vara nevermanni Brindle, 1966: 138–139.

Current combination

Sarcinatrix anomalia (Rehn, 1903)—Steinmann, 1989: 664.

Type material

Holotype (1 male; in ethanol)

COSTA RICA • ♂ (Fig. 32); “Costa Rica / Farm Hamburg / am Reventazon / 5. 9. 33 / F. Nevermann leg. / Eing. Nr. 42,1934. // Type // Vara / nevermanni Brindle / A. Brindle 1966 / holotype—allotype // An trockenem / Laub. // ZMH 866022”

Paratypes (1 males, 5 females, 3 nymphs; in ethanol)

COSTA RICA • 1 ♀ (Fig. 33); “Costa Rica / Farm Hamburg / am Reventazon / 5. 9. 33 / F. Nevermann leg. / Eing. Nr. 42,1934. // Type // Vara / nevermanni Brindle / A. Brindle 1966 / holotype—allotype // An trockenem / Laub. // ZMH 866023” • 1 nymph (Fig. 34); “Costa Rica / Turrialba / 29. VIII. 32 / An Carica papaya / F. Nevermann leg. / Eing. Nr. 42,1934. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratypes // Auf welkem / Laub. // ZMH 866014” • 1 ♀ (Fig. 35); “Costa Rica / Turrialba / 29. VIII. 32 / An Carica papaya / F. Nevermann leg. / Eing. Nr. 42,1934. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratypes // Auf welkem / Laub. // ZMH 866015” • 1 ♀ (Fig. 36); “Costa Rica / Farm Hamburg / am Reventazon / 9. II. 34. An Blätt. / v. Heliocarpus / F. Nevermann leg. / Eing. Nr. 42,1934. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratype // ZMH 866016” • 1 ♀ (Fig. 37); “Costa Rica / Farm Hamburg / am Reventazon / 3. XII. 1931. / Urwald welches

Laub. / F. Nevermann leg. / Eing. Nr. 104,1932. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratype // ZMH 866017“ • 2 nymphs (Fig. 38–39); “Costa Rica / Farm Hamburg / am Reventazon / 3. XII. 1931. / Urwald welches Laub. / F. Nevermann leg. / Eing. Nr. 104,1932. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratype // ZMH 866018–866019“ • 1 ♂ (Fig. 40); “Costa Rica / Farm Hamburg am / Reventazon 3. 3. 1933. / An welchen Blättern. / F. Nevermann leg. / Eing. Nr. 108,1933. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratype // ZMH 866020“ • 1 ♀ (Fig. 41); “Costa Rica / Farm Hamburg / am Reventazon / 3. 7. 33 / F. Nevermann leg. / Eing. Nr. 42,1934. // Para- / type // Vara / nevermanni Brindle / A. Brindle 1966 / paratype [seems like it said “paratypes” at some point, but the last letter was cut off at some point] // Auf welchem Laub. // ZMH 866021”

Type locality

Costa Rica: Farm Hamburg at Reventazón River.

Current status

Accepted synonym of *Sarcinatrix anomalia* (Rehn, 1903).

Remarks

In the original description Brindle lists ten type specimens (one male holotype, one female allotype, three male and five female paratypes), two of them being housed in the Manchester Museum (one pair of paratypes) and one in the Natural History Museum in London (female paratype). In congruence with this information, Weidner (1977) lists seven type specimens for *Vara nevermanni* in the ZMH type catalogue (Weidner 1977). During our research, we actually found ten type specimens in the ZMH wet collection that match the collection event data from the original description for the most part. There are some minor differences in two dates (3.12.1931 / 3.12.1932; 29.8.1932 / 29.7.1932), but this may just be a mistake either on the label or in the original description. The Manchester Museum also has more type specimens than Brindle states (Miles 2015); so, perhaps the original type series consists of more than just ten specimens.

In addition, it seems that one specimen listed in Weidner (1977) was lost. He listed two specimens (one male, one female) for the collection date 3.7.1933. We only found one female specimen. Either, the male was indeed lost, or it was misplaced in one of the other tubes belonging to this type series. It may also be that Weidner listed this male falsely. As the overall number of type specimens of this species appears inconsistent, it is difficult to understand what happened.

