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An annotated type catalogue of praying mantises (Mantodea) in the Zoological Museum Hamburg (ZMH)

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Abstract. With this publication we provide an updated catalogue of the type material of mantises (Mantodea) deposited in the Zoological Museum Hamburg (ZMH). We report 84 type specimens (51 holotypes, 25 paratypes and 8 syntypes) belonging to 64 species (45 valid names and 19 synonyms). Furthermore, we present high resolution illustrations for these type specimens.

Keywords. LIB, Herbert Weidner, nomenclature, taxonomy, type illustrations.

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Introduction

Natural history collections have always been places, where objects of different historical and cultural background are assembled, stored and maintained for generations; these objects represent the basis for scientific research. Recently, it has become possible to make museum material more readily accessible beyond borders due to extensive networking and digitization. Yet, large amounts of material remain undigitized; this remains a problem for the scientific community, especially when it comes to type specimens.

The entomological collections of the Zoological Museum Hamburg (ZMH) contain more than four million specimens of diverse background. It goes back to the collections of captains and salesmen and hence covers a diverse geographic range. The collections were supplemented by larger donated and bought collections, the one from the Museum Godeffroy being one of the most important. Many important scientists have worked on the collection, having led to many species descriptions, especially

before WW2. Much of the collection of the holometabolous insects was destroyed in WW2, while most of the hemimetabolous insects and the alcohol collection could be saved. Hence, the hemimetabolous collection contains many types and historical material. This type material has been documented in the catalogues by the former curator Herbert Weidner. As part of this, the first Mantodea Burmeister, 1838 type catalogue was published in 1964 (Weidner 1964), which was complemented by an addition in 1977 (Weidner 1977). At this time, the type collection included 52 species with a total of 60 specimens. However, these catalogues were in German language and contained many uncertainties and problems. Further, the catalogues have not been updated since then. Therefore, we recently started to update the catalogues of the type material of the entomological collections of the Zoological Museum Hamburg (ZMH), now part of the Leibniz Institute for the Analysis of Biodiversity Change (LIB). The results are provided in detailed catalogues that were published in the last years (Dey & Husemann 2018a, 2018b on Orthoptera; Henningsen *et al.* 2020 on Odonata; Simoes *et al.* 2021 on Cassididae; Zahiri *et al.* 2021a, 2021b on Lepidoptera; Botero *et al.* 2023 on Cerambycidae). Here, we continue this work and provide and updated and annotated catalogue of the Mantodea types housed in the ZMH.

Material and methods

For this catalogue, all type specimens as well as their labels and existing prepared genitalia were separated from the main collection and photographed. The close up views of the genitalia were taken with a Keyence VHX-7000 (lens VHX-E20; Keyence, Osaka, Japan). All other images were taken with the Passport Portable Digital Imaging System from Visionary Digital (DUN Inc., California, USA). This system included a Canon EOS 6D camera, different macro lenses (Canon MP-E 50 mm, 65 mm and 100 mm) and a Canon Speedlite lighting system.

The taxonomic classification used in this catalogue follows Schwarz & Roy (2019). Double slash (//) separates data from different labels whereas a single slash (/) separates single lines within a label. For unreadable data a question mark (?) was added. The habitus of several specimens is no longer completely preserved. Especially antennae and tarsi are often missing. Nevertheless, we have used the designation "complete" as soon as the main body as well as at least one leg of each pair are still present.

Results

Class Insecta Linnaeus, 1758
Order Mantodea Burmeister, 1838
Family Acanthopidae Burmeister, 1838

Acontistella violacea Beier, 1931
Fig. 1

Acontista fraterna Saussure & Zehntner, 1894: 136.
Acontistella violacea Beier, 1931: 18–19.

Acontista fraterna – Rehn 1935: 253–254 (syn.).

Type material

Holotype (1 male)
COSTA RICA • ♂ (Fig. 1); "// Type // genitalia / A. Agudelo / August 2017 // Costa Rica / Farm Hamburg am / Reventazon 30.IX.26 / Eing. Nr. 52.1927 // *Acontistella* / *violacea* ♂ / det. Beier / Type!"; ZMH 841121.

Type locality

Costa Rica: Farm Hamburg at Reventazón River.

Current status

Synonym of *Acontista fraterna* Saussure & Zehntner, 1894.

Fig. 1. *Acontistella violacea* Beier, 1931, holotype, ♂ (ZMH 841121). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–f**. Genitalia. White scale bars = 10 mm; black scale bar = 0.50 mm.

Habitus

Complete. Genitalia were prepared after the images were taken.

Family Amorphoscelidae Stål, 1877

Amorphoscelis austrogermanica Werner, 1923
Fig. 2a–e

Amorphoscelis austrogermanica Werner, 1923: 108–109.

Type material

Holotype (1 male)
NAMIBIA • ♂ (Fig. 2a–e); "// Holotype // genitalia / R. Roy / 3175 // Z. M. H. / Hamburg // Farm Neitsas / Bez. Grootfontain / D. S. W. Afrika / Dr. med. G. Fock lg. 07. / ded. 20.11.1908. // *Amorphoscelis* / *austrogermanica* / Type ♂ Wern. / Fr. Werner det. 1922. // Fr. Werner / publ. 1923."; ZMH 841075.

Type locality

Farm Neitsas in the area of Grootfontein [Namibia].

Current status

Valid species.

Habitus

Incomplete: last pair of legs is missing. Genitalia preparation is present.

Family Chroicopteridae Giglio-Tos, 1915

Gonypeta benguelae Saussure, 1869
Fig. 2f–h

Gonypeta benguelae Saussure, 1869: 64.

Ligentella benguelae – Kaltenbach 1996: 257–259.

Type material

Holotype (1 female)
ANGOLA • ♀ (Fig. 2f–h); "// Holotype // O 277 ♀ / Benguela // Z. M. H. / Hamburg // Benguelae / Sss. // *Parentella* ♀ / *benguelae* Sauss. / det. Beier"; ZMH 833033.

Type locality

West Africa, Benguela [Angola].

Current status

Valid species.

Habitus

Incomplete: last pair of legs is missing.

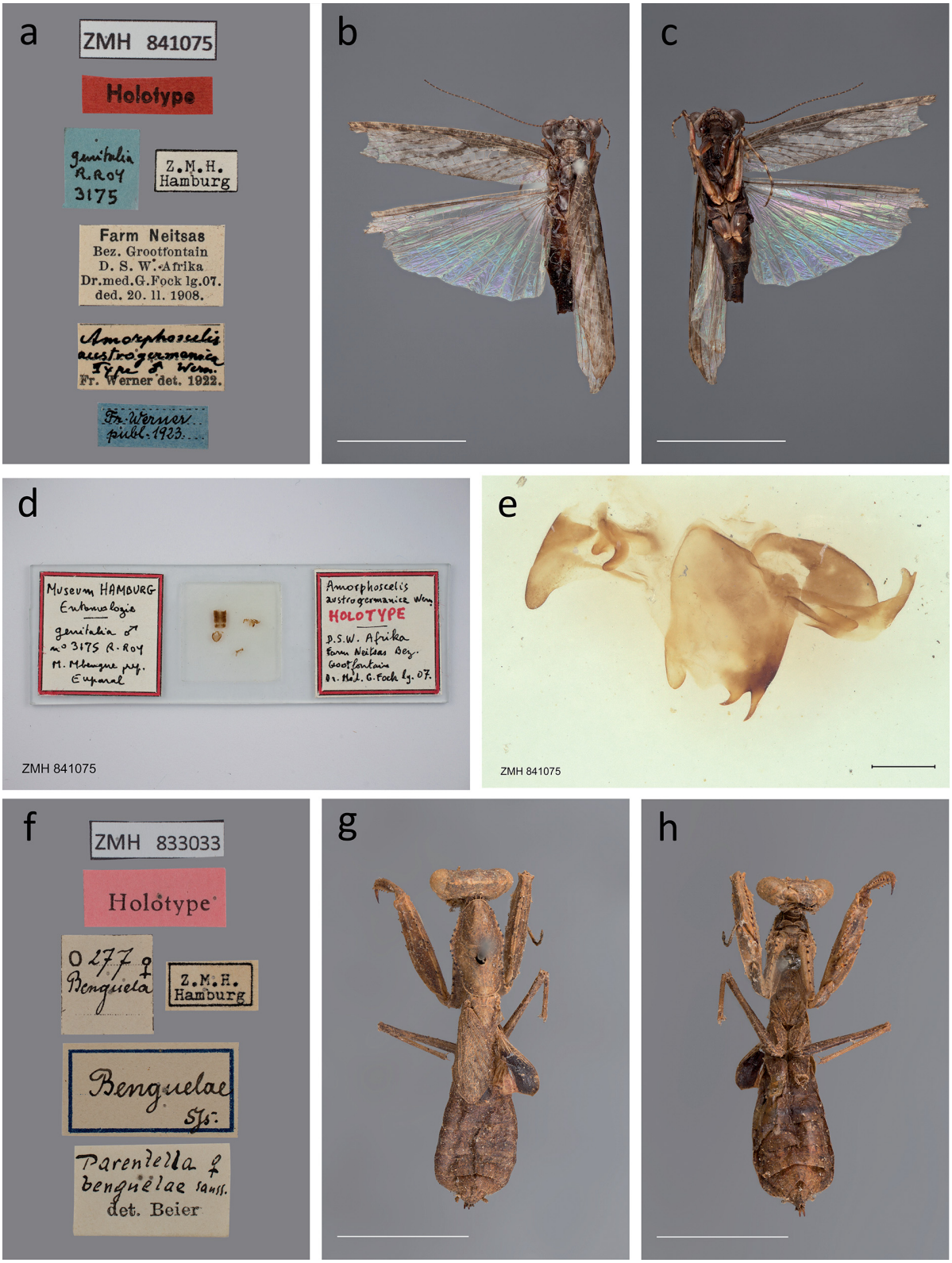

Fig. 2. a–e. *Amorphoscelis austrogermanica* Werner, 1923, holotype, ♂ (ZMH 841075). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–e**. Genitalia. **f–h**. *Gonypeta benguelae* Saussure, 1869, holotype, ♀ (ZMH 833033). **f**. Labels. **g**. Dorsal view. **h**. Ventral view. White scale bars = 10 mm; black scale bar = 0.50 mm.

Remarks

In the original publication Saussure quotes "Africa occidentalis" [West Africa] as type locality. However in a later publication (Saussure 1871), he gives a more detailed description of this type specimen and quotes Benguela as more specific type locality.

Iris tricolor Werner, 1923
Fig. 3

Mantis pulchripennis Stål, 1876: 72–73.
Iris tricolor Werner, 1923: 123–124.

Bisanthe pulchripennis – Kaltenbach 1996: 295 (syn.).

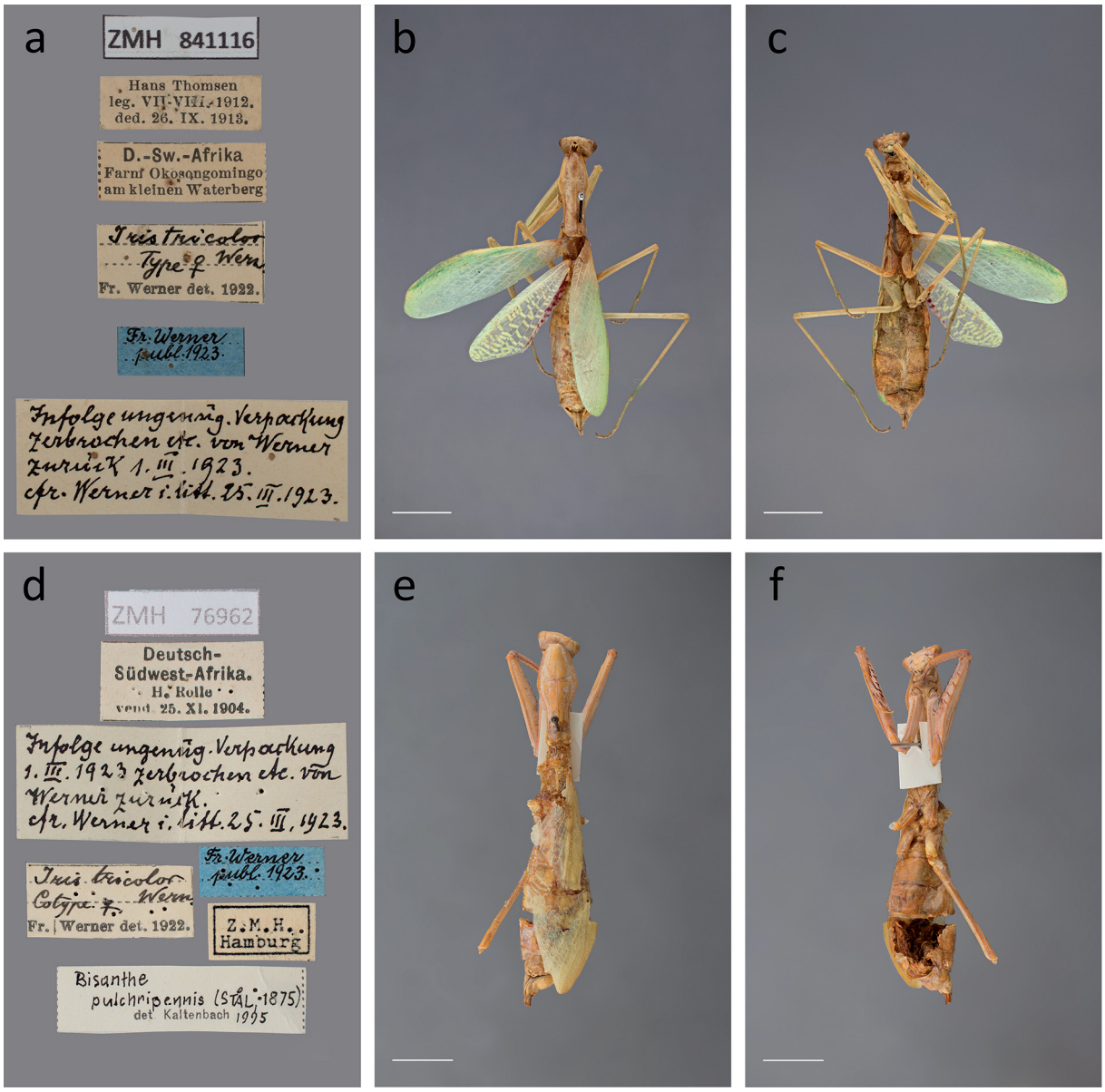

Fig. 3. *Iris tricolor* Werner, 1923. **a–c**. Holotype, ♀ (ZMH 841116). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Paratype, ♀ (ZMH 76962). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 3a–c); "// Hans Thomsen / leg. VII–VIII. 1912. / ded. 26.IX.1913. // D.-Sw.-Afrika / Farm Okosongomingo / am kleinen Waterberg // *Iris tricolor* / Type ♀ Wern. / Fr. Werner det. 1922. // Fr. Werner / publ. 1923. // Infolge ungenüg. Verpackung / zerbrochen etc. von Werner / zurück 1. III. 1923. / cfr. Werner i. litt. 25.III.1923."; ZMH 841116.

Paratype (1 female)
NAMIBIA • 1 ♀ (Fig. 3d–f); "// Deutsch- / Südwest-Afrika. / H. Rolle / vend. 25.XI.1904. // Infolge ungenüg. Verpackung / 1.III.1923 zerbrochen etc. von / Werner zurück. / cfr. Werner i. litt. 25.III.1923. / *Iris tricolor* / Cotype ♀ Wern. / Fr. Werner det. 1922. // Fr. Werner / publ. 1923. // Z. M. H. / Hamburg // *Bisanthe* / *pulchripennis* (STÅL, 1875) / det. Kaltenbach 1995"; ZMH 76962.

Type locality

Farm Okosongomingo at Klein-Waterberg [Namibia].

Current status

Synonym of *Bisanthe pulchripennis* (Stål, 1876).

Habitus

Holotype female complete. Paratype female incomplete: parts of the abdomen and two pairs of legs are missing.

Ommatentella brunni Werner, 1923
Fig. 4a–c

Ommatentella brunni Werner, 1923: 118.

Ommatentella (*Entella*) *brunni* – Kaltenbach 1996: 322.

Type material

Holotype (1 male)
NAMIBIA • ♂ (Fig. 4a–c); "// Hamb. dtsch-s. w. / afr. Studienr. 1911 / Windhuk. / W. Michaelsen / leg. 29.IV.–8.V.1911 / ded. // *Ommatentella* / *brunni* Wern. / ♂ Type! / Fr. Werner det. 1922. // Fr. Werner publ. 1923 / W. Michaelsen ded. 15.III.1923. // Zerbrochen von Werner / zurück 6.III.1923."; ZMH 831015.

Type locality

Windhoek [Namibia].

Current status

Valid species.

Habitus

Complete.

Palaeophotina schneideri Werner, 1923
Fig. 4d–f

Fischeria saussurii Stål, 1876: 53.
Palaeophotina schneideri Werner, 1923: 120–122.

Carvilia saussurii – Kaltenbach 1996: 305 (syn.).

Type material

Holotype (1 male)

NAMIBIA • ♂ (Fig. 4d–f); "// Holotype // D.-Sw.-Afrika / Farm Okosongomingo / am kleinen Waterberg // Hans Thomsen / leg. VII–VIII.1912 / ded. 26.IX.1913. // *Carvilia* / *saussurii* Stål, 1876 / det. Kaltenbach 1995 // *Palaeophot*. / *schneideri* / ♂ Type. Wern. / (Auf Wunsch / von Michaelsen / umgetauft) // Z. M. H. / Hamburg // *Paläophotina* / *okosongomingensis* / Type ♂ Wern / Fr. Werner det. 1922."; ZMH 841120.

Type locality

Farm Okosongomingo at Klein-Waterberg [Namibia].

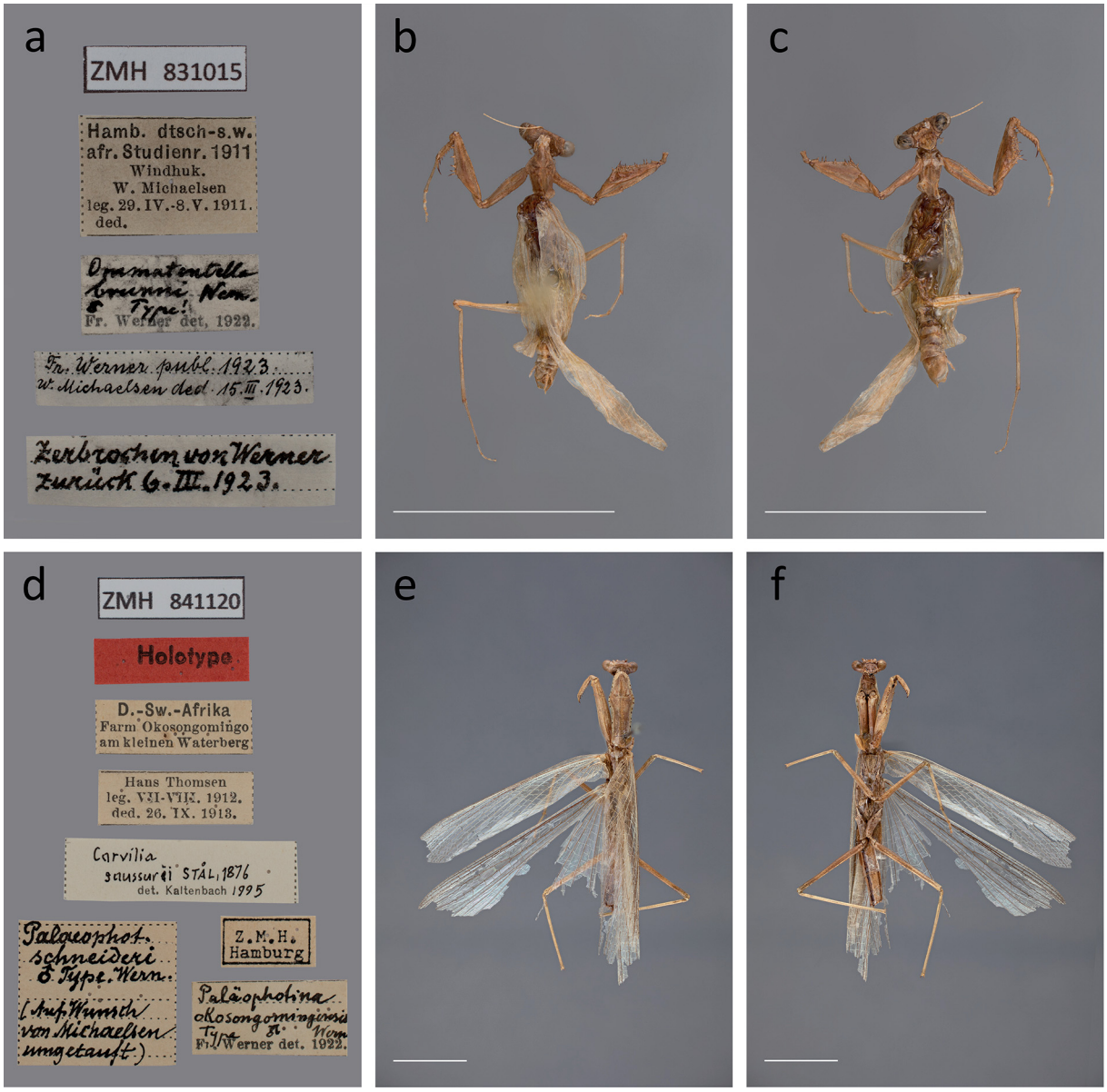

Fig. 4. a–c. *Ommatentella brunni* Werner, 1923, holotype, ♂ (ZMH 831015). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Palaeophotina schneideri* Werner, 1923, holotype, ♂ (ZMH 841120). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Current status

Synonym of *Carvilia saussurii* (Stål, 1876).

Habitus

Incomplete: abdominal apex is missing and not one leg is completely preserved. Abdominal apex was already missing in the original description.

Paracilnia ornatipennis Beier, 1935
Fig. 5a–c

Mantis alticeps Schaum, 1852: 777.
Paracilnia ornatipennis Beier, 1935c: 101–102.

Dystacta alticeps – Kaltenbach 1996: 239 (syn.).

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 5a–c); "// Type // S. W. Afrika / Tsumeb / 15.5.1930. / Gustav Meyer leg. / Eing. Nr. 1, 1931. // *Paracilnia* / *ornatipennis* / n. sp. / det. Beier / Type! ♀"; ZMH 841123.

Type locality

Southwestafrica, Tsumeb [Namibia].

Current status

Synonym of *Dystacta alticeps* (Schaum, 1852).

Habitus

Complete.

Tarachina constricta Werner, 1923
Figs 5d–f, 6a–c

Tarachina constricta Werner, 1923: 114.

Type material

Holotype (1 male)
NAMIBIA • ♂ (Fig. 5d–f); "// Holotype // Deutsch-Sw.-Afr. / Okahandja / 27.–28.IV.1911. // Hamburg. deutsch- / südwestafrikan. / Studienreise 1911. / W. Michaelsen leg. // *Tarachina* / *constricta* Wern / ♂ Type. / Fr. Werner det. 1922. // Fr. Werner / publ. 1923. / W. Michaelsen / ded. 15.3.1923."; ZMH 841073.

Paratype (1 male)
NAMIBIA • 1 ♂ (Fig. 6a–c); "// Hamburg. deutsch- / südwestafrikanische / Studienreise 1911. / Nördlich. Sandfeld / zw. Löwen-Omuramba / u. Owangowa-Veld. / v. Zastrow leg. 1912–13 // v. Zastrow / ded. 5.IX.1913. // Zoolog. Mus. Hamburg / *Tarachina constricta* / ♂ Cotype Wern. / Fr. Werner det. 1922. // Fr. Werner / publ. 1923."; ZMH 831018.

Type locality

Okahandja [Namibia].

