

Catalogue of the type specimens of the family Notonectidae (Insecta: Hemiptera: Heteroptera) in the Natural History Museum Vienna

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Abstract

The type specimens of the nepomorphan family Notonectidae housed in the Natural History Museum Vienna are catalogued. Information on type status, label data, and current taxonomic status of 34 nominal taxa is provided. A type specimen of *Anisops vitreus* SIGNORET, 1860 is redescribed and imaged, which agrees better with the original description than the current interpretation of this taxon.

Key words. Notonectidae, types, catalogue, collection, *Anisops vitreus*, redescription.

Zusammenfassung

Die Typusexemplare der Familie Notonectidae, die im Naturhistorischen Museum in Wien verwahrt werden, wurden katalogisiert. Informationen zum Typenstatus, zu den Etikettendaten und zum aktuellen taxonomischen Status von 34 nominellen Taxa werden geliefert. Ein Typusexemplar von *Anisops vitreus* SIGNORET, 1860 wird beschrieben, abgebildet und diskutiert, welches mit der Originalbeschreibung besser übereinstimmt als die derzeitige Interpretation dieses Taxons.

Introduction

The Natural History Museum Vienna (NHMW) holds a significant world collection of Notonectidae and includes type specimens described by, e.g., Victor Antoine Signoret (1816–1889), George Willis Kirkaldy (1873–1910), Herbert B. Hungerford, George T. Brooks, and Nico Nieser. Many types were acquired by donations or exchange.

This catalogue not only provides a list of specimens, but also many digital images of species that have not been published before. General information on the Heteroptera collection of NHMW was provided in the type catalogues of Reduviidae (SEHNAL 2000) and Gerridae (ZETTEL et al. 2022).

Material and methods

The source of this inventory is the database of the Natural History Museum Vienna, which includes all types of Gerridae in the systematic main collection of dry mounted specimens registered until 2024.

The species are listed alphabetically, following their original description, but without their original subgeneric assignment.

The paragraph with the original citation includes the type locality and the depository of primary types (holo-, lecto- and syntypes). If type specimens (paratypes) originate from more than one locality, a “type region” is noted that summarizes the distribution of all type specimens.

Acronyms of depositories (of primary types).

FMNH	Field Museum of Natural History, Chicago, Illinois, U.S.A.
HNHM	Hungarian Natural History Museum, Budapest, Hungary
MNHN	Muséum national d’histoire naturelle, Paris, France
MNRJ	Museu Nacional UFRJ, Rio de Janeiro, Brasil
MZSP	Museu de Zoologia da Universidade de São Paulo, Brasil
RMNH	Naturalis Biodiversity Center (formerly Rijksmuseum van Natuurlijke Historie), Leiden, The Netherlands
NCTL	Nico Nieser Collection, Tiel, the Netherlands
NHMW	Natural History Museum, Vienna, Austria
NHRS	Swedish Museum of Natural History, Stockholm, Sweden
NMPC	National Museum of the Czech Republic, Prague, Czech Republic
SEMC	Biodiversity and Natural History Museum (formerly Huntington Snow Entomological Museum Collection), Lawrence, Kansas, U.S.A.
UPLB	Museum of Natural History, University of the Philippines, Los Baños, Laguna, the Philippines
USNM	National Museum of Natural History, Washington D.C., U.S.A.
ZSIK	Zoological Survey of India, Kolkata, India

The types are listed by providing specific collection numbers (# followed by number). Locality labels are cited in quotation marks. The sign \ indicates a line break. Identification and type labels are only cited for selected historical specimens.

A paragraph “Current status” is only added if it deviates from the original taxon.

A selection of stacked digital images of type specimens is printed in this catalogue (Figs 1–7, 15–31). The photographs were either taken with a Leica DFC490 camera attached to a Leica Z16APO optics carrier, using Leica Application Suite V3.8 and stacked with ZereneStacker 64-bit, with a Canon EOS R5 camera mounted on a camera stand (model ST 3240 VS PHOTO BA), using EOS Utility 3 and stacked with Helicon Focus 8, or with a Keyence VHX-7000 Digital Microscope (Figs 11–14). All images were processed with Adobe Photoshop, versions 7.0 or 2025. The photos were prepared by Alice Laciny and Harald Bruckner. One photo was already used in a previous publication of the senior author, which is cited.