Subfamily Forficulinae Latreille, 1810

11. *Forficula hincksi* Burr, 1947

Original combination

Forficula hincksi Burr, 1947: 64–65.

Current combination

Guanchia hincksi (Burr, 1947)—Steinmann, 1989: 849.

Paratype (1male, 1 female; dried, on pin)

ANATOLIA • 1 ♂ (Fig. 42); “Anatolien / Coll C. Kosswig / Eing. Nr. 9, 56 // Paratypoid // ZMH 76599“ • 1 ♀ (Fig. 43); “Anatolien / Coll C. Kosswig / Eing. Nr. 9, 56 // Paratypoid // ZMH 76600”

Type locality

Turkey: Korykos, between Mersin and Silifke.



FIGURE 5. 33–40. *Vara nevermanni* Brindle, 1966. Scale bars = 5 mm.

Current status

Valid species.

Subfamily Opisthocosmiinae Verhoeff, 1902**12. *Opisthocosmia lugens* de Bormans, 1894****Original combination**

Opisthocosmia lugens de Bormans, 1894: 398–399.

Current combination

Timomenus lugens (de Bormans, 1894)—Steinmann, 1989: 730.

Type material

Syntype (1 female; dried, on cardboard)

MYANMAR • 1 ♀ (Fig. 44); “Carin Chebà / 900–1100. m. / L. Fea V XII–88 // Birma / Leon. Fea leg. / vend. 1.1.1895 // A. de Bormans / determ. // Kotype // Paratypoid // Opisth. / lugens Borm. / sp. n. // ZMH 76606”

Type locality

Carin Chebà & Carin Asciuii Chebà [Myanmar].

Current status

Valid species.

Remarks

Weidner (1964) wrongly identified this type specimen as male.

15. *Opisthocosmia simplex* de Bormans, 1894**Original combination**

Opisthocosmia simplex de Bormans, 1894: 396–398.

Current combination

Eparchus simplex (de Bormans, 1894)—Steinmann, 1989: 703.

Type material

Syntypes (1 male, 1 female; dried, on pin)

MYANMAR • 1 ♀ (Fig. 45); “Carin / Asciuii Ghecù / 1400–1500 m. / L. Fea. III–IV.88. // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Kotype // Paratypoide // Opisth. / simplex / Borm. / sp. n. // ZMH 76607” • 1 ♂ (Fig. 46); “Carin / Asciuii Ghecù / 1400–1500 m. / L. Fea. III–IV.88. // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Kotype // Paratypoide // Opisthocosmia / simplex / ♂ sp. nova // ZMH 76608”

Type locality

Carin Chebà, Carin Asciuii Chebà & Carin Ghecù [Myanmar].

Current status

Valid species.



FIGURE 6. 41. *Vara nevermanni* Brindle, 1966. 42–43. *Forficula hincksi* Burr, 1947. 44. *Opisthocosmia lugens* de Bormans, 1894. 45–46. *Opisthocosmia simplex* de Bormans, 1894. 47–48. *Esphalmenus weidneri* Brindle, 1966. Scale bars = 5 mm.

Family Pygidicranidae Verhoeff, 1902

Subfamily Esphalmeninae Burr, 1909

14. *Esphalmenus weidneri* Brindle, 1966

Original combination

Esphalmenus weidneri Brindle, 1966: 128–132.

Current combination

Esphalmenus weidneri Brindle, 1966.

Type material

Holotype (1 male; dried, on cardboard)

CHILE • 1 ♂ (Fig. 47); “Esphalmerus / weidneri / det. A. Brindle / Brindle ♂ / holotype // probably near / Santiago / Chile. / Dr. G. Rahm. // Type // Holotypoid // ZMH 76577”

Paratypes (1 female; dried, on cardboard: ZMH 76578 • 1 female, 2 nymphs; in ethanol: ZMH 76680–76682)

CHILE • 1 ♀ (Fig. 48); “Esphalmerus / weidneri / det. A. Brindle / Brindle ♀ / allotype // probably near / Santiago / Chile. / Dr. G. Rahm. // Allotype // Paratyoid // Z.I.M. / Hamburg // ZMH 76578” • 1 ♀ (Fig. 49); “Wahrscheinlich: / Umgeg. v. Santiago / Pater Dr. G. Rahm ded. / Eing. Nr. 135,1931. // Esphalmenus / weidneri Brindle / paratype ♀ + nymph // ZMH 76680” • 2 nymphs (Fig. 50–51); “Wahrscheinlich: / Umgeg. v. Santiago / Pater Dr. G. Rahm ded. / Eing. Nr. 135,1931. // Esphalmenus / weidneri Brindle / paratype ♀ + nymph // ZMH 76681–76682”

Type locality

Chile: probably Santiago.