Current status

Valid species.

Habitus

Complete.

Family Deroplatyidae Westwood, 1889

Danuria angusticollis Beier, 1931
Fig. 6d–f

Danuria angusticollis Beier, 1931: 11.

Danuria (*Danuria*) *angusticollis* – La Greca 1954: 273–274.

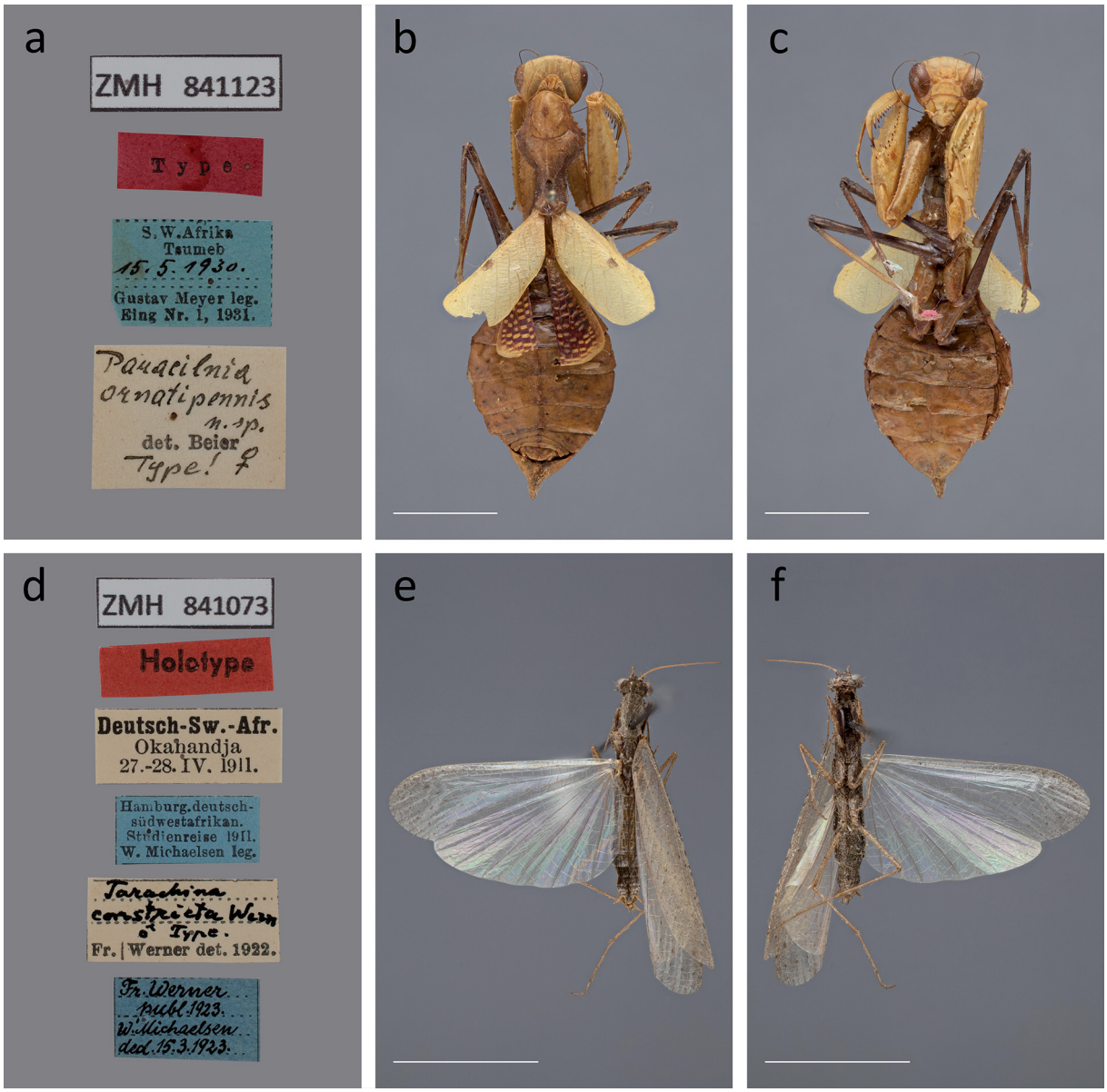

Fig. 5. a–c. *Paracilnia ornatipennis* Beier, 1935, holotype, ♀ (ZMH 841123). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Tarachina constricta* Werner, 1923, holotype, ♂ (ZMH 841073). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Holotype (1 female)
TANZANIA • ♀ (Fig. 6d–f); "// Type // Bagamoyo // Deutsch-Ostafrika / Bagamoyo / Eing. 137.1925. // *Danuria* / *angusticollis* / det. [crossed out] Beier / Type! ♀"; ZMH 841101.

Type locality

Bagamoyo, German East Africa [Tanzania].

Current status

Valid species.

Fig. 6. a–c. *Tarachina constricta* Werner, 1923, paratype, ♂ (ZMH 831018). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Danuria angusticollis* Beier, 1931, holotype, ♀ (ZMH 841101). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

Incomplete: elytra and two pairs of legs are missing. Elytra were already missing in the original description.

Danuria bolauana Saussure, 1869
Fig. 7a–c

Danuria bolauana Saussure, 1869: 70.

Neodanuria bolauana – La Greca & Lombardo 1986: 57–64.

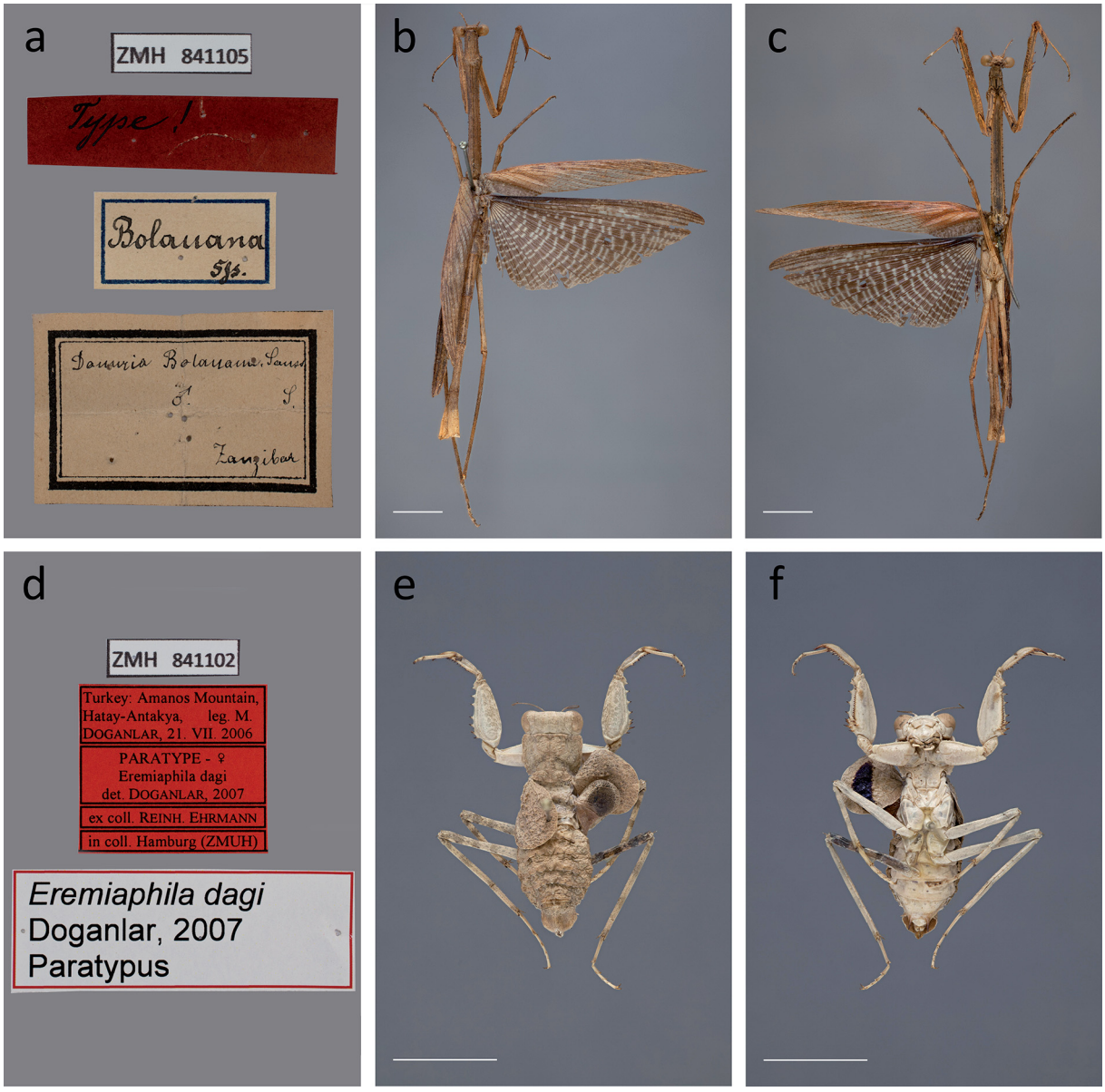

Fig. 7. a–c. *Danuria bolauana* Saussure, 1869, holotype, ♂ (ZMH 841105). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Eremiaphila dagi* Doganlar, 2007, paratype, ♀ (ZMH 841102). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Holotype (1 male)
TANZANIA • ♂ (Fig. 7a–c); "// Type! // Bolauana / Sss. // *Danuria bolauana*. Sauss. / ♂ S. / Zanzibar"; ZMH 841105.

Type locality

Zanzibar [Tanzania].

Current status

Valid species.

Habitus

Incomplete: abdominal apex is missing.

Family Eremiaphilidae Saussure, 1869

Eremiaphila dagi Doganlar, 2007
Fig. 7d–f

Eremiaphila dagi Doganlar, 2007: 1–24.

Type material

Paratype (1 female)
TURKEY • 1 ♀ (Fig. 7d–f); "// Turkey: Amanos Mountain, / Hatay-Antakya, leg. M. / DOGANLAR, 21.VII.2006 / PARATYPE - ♀ / *Eremiaphila dagi* / det. DOGANLAR, 2007 / ex. coll. REINH. EHRMANN / in. coll. Hamburg (ZMUH) // *Eremiaphila dagi* / Doganlar, 2007 / Paratypus"; ZMH 841102.

Type locality

Turkey: Amanos Mountain, Antakya, Hatay.

Current status

Valid species.

Habitus

Complete.

Eremiaphila yemenita Uvarov, 1939
Figs 8–10

Eremiaphila yemenita Uvarov, 1939: 550–551.

Type material

Holotype (1 female)
YEMEN • ♀ (Fig. 8a–c); "// Holo- / type // Brit. Mus / 1972–187. // Arabien, Yemen / Sanaa. 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // *Eremiaphila* / *yemenita* sp. n. / TYPE / Det. B. Uvarov 1937"; ZMH 833041.

Paratypes (4 females, 1 male)
YEMEN • 1 ♀ (Fig. 8d–f); "// Para- / type // 1 // Arabien, Yemen / Sanaa 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // Brit. Mus / 19712–187. // *Eremiaphila* / *yemenita* sp. n. / Paratype / Det. B. Uvarov 1937"; ZMH 833042 • 1 ♀ (Fig. 9a–c); "// Para- / type // Brit. Mus. / 1972–187. // 2 // Arabien, Yemen / Sanaa 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // *Eremiaphila* / *yemenita* / Paratype sp. n. / Det. B. Uvarov 1937"; ZMH 833043 • 1 ♀ (Fig. 9d–f); "// Para- / type // 3 // Arabien, Yemen / Sanaa 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // Brit. Mus. / 1972–187. // *Eremiaphila* / *yemenita* / sp. n. / Paratype / Det. B. Uvarov 1937"; ZMH 833044 • 1 ♀ (Fig. 10 a–c); "// Para- / type // 4 // Arabien, Yemen / Sanaa 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // Brit. Mus. / 1972–187. // *Eremiaphila* / *yemenita* sp. n. / Paratype / Det. B. Uvarov 1937"; ZMH 833045 • 1 ♂ (Fig. 10d–f); "// Para- / type

Fig. 8. *Eremiaphila yemenita* Uvarov, 1939. **a–c**. Holotype, ♀ (ZMH 833041). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Paratype, ♀ (ZMH 833042). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

// Brit. Mus. / 1972–187. // *Eremiaphila* / *yemenita* sp. n. / Paratype / Det. B. Uvarov 1937 // Arabien, Yemen / Sanaa 8.1931 / Dr. C. Rathjens leg. / Eing. Nr. 55, 1932. // 6"; ZMH 833047.

Type locality

Yemen: Sanaa.

Current status

Valid species.

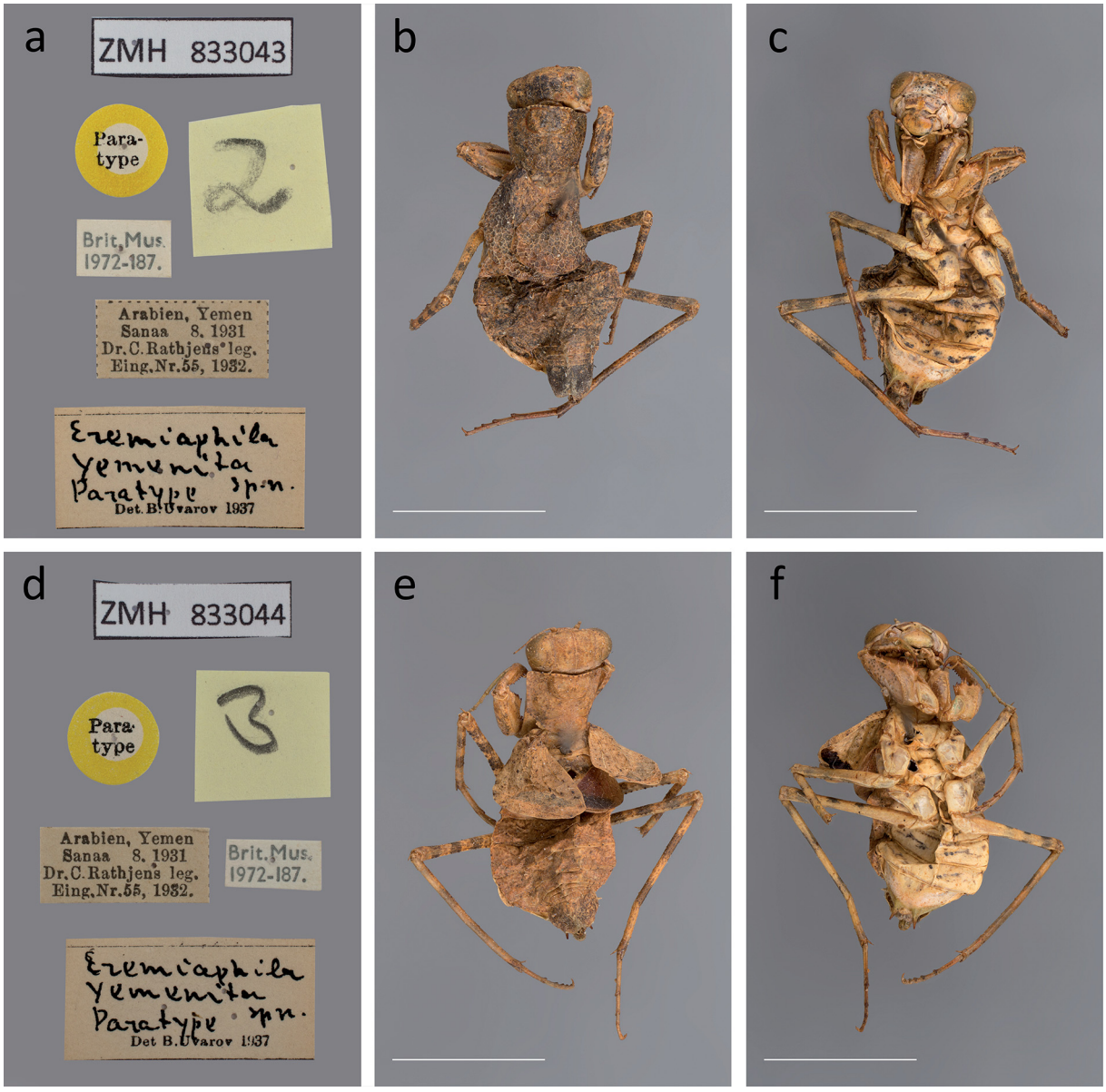

Fig. 9. *Eremiaphila yemenita* Uvarov, 1939. **a–c**. Paratype, ♀ (ZMH 833043). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Paratype, ♀ (ZMH 833044). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

Holotype and paratype females all complete. Paratype male incomplete: not one leg of the last pair is completely preserved. The Museum Basel (NMB) received one specimen of *Eremiaphila yemenita* (paratype 1 female, ZMH 844036) in exchange for *Hierodula* (*Parhierodula*) *salomonis* (paratype 1 male, NMB-MANTO0000741).

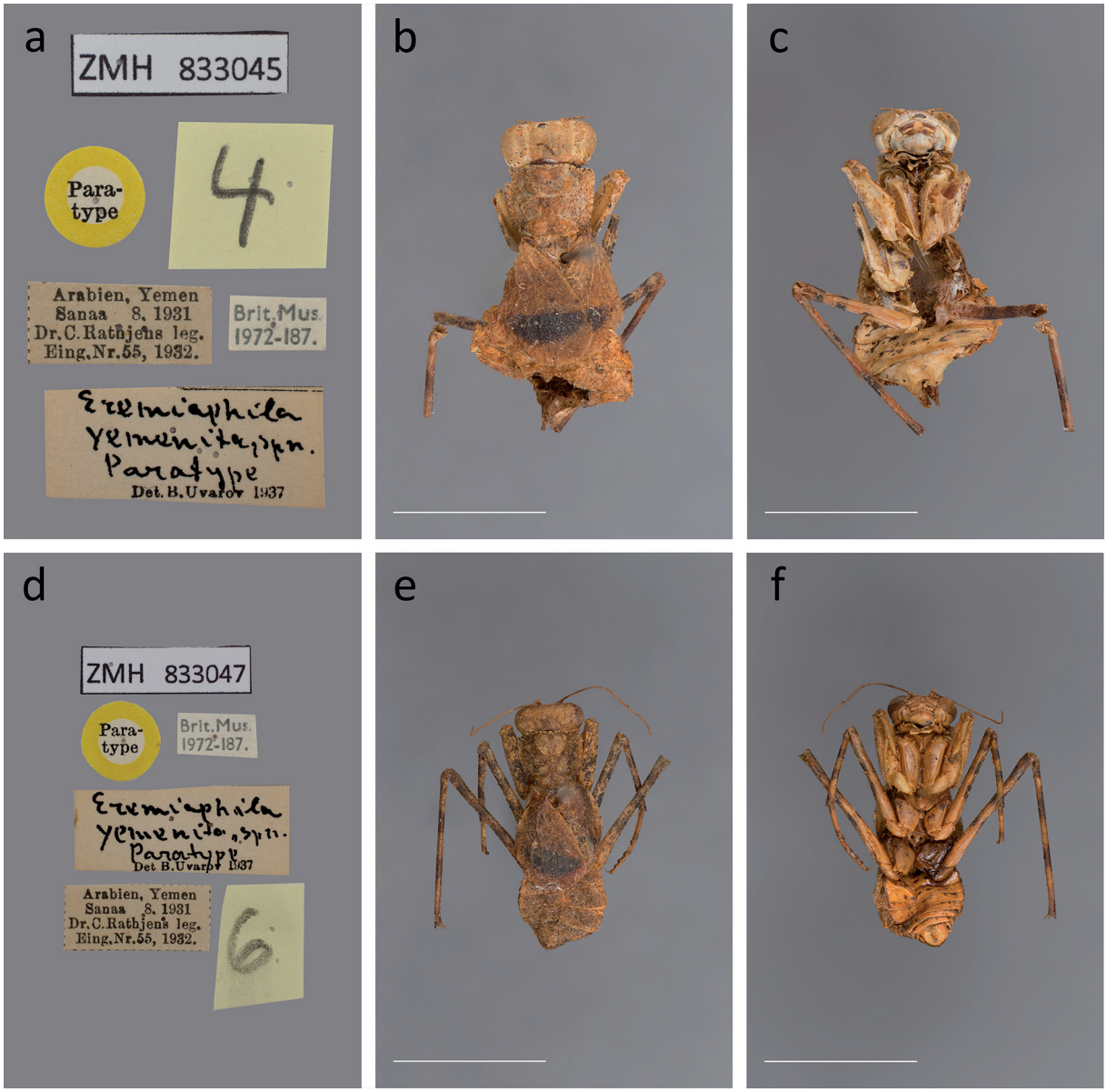

Fig. 10. *Eremiaphila yemenita* Uvarov, 1939. **a–c**. Paratype, ♀ (ZMH 833045). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Paratype, ♂ (ZMH 833047). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Galepsus bipunctatus Beier, 1931
Fig. 11a–c

Galepsus bipunctatus Beier, 1931: 3–4.

Galepsus (*Syngalepsus*) *bipunctatus* – Beier 1954: 18–19.

Type material

Holotype (1 male)
MOZAMBIQUE • ♂ (Fig. 11a–c); "// Type // Quilimane / 19.I.1889. / Coll. Stuhlmann // Dr. Fr. Stuhlmann / ded. 1.V.1902. // (?) // *Galepsus* ♂ / *bipunctatus* n. sp. / det. Beier / Typus! // *Galepsus* / aff. *modestior* (Schlth.) / v. Brunn determ. 2 ♂ / public. 1901, No. 28."; ZMH 833038.

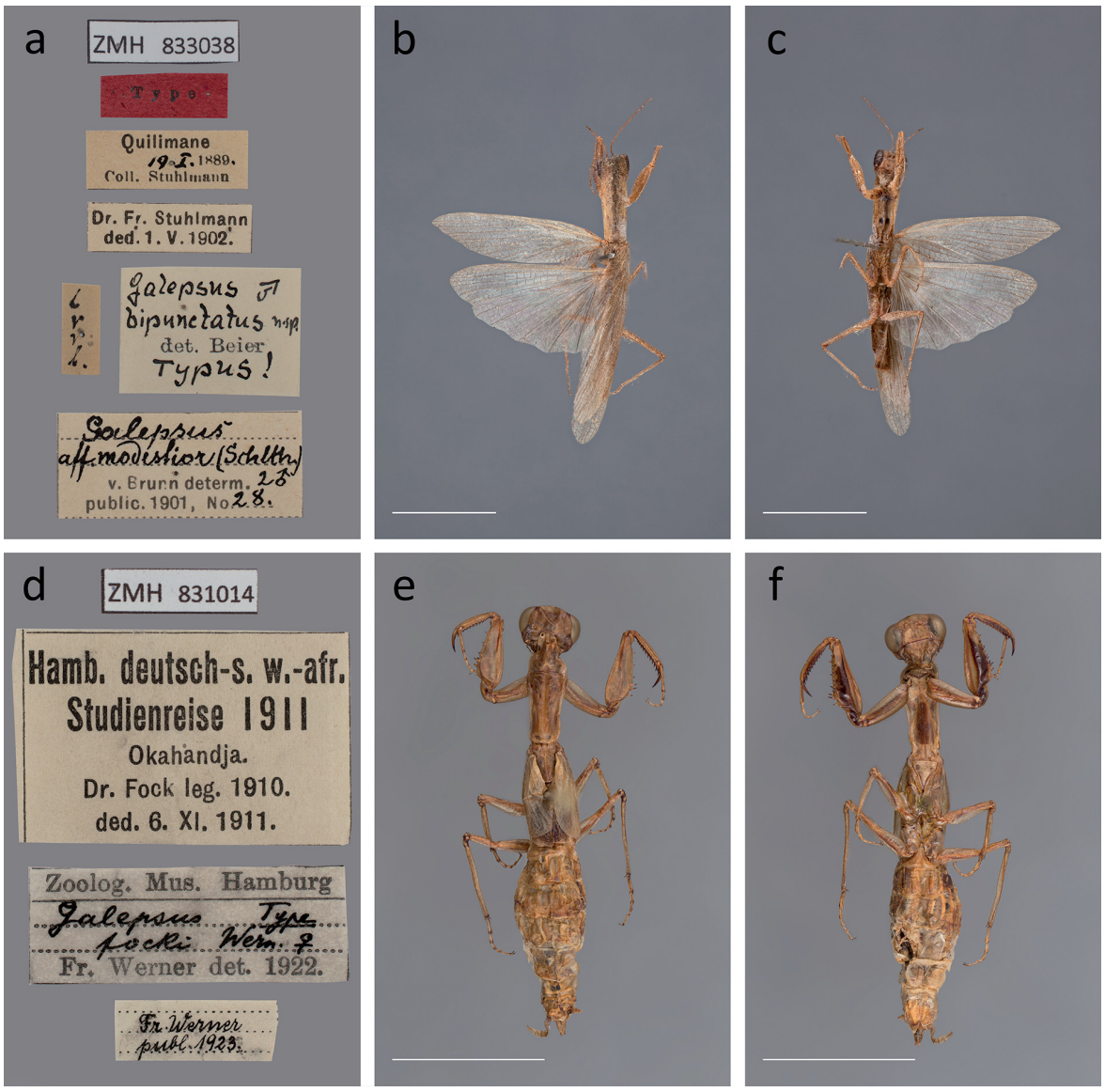

Fig. 11. a–c. *Galepsus bipunctatus* Beier, 1931. Holotype, ♂ (ZMH 833038). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f.** *Galepsus focki* Werner, 1923. Holotype, ♀ (ZMH 831014). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type locality

Quelimane, Portuguese East Africa [Mozambique].