Catalogue

***Anisops apicalis* STÅL, 1855**

Anisops apicalis STÅL, 1855: 89. – Type locality: “terra Natalensi” (= KwaZulu-Natal?); (further) syntypes in NHRS.

Type material. Syntypes? (1 male, #34992, 1 female, #34993, both damaged): “Natal\ Coll. Signoret.”, “apicalis\ det. Signoret.”.

Notes. The two listed specimens are part of the Signoret Collection, which was purchased by NHMW in 1890 (HAUER 1891). The labels were later unified by Anton Handlirsch in his handwriting (see e.g. Fig. 2a). Victor Antoine Signoret exchanged many specimens with Carl Stål. However, it is not fully clear whether the specimens above are part of the original syntype series.

***Anisops cavifrons* BROOKS, 1951**

Anisops cavifrons BROOKS, 1951: 418. – Type locality: Pakistan (“India” in 1951), Lahore (“Lahori”), temple tank, N 31°33', E 74°21', ca. 200 m a.s.l.; holotype in “Indian Museum Calcutta” (ZSIK?). – Type area: Pakistan and India.

Type material. Paratypes (1 male, #25288; 1 female, #25287): “Lahori Ind\ Temple Tank\ 1. 8. 19”.

***Anisops crinita* BROOKS, 1951**

Anisops crinita BROOKS, 1951: 443. – Type locality: Greece, Corfu, N 39°, E 20°; holotype in SEMC. – Type area: Southern Europe, India, New Caledonia.

Type material. Paratype (1 female, #25990): “Daulatabad (n)\ Seistan Vil.pond, 12. 20. 18\ Sta. 29, B S”.

Current status. *Anisops crinitus* (for gender of *Anisops* see LITTAUER 2025, and Article 30 of ICZN 1999).

***Anisops fijiensis* BROOKS, 1951**

Anisops fijiensis BROOKS, 1951: 361. – Type locality: Fiji Islands, Taveuni, ca. S 17°, W 180°; holotype in SEMC. – Type area: Fiji Islands.

Type material. Paratype (1 male, #25991): “Fiji Islands\ Aug. 1934\ R. W. Paine”, Taveuni Usa\ Shallow Fresh\ water swamps\ above high tide”.

***Anisops perpulcher* STÅL, 1855**

Anisops perpulcher STÅL, 1855: 89. – Type locality: “terra Natalensi” (KwaZulu-Natal?); (further) syntypes in NHRS.

Type material. Syntypes? (2 males, one of them strongly damaged; #34998, 34999): “Caffraria\ Coll. Signoret.”, “perpulcher St.\ det. Signoret.”.

Notes. The locality labels do not fully agree with the original description. See also notes for *Anisops apicalis*.

Current status: *Anisops varius* FIEBER, 1851 (synonymy by BROOKS 1951).

***Anisops philippinensis* BROOKS, 1951**

Anisops philippinensis BROOKS, 1951: 383. – Type locality: Philippine Islands, Mindanao, Davao, Mount Apo, north slope, N 7°01', E 125°19', ca. 2400 m a.s.l., “Lake Linau”; holotype in FMNH.

Type material. Paratype (1 male, #25989): “Lake Linau, N slope\ Mt. Apo, Davao Prov., MINDANAO\ 7800 ft; :46”, “CNHM-Philippine\ Zool. Exped. 1946–47)\ H. Hoogstraal & F.G. Werner leg.”.

***Anisops rhomboides* NIESER & CHEN, 1999 (Fig. 1, 1a)**

Anisops rhomboides NIESER & CHEN, 1999: 111. – Type locality: Brunei Darussalam, Labi Road, ca. N 7.5°, E 125.5°; holotype in NCTN. – Type area: Brunei Darussalam, Indonesia (Sulawesi), Philippines (Mindanao).

Type material. Paratype (1 male, #25995): “INDONESIEN: Sulawesi\ river S Palu\ 27.1.1995\ leg. Seyfert & Graindl (39)” (Fig. 1a).