Current status

Valid species.

Remarks

In the original description, Brindle (1966) lists five type specimens (1 male holotype, 1 female allotype, 2 female paratypes, 1 nymph), one of them being housed in the Manchester Museum (female paratype), while the remaining specimens are housed in the ZMH. One female paratype can indeed be found in the Manchester Museum (Miles 2015), whereas five specimens can be found in the ZMH. All those specimens were also listed in the former type catalogue (Weidner 1977). Either the original type series consisted of six instead of five specimens, or one specimen stated as female paratype is in fact not a type.

Family Spongiphoridae Verhoeff, 1902

Subfamily Labiinae Burr, 1909

15. *Spongophora lutea* de Bormans, 1894

Original combination

Spongophora lutea de Bormans, 1894: 383–385.

Current combination

Paralabella lutea (de Bormans, 1894)—Steinmann, 1989: 583–584.

49



Wahrscheinlich:
Umgeg.v. Santiago
Rater Dr. G. Bohn ded.
Eing. Nr. 135, 1931.

Esphalmenus
weidneri Brindle
paratype ♀ + nymph

ZMH 76680

50



Wahrscheinlich:
Umgeg.v. Santiago
Rater Dr. G. Bohn ded.
Eing. Nr. 135, 1931.

Esphalmenus
weidneri Brindle
paratype ♀ + nymph

ZMH 76681

51



Wahrscheinlich:
Umgeg.v. Santiago
Rater Dr. G. Bohn ded.
Eing. Nr. 135, 1931.

Esphalmenus
weidneri Brindle
paratype ♀ + nymph

ZMH 76682

52



Sphongophora
lutea Borm.
sp. n.

Kotype

Paratype ♂

Carin chobai
1900-1901 m
L. Foa 24520

Birma
Leon. Pen leg.
vend. L.I. 1896

A. de Bormans
determ.

ZMH 76581

53



Carin chobai
1900-1901 m
L. Foa 24520

Birma
Leon. Pen leg.
vend. L.I. 1896

A. de Bormans
determ.

Kotype

Paratype ♂

Chaetospania
Feae
sp. n.

Chaetospania
Feae Borm.
sp. n.

ZMH 76603

54



Carin chobai
1900-1901 m
L. Foa 24520

Birma
Leon. Pen leg.
vend. L.I. 1896

A. de Bormans
determ.

Chaetospania
Feae
sp. n.

Kotype

Paratype ♂

ZMH 76604

55



Tenasserim
Tensang 4000'
M. J. A.
F. Borelli leg.

H. Borelli
determ. 20.XII.1932

Type

Holotype

Chaetospania
mendax
nov. sp. Borelli
1932

A. Borelli
determ. 1931.

ZMH 76605

56



Costa Rica
Coronado
15. II. 1931
F. Neumann

Holotype

Holotype

Labia ♂
nodulosa Brindle
det. A. Brindle 1973
holotype

ZMH 76582

FIGURE 7. 49–51. *Esphalmenus weidneri* Brindle, 1966. 52. *Sphongophora lutea* de Bormans, 1894. 53–54. *Chaetospania feae* de Bormans, 1894. 55. *Chaetospania mendax* Borelli, 1932. 56. *Labia nodulosa* Brindle, 1973. Scale bars = 5 mm.

Type material

Syntype (1 female; dried, on cardboard)

MYANMAR • 1 ♀ (Fig. 52); “Sphongophora / lutea Borm. / sp. n. // Kotype // Paratypoid // Carin Ghecù / 1300–1400 m / L. Fea V.88 // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // ZMH 76581”

Type locality

Carin Ghecù, Carin Chebà & Carin Asciuii Chebà [Myanmar].