Current status

Valid species.

Habitus

Incomplete: abdominal apex is missing.

Galepsus focki Werner, 1923
Fig. 11d–f

Galepsus focki Werner, 1923: 112.

Galepsus (*Onychogalepsus*) *focki* – Beier 1954: 18.

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 11d–f); "// Hamb. deutsch-s. w.-afr. / Studienreise 1911 / Okahandja. / Dr. Fock leg. 1910. / ded. 6.XI.1911. // Zoolog. Mus. Hamburg / *Galepsus* Type / *focki* Wern. ♀ / Fr. Werner det. 1922. // Fr. Werner / publ. 1923."; ZMH 831014.

Type locality

Okahandja [Namibia].

Current status

Valid species.

Habitus

Complete.

Galepsus sikorai Beier, 1931
Fig. 12a–d

Galepsus sikorai Beier, 1931: 4.

Paralygdamia sikorai – Roy 2016: 324–325.

Type material

Holotype (1 male)
MADAGASCAR • ♂ (Fig. 12a–d); "// Type // Madagaskar. / F. Sikora / vend. 30.III.1896. // *Galepsus* ♂ / *sikorai* n. sp. / det. Beier / Typus!"; ZMH 833039.

Type locality

Madagascar.

Current status

Valid species.

Fig. 12. a–d. *Galepsus sikorai* Beier, 1931, holotype, ♂ (ZMH 833039). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–g**. *Galepsus thomseni* Werner, 1923, holotype, ♀ (ZMH 833040). **e**. Labels. **f**. Dorsal view. **g**. Ventral view. Scale bars = 10 mm.

Habitus

Complete.

Galepsus thomseni Werner, 1923
Fig. 12e–g

Galepsus thomseni Werner, 1923: 113.

Galepsus (*Galepsus*) *thomseni* – Beier 1954: 22.

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 12e–g); "// D.-Sw.-Afrika / Farm Okosongomingo / am kleinen Waterberg // Hans Thomsen / leg. VII – VIII.1912. / ded. 26.IX.1913. // Auf Wunsch v. / Michaelsen / umgetauft. // *Galepsus* / *niger* Wern. / ♀ L. Type / Fr. Werner det, 1922. // *Gal. thomseni* / ♀ L. Wern. / Type // Fr. Werner / publ. 1923. // Infolge ungenüg. Verpackung / zerbrochen etc. 1.III.1923 von / Werner zurück. / cfr. Werner i. litt. 25.III.23."; ZMH 833040.

Type locality

Farm Okosongomingo at Klein-Waterberg [Namibia].

Current status

Valid species.

Habitus

Incomplete: last pair of legs is missing.

Galepsus tuberculatus Beier, 1931
Fig. 13

Galepsus tuberculatus Beier, 1931: 4.

Tuberculepsus tuberculatus – Roy & Schütte 2010: 402–405.

Type material

Holotype (1 male)
MADAGASCAR • ♂ (Fig. 13); "// Type // genitalia / R. Roy / 3736 // Nossi-Bé / P. Frey leg. / ded. 23.XI.1898 // *Galepsus* ♂ / *tuberculatus* n. sp. / det. Beier / Typus! // *Tuberculepsus* / *tuberculatus* (Beier) / ♂ / R. Roy det. 2005"; ZMH 833049.

Type locality

Nosy Be [Madagascar].

Current status

Valid species.

Habitus

Complete. Genitalia preparation is present.

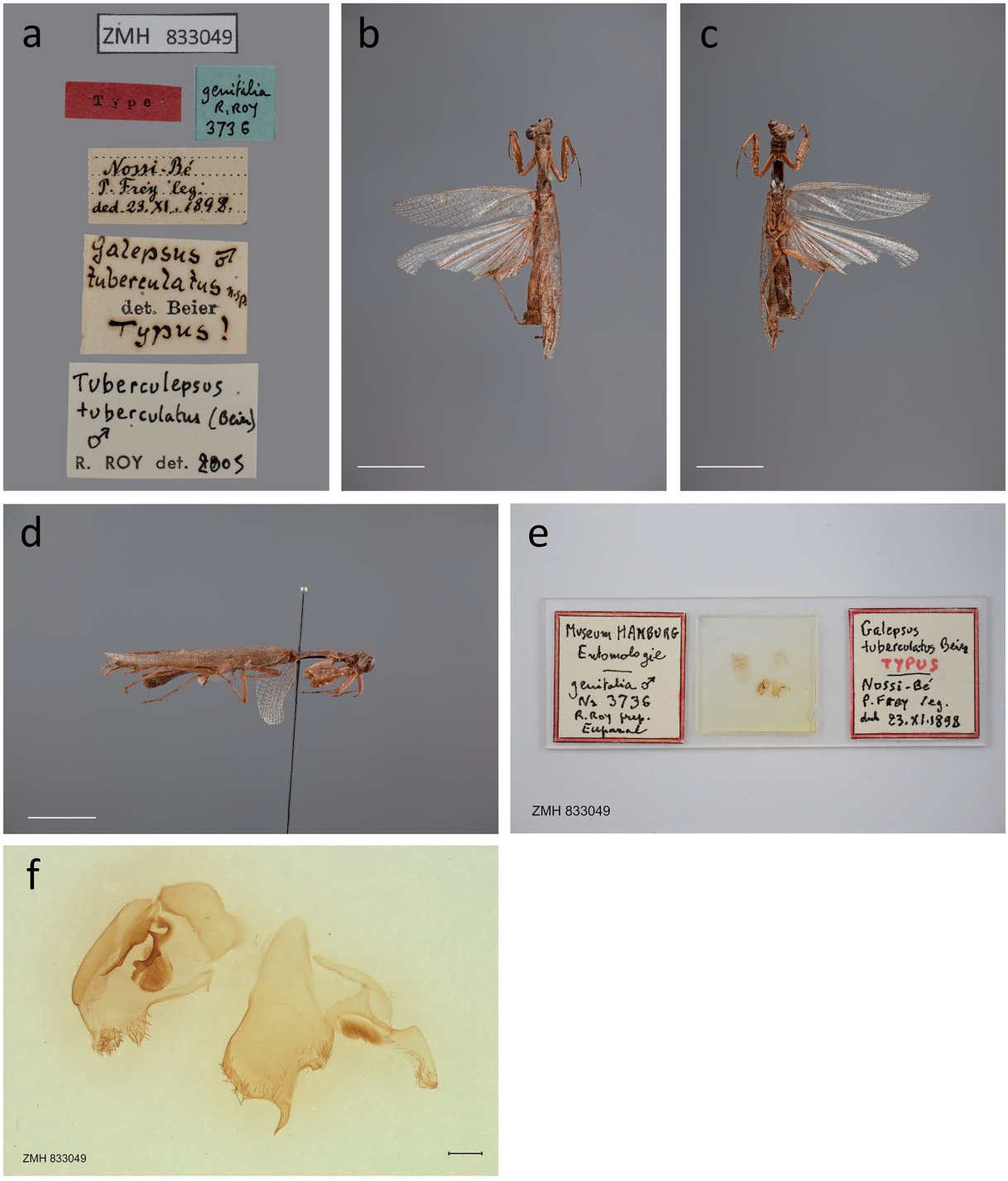

Fig. 13. *Galepsus tuberculatus* Beier, 1931, holotype, ♂ (ZMH 833049). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–f**. Genitalia. White scale bars = 10 mm; black scale bar = 0.50 mm.

Iris senegalensis Beier, 1931
Fig. 14a–c

Iris senegalensis Beier, 1931: 7–8.

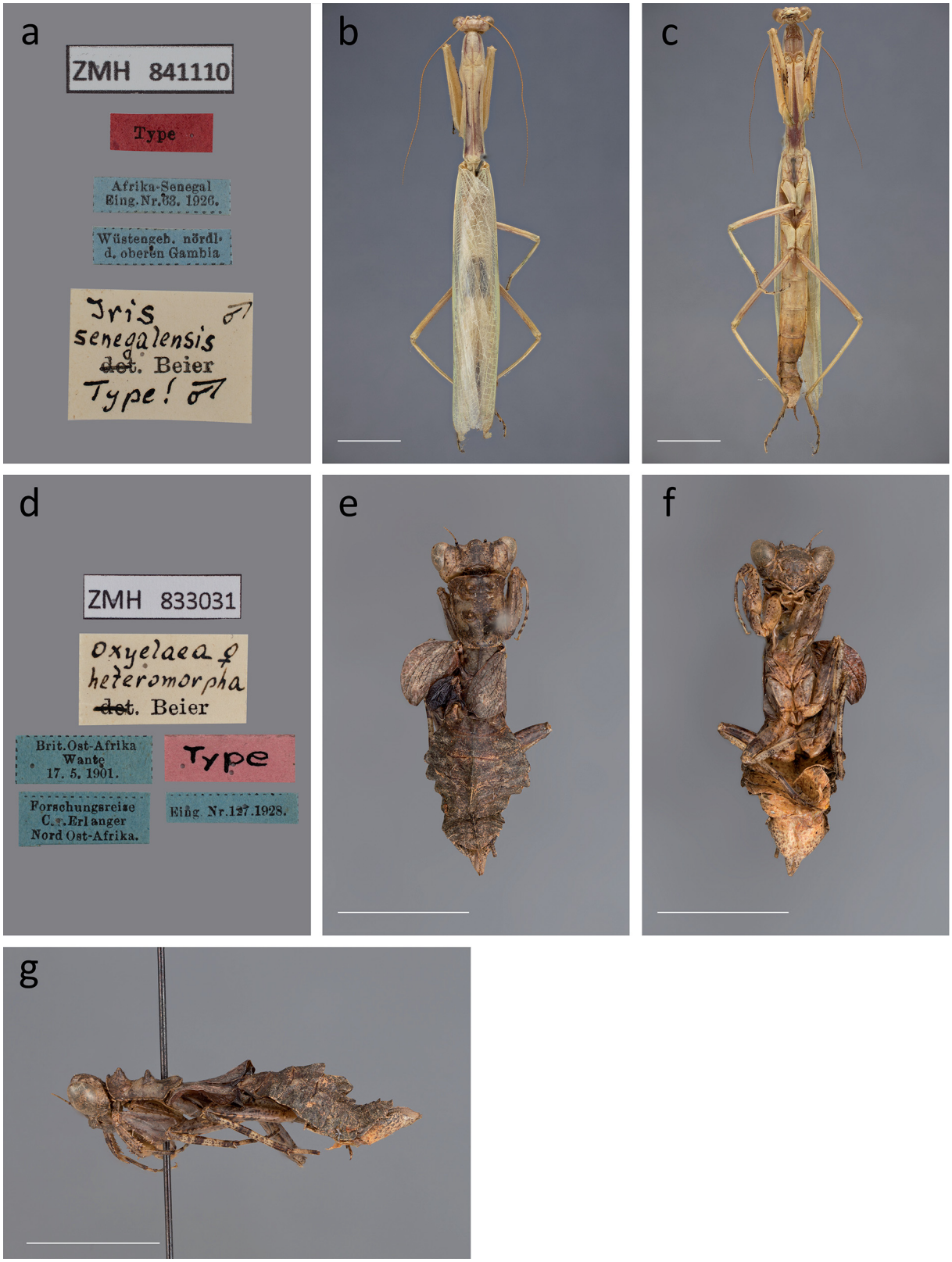

Fig. 14. a–c. *Iris senegalensis* Beier, 1931, holotype, ♂ (ZMH 841110). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–g**. *Oxyelaea heteromorpha* Beier, 1930, paratype, ♀ (ZMH 833031). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. **g**. Lateral view. Scale bars = 10 mm.

Type material

Holotype (1 male)
SENEGAL • ♂ (Fig. 14a–c); "// Type // Afrika-Senegal / Eing. Nr. 63.1926. // Wüstengeb. nördl. / d. oberen Gambia // *Iris* ♂ / *senegalensis* / det. [crossed out] Beier / Type! ♂"; ZMH 841110.

Type locality

Senegal: desert area north of the upper Gambia River.

Current status

Valid species.

Habitus

Complete.

Oxyelaea heteromorpha Beier, 1930
Fig. 14d–g

Oxyelaea heteromorpha Beier, 1930: 433–434.

Type material

Paratype (1 female)
KENYA • 1 ♀ (Fig. 14d–g); "// *Oxyelaea* ♀ / *heteromorpha* / det. [crossed out] Beier // Brit. Ost-Afrika / Wante / 17.5.1901.// Forschungsreise / C. Erlanger / Nord Ost-Afrika. // Type // Eing. Nr. 127.1928."; ZMH 833031.

Type locality

Kenya: Maziwa Mitatu and Maungu.

Current status

Valid species.

Habitus

Complete.

Tarachodes abyssinicus Beier, 1931
Fig. 15a–c

Tarachodes abyssinicus Beier, 1931: 2–3.

Tarachodes (*Tarachodes*) *abyssinicus* – Ehrmann 2002: 340.

Type material

Holotype (1 male)
ETHIOPIA • ♂ (Fig. 15a–c); "// Type // Südl. Abessinien // Hanadscho Neben- / fluss d. Ganale. / 18.–19.4.1901. // Forschungsreise / C. v. Erlanger / Nord-Ost-Afrika. // Eing. Nr. 127.1928. // *Tarachodes* / *abyssinicus* / det. [crossed out] Beier / Type! ♂"; ZMH 833037.

Type locality

Southern Abyssinia, Hanadscho, sidearm of the Ganale River [Ethiopia].

Current status

Valid species.

Habitus

Complete.

Tarachodes* (*Tarachodes*) *pujoli Roy, 2002
Fig. 15d–f

Tarachodes (*Tarachodes*) *pujoli* Roy, 2002: 535–536.

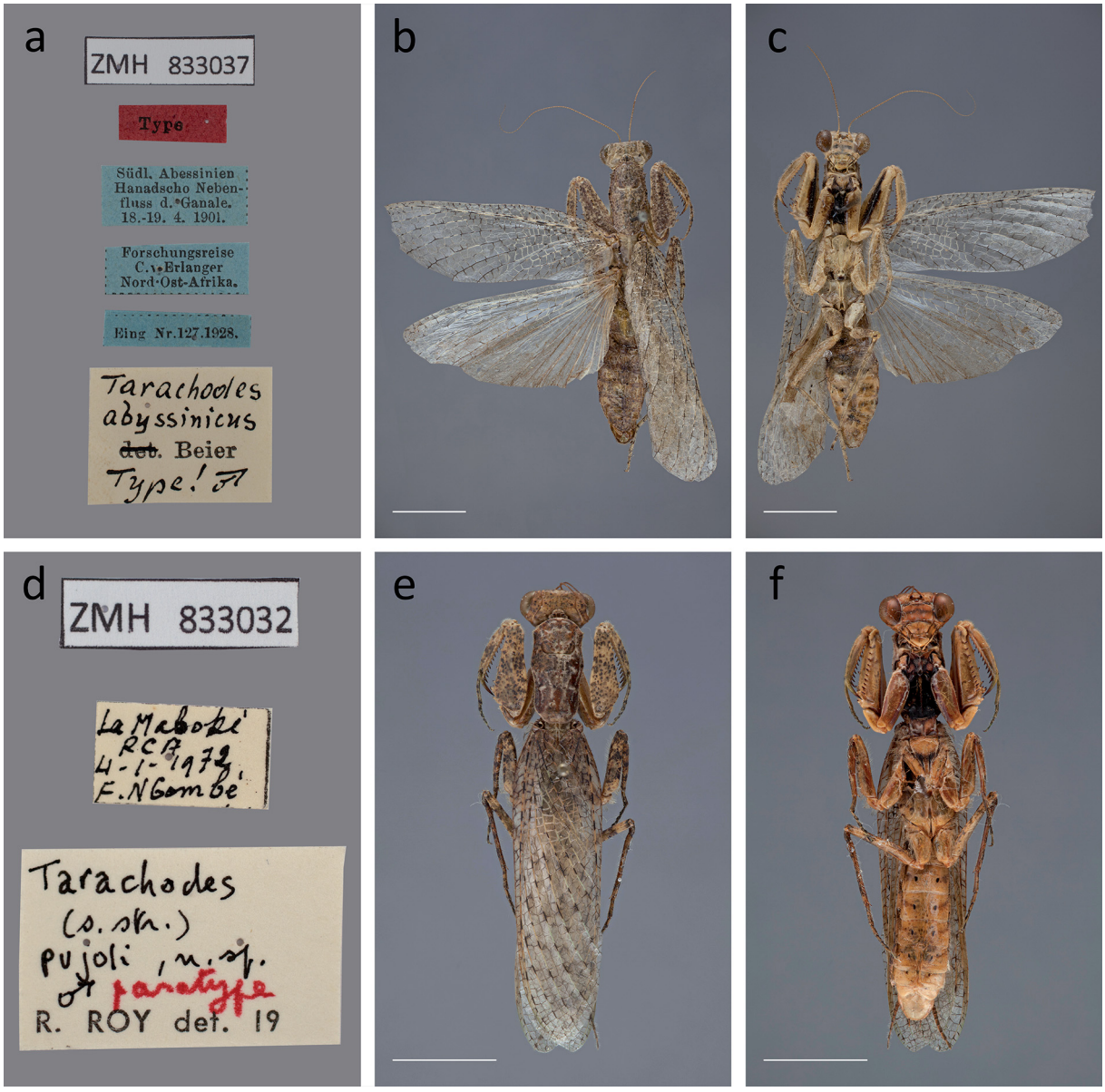

Fig. 15. a–c. *Tarachodes abyssinicus* Beier, 1931, holotype, ♂ (ZMH 833037). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Tarachodes* (*Tarachodes*) *pujoli* Roy, 2002, paratype, ♂ (ZMH 833032). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Paratype (1 male)
CENTRAL AFRICAN REPUBLIC • 1 ♂ (Fig. 15d–f); "// La Maboké / RCA / 4-1-1972 / F. NGombé // *Tarachodes* / (s. (?)) / *pujoli*, n. sp. / ♂ paratype / R. Roy det. 19"; ZMH 833032.

Type locality

Central African Republic: La Maboké.

Current status

Valid species.

Habitus

Complete.

Family Gonypetidae Westwood, 1889

Elaea infumata Beier, 1931
Fig. 16a–c

Elaea infumata Beier, 1931: 2.

Type material

Holotype (1 male)
KENYA • ♂ (Fig. 16a–c); "// Type // Forschungsreise / C. v. Erlanger / Nord-Ost-Afrika. // Brit. Ost-Afrika / Wante / 17.5.1901. // Eing. Nr. 127.1928. // *Elaea* ♂ / *infumata* Beier / det. Beier / Type! ♂"; ZMH 841072.

Type locality

Wante, British East Africa [Kenya].

Current status

Valid species.

Habitus

Incomplete: not one leg of the last pair is completely preserved.

Remarks

The type locality given by Ehrmann (2002) is not correct. The expedition report from the collector Erlanger (Erlanger 1904) clearly shows that his group was traveling to El-Uak [El-Wak, Kenya] after crossing the rivers Danale and Daua [Dawa] at the end of April 1901. From El-Uak they traveled westwards to Bardera [Bardere, Somalia]. Therefore, we assume that the type locality refers to Wante next to El-Wak in Kenya which is located next to the border with Somalia.

Family Hoplocoryphidae Giglio-Tos, 1916

Hoplocorypha brevicollis Beier, 1931
Fig. 16d–f

Hoplocorypha brevicollis Beier, 1931: 6.

Type material

Holotype (1 male)
SOUTH AFRICA • ♂ (Fig. 16d–f); "// Type // Bothaville, / Orange-Freistaat. / 9.98. / Dr. H. Brauns leg. / vend. 9.X.1899. // *Hoplocorypha* / *brevicollis* n. sp. / Type! ♂ / det. Beier"; ZMH 833036.

Type locality

Bothaville, Orange Free State [South Africa].

Current status

Valid species.

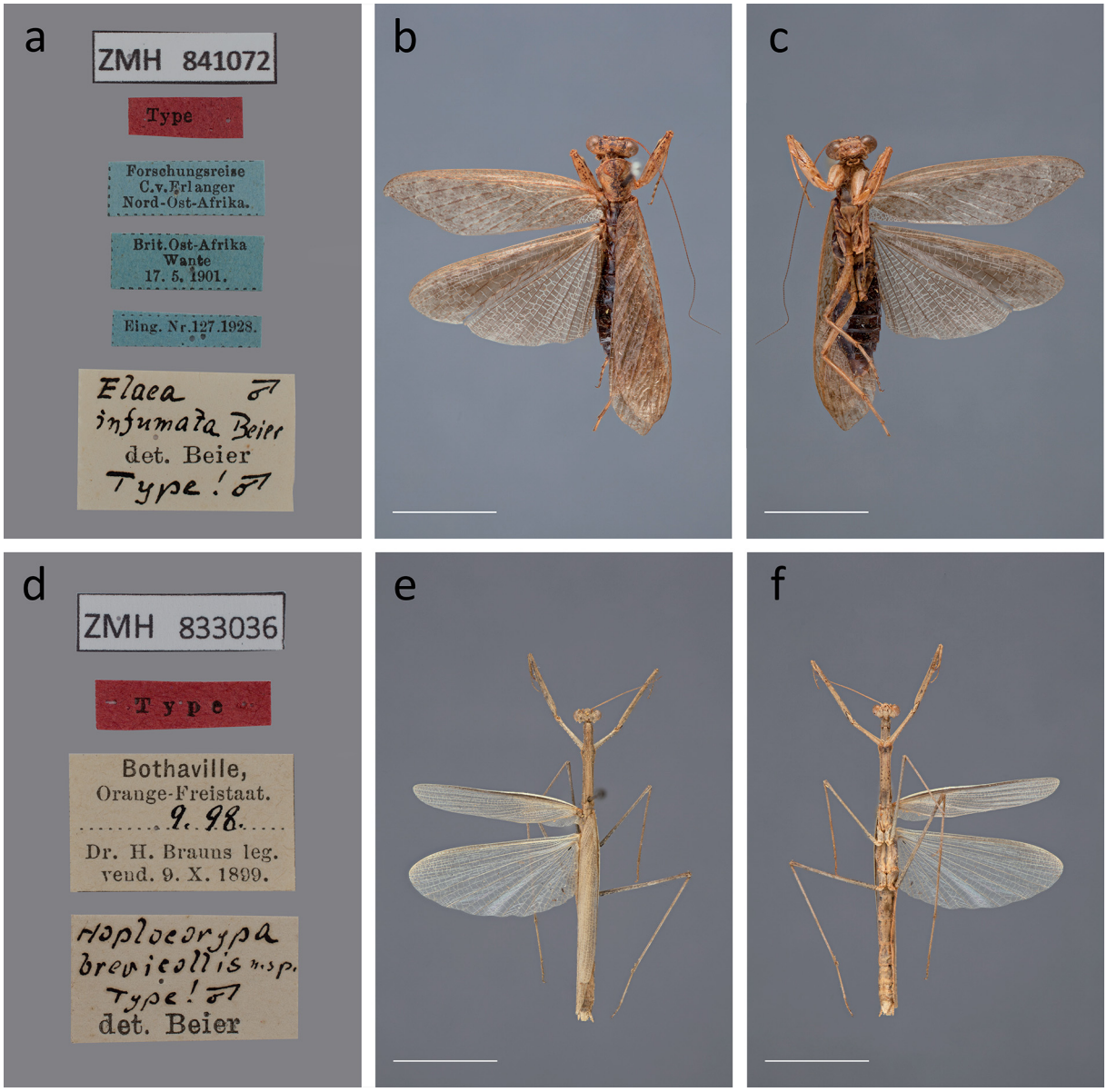

Fig. 16. a–c. *Elaea infumata* Beier, 1931, holotype, ♂ (ZMH 841072). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Hoplocorypha brevicollis* Beier, 1931, holotype, ♂ (ZMH 833036). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

Complete.