***Anisops salibabu* NIESER & CHEN, 1999**

Anisops salibabu NIESER & CHEN, 1999: 113. – Type locality: Indonesia, Sulawesi Utara, Pulau Salibabu, Lirung, N 3°56', E 126°42'; holotype in NCTN. – Type area: Indonesia (Sulawesi Utara: Pulau Salibabu, Pulau Sangir, Pulau Karakelong, Dumoga Bone N.P.).

Type material. Paratypes (1 male, #26071; 1 female, #26072): “INDONESIA:\ P. Sangihe\ 20. XI. 1994\ leg: Nieser\ Nymphaea-\ pond at\ Sulurang\ N9482”.

***Anisops vitreus* SIGNORET, 1860 (Figs 2, 2a, 8–14)**

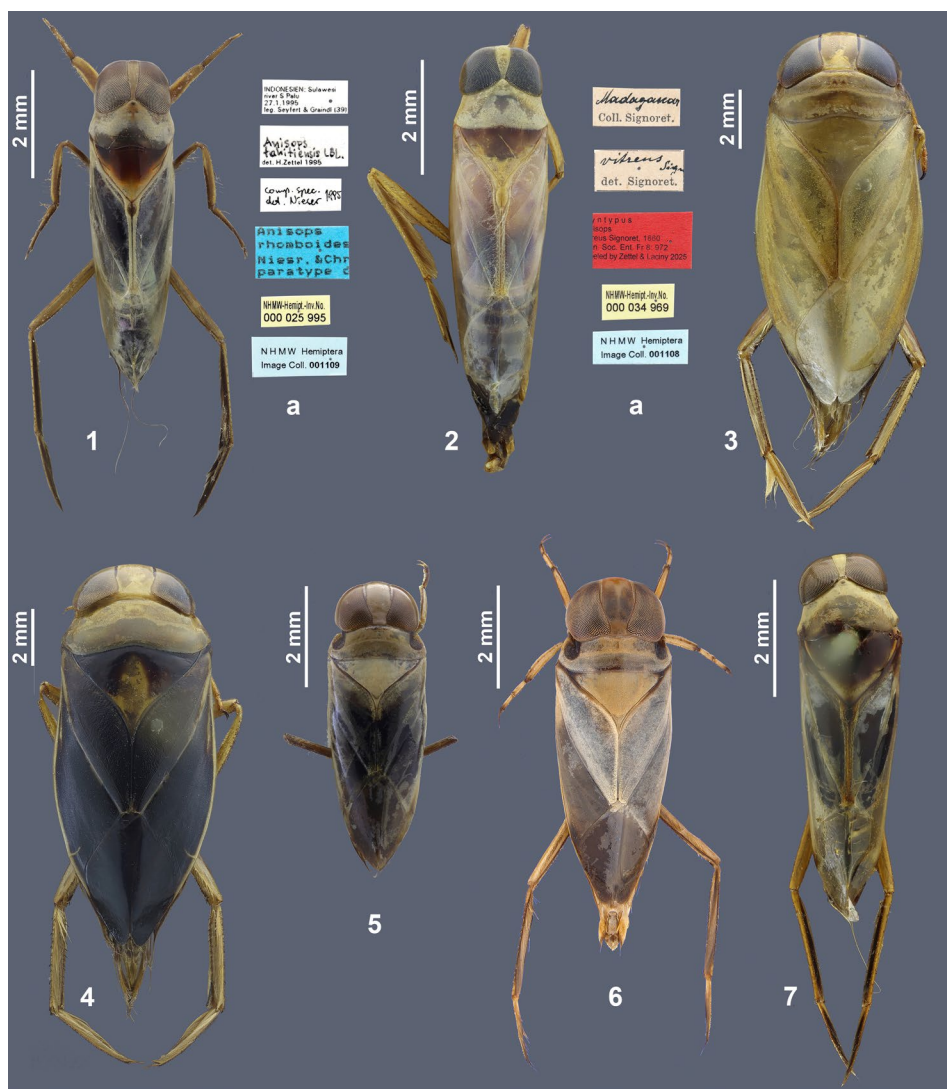
Anisops vitreus SIGNORET, 1860: 972. – Type locality: Madagascar; syntype in NHMW. Syntypes in NHRS? (see notes below).