Current status

Valid species.

Remarks

The original species name should actually be *Spongiphora lutea*, as de Bormans (1894) seems to have misspelled the genus. Furthermore, it seems like a wrong collection date (May instead of March) is written on the specimen label. As this particular information was added in writing on the otherwise printed label it might be a mistake.

Subfamily Sparattinae Verhoeff, 1902**16. *Chaetospania feae* de Bormans, 1894****Original combination**

Chaetospania feae de Bormans, 1894: 390–391.

Current combination

Chaetospania feae de Bormans, 1894.

Type material

Syntypes (2 females; dried, on cardboard)

MYANMAR • 1 ♀ (Fig. 53); “Carin Ghecù / 1300–1400 m / L. Fea II–III.88. // Birma / Leon. Fea leg. / vend. 1.1. 1895. // A. de Bormans / determ. // Kotype // Paratypoide // Chaetospania / Feae / ♀ sp. nova // Chaetospania / Feae Borm. / sp. n // ZMH 76603” • 1 ♀ (Fig. 54); “Carin Chebà / 900–1100 m / L. Fea V XII–88 // Birma / Leon. Fea leg. / vend. 1.1. 1895. // A. de Bormans / determ. // Chaetospania / Feae / ♀ sp. nova // Kotype // Paratypoide // ZMH 76604”

Type locality

Carin Asciuii Chebà, Carin Ghecù & Carin Chebà [Myanmar].

Current status

Valid species.

Remarks

Weidner (1964) wrongly listed one male and female specimen for this species.

17. *Chaetospania mendax* Borelli, 1932**Original combination**

Chaetospania mendax Borelli, 1932: 90–92.

Current combination

Chaetospania mendax Borelli, 1932.

Type material

Holotype (1 male; dried, on cardboard)

MYANMAR • 1 ♂ (Fig. 55); “Tenasserim / Tandong 4000’ / Mai / Fruhstorfer leg. // H. Fruhstorfer / vend. 20.XII.1902 // Type // Holotype // *Chaetospania / mendax* / Bonelli / nov. sp. / typus / ♂ // A. Borelli / determ. 1931. // ZMH 76605”

Type locality

Tenasserim [Myanmar: Tanintharyi].

Current status

Valid species.

Remarks

This species is commonly known as *Chaetospania mandex* (Srivastava 1987, Steinmann 1989, Hopkins *et al.* 2025b; last accessed 25.2.2025). This is a wrong spelling of the species name as it is clearly written as *mendax* in the original description as well as on the belonging specimen label of the holotype.

18. *Labia nodulosa* Brindle, 1973**Original combination**

Labia conspicua Borelli, 1906: 9–10.

Labia nodulosa Brindle, 1973: 395–398.

Current combination

Paralabella conspicua (Borelli, 1906)—Steinmann, 1989: 578.

Type material

Holotype (1 male; dried, on cardboard)

COSTA RICA • 1 ♂ (Fig. 56); “Costa Rica / Coronado / 15.II.1931 / F. Nevermann // Holotype // Holotype // *Labia* ♂ / *nodulosa* Brindle / det. A. Brindle 1973 / holotype // ZMH 76582”

Paratypes (1 female; dried, on cardboard: ZMH 76583 • 4 males; in ethanol: ZMH 866031)

COSTA RICA • 1 ♀ (Fig. 57); “Costa Rica / Coronado / 15.II.1931 / F. Nevermann // Allotype // Paratypoid // *Labia* ♀ / *nodulosa* Brindle / det. A. Brindle 1973 / allotype // ZMH 76583” • 4 ♂; “Costa-Rica / Coronado / 15.II.31 / F. Nevermann leg. / Eing. Nr. 164 1931. // *Labia* ♂ / *nodulosa* Brindle / det. A. Brindle 1873 / paratypes // Paratype // ZMH 866031” 395–396, Abb. 1, 2, Costa Rica, Coronado, 15. 2.1931, ♂, Holotype, ♀, Allotype (4).

Type locality

Costa Rica: Vázquez de Coronado.

Current status

Accepted synonym of *Paralabella conspicua* (Borelli, 1906).