Family Hymenopodidae Giglio-Tos, 1915

Catasigerpes erlangeri Beier, 1931
Fig. 17

Oxypiloidea (*Oxypiloidea*) *lobata* Schulthess-Schindler, 1898: 179.
Catasigerpes erlangeri Beier, 1931: 9–10.

Oxypiloidea (*Oxypiloidea*) *lobata* – Roy 2013: 284–287 (syn.).

Type material

Holotype (1 male)
KENYA • ♂ (Fig. 17); "// Type // genitalia / R. Roy / 2073 // Forschungsreise / C. v. Erlanger / Nord-Ost-Afrika. // Brit. Ost-Afrika / Wante / 17.5.1901. // Eing. Nr. 127.1928. // *Catasigerpes* / *erlangeri* / det. [crossed out] Beier / Type! ♂ // *Oxypiloidea* / *brunneriana* (Sauss.) / ♂ / R. Roy det. 1975"; ZMH 841097.

Type locality

Wante, British East Africa [Kenya].

Current status

Synonym of *Oxypiloidea* (*Oxypiloidea*) *lobata* Schulthess-Schindler, 1898.

Habitus

Complete. Genitalia preparation is present.

Remarks

The type locality given by Ehrmann (2002) is not correct. The expedition report from the collector Erlanger (Erlanger 1904) clearly shows that his group was traveling to El-Uak [El-Wak, Kenya] after crossing the rivers Danale and Daua [Dawa] at the end of April 1901. From El-Uak they traveled westwards to Bardera [Bardere, Somalia]. Therefore, we assume that the type locality refers to Wante next to El-Wak in Kenya which is located next to the border with Somalia.

Presibylla speciosa Roy, 1996
Fig. 18a–d

Presibylla speciosa Roy, 1996: 84–86.

Type material

Paratype (1 male)
CAMEROON • 1 ♂ (Fig. 18a–d); "// *Sibylla* ♂ / *griffini* G. Tos / det. Beier // *Presibylla* / *speciosa* Roy / ♂ paratype / R. Roy det. 1992 // Kamerun / Edea / M. Jensen / ded. 13.X.1911"; ZMH 841095.

Type locality

Cameroon.

Current status

Valid species.

Habitus

Incomplete: most legs are not completely preserved or even missing.

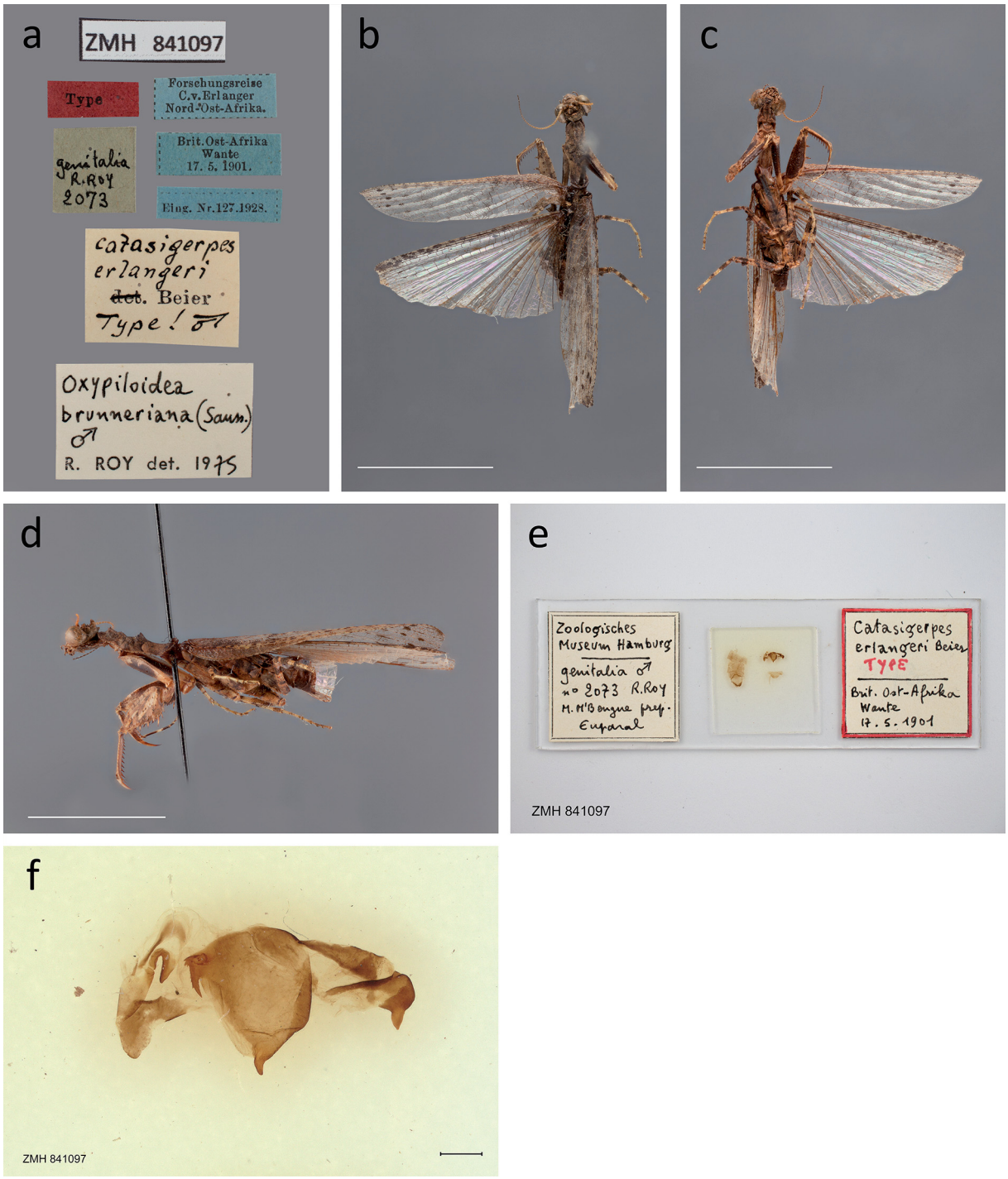

Fig. 17. *Catasigerpes erlangeri* Beier, 1931, holotype, ♂ (ZMH 841097). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–f**. Genitalia. White scale bars = 10 mm; black scale bar = 0.50 mm.

Family Liturgusidae Giglio-Tos, 1915

Fuga grimaldii Svenson, 2014
Figs 18e–g, 19a–c

Fuga grimaldii Svenson, 2014: 167–171.

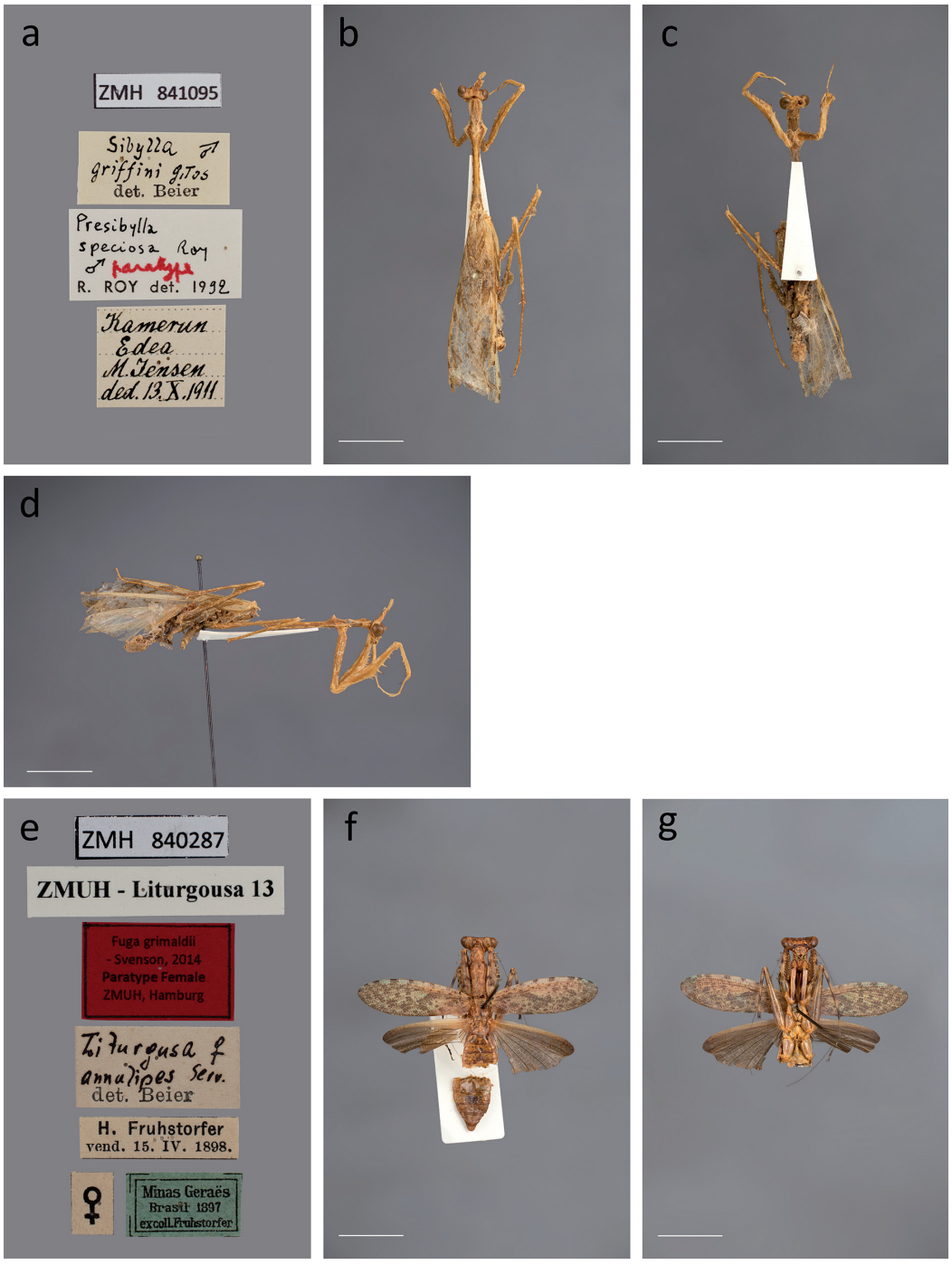

Fig. 18. a–d. *Presibylla speciosa* Roy, 1996, paratype, ♂ (ZMH 841095). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–g**. *Fuga grimaldii* Svenson, 2014, paratype, ♀ (ZMH 840287). **e**. Labels. **f**. Dorsal view. **g**. Ventral view. White scale bars = 10 mm; black scale bar = 0.50 mm.

Type material

Paratypes (1 female, 1 male)
BRAZIL • 1 ♀ (Fig. 18e–g); "// ZMUH . Liturgousa 13 // *Fuga grimaldii* / - Svenson, 2014 / Paratype Female / ZMUH, Hamburg // *Liturgusa* ♀ / *annulipes* Serv. / det. Beier // H. Fruhstorfer / vend. 15.IV.1898. // ♀ // Minas Geraës / Brasil 1897 / ex coll. Fruhstorfer"; ZMH 840287 • 1 ♂ (Fig. 19a–c); "// ZMUH – *Liturgousa* 8 // *Fuga grimaldii* / - Svenson, 2014 / Paratype Male / ZMUH, Hamburg // *Liturgusa* ♂ / *annulipes* Serv. / det. Beier // (Prov. Rio de Jan.) / Coll. / v. Bönninghausen / (20.X.1906.)"; ZMH 841079.

Type locality

Brazil: Corupá, Santa Catarina (Hansa Humboldt).

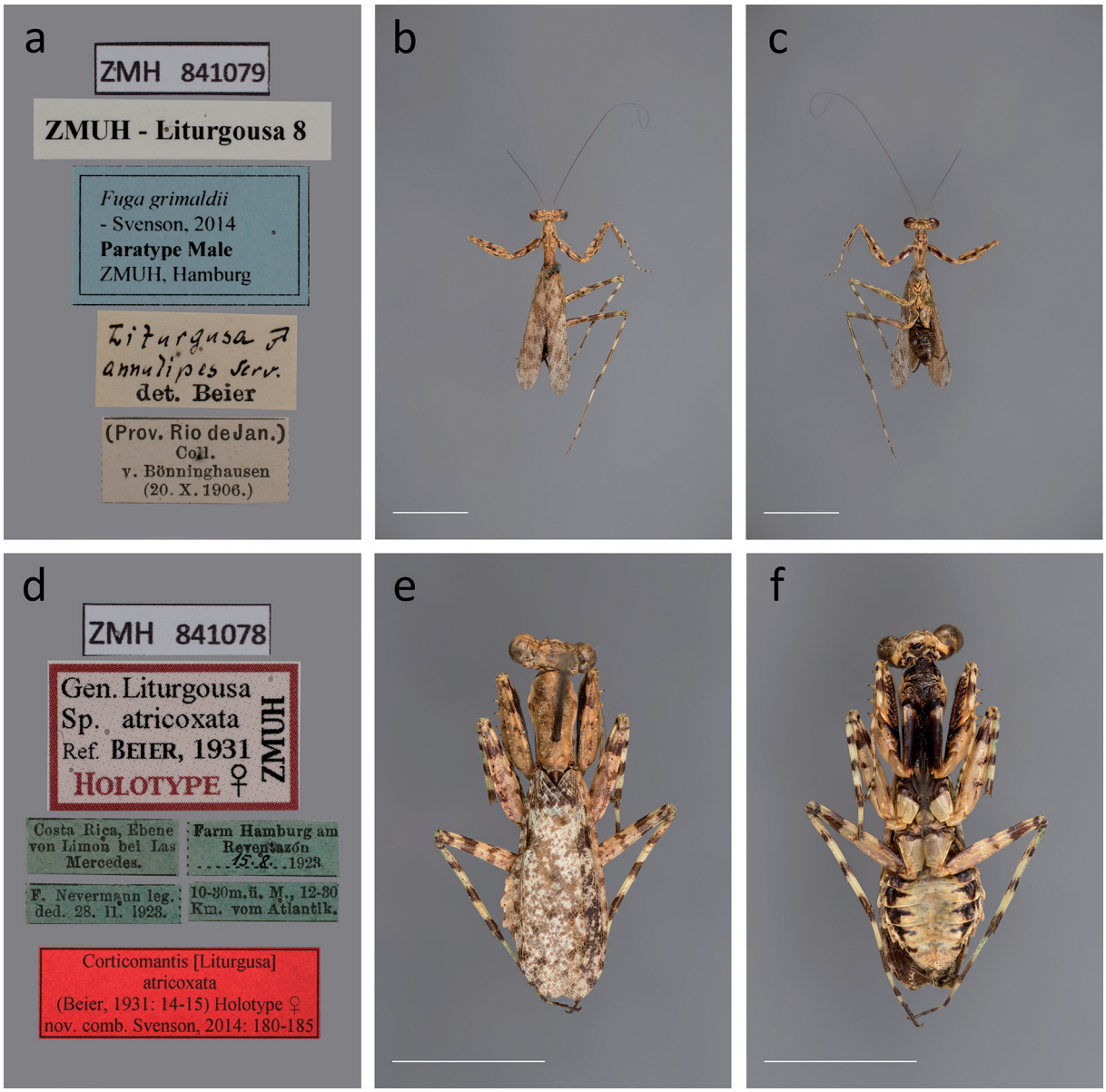

Fig. 19. a–c. *Fuga grimaldii* Svenson, 2014, paratype, ♂ (ZMH 841079). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Liturgusa atricoxata* Beier, 1931, holotype, ♀ (ZMH 841078). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Current status

Valid species.

Habitus

Paratype male complete. Paratype female incomplete: last pair of legs is missing.

Liturgusa atricoxata Beier, 1931
Fig. 19d–f

Liturgusa atricoxata Beier, 1931: 14–15.

Corticomantis atricoxata – Svenson 2014: 180–185.

Type material

Holotype (1 female)
COSTA RICA • ♀ (Fig. 19d–f); "// Gen. *Liturgousa* / Sp. *atrixocata* / Ref. BEIER, 1931 / HOLOTYPE ♀ / ZMUH // Costa Rica, Ebene / von Limon bei Las / Mercedes. // F. Nevermann leg. / ded. 28.11.1923 // Farm Hamburg am / Reventazón / 15.8.1923 // 10–30 m. ü. M., 12–30 / Km. vom Atlantik. // *Corticomantis* [*Liturgusa*] / *atricoxata* / (Beier, 1931: 14-15) Holotype ♀ / nov. comb. Svenson, 2014: 180–185"; ZMH 841078.

Type locality

Costa Rica: plain of Limón close to Las Mercedes, Farm Hamburg at Reventazón River, 10–30 m above the sea, 12–30 km from the Atlantic.

Current status

Valid species.

Habitus

Incomplete: not one leg of the middle pair is completely preserved.

Velox wielandi Svenson, 2014
Fig. 20

Velox wielandi Svenson, 2014: 174–177.

Type material

Holotype (1 male)
BRAZIL • ♂ (Fig. 20a–d); "// ZMUH – *Liturgousa* 15 // *Velox wielandi* / - Svenson, 2014 / Holotype Male / ZMUH, Hamburg // *Liturgusa* ♂ / *nubeculosa* Gerst / det. Beier // Espirito Santo / (Brasil.) / J. Michaelis vend. / 22.IV.1898. // ♂ // *Velox wielandi* Svenson, 2014: / 174 – 177 / Gen.-Präparat: 202, fig. 53D.1 / Holotype - male"; ZMH 841080.

Paratype (1 female)
BRAZIL • 1 ♀ (Fig. 20e–g); "// ZMUH – *Liturgousa* 2 // *Velox wielandi* / - Svenson, 2014 / Allotype Female / ZMUH, Hamburg // Espirito Santo / (Brasil.) / J. Michaelis vend. / 22.IV.1898. // ♀ // *Liturgusa* ♀ / *nubeculosa* Gerst. / det. Beier"; ZMH 841081.

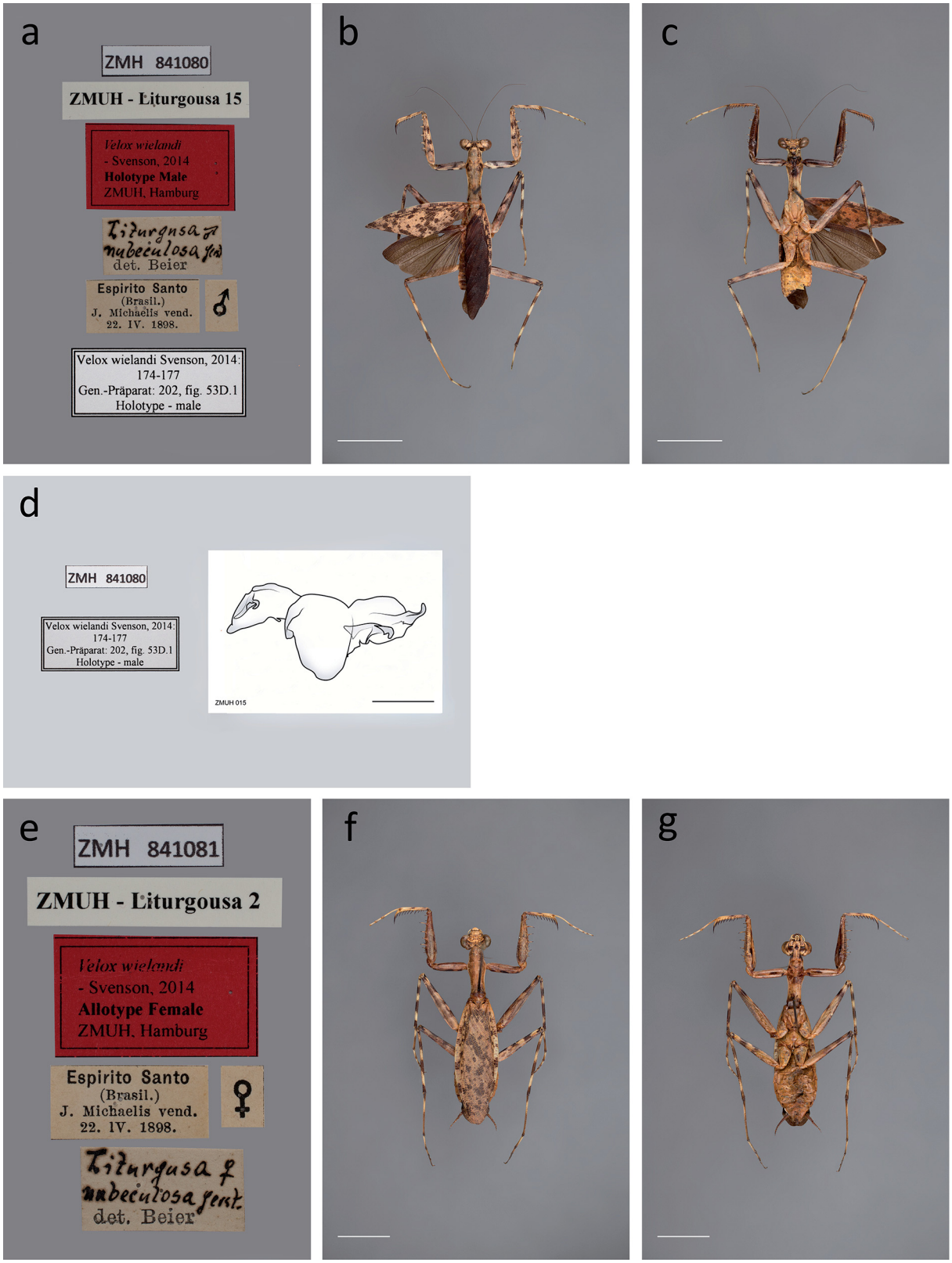

Fig. 20. *Velox wielandi* Svenson, 2014. **a–d**. Holotype, ♂ (ZMH 841080). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Genitalia. **e–g**. Paratype, ♀ (ZMH 841081). **e**. Labels. **f**. Dorsal view. **g**. Ventral view. White scale bars = 10 mm; black scale bar = 1.00 mm.

Type locality

Brazil: Espírito Santo.

Habitus

Complete.