Type material. Syntype (male, #34969, Fig. 2): “Madagascar\ Coll. Signoret.” and “vitreus\ Sign\ det. Signoret.”, Syntypus\ *Anisops\ vitreus* Signoret, 1860\ Ann. Soc. Ent. Fr. 8: 972\ labeled by H. Zettel & A. Laciny 2025” (Fig. 2a).

Notes. The number of types is not stated in the original description. The collection of NHMW contains five specimens from Signoret’s collection bearing the hand-written labels by A. Handlirsch “Madagascar\ Coll. Signoret.” and “vitreus\ Sign\ det. Signoret.” (or “vitreus\ det. Signoret.”). It is clear from the head structures that they belong to two different species, containing one male (Fig. 2) and two males and two females, respectively. Signoret’s description of *Anisops vitreus* is short and contains only a few characters: size, shape of head and prothorax, and colour. Only the single male has a similar size (6.9 mm) as given in the original description (“7 mm”), while the other specimens are distinctly smaller (6.2–6.5 mm). The shape of the head in dorsal aspect is similar in both species (with a very narrow synthlipsis), and the colour of both species shows only minor differences of little help. Signoret also states that the pronotum is three times as wide as long, which is not the case in either species (ca. 1.7 times).

Taxonomy. BROOKS (1951) gave a detailed description of *Anisops vitreus*, but he did not study the specimens from NHMW. He states a size range of 4.5–5.1 mm, which strongly contradicts the description of Signoret. Further, he states that the “holotype” is in the “Stockholm Museum” (NHRS), but did not provide any evidence that he has seen it; it is not listed under the material he has examined.

In April 2025, Gunvi Lindberg, curator of NHRS, kindly provided information and photographs of this specimen. It shows a male of ca. 6.0 mm body length with weakly swollen lower part of frons (compared to Fig. 10); rostral prongs are not visible. It is certainly not conspecific with the specimen described below. According to the labels, it was collected in Madagascar by Carl Stål (which is not mentioned by SIGNORET 1860). It is labeled as a “type”, but the handwriting is unknown.



Figs 1–7: Types of Notonectidae, habitus, dorsal. (1) *Anisops rhomboides*, paratype, male, #25995. (2) *Anisops vitreus*, syntype, male, #34969. (2) *Anisops vitreus*, syntype, male, #34969. (3) *Aphelonecta gigas*, holotype, male, #16563, (4) *A. gigas*, paratype, male, #16564. (5) *Aphelonecta jaechi*, holotype, male, #16573. (6) *Aphelonecta philippina*, paratype, male, #16575. (7) *Buenoa koina*, paratype, male, #16260. (a) Labels not to scale.

According to BROOKS (1951), *Anisops persephone* KIRKALDY, 1898 (KIRKALDY 1898c) is a junior synonym of *Anisops vitreus*. BROOKS (1951) lists *A. vitreus* (including *A. persephone*) from Madagascar, Aldabra, Mauritius, and Reunion, and according to key characters he refers to the smaller form (= *A. persephone*).



Figs 8–10. Structural details of *Anisops vitreus*, syntype, male, #34969. (8) Head, dorsal. (9) Head, frontal. (10) Head and thorax, lateral.