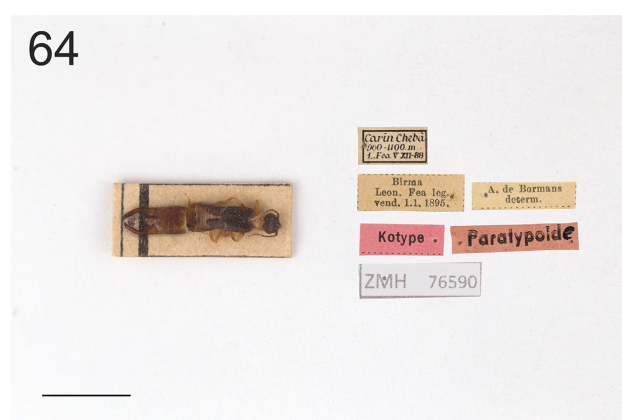
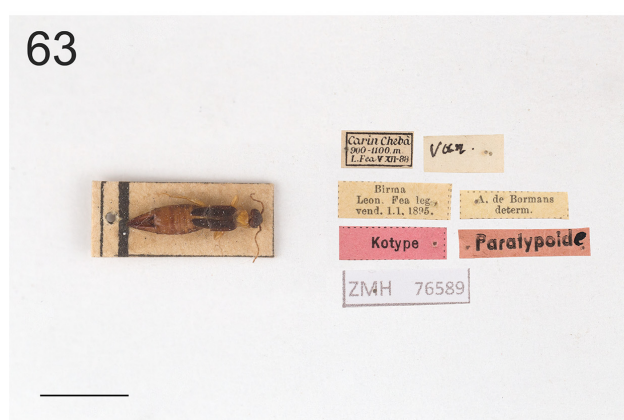
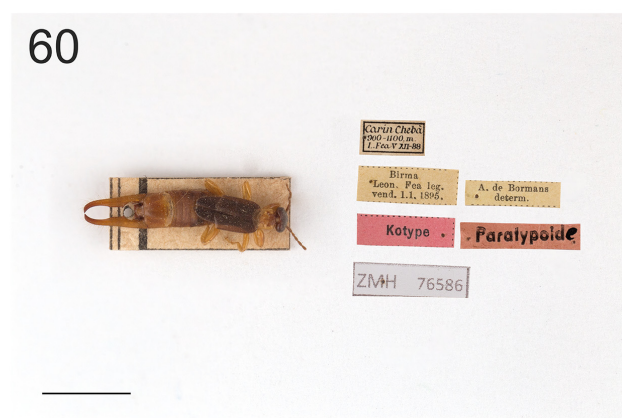
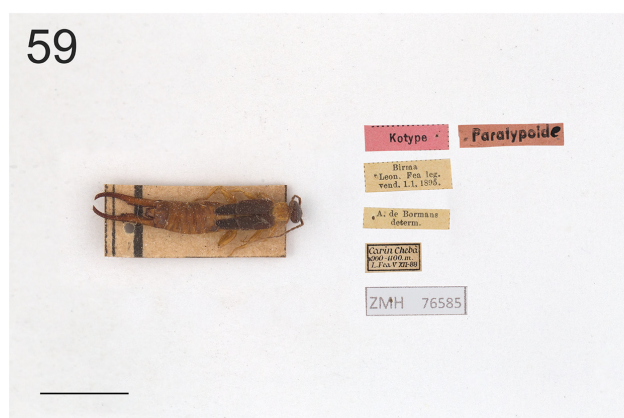


FIGURE 8. 57. *Labia nodulosa* Brindle, 1973. 58–62. *Labia ridens* de Bormans, 1894. 63–64. *Labia ridens* var. *cyclolabia* de Bormans, 1894. Scale bars = 5 mm.

Remarks

The four type specimens conserved in ethanol are unfortunately broken into multiple pieces. Brindle (1973) already states in the original description that the abdomen of all four are separated from the rest of the body. The current condition shows that they must have been further damaged in the past decades. As they are all housed in one glass, we fixed one ZMH-number for all individuals instead of one for each specimen.

19. *Labia ridens* de Bormans, 1894

Original combination

Labia ridens de Bormans, 1894: 388–389.