Remarks

Originally determined as *Liturgusa nubeculosa* Gerstaecker, 1889 by Max Beier. Figure of the prepared genitalia after a drawing by Svenson (2014: 202, fig. 53d.1).

Family Majangidae Giglio-Tos, 1915

Brancsikia simplex Beier, 1935
Fig. 21a–e

Deroplatys freyi Brancsik, 1893: 178–179.
Brancsikia simplex Beier, 1935b: 6–7.

Brancsikia freyi – Roy & Schütte 2016: 273–277 (syn.).

Type material

Holotype (1 male)
MADAGASCAR • ♂ (Fig. 21a–e); "// Type // genitalia / R. Roy / 3456 // Nossibé / v Brunn ded. / 7.88. / Frey coll. // *Brancsikia* // *Brancsikia* / *simplex* / n. sp. / det. Beier ♂ / Type!"; ZMH 841087.

Type locality

Nosy Be [Madagascar].

Current status

Synonym of *Brancsikia freyi* (Brancsik, 1893).

Habitus

Complete. Genitalia preparation is present.

Family Mantidae Latreille, 1802

Archimantis latistyla gigantea Beier, 1963
Figs 21f–h, 22a–c

Mantis latistylus Audinet-Serville, 1838: 179–180.
Archimantis latistyla gigantea Beier, 1963: 9.

Archimantis latistyla – Milledge 1997: 27–31 (syn.).

Type material

Holotype (1 female)
AUSTRALIA • ♀ (Fig. 21f–h); "// Type / Mus. Godeffroy / 2677 / O.273 ♀ / Rockhampton. // Zool. Mus. / Hamburg // *Archimantis* / *latistyla* ssp. / *gigantea* nov. / det. Beier ♀"; ZMH 841124.

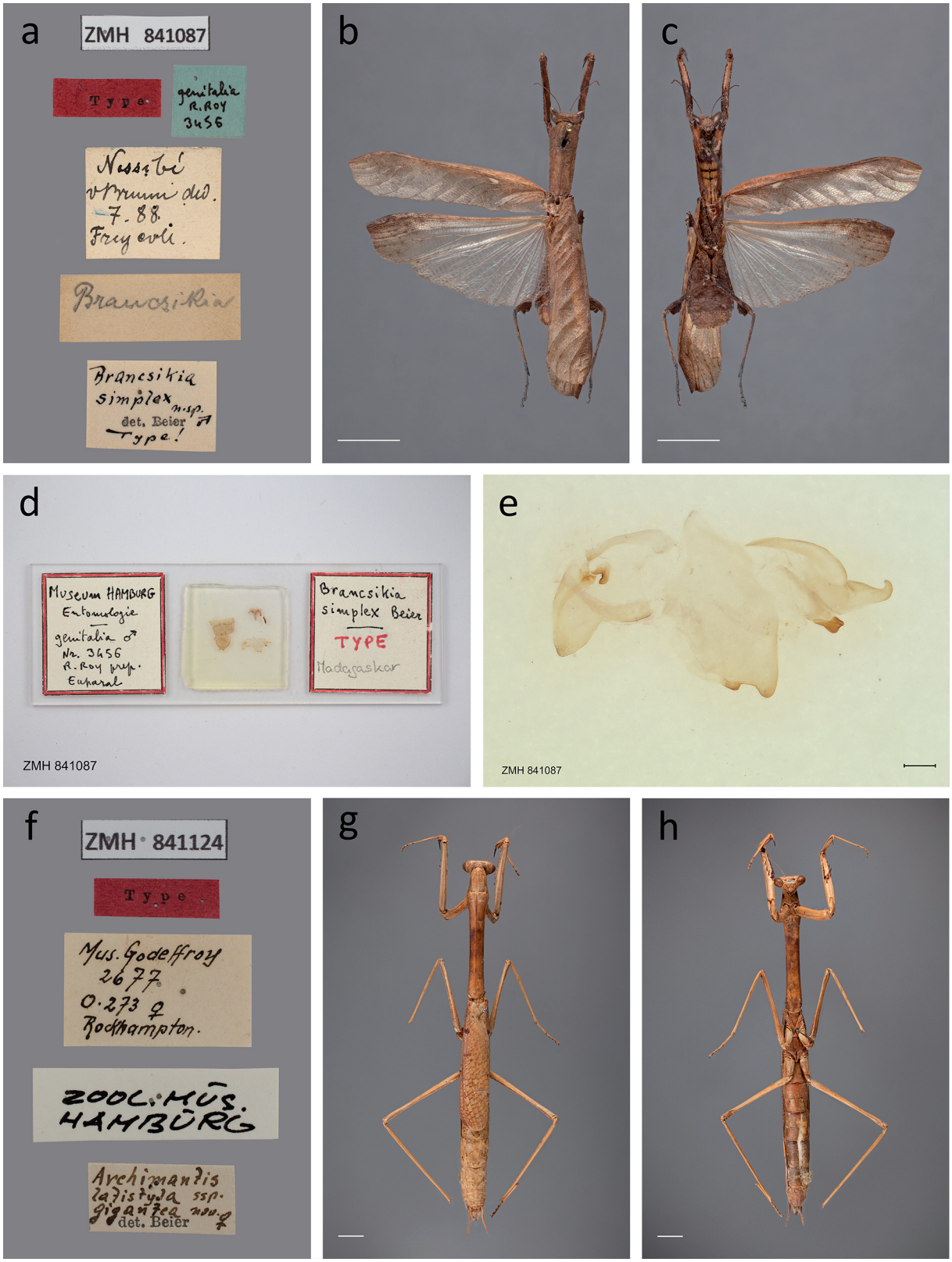

Fig. 21. a–e. *Brancsikia simplex* Beier, 1935, holotype, ♂ (ZMH 841087). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–e**. Genitalia. **f–h**. *Archimantis latistyla gigantea* Beier, 1963, holotype, ♀ (ZMH 841124). **f**. Labels. **g**. Dorsal view. **h**. Ventral view. White scale bars = 10 mm; black scale bar = 0.50 mm.

Paratype (1 male)
AUSTRALIA • 1 ♂ (Fig. 22a–c): "// Paratypoid // *Archimantis* / *latistyla* ssp. / *giantea* nov. / det. Beier ♂ // Mus. Godeffroy / 26.79 O.265 ♂ / Ost-Australien."; ZMH 76961.

Type locality

Rockhampton [Australia].

Current status

Synonym of *Archimantis latistyla* (Audinet-Serville, 1838).

Habitus

Complete.

Choeradodis columbica Beier, 1931
Fig. 22d–h

Choeradodis columbica Beier, 1931: 16–17.

Type material

Holotype (1 male)
COLOMBIA • ♂ (Fig. 22d–h); "// Type // Z. M. H. / Hamburg // genitalia / R. Roy / 3351 // Columbien / v Brunn ded. / 20.VI.1899. // *Choeradodis* / *columbica* ♂ / n. sp. / det. [crossed out] Beier / Typus!"; ZMH 841082.

Type locality

Colombia.

Current status

Valid species.

Habitus

Complete. Genitalia preparation is present.

Epitenodera gambiensis Beier, 1931
Figs 23, 24a–c

Tenodera brevipennis Saussure, 1871: 296–297.
Epitenodera gambiensis Beier, 1931: 8–9.

Epitenodera brevipennis – Roy 2022: 77–79 (syn.).

Type material

Holotype (1 male)
SENEGAL • ♂ (Fig. 23a–c); "// Type // Afrika-Senegal / Eing. Nr. 63.1926. // Wüstengeb. nördl. / d. oberen Gambia // *Epitenodera* / *gambiensis* / det. [crossed out] Beier / Type! ♂"; ZMH 841122.

Paratypes (2 males)
SENEGAL • 1 ♂ (Fig. 23d–f); "// Paratype // *Epitenodera* / *gambiensis* / det. [crossed out] Beier / Paratype ♂ // Wüstengeb. nördl. / d. oberen Gambia // Afrika-Senegal / Eing. Nr. 63.1926."; ZMH

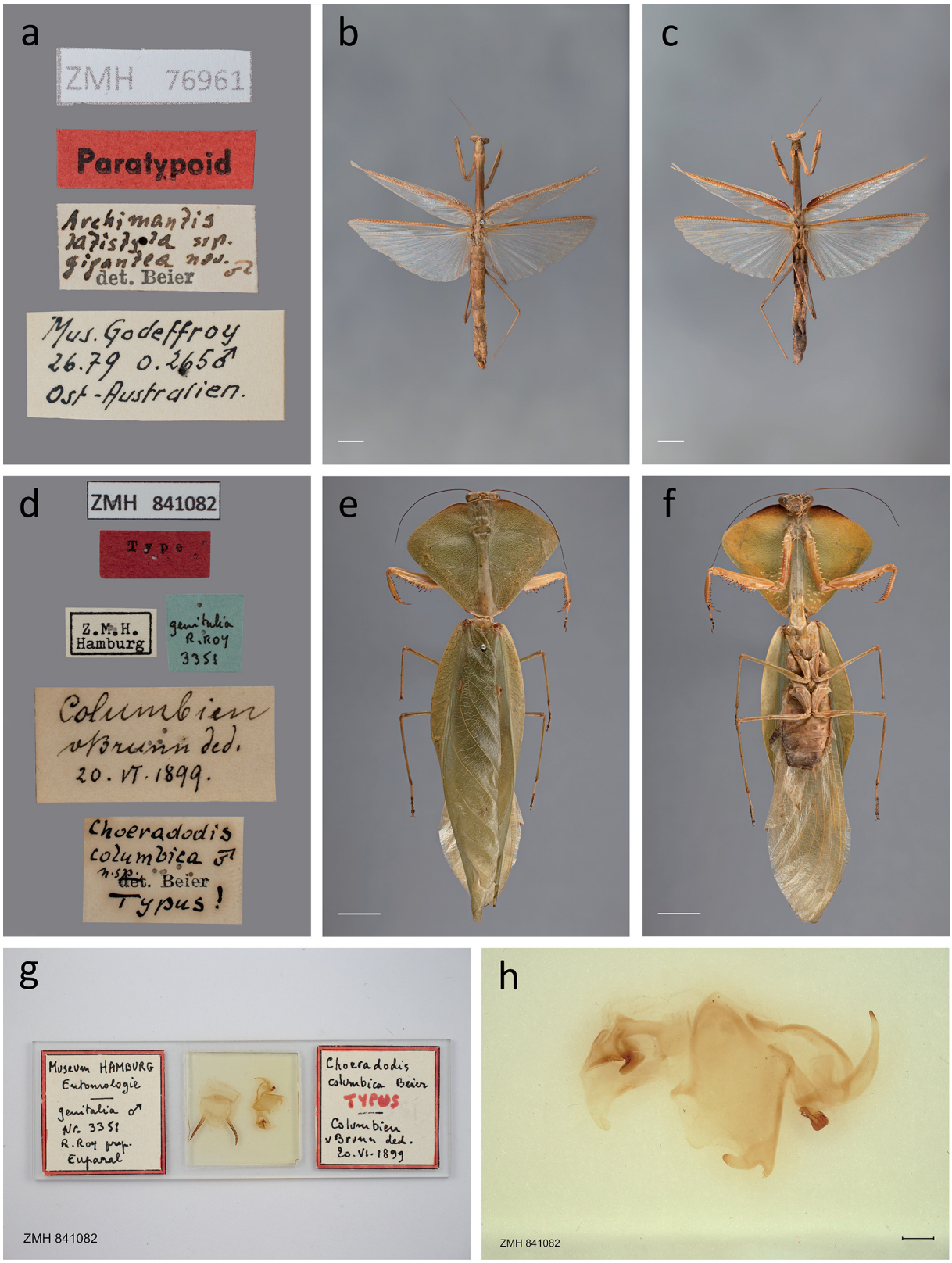

Fig. 22. a–c. *Archimantis latistyla gigantea* Beier, 1963, paratype, ♂ (ZMH 76961). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–h**. *Choeradodis columbica* Beier, 1931, holotype, ♂ (ZMH 841082). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. **g–h**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

841108 • 1 ♂ (Fig. 24a–c); "// Paratypoid // Wüstengneb. nördl. / d. oberen Gambia // Afrika-Senegal / Eing. Nr. 63.1926. // *Epitenodera* / *gambiensis* / det. [crossed out] Beier / Paratype ♂"; ZMH 841109.

Type locality

Senegal: desert area north of the upper Gambia River.

Current status

Synonym of *Epitenodera brevipennis* (Saussure, 1871).

Fig. 23. *Epitenodera gambiensis* Beier, 1931. **a–c**. Holotype, ♂ (ZMH 841122). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Paratype, ♂ (ZMH 841108). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

All specimens incomplete: abdomen is missing. The abdomens of all three specimens were already missing in the original description.

Hierodula* (*Rhombodera*) *rollei Beier, 1935
Fig. 24d–f

Hierodula (*Rhombodera*) *rollei* Beier, 1935c: 85–86.

Rhombodera rollei – Ehrmann 2002: 308.

Fig. 24. a–c. *Epitenodera gambiensis* Beier, 1931, paratype, ♂ (ZMH 841109). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Hierodula* (*Rhombodera*) *rollei* Beier, 1935, holotype, ♀ (ZMH 841076). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Holotype (1 female)
INDONESIA • ♀ (Fig. 24d–f); "// 40. ♀ / ZMUH / Typus // ZMUH-MANTODEA / 40. ♀ / *Rhombodera* // Type // Ins. Obi, / Molukken. / H. Rolle vend. / 15.III.1903. // *Hierodula* (*R.*) / *rollei* n. sp. / det. Beier / Type! ♀"; ZMH 841076.

Type locality

Obi Islands, Maluku Islands [Indonesia].

Current status

Valid species.

Habitus

Complete.

Hierodula* (*Parhierodula*) *salomonis Werner, 1930
Fig. 25a–c

Hierodula (*Parhierodula*) *salomonis* Werner, 1930a: 38.

Hierodula salomonis – Ehrmann 2002: 182.

Type material

Paratype (1 male)
SOLOMON ISLANDS • ♂ (Fig. 25a–c); "// *Hierodula* (*Parh.*) / *salomonis* Werner / Paratype ♂ // RUAVATU X. 28 / GUADALCANAR / SALOMONEN // e // NMB- / MANTO0000741 // Paratype ♂"; ZMH 841103.

Type locality

Guadalcanal (Aola, Domma, Ruavatu), New Georgia (Batuna), Malaita (Buma), Central (Savo) [Solomon Islands].

Current status

Valid species.

Habitus

Complete.

Remarks

In the original publication no precise type location was defined. This type specimen came to the ZMH through a type exchange between the ZMH and the Museum Basel (NMB). The NMB received one specimen of *Eremiaphila yemenita* (paratype 1 female, ZMH 844036) in exchange for *Hierodula* (*Parhierodula*) *salomonis* (paratype 1 male, NMB-MANTO0000741).

Hierodula (Hierodula) tonkinensis Beier, 1935
Fig. 25d–f

Hierodula (*Hierodula*) *tonkinensis* Beier, 1935c: 81.

Hierodula tonkinensis – Ehrmann 2002: 183.

Type material

Holotype (1 male)
VIETNAM • ♂ (Fig. 25d–f); "// Type // Tonkin / Fruhstorfer. // *Hierodula* / *tonkinensis* / n. sp. / det. Beier / Type! ♂ // „*Hierodula* / *notata*" / H. Fruhstorfer / vend. 5.VI.1899."; ZMH 841074.

Type locality

Tonkin [Vietnam].

Current status

Valid species.

Fig. 25. a–c. *Hierodula* (*Parhierodula*) *salomonis* Werner, 1930, paratype, ♂ (ZMH 841103). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Hierodula* (*Hierodula*) *tonkinensis* Beier, 1935, holotype, ♂ (ZMH 841074). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

Complete.

Mantis japonica Saussure, 1869
Fig. 26a–c

Mantis aridifolia Stoll, 1813: 65.
Mantis japonica Saussure, 1869: 69.
Tenodera sinensis Saussure, 1871: 295.

Tenodera aridifolia – Ehrmann 2002: 349 (syn.).
Tenodera sinensis – Schwarz *et al.* 2018: 219 (syn.).

Type material

Holotype (1 female)
JAPAN • ♀ (Fig. 26a–c); "// Holotype // O 381 / ♀ / Japan // A. Fritze serips. 1889 – 1914 / Im Genfer Musem / ♂ und ♀ von China / und vom Himalaya. // Nur dieses Stück kann das / von Saussure in Mélanges / Orthopterol. T. I. fasc. III. 1870 / p. 238/39 (?) *Mantis ja-* / *ponica* (n. sp.) ♂ („Habite: / Le Japon (musée de Hambourg) / beschriebene Exemplar sein. / Die Beschreibung stimmt in / allen Punkten (exclus. / „trois branches á la veine / discoidale"), ganz besonders in / den beiden recht dunklen / Punkten „cuisses affrant sur / le deux faces un point brun / situé avant le milieu", nur / dass dieser point brun von / einer dereinst durch die beiden / Vorderschenkel hindurchge- / stochenen Nadel herrührt!! / Das Stück ist außerdem / kein *Mantis*-♂, sondern ein / *Tenodera*-♀. M. v. Brunn / 20.VIII.1895. / Diese Art *M. japonica* ist sonst auch (?) / (?) cfr. Westwood Revisio Insect. Fam. Mantid. // *Tenodera* ♀ / *sinensis* Sauss. / det. Beier // Ein ganz ebensolches / Exemplar sowie ver- / schiedene völlig über- / einstimmende erhielt / das Museum mitten / unter einer grösseren / Anzahl ♂ u. ♀ *Tenodera* / *aridifolia* Stoll (? var. *si-* / *nensis* Sss.) normaler / Grösse u. Färbung aus / Japan in Alkohol. / 2.I.1898. / T. Lenz vend."; ZMH 841099.

Type locality

Japan.

Current status

Synonym of *Tenodera aridifolia* (Stoll, 1813) or *Tenodera sinensis* Saussure, 1871. Synonymy not clarified without doubt.

Habitus

Incomplete: two pairs of legs are not completely preserved.

Remarks

Some sources claim that the first description of *Mantis japonica* was published by Saussure in 1871. In fact, the first description of this species was written in the publication of 1869. In the 1871 published "*Mélanges Orthoptérologiques*" Saussure describes not only the species in general but the individual specimen that can be found in the type collection of the ZMH.

Mantis religiosa macedonica Karaman, 1961
Fig. 26d–f

Mantis religiosa religiosa Linnaeus, 1758: 426.
Mantis religiosa macedonica Karaman, 1961: 61–63.

Mantis religiosa religiosa – Ehrmann 2011: 19–20 (syn.).

Type material

Paratype (1 male)

NORTH MACEDONIA • 1 ♂ (Fig. 26d–f); "// Paratypoid // *Mantis religiosa macedonica* n. ssp. // Vodno / 25.VIII.60. / M. K. // M. Karaman / ded. Eing. 21/60"; ZMH 841118.

Type locality

Macedonia.

Current status

Synonym of *Mantis religiosa religiosa* Linnaeus, 1758.

Fig. 26. a–c. *Mantis japonica* Saussure, 1869, holotype, ♀ (ZMH 841099). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Mantis religiosa macedonica* Karaman, 1961, paratype, ♂ (ZMH 841118). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Habitus

Complete.

Neacromantis costaricensis Beier, 1931
Fig. 27

Antemna rapax Stål, 1877: 88–89.
Neacromantis costaricensis Beier, 1931: 19–20.

Antemna rapax – Agudelo Rondón *et al.* 2007: 155 (syn.).

Type material

Holotype (1 male)
COSTA RICA • ♂ (Fig. 27); "// Type // genitalia / A. Agudelo / August 2017 // Costa Rica / Farm Hamburg / am Reventazon / 10.VI.1926 / Nachts a. Gebüsch // Ferd. Nevermann / leg. ded. / Eing. Nr. 99/26 // *Neacromantis* / ♂ / *costaricensis* / det. Beier / Typus!"; ZMH 841094.

Type locality

Costa Rica: Farm Hamburg at Reventazón River.

Current status

Synonym of *Antemna rapax* Stål, 1877.

Habitus

Complete. Genitalia were prepared after the images were taken.

Parastagmatoptera abnormis Beier, 1963
Fig. 28

Mantis flavoguttata Audinet-Serville, 1838: 183–184.
Parastagmatoptera abnormis Beier, 1963: 10.

Parastagmatoptera flavoguttata – Lombardo & Umbriaco 2011: 31–34 (syn.).

Type material

Holotype (1 male)
SURINAME • ♂ (Fig. 28); "// Type // Surinam / ex. Coll. Fruhstorfer // *Parastagmat*. / *abnormis* / n. sp. / det. Beier / Type! ♂ // H. Fruhstorfer / vend. 6.III.1898. // *P. flavoguttata* / DET / LOMB.-UMB. 2010 // *Parastagmatoptera* [*Mantis*] *flavoguttata* / (Audinet-Serville, 1838): #10, 183–184 / syn. nov. *Parastagmatoptera abnormis* / Beier, 1963: 10 – Holotypus ♂ / Lombardo & Umbriaco, 2011: 31–34. / Gen.-Präparat, getrocknet, / F. Lombardo, IX.2009–XII.2010"; ZMH 841104.

Type locality

Suriname.

Current status

Synonym of *Parastagmatoptera flavoguttata* (Audinet-Serville, 1838).

Habitus

Complete. Genitalia were prepared after the images were taken.

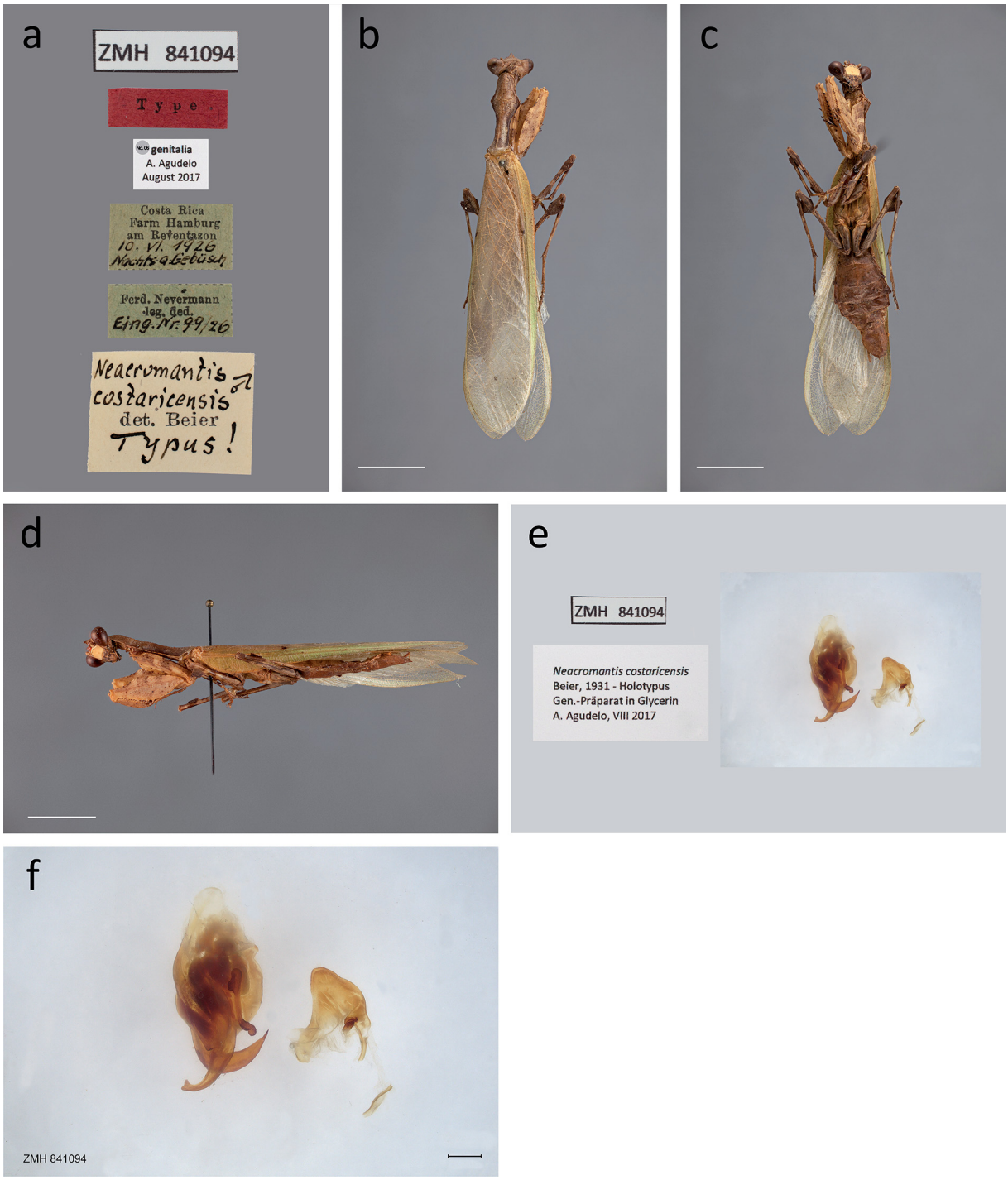

Fig. 27. *Neacromantis costaricensis* Beier, 1931, holotype, ♂ (ZMH 841094). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. **e–f**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

Remarks

Lombardo and Umbriaco discuss the fact that the present specimen is parasitized by a horsehair worm (Nematomorpha) and justify, based on morphological features, that it is an intersexual individual, i.e., that it bears intermediate rather than sex-specific characteristics, especially the wings and ocelli (Lombardo & Umbriaco 2011).