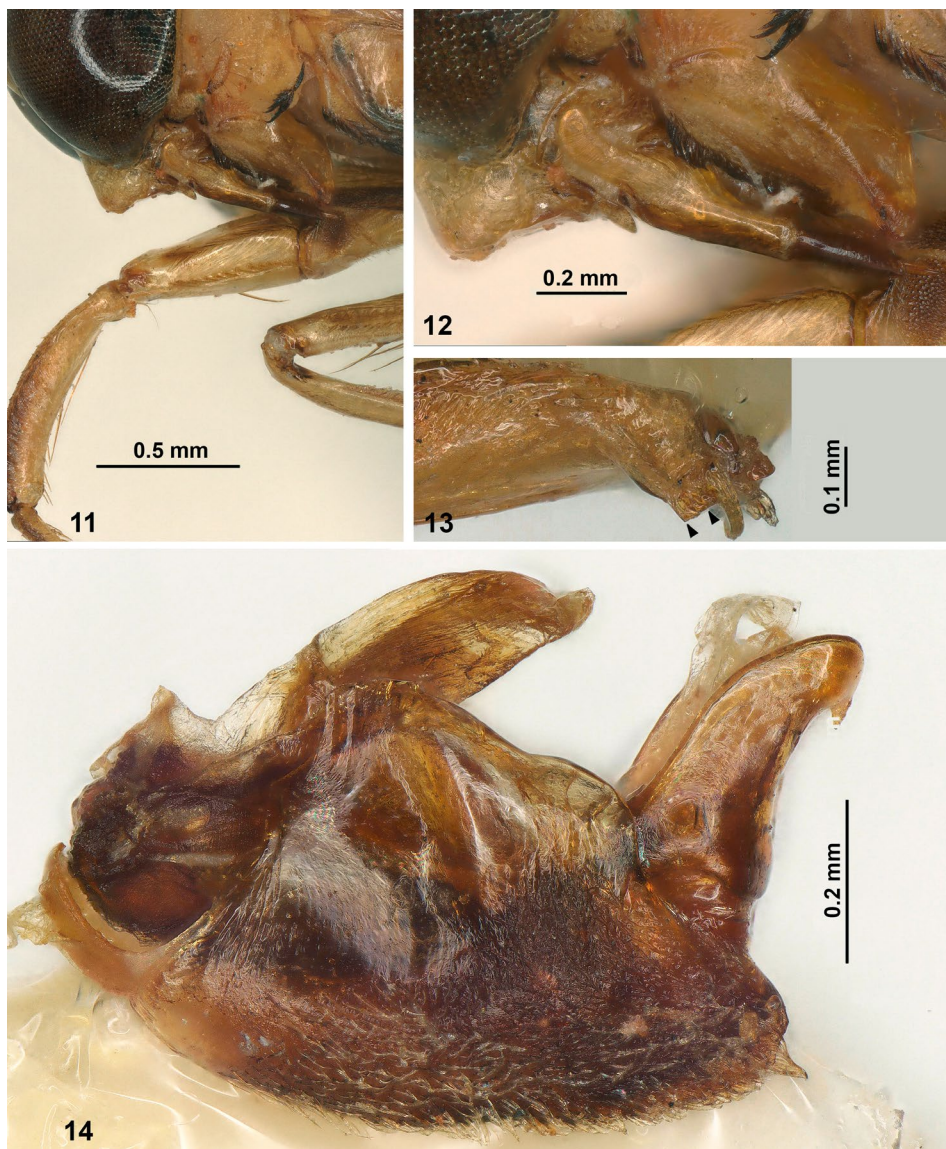
As our knowledge of African-Madagascan *Anisops* is limited, we do not come to a final decision about the identity of *Anisops vitreus* herein, but rather suggest this should be included in a revision of species from the Madagascar region. However, we want to point out the taxonomic problem.

Short description of the syntype (male, #34969). Measurements (in mm): Body length 6.9. Head (dorsal aspect) length 0.91, width 1.58; anterior width of vertex (dorsal view) 0.27, synthlipsis 0.07. Pronotum length 1.01, width 1.77. Mesoscutellum length 1.07, width 1.50.

Ratios: Head slightly shorter than pronotum at midline (0.90), vertex anteriorly about one sixth of head width (0.18), about 4.3 times synthlipsis.

Colour: Pale yellowish. Eyes grey. Mesocutellum basally brownish. Abdominal terga blackish, visible through translucent wings; sterna also dark.