Current combination

Chaetospania ridens (de Bormans, 1894)—Steinmann, 1989: 475.

Type material

Paralectotypes (2 males, 3 females; dried, on cardboard)

MYANMAR • 1 ♂ (Fig. 58); “Carin Chebà / 900–1100. m. / L. Fea V XII-88 // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // *ridens* / Borm / sp. n. // Kotype // Paratypoide // ZMH 76584” • 1 ♂ (Fig. 59); “Kotype // Paratypoide // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Carin Chebà / 900–1100. m. / L. Fea V XII-88 // ZMH 76585” • 3 ♂ (Fig. 60–62); “Carin Chebà / 900–1100. m. / L. Fea V XII-88 // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Kotype // Paratypoide // ZMH 76586–76588”

Type locality

Carin Chebà [Myanmar].

Current status

Valid species.

Remarks

As is often the case with type series from de Bormans, there seem to be far more specimens than listed in the original description. For *Labia ridens*, he lists five specimens in total (de Bormans 1894). However, the Museum of Natural History “Giacomo Doria” (Genoa) and the Institut des Sciences Naturelles (Brussels) already house seven type specimens in total (Srivastava 1981). Since the information from the labels matches the collection data of the type specimens, the material present in the ZMH belongs to the type series as well. In the same publication, Srivastava (1981) also declares a Lectotype for *Labia ridens*, hence, the specimens at hand are Paralectotypes.

20. *Labia ridens* var. *cyclolabia* de Bormans, 1894

Original combination

Labia ridens var. *cyclolabia* de Bormans, 1894: 389.

Current combination

Chaetospania bormansi Srivastava, 1981: 292–295.

Type material

Syntypes (1 male, 1 female; dried, on cardboard)

MYANMAR • 1 ♀ (Fig. 63); “Carin Chebà / 900–1100. m. / L. Fea V XII-88 // var. // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Kotype // Paratypoide // ZMH 76589” • 1 ♂ (Fig. 64); “Carin Chebà / 900–1100. m. / L. Fea V XII-88 // Birma / Leon. Fea leg. / vend. 1.1.1895. // A. de Bormans / determ. // Kotype // Paratypoide // ZMH 76590”

Type locality

Carin Chebà [Myanmar].

Current status

Accepted synonym of *Chaetospania bormansi* Srivastava, 1981.

Remarks

In the section where de Bormans (1894) describes *Labia ridens*, he also describes a variety of the same species—*Labia ridens* var. *cyclolabia*. In the first ZMH type catalogue for Dermaptera (Weidner, 1964), all type specimens are listed as *Labia ridens*. However, one specimen has a label stating “var.”. Furthermore the variety has a smaller habitus than the nominal species. Based on those two facts, we assumed that the specimens listed here actually belong to said variety.

As is often the case with type series from de Bormans, there seem to be far more specimens than listed in the original description. For *Labia ridens* var. *cyclolabia*, he lists five specimens in total. However, the Museum of Natural History “Giacomo Doria” in Genoa alone houses five type specimens (Srivastava 1981). Since the information from the labels matches the collection data of the type specimens, the material present in the ZMH belongs to the type series as well.

21. *Parasparatta ecuadorensis* Borelli, 1932

Original combination

Parasparatta ecuadorensis Borelli, 1932: 92–94.

Current combination

Sparatta ecuadorensis (Borelli, 1932)—Steinman: 448.

Type material

Holotype (1 male; dried, on pin)

ECUADOR • 1 ♂ (Fig. 65); “Ecuador. / Sabanilla b. Zamora / Prov. Loja / 21.IX.1905. // Dr. Fr. Ohaus leg. / id. vend. 15.7.1907. / cfr. Reisebericht 1907 // Parasparatta / ecuadorensis / ♂ typus Borelli // A. Borelli / determ. 1931 // Type // Holotype // ZMH 76594”

Paratypes (1 male, 1 female; dried, on pin)

ECUADOR • 1 ♀ (Fig. 66); “Ecuador. / Sabanilla b. Zamora / Prov. Loja / 21.IX.1905. // Dr. Fr. Ohaus leg. / id. vend. 15.7.1907. / cfr. Reisebericht 1907 // Parasparatta / ecuadorensis / ♀ Borelli // A. Borelli / determ. 1931 // Type // Holotype // ZMH 76593” • 1 ♂ (Fig. 67); “Ecuador. / Sabanilla b. Zamora / Prov. Loja / 21.IX.1905. // Dr. Fr. Ohaus leg. / id. vend. 15.7.1907. / cfr. Reisebericht 1907 // Sabanilla 21.9.05 // A. Borelli / determ. 1931 // Parasparatta / ecuadorensis / ♂ Borelli // Kotype // Paratypoide // ZMH 76595”

Type locality

Ecuador: Sabanilla at Zamora.