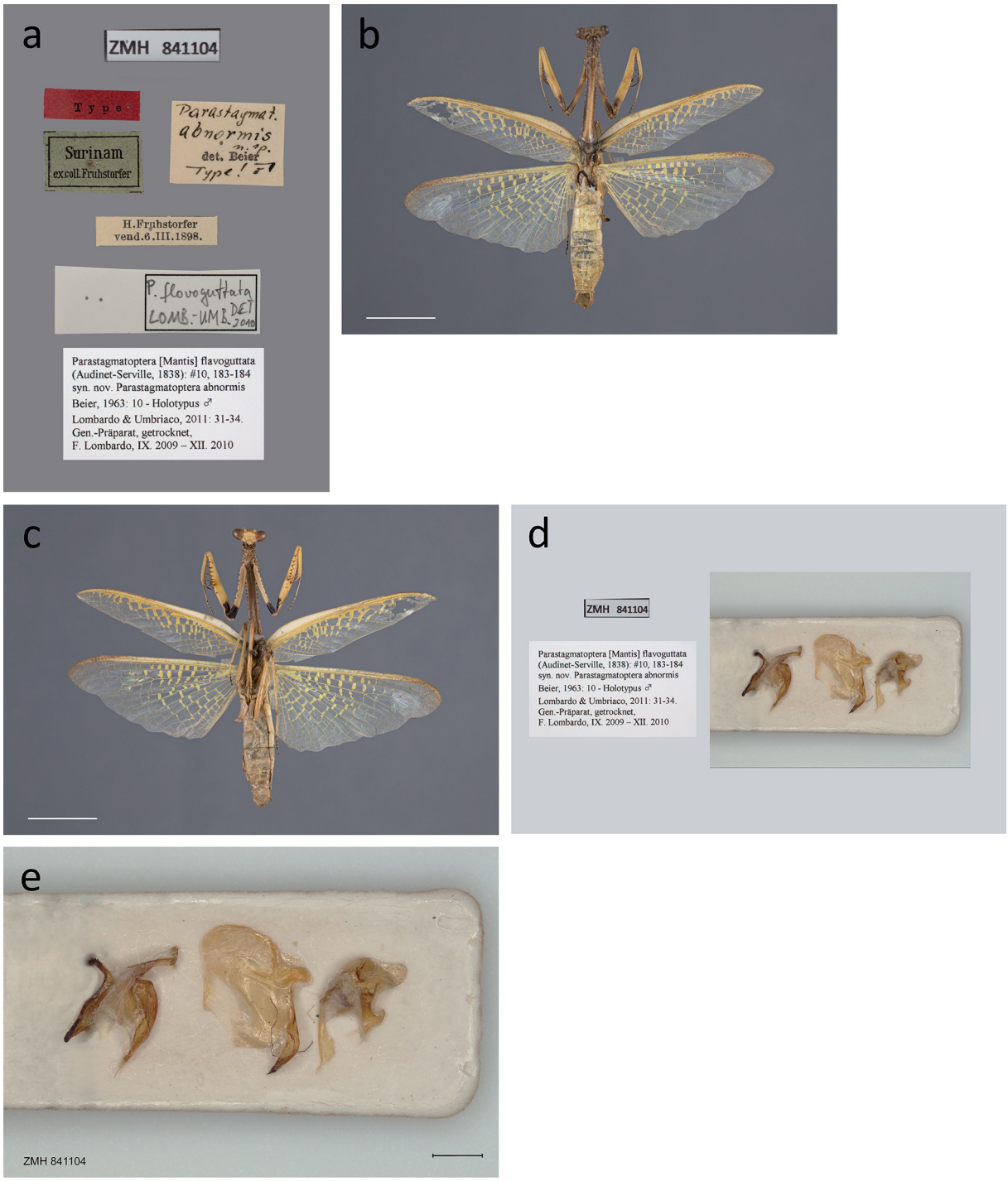

Fig. 28. *Parastagmatoptera abnormis* Beier, 1963, holotype, ♂ (ZMH 841104). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–e**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

Phaeomantis brevipes Beier, 1931
Fig. 29a–c

Phaeomantis brevipes Beier, 1931: 17–18.

Melliera brevipes – Rehn 1951: 1–5.

Type material

Holotype (1 male)
COSTA RICA • ♂ (Fig. 29a–c); "// Type // Costa-Rica, Ebene / von Limon ~~bei~~ / ~~Las Mercedes~~. // Farm Hamburg am / Reventazón. / 12–30 km v. Atlantik / 12.V.1926. // F. Nevermann leg. / Eing. Nr. 49, 1926. // *Nevermannia* / *brevipes* ♂ / det. [crossed out] Beier / Type! // *Phaeomantis brevipes* / Beier, 1931 / Holotypus, ♂"; ZMH 841119.

Type locality

Costa Rica: plain of Limón, Farm Hamburg at Reventazón River, 12–30 km from the Atlantic.

Current status

Valid species.

Habitus

Complete.

Remarks

Handwritten label with determination [*Nevermannia brevipes*] probably written by Max Beier.

Pseudomantis hartmeyeri Werner, 1912
Figs 29d–f, 30a–c

Pseudomantis hartmeyeri Werner, 1912: 51.

Type material

Syntypes (1 juv. male, 1 juv. female)
AUSTRALIA • 1 ♂ (Fig. 29d–f); "// 95 Boorabbin / 3.VII. // *Pseudomantis* / *Hartmeyeri* Werner // F. Werner publ. 1912 / W. Michaelsen ded. / 1.XI.1912. // Australien-S: Victoria, Boorabbin / (Stat. 95, 03-VII-1905, juv.-male) / *Pseudomantis hartmeyeri* (ST) / det. Werner, 1912 (ZMH-831016)"; ZMH 831016 • 1 ♀ (Fig. 30da–c); "// 95 Boorabbin / 3.VII. // *Pseudomantis* / *Hartmeyeri* Werner // F. Werner publ. 1912 / W. Michaelsen ded. / 1.XI.1912. // Australien-S: Victoria, Boorabbin / (Stat. 95, 03-VII-1905, juv.-fem.) / *Pseudomantis hartmeyeri* (ST) / det. Werner, 1912 (ZMH-831017)"; ZMH 831017.

Type locality

Stat. 95, Boorabbin; Stat. 109, north of Subiaco [Australia].

Current status

Valid species.

Habitus

Complete.

Sphodromantis congica Beier, 1931
Fig. 30d–h

Hierodula biocellata Werner, 1906: 367.
Sphodromantis congica Beier, 1931: 9.

Sphodromantis biocellata – Roy & Cherlonneix 2009: 389 (syn.).

Fig. 29. a–c. *Phaeomantis brevipes* Beier, 1931, holotype, ♂ (ZMH 841119). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Pseudomantis hartmeyeri* Werner, 1912, syntype, ♂ (ZMH 831016). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

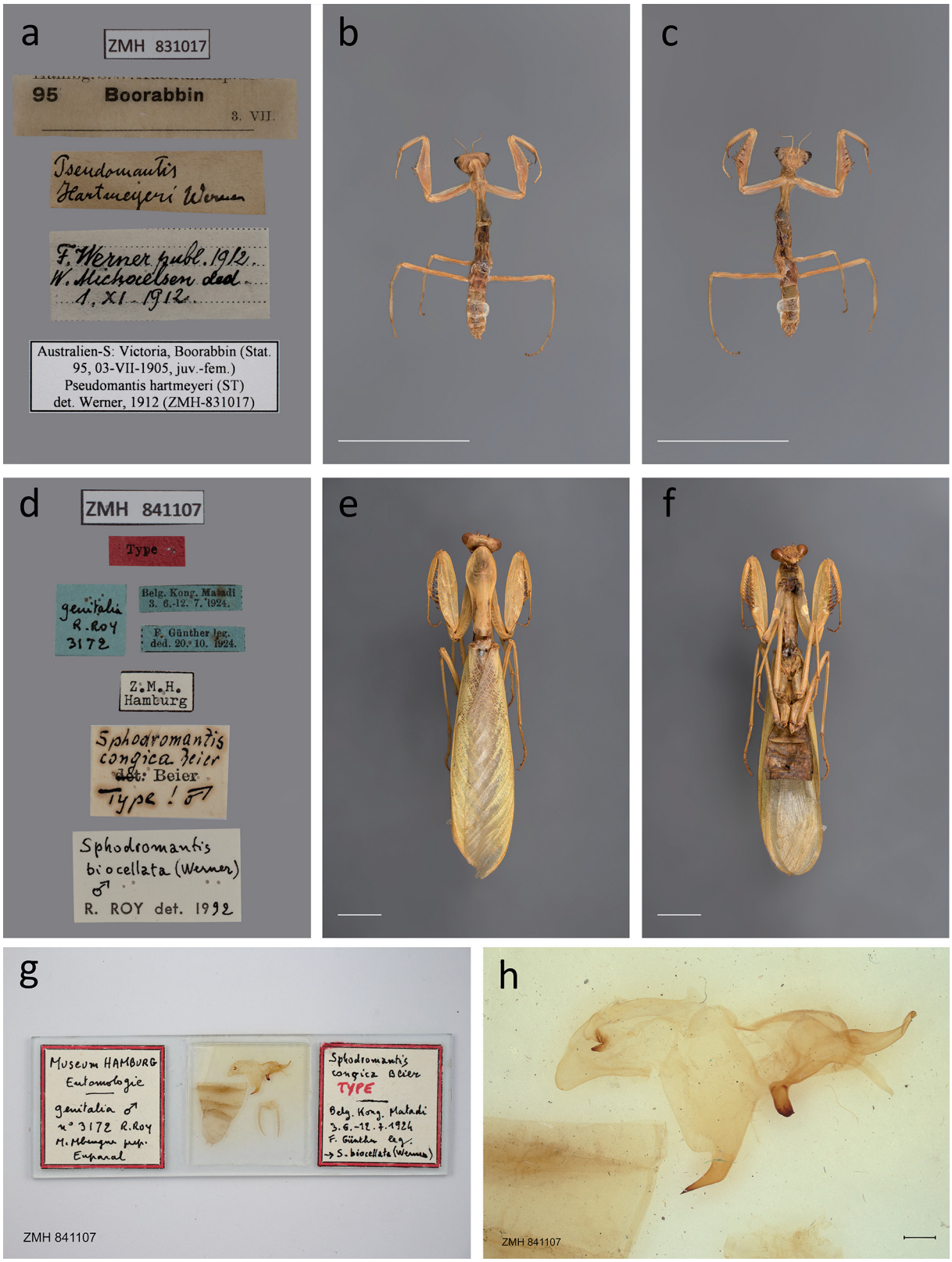

Fig. 30. a–c. *Pseudomantis hartmeyeri* Werner, 1912, syntype, ♀ (ZMH 831017). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–h**. *Sphodromantis congica* Beier, 1931, holotype, ♂ (ZMH 841107). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. **g–h**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

Type material

Holotype (1 male)
DEMOCRATIC REPUBLIC OF THE CONGO • ♂ (Fig. 30d–h); "// Type // genitalia / R. Roy / 3172 // Belg. Kong. Matadi / 3.6.–12.7.1924. // F. Günther leg. / ded. 20.10.1924. // Z. M. H. / Hamburg // *Sphodromantis* / *congica* Beier / det. [crossed out] Beier / Type! ♂ // *Sphodromantis* / *biocellata* (Werner) / ♂ / R. Roy det. 1992"; ZMH 841107.

Type locality

Belgian Congo, Matadi [Democratic Republic of the Congo].

Current status

Synonym of *Sphodromantis biocellata* (Werner, 1906).

Habitus

Complete. Genitalia preparation is present.

Sphodromantis occidentalis var. ***inornata*** Werner, 1923
Fig. 31a–c

Mantis gastrica Stål, 1858: 308.
Sphodromantis occidentalis var. *inornata* Werner, 1923: 123.

Sphodromantis gastrica – Roy 2010: 348–350 (syn.).

Type material

Holotype (1 male)
NAMIBIA • ♂ (Fig. 31a–c); "// *Sphodromantis* / *occidentalis* Wern. / ♂ v. *inornata* Wern. / Fr. Werner det. 1922. // Deutsch- / Südwest-Afrika. / H. Rolle / vend. 25.XI.1904. // Fr. Werner / publ. 1923."; ZMH 841114.

Type locality

German South West Africa [Namibia].

Current status

Synonym of *Sphodromantis gastrica* (Stål, 1858).

Habitus

Incomplete: not one leg of the last pair is completely preserved.

Stagmatoptera praedicatoria Saussure, 1870
Fig. 31d–f

Stagmatoptera binotata Scudder, 1869: 341–342.
Stagmatoptera praedicatoria Saussure, 1870: 232.

Stagmatoptera binotata – Rodrigues & Cancello 2016: 8–10 (syn.).

Type material

Syntype (1 male)
PERU • 1 ♂ (Fig. 31d–f); "// *Stagmatoptera* / *binotata* Scudd. / det. Beier ♂ // *Stagmatopt*. / *praedicatoria* Sss. / cfr. Westw. Revis. Mant. / Append. p. 36. // *Stagmatoptera* sp. n. / Alto Amazonas. / (?) / e Coll. Brunner / v. Wattenwyl / idem ded. 11.12.1889."; ZMH 833029.

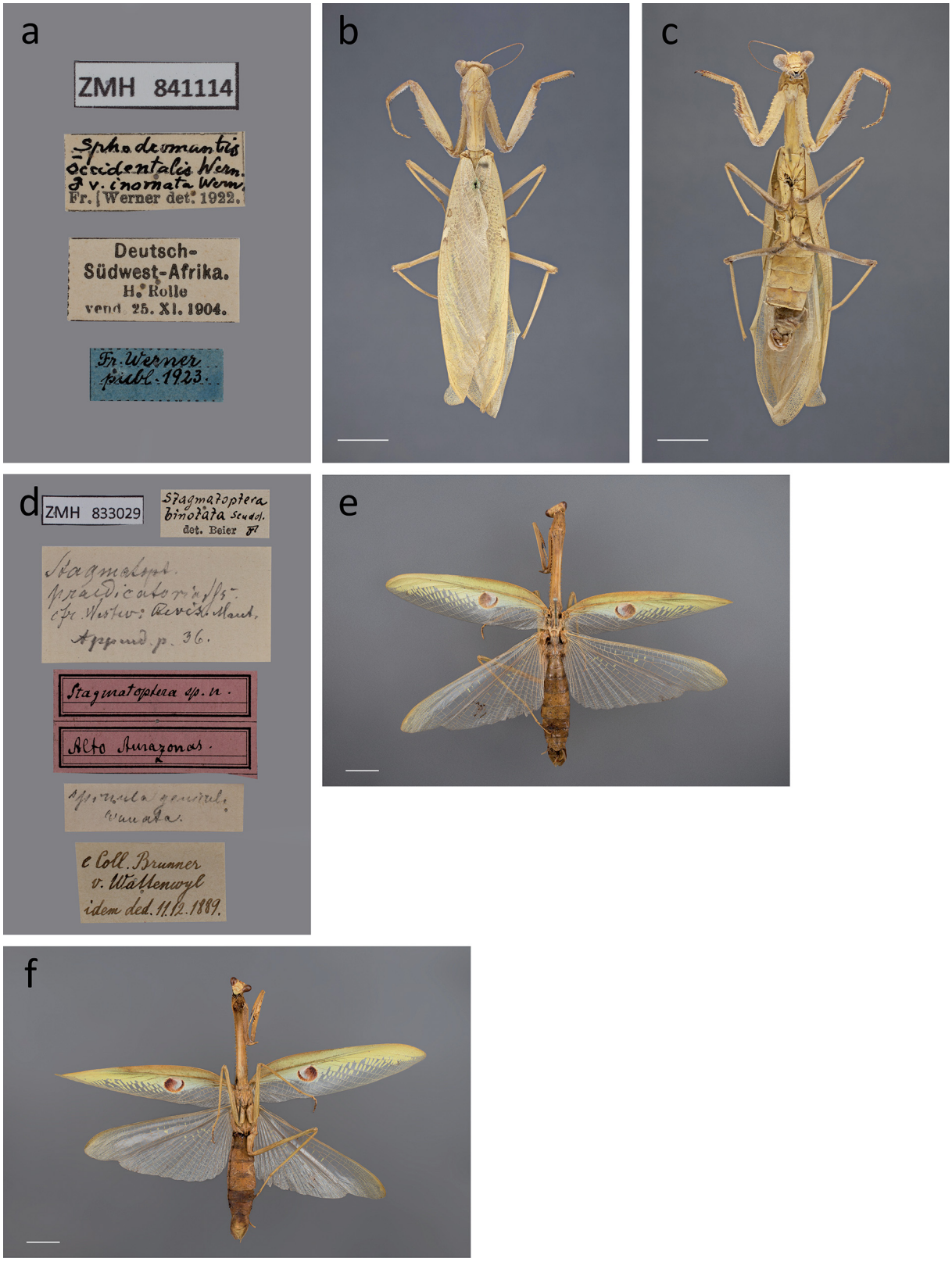

Fig. 31. a–c. *Sphodromantis occidentalis* var. *inornata* Werner, 1923, holotype, ♂ (ZMH 841114). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Stagmatoptera praedicatoria* Saussure, 1870, syntype, ♂ (ZMH 833029). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type locality

Brazil.

Current status

Synonym of *Stagmatoptera binotata* Scudder, 1869.

Habitus

Complete.

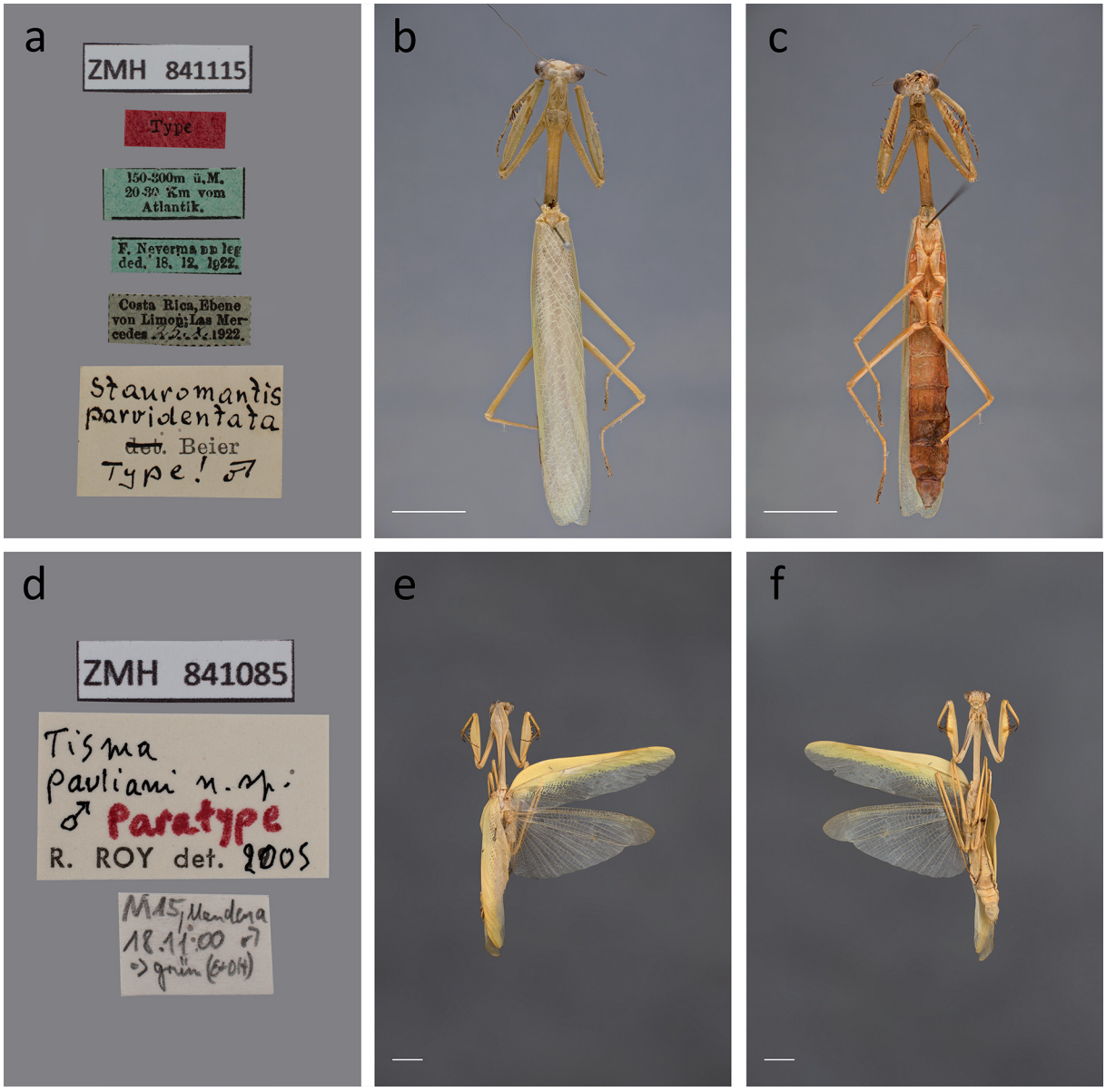

Fig. 32. a–c. *Stauromantis parvidentata* Beier, 1931, holotype, ♂ (ZMH 841115). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Tisma pauliani* Roy, 2005, paratype, ♂ (ZMH 841085). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Remarks

The original description only refers to a single specimen from Brazil. This specimen is likely the one labeled as holotype, which is deposited at the Muséum national d'Histoire naturelle (MNHN) in Paris with the correct data and species name associated. Specimens labelled as syntypes are in the Muséum d'Histoire naturelle in Geneva, in the Museum Basel (NMB) and the specimen in Hamburg might be one as well. As these specimens are not mentioned in the original description and the labels state more detailed location information they are likely not part of the original type series. Yet, as the specimens from Geneva, Basel and Hamburg show a similar handwriting and the same location, it cannot be excluded they were considered in the original description, hence, we list the specimens here for reference.

Stauromantis parvidentata Beier, 1931
Fig. 32a–c

Stauromantis parvidentata Beier, 1931: 17.

Stagmomantis (*Uromantis*) *parvidentata* – Anderson 2020: 18.