Current status

Valid species.



FIGURE 9. 65–67. *Parasparatta ecuadorensis* Borelli, 1932. 68–69. *Parasparatta quinquepunctata* Borelli, 1932. 70–71. *Marava elegantula* Brindle, 1973. 72. *Spogovostox eichelbaumi* Borelli, 1932. Scale bars = 5 mm.

22. *Parasparatta quinquepunctata* Borelli, 1932

Original combination

Parasparatta quinquepunctata Borelli, 1932: 94–95.

Current combination

Sparatta quinquepunctata (Borelli, 1932)—Steinman: 453.

Type material

Holotype (1 male; dried, on cardboard)

BRAZIL • 1 ♂ (Fig. 68); “Petropolis / (Brasil.) / Dr. Fr. Ohaus leg. / vend. 23.III.1900. // A. Borelli / determ. 1931. // *Parasparatta / quinquepunctata / ♂ typus Borelli // Type // Holotype // ZMH 76596*”

Paratype (1 female; dried, on cardboard)

BRAZIL • 1 ♀ (Fig. 69); “A. Borelli / determ. 1931 // Petropolis / 16.8.98. // *Parasparatta / quinquepunctata / ♀ typus Borelli // Type // Holotype // ZMH 76597*”

Type locality

Brazil: Petrópolis.

Current status

Valid species.

Subfamily Spongiphorinae Verhoeff, 1902

23. *Marava elegantula* Brindle, 1973

Original combination

Marava elegantula Brindle, 1973: 398–399.

Current combination

Marava elegantula Brindle, 1973.

Type material

Holotype (1 male; dried, on cardboard)

COSTA RICA • 1 ♂ (Fig. 70); “*Marava / elegantula / ♂ / Brindle / det. A. Brindle 1873 / holotype // Costa Rica / S. José 10. 7. 1928. / F. Nevermann leg. / Eing. Nr. 108, 1928. // Holotype // Holo- / type // ZMH 76591*”

Paratype (1 female; dried, on cardboard)

COSTA RICA • 1 ♀ (Fig. 71); “*Marava / elegantula / ♀ / Brindle / det. A. Brindle 1973 / allotype // Costa Rica / S. José 10. 7. 1928. / F. Nevermann leg. / Eing. Nr. 108, 1928. // Paratypoid // Allo- / type // ZMH 76592*”

Type locality

Costa Rica: San José.

Current status

Valid species.

24. *Spongovostox eichelbaumi* Borelli, 1932

Original combination

Sphingolabis testacea Borelli, 1923: 423–424.

Spongovostox eichelbaumi Borelli, 1932: 88–90.

Current combination

Spongovostox testaceus (Borelli, 1923)—Steinman: 550.

Type material

Holotype (1 male; dried, on cardboard)

GERMAN EAST AFRICA • 1 ♂ (Fig. 72); “Deutsch-Ostafrika / Dr. F. Eichelbaum / leg. 1903, vend. 1.IV.1911 // D. Ost Afrika / D. F. Eichelbaum / leg. // *Spongovostox* / *eichelbaumi* / ♂ / typus Borelli // Type // Holotype // A. Borelli / determ. 1931. // ZMH 76601”

Paratype (1 female; dried, on cardboard)

GERMAN EAST AFRICA • 1 ♀ (Fig. 73); “Deutsch-Ostafrika / Dr. F. Eichelbaum / leg. 1903, vend. 1.IV.1911 // *Spongovostox* / *eichelbaumi* / Borelli / ♀ // Type // Holotype // A. Borelli / determ. 1931. // ZMH 76602”

Type locality

German East Africa [Tanzania, Burundi, Rwanda, Mozambique].

Current status

Accepted synonym of *Spongovostox testaceus* (Borelli, 1923).

Specimen wrongly listed as types

Family Spongiphoridae Verhoeff, 1902

Subfamily Isolaboidinae Brindle, 1978

25. *Pseudisolabis kosswigi* Burr, 1947

Original combination

Pseudisolabis kosswigi Burr, 1947: 60–64.

Current combination

Isolaboides kosswigi (Burr, 1947)—Steinmann, 1989: 398.

Material

1 male (in ethanol)

TURKEY • 1 ♂ (Fig. 74); “*Pseudisolabis* / *kosswigi* / Burr / ♂ // Cavdir / Horsun harabeleri / X.946 // ZMH 76684”

Type locality

Turkey: Denizli, Honosdagh [Mount Honaz].

Current status

Valid species.



FIGURE 10. 72. *Spongovostox eichelbaumi* Borelli, 1932. 73. *Pseudisolabis kosswigi* Burr, 1847. 74. *Brachylabis annulicornis* nov. spec.



FIGURE 11. Map displaying the approximate collection locations of primary type specimens in the collection.

Remarks

This specimen was listed wrongly as paratype for the ZMH Dermaptera collection (Weidner 1964). Burr (1947) lists this particular specimen, but not as part of the type series. Instead it is listed under “Supplementary Notes” to state further localities within Turkey, where *Pseudisolabis kosswigi* can be found. Therefore, we consider this specimen not a type.

Nomen nudum specimen

Family Anisolabididae Verhoeff, 1902

Subfamily Anisolabidinae Verhoeff, 1902

26. *Brachylabis annulicornis* nov. spec.

Material

Nov. Spec. (1 female; dried, on pin)

BRAZIL • ♀ (Fig. 75); “nomen nudum! // *Brachylabis / annulicornis* / ♀ n. sp. // nov. sp. / ne peut être / décrite sans / le ♂ [backside of label] // Brasilien / Sta. Catharina / Eing. 137,1925. // S. Catharina / (Brasilien) // A. Borelli / determ. 1931. // ZMH 76579”

Remarks

This specimen was declared as new species by A. Borelli. Based on the information on the backside of the determination label (ne peut être décrite sans le ♂ = can't be described without ♂) Borelli had no corresponding male specimen and therefore probably never published a description.

Discussion

The Dermaptera collection of the ZMH lists many interesting samples of earwigs, including a number of types (Supplementary Table 1). During this re-curation, most of the unidentified material was determined by DM. Furthermore, we updated the taxonomy of the earwig collection and can now list 312 species in total for the ZMH (Supplementary Table 2). Over 3000 determined specimens are housed in the dry collection alone, whereas in the wet collection, we assume about 800 specimens. With this, the collection of the ZMH is the largest collection of this taxon in Germany and among the largest in Europe and the world (Matzke & Schawaller 2015).

As for the types the ZMH contains 74 type specimens distributed across 7 families, 16 genera and 24 species (Supplementary Table 1). All type specimens listed in the catalogues by Weidner (1964, 1977) are still housed in the collection. We found some minor mistakes (misidentified gender, wrongly used terms of type) in the former catalogues, that we corrected for here. Two major changes were the addition of one variety of an already listed type species (*Labia ridens* var. *cyclolabia* de Bormans, 1894) and the removal of *Pseudisolabis kosswigi* Burr, 1947 from the type specimen list. Though the specimens housed in the ZMH are mentioned in the original publication they are not part of the original type series.

This type catalogue will represent an important resource for future taxonomic research on earwigs, as this is the first English catalog and the first one listing all species present. Further, we provide images of the types, which will also help future studies.

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Supplementary Materials. The following supporting information can be downloaded at the DOI landing page of this paper.

Supplementary Table 1

Authors: Eileen Nguyen

Data type: excel table

Explanation note: List of the type specimens of Dermaptera deposited at the Zoological Museum Hamburg (ZMH).

Supplementary Table 2

Authors: Eileen Nguyen

Data type: excel table

Explanation note: List of all Dermaptera species that are currently deposited at the Zoological Museum Hamburg (ZMH).