Type material

Holotype (1 male)
COSTA RICA • ♂ (Fig. 32a–c); "// Type // 150–300 m ü. M. / 20–30 Km vom / Atlantik. // F. Nevermann leg / ded. 18.12.1922. // Costa Rica, Ebene / von Limon; Las Mer- / cedes 25.X.1922. // *Stauromantis* / *parvidentata* / det. [crossed out] Beier / Type! ♂"; ZMH 841115.

Type locality

Costa Rica: plain of Limón, Las Mercedes, 150–300 m above the sea, 20–30 km from the Atlantic.

Current status

Valid species.

Habitus

Complete.

Tisma pauliani Roy, 2005
Figs 32d–f, 33a–c

Tisma pauliani Roy, 2005: 53–54.

Type material

Paratypes (1 male, 1 female)
MADAGASCAR • 1 ♂ (Fig. 32d–f); "// *Tisma* / *pauliani* n. sp. / ♂ Paratype / R. Roy det. 2005 // M15, Mandena / 18.11.00 ♂ / →grün (EtOH)"; ZMH 841085 • 1 ♀ (Fig. 33a–c); "// Madagascar, Fort-Dauphin / Mandena (adult IX/2004) / ex ovo (colleté en Avril 04) / leg. et élevage K. Schütte // *Tisma* / *pauliani* n. sp. / ♀ Paratype / R. Roy det. 2005"; ZMH 841089.

Type locality

Madagascar.

Current status

Valid species.

Habitus

Habitus complete.

Family Miomantidae Westwood, 1889

Parasphendale arabukosokokei Borer & Ehrmann, 2022
Figs 33d–f, 34a–c

Parasphendale arabukosokokei Borer & Ehrmann, 2022: 3–7, 19.

Fig. 33. a–c. *Tisma pauliani* Roy, 2005, paratype, ♀ (ZMH 841089). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Parasphendale arabukosokokei* Borer & Ehrmann, 2022, paratype, ♀ (ZMH 841096). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type material

Paratypes (1 female, 1 male)
KENYA • 1 ♀ (Fig. 33d–f); "// Kenya / CeNak – MANTODEA / 17. ♀ PT / *Parasphendale* / *arabukosokokei* // *Parasphendale arabukosokokei* / BORER & EHRMANN, 2022 / PARATYPE ♀ / Hamburg (ZMH) (#-17) // Kenya-SE: part of Arabuko Sokoke Forest / vic. Malindi, (03.42125°S – 039.89815°E), / (site 06), leg. S. MATERNA & T. SCHULZE, / 05.–17.VIII.2012 (captive bred) / ex ovo REINHARD EHRMANN 2018–2019 ♀"; ZMH 841096 • 1 ♂ (Fig. 34a–c); "// Kenya / CeNak – MANTODEA / 16. ♂ PT / *Parasphendale* / *arabukosokokei* // *Parasphendale arabukosokokei* / BORER & EHRMANN, 2022 / PARATYPE ♂ / Hamburg (ZMH) (#-16) // Kenya-SE: part of Arabuko Sokoke Forest / vic.

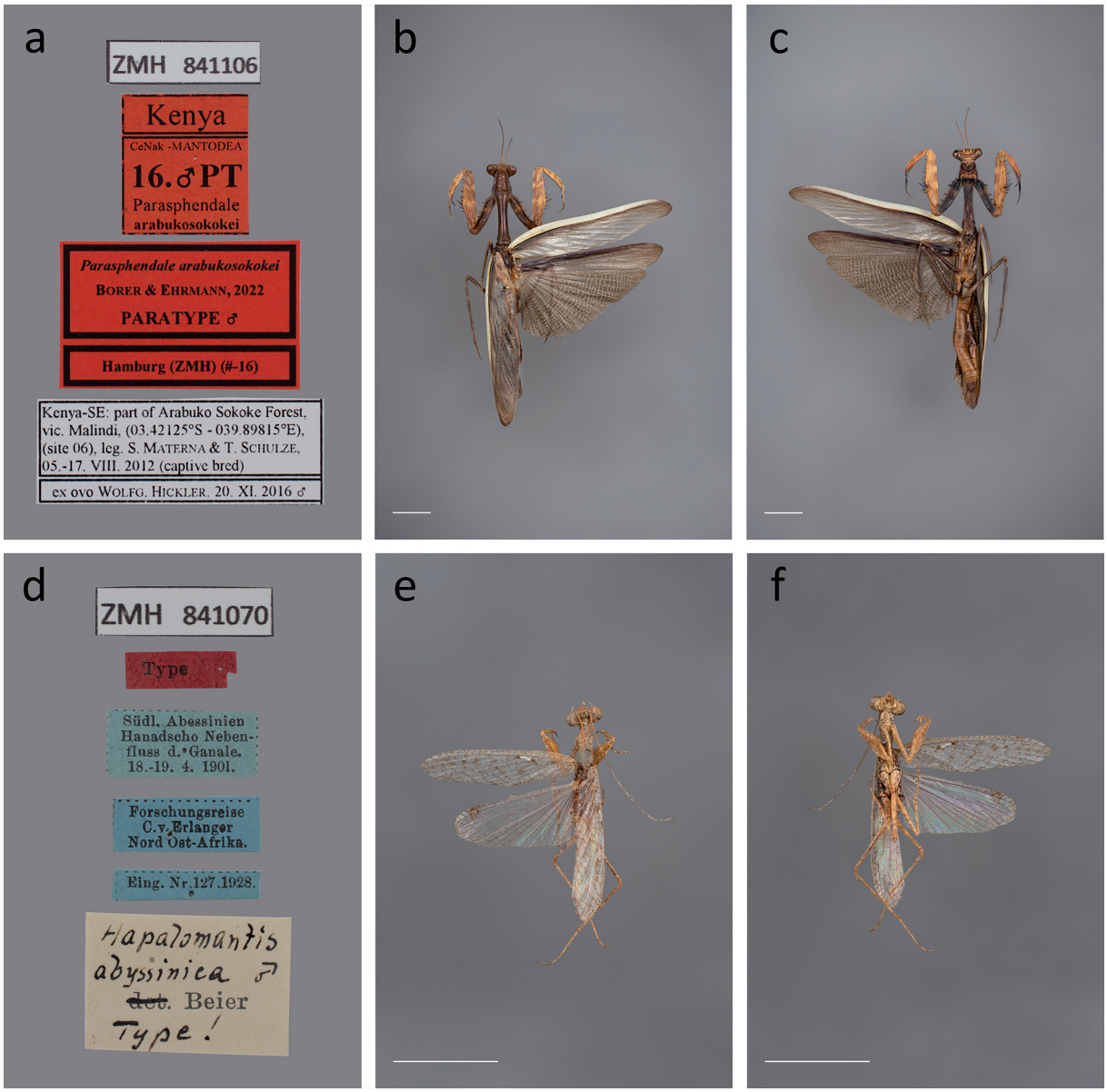

Fig. 34. a–c. *Parasphendale arabukosokokei* Borer & Ehrmann, 2022, paratype, ♂ (ZMH 841106). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Hapalomantis abyssinica* Beier, 1931, holotype, ♂ (ZMH 841070). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Malindi, (03.42125°S – 039.89815°E), / (site 06), leg. S. MATERNA & T. SCHULZE, / 05.–17. VIII.2012 (captive bred) / ex ovo WOLFG. HICKLER. 20.XI.2016 ♂"; ZMH 841106.

Type locality

SE Kenya: Arabuko-Sokoke-Forest, N Kilifi Creek, Jilore (3.18° S, 39.90° E).

Current status

Valid species.

Habitus

Complete.

Family Nanomantidae Brunner de Wattenwyl, 1893

Hapalomantis abyssinica Beier, 1931
Fig. 34d–f

Hapalomantis abyssinica Beier, 1931: 5.

Hapalomantis (*Hapalomantis*) *abyssinica* – Ehrmann 2002: 165.

Type material

Holotype (1 male)
ETHIOPIA • ♂ (Fig. 34d–f); "// Type // Südl. Abessinien / Hanadscho Neben- / fluss d. Ganale. / 18.–19.4.1901. // Forschungsreise / C. v. Erlanger / Nord Ost-Afrika. // Eing. Nr. 127.1928. // *Hapalomantis* / *abyssinica* ♂ / det. [crossed out] Beier / Type!"; ZMH 841070.

Type locality

Southern Abyssinia, Hanadscho, sidearm of the Ganale River [Ethiopia].

Current status

Valid species.

Habitus

Incomplete: abdomen is missing.

Micrentella fuliginosa Werner, 1923
Fig. 35a–c

Bolbena (*Bolbena*) *minor* Giglio-Tos, 1915: 38–39.
Micrentella fuliginosa Werner, 1923: 117.

Bolbena (*Bolbena*) *minor* – Kaltenbach 1996: 203–204 (syn.).

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 35a–c); "// Hamburg. deutsch- / südwestafrikan. / Studienreise 1911. / W. Michaelsen leg. // Fr. Werner / publ. 1923. / W. Michaelsen / ded. 15.3.1923. // Deutsch-Sw.-Afr. / Windhuk / 29.IV.–8.V.1911. // *Micrentella* / *fuliginosa* Wern / ♀ Type / Fr. Werner det. 1922. // *Bolbena minor* G.-T. / ♀

/ det. Kaltenbach 1995 // Z. M. H. / Hamburg // Infolge ungenüg. Verpackung / zerbrochen etc. von Werner / zurück 1.III.1923. / cfr. Werner i. litt. 25.III.1923."; ZMH 841069.

Type locality

Windhoek [Namibia].

Current status

Synonym of *Bolbena* (*Bolbena*) *minor* Giglio-Tos, 1915.

Habitus

Incomplete: all pairs of legs are not completely preserved.

Fig. 35. a–c. *Micrentella fuliginosa* Werner, 1923, holotype, ♀ (ZMH 841069). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Xanthomantis ornata* Beier, 1931, holotype, ♂ (ZMH 833030). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Xanthomantis ornata Beier, 1931
Fig. 35d–f

Xanthomantis ornata Beier, 1931: 12–13.

Oligocanthopus ornatus – Schwarz & Roy 2019: 113, 133, 136.

Type material

Holotype (1 male)
INDONESIA • ♂ (Fig. 5d–f); "// Type // Borneo / Lebang Hara / 25.11.–5.12.1924. // Type // Sammelreise / Prof. Dr. H. Winkler / ded. 1924–1925. // *Xanthomantis* / *ornata* ♂ / det. [crossed out] Beier / Type!"; ZMH 833030.

Type locality

Borneo, Lebang Hara [Indonesia].

Current status

Valid species.

Habitus

Incomplete: abdomen is missing. The abdomen was already missing in the original description.

Family Photinaidae Giglio-Tos, 1915

Cardioptera viridipennis Beier, 1931
Fig. 36a–c

Cardioptera viridipennis Beier, 1931: 16.

Type material

Holotype (1 male)
BRAZIL • ♂ (Fig. 36a–c); "// Type // Matto Grosso / Brasilien. / Zobrys & Wolter / vend. 20. VI. 1911. // *Cardioptera* / *viridipennis* / det. [crossed out] Beier / Type! ♂"; ZMH 841117.

Type locality

Brazil: Mato Grosso.

Current status

Valid species.

Habitus

Complete.

Metriomantis gracilicollis Beier, 1931
Figs 36d–f, 37

Hicetia goeldiana Saussure & Zehntner, 1894: 152–153.
Metriomantis gracilicollis Beier, 1931: 15–16.

Hicetia goeldiana – Rivera & Svenson 2020: 106 (syn.).

Type material

Syntypes (1 female, 2 males)
BRAZIL • 1 ♀ (Fig. 36d–f); "// Type // Brasilien / Bosque da Saude / S. Paulo 23.11.26 / Eing. 1928 N° 11 // Z. M. H. / Hamburg // *Metriomantis* / *gracilicollis* / det. [crossed out] Beier / Type! ♀"; ZMH 841111 • 1 ♂ (Fig. 37a–c); "// Brasilien / Bosque da Saude / S. Paulo 23.11.26 / Eing. 1928 N° 11 // *Metriomantis* / *gracilicollis* / det. [crossed out] Beier / Type! ♂"; ZMH 841112 • 1 ♂ (Fig. 37d–f); "// Z. M. H. / Hamburg // Brasilien / Alto da Serra / S. Paulo 14.XI.1926 / Eing. 1928 N° 11 // *Metriomantis* / *gracilicollis* ♂ / det. [crossed out] Beier / Paratype."; ZMH 841113.

Fig. 36. a–c. *Cardioptera viridipennis* Beier, 1931, holotype, ♂ (ZMH 841117). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Metriomantis gracilicollis* Beier, 1931, syntype, ♀ (ZMH 841111). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Type locality

Brazil: Bosque da Saúde, São Paulo.

Current status

Synonym of *Hicetia goeldiana* Saussure & Zehntner, 1894.

Habitus

Complete.

Fig. 37. *Metriomantis gracilicollis* Beier, 1931. **a–c**. Syntype, ♂ (ZMH 841112). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. Syntype, ♂ (ZMH 841113). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Family Thespidae Saussure, 1869

Anamiopteryx grandis Beier, 1935
Figs 38, 39a–b

Anamiopteryx grandis Beier, 1935a: 5.

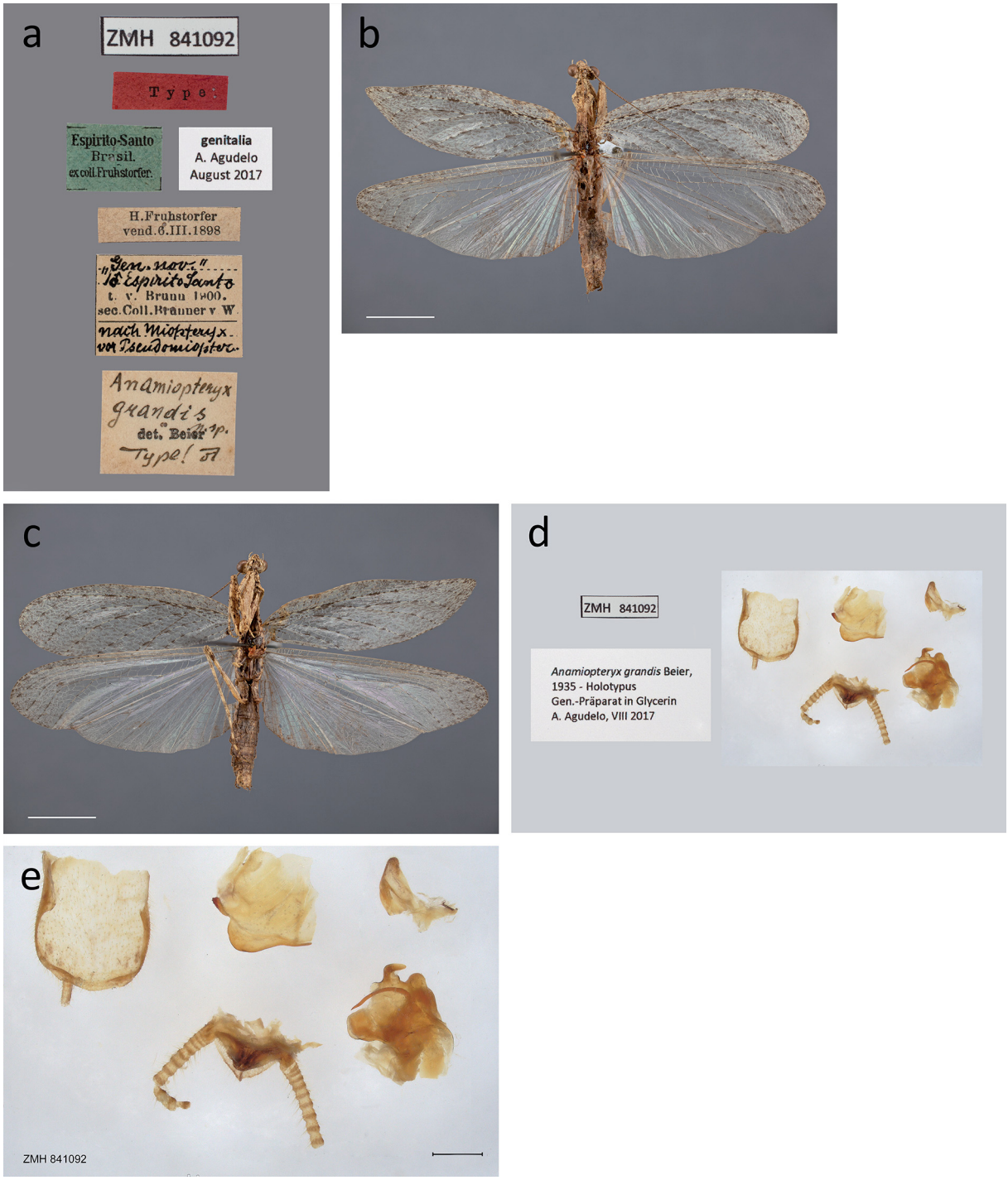

Fig. 38. *Anamiopteryx grandis* Beier, 1935, holotype, ♂ (ZMH 841092). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–e**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

Type material

Holotype (1 male)
BRAZIL • ♂ (Fig. 38); "// Type // Espirito-Santo / Brasil. / ex coll. Fruhstorfer. // genitalia / A. Agudelo / August 2017 // H. Fruhstorfer / vend. 6.III.1898 // "Gen. nov." / 1 ♂ Espirito Santo / t. v. Brunn 1900. / sec. Coll. Brunner v. W. / nach *Miopteryx* / vor *Pseudomiopter*. // *Anamiopteryx* / *grandis* / n.sp. / det. Beier / Type! ♂"; ZMH 841092.

Paratype (1 female)
BRAZIL • 1 ♀ (Fig. 39a–b); "// Espirito Santo / (Brasil.) / J. Michaelis vend. / 22.IV.1898. // *Anamiopteryx grandis* / n. sp. / det. Beier / Type! ♀ / After the existing pictures / were made back in 2012 this / specimen went missing. / Therefore no ventral habitus / exists."; ZMH 861000.

Type locality

Brazil: Espírito Santo.

Current status

Valid species.

Habitus

Holotype male incomplete: second pair of legs is missing. Genitalia were prepared after the images were taken.

Remarks

One paratype female could not be recovered and hence has to be considered lost.

Bantia metzi Beier, 1935
Fig. 39c–g

Bantia metzi Beier, 1935a: 10–11.

Type material

Holotype (1 male)
BRAZIL • ♂ (Fig. 39c–g); "// Type // Santos / J. Metz leg. ded. / 30.V.1894. // 16.2.94. // genitalia / A. Agudelo / August 2017 // *Miopteryx* / cfr. *Pseudomiopteryx* / t. v. Brunn 1900. / sec. Coll Brunner v. W. / n. *Thrinoconyx*, / auch *Bantia* Stål // *Bantia* / *metzi* n. sp. / det. Beier ♂ / Type!"; ZMH 841077.

Type locality

Brazil: Santos.

Current status

Valid species.

Habitus

Complete. Genitalia were prepared after the images were taken.

Bantia michaelisi Beier, 1935
Fig. 40

Bantia michaelisi Beier, 1935a: 10–11.

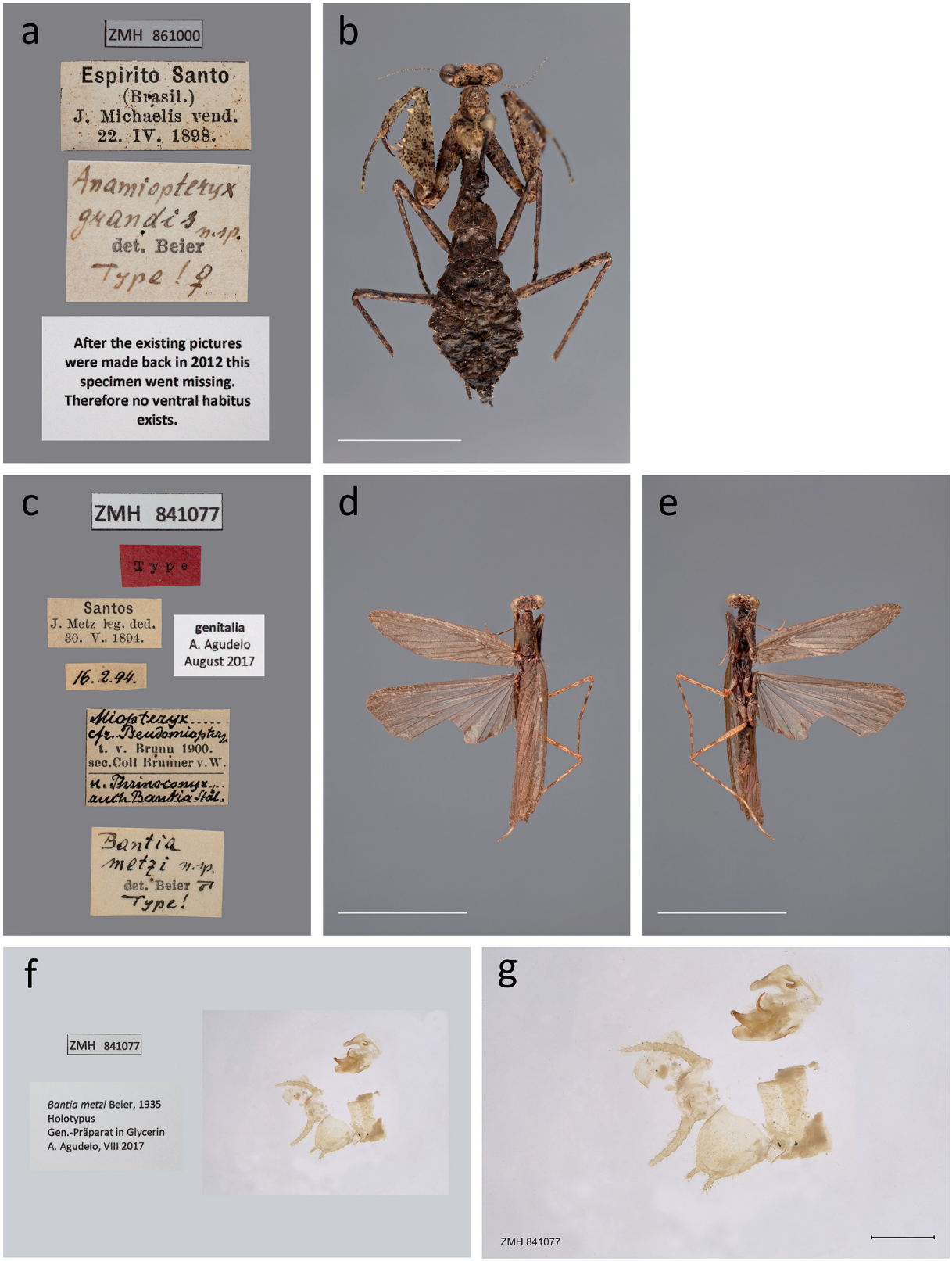

Fig. 39. a–b. *Anamiopteryx grandis* Beier, 1935, paratype, ♀ (ZMH 861000). **a**. Labels. **b**. Dorsal view. **c–g**. *Bantia metzi* Beier, 1935, holotype, ♂ (ZMH 841077). **c**. Labels. **d**. Dorsal view. **e**. Ventral view. **f–g**. Genitalia. White scale bars = 10 mm; black scale bar = 1.00 mm.

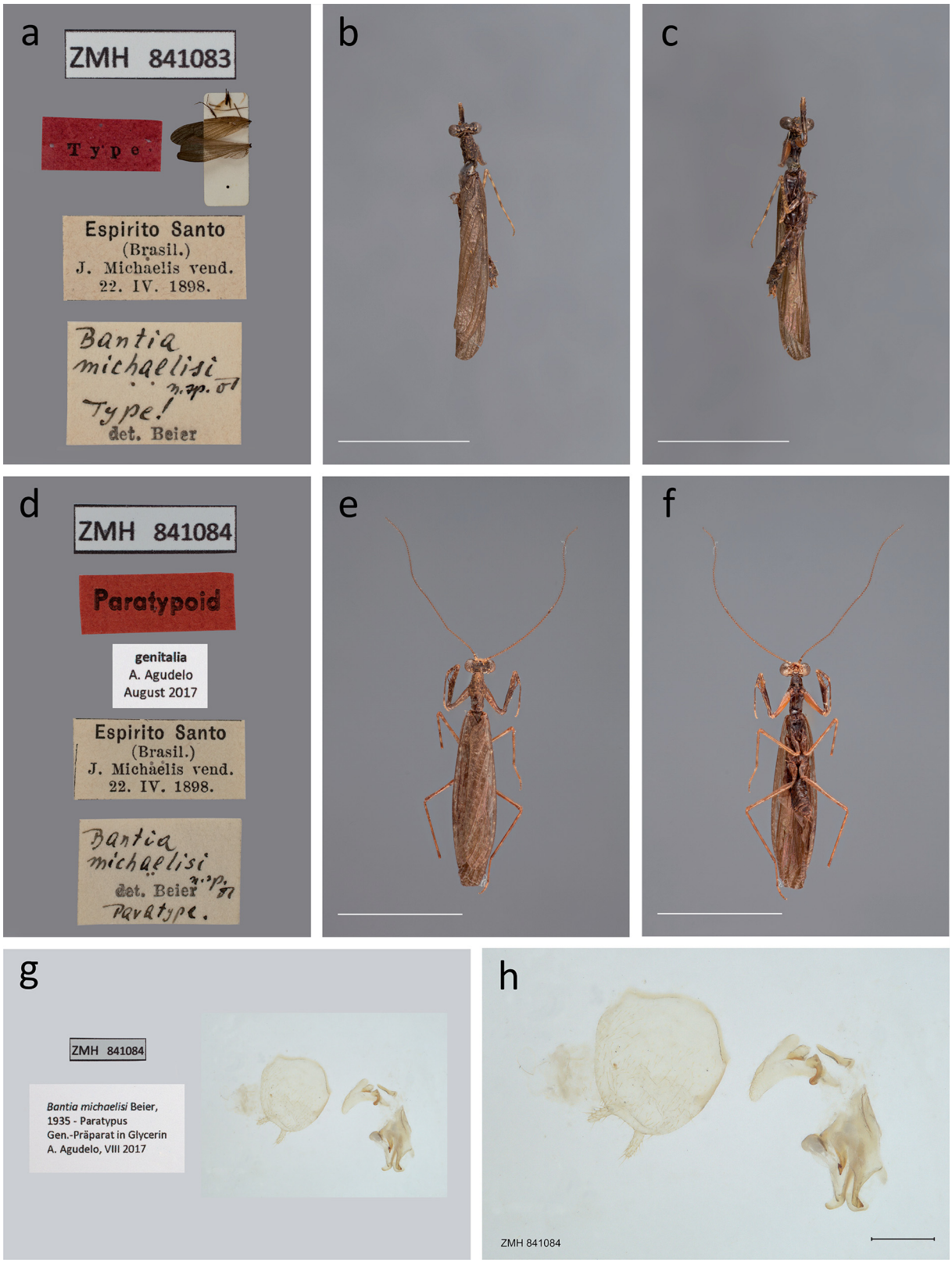

Fig. 40. *Bantia michaelisi* Beier, 1935. **a–c**. holotype, ♂ (ZMH 841083). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–h**. Paratype, ♂ (ZMH 841084). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. **g–h**. Genitalia. White scale bars = 10 mm; black scale bar = 0.50 mm.

Type material

Holotype (1 male)
BRAZIL • ♂ (Fig. 40a–c); "// Type // Espirito Santo / (Brasil.) / J. Michaelis vend. / 22.IV.1898. // *Bantia* / *michaelisi* / n. sp. ♂ / Type! / det. Beier"; ZMH 841083.

Paratype (1 male)
BRAZIL • 1 ♂ (Fig. 40d–h); "// Paratypoid // genitalia / A. Agudelo / August 2017 // Espirito Santo / (Brasil.) / J. Michaelis vend. / 22.IV.1898. // *Bantia* / *michaelisi* / n. sp. / det. Beier ♂ / Paratype."; ZMH 841084.

Type locality

Brazil: Espírito Santo.

Current status

Valid species.

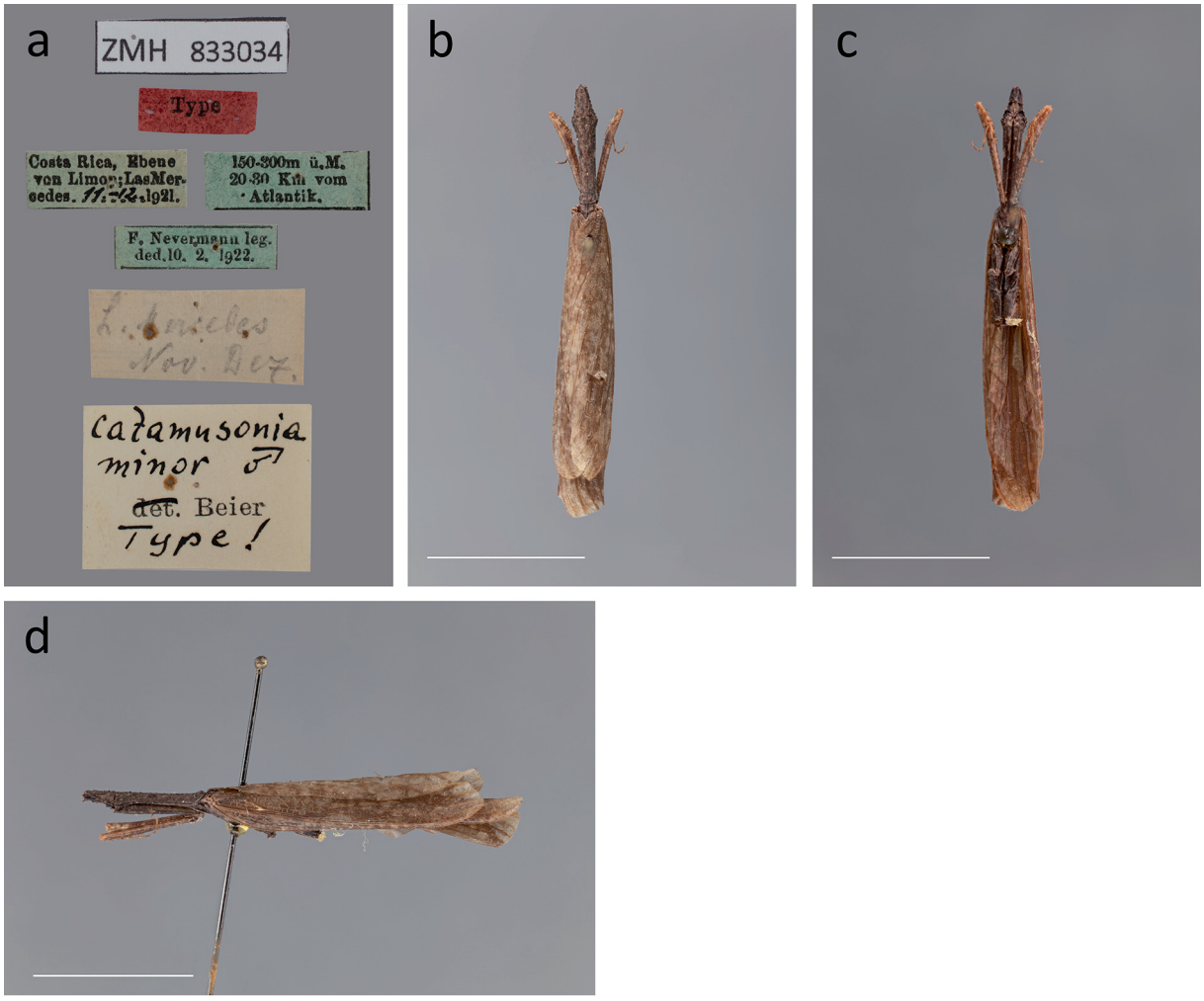

Fig. 41. *Catamusonia minor* Beier, 1931, syntype, ♂ (ZMH 833034). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. Scale bars = 10 mm.

Habitus

Holotype male incomplete: last pair of legs is missing. Paratype male complete. Genitalia were prepared after the images were taken.

Catamusonia minor Beier, 1931
Figs 41–42

Mionyx ferus Saussure & Zehntner, 1894: 166–167.
Catamusonia minor Beier, 1931: 14.

Musoniola fera – Rivera & Svenson 2020: 63, 215 (syn.).

Type material

Syntypes (1 male, 1 female)
COSTA RICA • 1 ♂ (Fig. 41); "// Type // Costa Rica, Ebene / von Limon; Las Mer- / cedes. 11.–12. 1921. // 150–300m Ü. M. / 20–30 Km vom / Atlantik. // F. Nevermann leg. / ded. 10.2.1922. //

Fig. 42. *Catamusonia minor* Beier, 1931, syntype, ♀ (ZMH 833035). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d**. Lateral view. Scale bars = 10 mm.

L. Mercedes / Nov. Dez. // *Catamusonia* / *minor* ♂ / det. [crossed out] Beier / Type!"; ZMH 833034 • 1 ♀ (Fig. 42); "// Type // 10–30 m ü. M., 12–30 / Km vom Atlantik. // F. Nevermann leg. / ded. 11.9.1922. // Farm Hamburg am / Reventazón. / 25.6.1922. // Costa Rica, Ebene / von Limon bei Las / Mercedes. // *Catamusonia* / *minor* ♀ / det. Beier / Type!"; ZMH 833035.

Type locality

Costa Rica: plains of Limón, Las Mercedes, Farm Hamburg.

Current status

Synonym of *Musoniola fera* (Saussure & Zehntner, 1894).

Habitus

Syntype male incomplete: head, abdomen and two pairs of legs are missing. Abdomen was already missing in the original description. Syntype female incomplete: two pairs of legs are not completely preserved.

Musoniella parva Beier, 1935
Fig. 43a–e

Musoniella parva Beier, 1935a: 19–20.

Type material

Holotype (1 male)
PARAGUAY • ♂ (Fig. 43a–e); "// Type // genitalia / A. Agudelo / August 2017 // 26.10.96 / Panadero // Paraguay. / Kpt. Jerrmann leg. / ded. 6.XII.1897. // *Musoniella* / *parva* n. sp. / Type! ♂ / det. Beier"; ZMH 841093.

Type locality

Paraguay: Panadero.

Current status

Valid species.

Habitus

Incomplete: middle pair of legs is missing. Genitalia were prepared after the images were taken.

Thesprotiella peruana Beier, 1935
Fig. 43f–h

Thesprotiella peruana Beier, 1935a: 14.

Type material

Holotype (1 male)
PERU • ♂ (Fig. 43f–h); "// Type // 257. // Marcapata (Peru) / Dr. O. Staudinger / vend. 5.II.1902. // *Musonia* / n. sp. / Brunner v. W. determ. / teste Staudinger. // *Thesprotiella* / *peruana* / n. sp. / det. Beier / Type! ♂"; ZMH 841088.

Type locality

Peru: Marcapata.

Current status

Valid species.

Fig. 43. a–e. *Musoniella parva* Beier, 1935, holotype, ♂ (ZMH 841093). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–e**. Genitalia. **f–h**. *Thesprotiella peruana* Beier, 1935, holotype, ♂ (ZMH 841088). **f**. Labels. **g**. Dorsal view. **h**. Ventral view. White scale bars = 10 mm; black scale bar = 0.50 mm.

Habitus

Incomplete: abdominal apex is missing. Abdominal apex was already missing in the original description.

Family Toxoderidae Saussure, 1869

Calamothespis lineatipennis Werner, 1923
Fig. 44a–c

Calamothespis lineatipennis Werner, 1923: 125–126.

Type material

Holotype (1 female)
NAMIBIA • ♀ (Fig. 44a–c); "// Type // Z. M. H. / Hamburg // v. Zastrow / ded. 5.IX.1913. // Zoolog. Mus. Hamburg / *Calamothespis* Type / *lineatipennis* Wern. ♀ / Fr. Werner det. 1922. // Zoolog. Mus. Hamburg / *Calamothespis* Type / *lineatipennis* Wern. ♀ / Fr. Werner det. 1922. // Fr. Werner publ 1923."; ZMH 845358.

Type locality

German South West Africa, likely Grootfontein [Namibia].

Current status

Valid species.

Habitus

Complete.

Calamothespis tanzaniensis Roy & Stiewe, 2016
Fig. 44d–f

Calamothespis tanzaniensis Roy & Stiewe, 2016: 19–20.

Type material

Holotype (1 female)
TANZANIA • ♀ (Fig. 44d–f); "// *Calamothespis tanzaniensis* / Roy & Stiewe 2016 / Holotype, ♀ // aff. *Paradanuria* / (? *Calamothespis* ♀ / *adusta* Werner 1907, 1 ♀ sp) / v Brunn XII. 1912 // Landsch. Turu / nördlichster Zipfel // Ostafr.-Exped. d. / Hamb. Geogr. Ges. / Dr. E. Obst leg. / G. Ges. ded. X.1912. // Balangidda-See bis Mkalama / 13.–19.IV.1911. // Z. M. H. / Hamburg"; ZMH 840286.

Type locality

Tanzania: Lake Balangida to Mkalama, most northern end of landscape of Turu.

Current status

Valid species.

Habitus

Complete.

Compsothespis michaelseni Werner, 1923
Fig. 45a–c

Compsothespis michaelseni Werner, 1923: 109.

Type material

Holotype (1 female)

NAMIBIA • ♀ (Fig. 45a–c); "// Hamb. dtsch-s.w. / afr. Studienr. 1911 / Neudamm / (42 km ONO Windhuk) / W. Michelsen / leg. 10.–15. V. 1911. / ded. // Zoolog. Mus. Hamburg / *Compsothespis* ♀ / *michaelseni* Wern. Type / Fr. Werner det. 1922. // Fr. Werner publ. 1923. / W. Michaelsen ded. 15.III.1923."; ZMH 831013.

Type locality

Farm Neudamm, 42 km E / NE of Windhoek [Namibia].

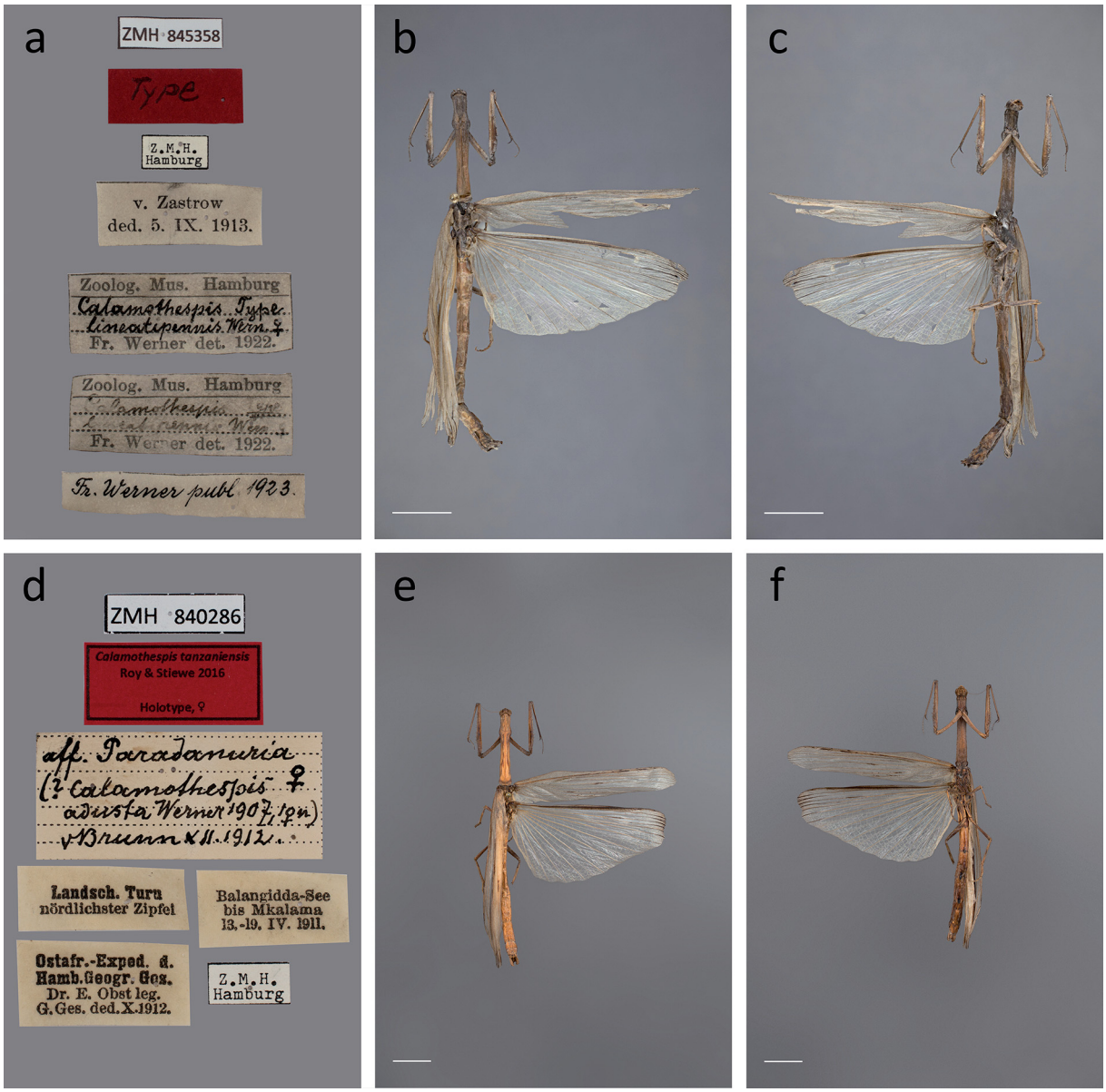

Fig. 44. a–c. *Calamothespis lineatipennis* Werner, 1923, holoype, ♀ (ZMH 845358). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Calamothespis tanzaniensis* Roy & Stiewe, 2016, holotype, ♀ (ZMH 840286). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Current status

Valid species.

Habitus

Complete.

Remarks

In the original publication "May 1905" is stated as collection date for this specimen. This might be a mistake from Werner as other specimens from the same collector and location were all collected in 1911, which matches the data from the original label.

Fig. 45. a–c. *Compsothespis michaelseni* Werner, 1923, holoype, ♀ (ZMH 831013). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–f**. *Heterochaeta occidentalis* Beier, 1963, holotype, ♂ (ZMH 841098). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. Scale bars = 10 mm.

Heterochaeta occidentalis Beier, 1963
Fig. 45d–f

Heterochaeta occidentalis Beier, 1963: 10–11.

Type material

Holotype (1 male)
NAMIBIA • ♂ (Fig. 45d–f); "// Type // S. W. Afrika, / Tsumeb / Gustav Meyer leg. / 30.I.30. / Eing. Nr. 38, 1931. // *Heterochaeta* / *occidentalis* / n. sp. ♂ / det. Beier / Type!"; ZMH 841098.

Type locality

South West Africa, Tsumeb [Namibia].

Current status.

Valid species.

Habitus

Incomplete: abdominal apex is missing. Abdominal apex was already missing in the original description.

Oxyothespis longicollis Beier, 1931
Fig. 46a–c

Oxyothespis longicollis Beier, 1931: 6–7.

Type material

Holotype (1 male)
SOMALIA • ♂ (Fig. 46a–c); "// Type // Eing. Nr. 127.1928. // Forschungsreise / C. v. Erlanger / Nord-Ost-Afrika. // BritOst-Afrika / Umfudu a. Ganale / 16.–25.6.1901. // *Oxyothespis* / *longicollis* / det. [crossed out] Beier / Type! ♂ // Mfudu 18/VI 01"; ZMH 841071.

Type locality

British East Africa, Munfuudhi at the Jubba River [Somalia].

Current status

Valid species.

Habitus

Incomplete: abdominal apex is missing.

Remarks

The type locality information given by Ehrmann (2002) is not correct. On the original label Mfudu is named as locality. Comparing the named localities depicted in a historical blueprint showing the course of the Jubba River from Bardere to the place called Mfudu (Hannyngton & Shaw 1903) with current maps we come to the assumption that Mfudu might be a historical name for Munfuudhi in Somalia.

Toxodera spinigera Beier, 1931
Fig. 46d–g

Toxodera fimbriata Werner, 1930b: 9.
Toxodera spinigera Beier, 1931: 20–21.

Toxodera fimbriata – Beier 1976: 395 (syn.).

Fig. 46. a–c. *Oxyothespis longicollis* Beier, 1931, holotype, ♂ (ZMH 841071). **a**. Labels. **b**. Dorsal view. **c**. Ventral view. **d–g**. *Toxodera spinigera* Beier, 1931, holotype, ♂ (ZMH 841100). **d**. Labels. **e**. Dorsal view. **f**. Ventral view. **g**. Lateral view. Scale bars = 10 mm.

Type material

Holotype (1 male)
MALAYSIA • ♂ (Fig. 46d–g); "// Type // Borneo / Kinabalu / Waterstradt l. / H. Rolle vend. / 25.XI.1904. // *Toxodera* / *spinigera* / det. [crossed out] Beier / Type! ♂ // *Toxodera* / *fimbriata* Wern. / ♂ / R. Roy det. 2002"; ZMH 841100.

Type locality

Kinabalu, Borneo [Malaysia].

Current status

Synonym of *Toxodera fimbriata* Werner, 1930.

Habitus

Complete.

Discussion

We here present an updated list of the types of Mantidae housed in the ZMH. All of the types mentioned in the previous catalogues by Weidner still exist in the collection with one exception. The female paratype of *Anamiopteryx grandis* Beier, 1935 was last seen in the year 2012, where the first images of type specimens were taken. During our research for this publication the specimen could not be found and has therefore been considered lost.

The material formerly preserved in ethanol was prepared dry, so all type specimens mentioned in this catalogue can now be found in the dry collection, and more specifically in the separated type collection. Furthermore, we were able to add 12 new species to the existing type list. In total the collection currently contains 84 type specimens attributed to 64 species (Supp. File 1). Four type specimens of the genus *Nesogalepsus*, originally deposited at the ZMH, were transferred to the entomological collection of the Université d'Antananarivo, Département de Biologie Animale in Madagascar (UADBA) for reasons of Access and Benefit Sharing. These were *Nesogalepsus schuettei* (holotype ♂, paratype ♀), as well as *Nesogalepsus mandenensis* (holotype ♂, paratype ♀, two non-type specimens). Further, two types of *Tisma pauliani* Roy, 2005 (paratypes ♂♀), accidentally deposited at the ZMH, were transferred back to the collector Kai Schütte (Hamburg).

Overall, the Mantodea collection of the ZMH contains 3161 determined specimens distributed across 29 families, 213 genera and 597 species (Supp. File 2). Besides, there is a small collection of oothecae and a supplement with about 600 unidentified specimens in the dry collection and about 450 containers in the wet collection. The latter includes material mostly from Africa (300 containers) but also Asia (150 containers).

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Supplementary material

Supp. file 1. List of the 84 type specimens of Mantodea Burmeister, 1838 deposited at the Zoological Museum Hamburg (ZMH). Data type: Excel table. Authors: Eileen Nguyen, Reinhard Ehrmann & Martin Husemann. https://doi.org/10.5852/ejt.2024.964.2693.12437

Supp. file 2. List of all species of Mantodea Burmeister, 1838 that are currently deposited at the Zoological Museum Hamburg (ZMH). Data type: Excel table. Authors: Eileen Nguyen, Reinhard Ehrmann & Martin Husemann. https://doi.org/10.5852/ejt.2024.964.2693.12439