Structures: Frons above labrum strongly, knob-like protruded (Figs 9, 10). Rostral prong long, comparatively wide, apically rounded (Fig. 12). Pronotum longer than head, and slightly wider; anterior margin of pronotum triangularly protruded: sides straight, regularly diverging posteriorly (Fig. 8). Scutellum subtriangular, wider than long (Fig. 2). Forefemur short and moderately incrassate (Fig. 11), 3.1 times as long as wide. Foretibia curved (Fig. 11), with a sharp longitudinal ridge near base; comb (Fig. 13) at base consisting of few closely adjacent blunt teeth arranged in one transverse row. Foretarsus long, almost straight; claws of similar shape, their apex blunt. Hind wings present. Genital capsule (sternum IX, Fig. 14) posteriorly sharply pointed. Paramere fused with genital capsule. Lateral arms of basal plate sharply hooked at apex (Fig. 14). Proctiger roof-like keeled.



Figs 11–14. Structural details of *Anisops vitreus*, syntype, male, #34969. (11) Forefemur and foretibia. (12) Rostrum and rostral prong, lateral. (13) Base of foretibia with peg row (arrows). (14) Genitalia of male, lateral.

***Aphelonecta gigas* ZETTEL, 1993 (Figs 3, 4)**

Aphelonecta gigas ZETTEL, 1993: 662. – Type locality: Malaysia, Sarawak, Kelabit Highlands, between Bareo and Arur Dalam, N 3°45', E 115°27', ca. 1100 m a.s.l.; holotype in NHMW.

Type material. Holotype (male, #16563; genitalia on slide) and paratypes (1 male, #16564; 4 females, #16565–16568): “MALAYSIA: Sarawak\ Kelabit Highland\ 1000-1200 m, (11)\ Bareo - Arur Dalam”, “Bach durch Regenwald [stream in rain forest]\ 28.2. – 1.3.1993\ leg. H. Zettel”.

***Aphelonecta jaechi* ZETTEL, 1995 (Fig. 5)**

Aphelonecta jaechi ZETTEL, 1995: 108. – Type locality: Indonesia; Southern Siberut, ca. 10 km WNW Muara Siberut, NW of Tateburu (S 1°33'40", E 99°7'21", ca. 20 m a.s.l.), Bakeuluk (Manfred A. Jäch, pers. comm.); holotype in NHMW.

Type material. Holotype (male; #16573; genitalia on slide) “S-Siberut 17.2./ Toteburu [= Tateburu] -/ Bakeuluk”, “INDONESIEN/ 1991 (22)/ leg. Jäch”.

***Aphelonecta philippina* ZETTEL, 1995 (Fig. 6)**

Aphelonecta philippina ZETTEL, 1995: 109. – Type locality: Philippines, Palawan Island, “Tagbuna River” at road between Iwahig and Napsan, ca N 9°43', E 118°38', ca. 30 m a.s.l.; holotype in NHMW.

Type material. Holotype (male; #16574; genitalia on slide) and paratypes (4 males, #16575–16577): “PHILIPPINEN: Palawan/ 17 km WSW P. Princesa/ Tagbuna river, 26.3./ leg. Zettel 1994 (51)”.

***Buenoa koina* NIESER & PELLI, 1994 (Fig. 7)**

Buenoa koina NIESER & PELLI, 1994: 3. – Type locality: Brasil, Minas Gerais, Serra da Moeda, Km 34 da BR135, Nova Lima, S 19°38', W 43°54', 740 m a.s.l.; holotype in MNRJ (probably destroyed). – Type area: Minas Gerais.

Type material. Paratype (1 male, #16260): “Serra da Moeda\ Km 34 da BR-135\ Nova Lima, MG\ BRASIL”, “H. N. Espinola col.\ Data 20/8/72”. Paratypes (2 females, #16261, 16262): “Diamantina\ Minas Gerais\ Brasil”, H. N. Espinola col.\ Data 9/9/72”.

***Buenoa konta* NIESER & PELLI, 1994**

Buenoa konta NIESER & PELLI, 1994: 3. – Type locality: Brasil, Minas Gerais, Lagos Olhos d'Água, Lagos Santa, S 20°11', W 43°57', ca 1300 m a.s.l.; holotype in MZSP. – Type area: Minas Gerais.

Type material. Paratypes (1 male, #16258; 1 female, #16259): “9425\ 1300 m asl.\ pond”, “BRASIL: M. G\ Gouveia\ 20.III.94\ Leg.: NNieser”, “Buenoa\ konta Nie-\ ser & Pelli\ paratype”.

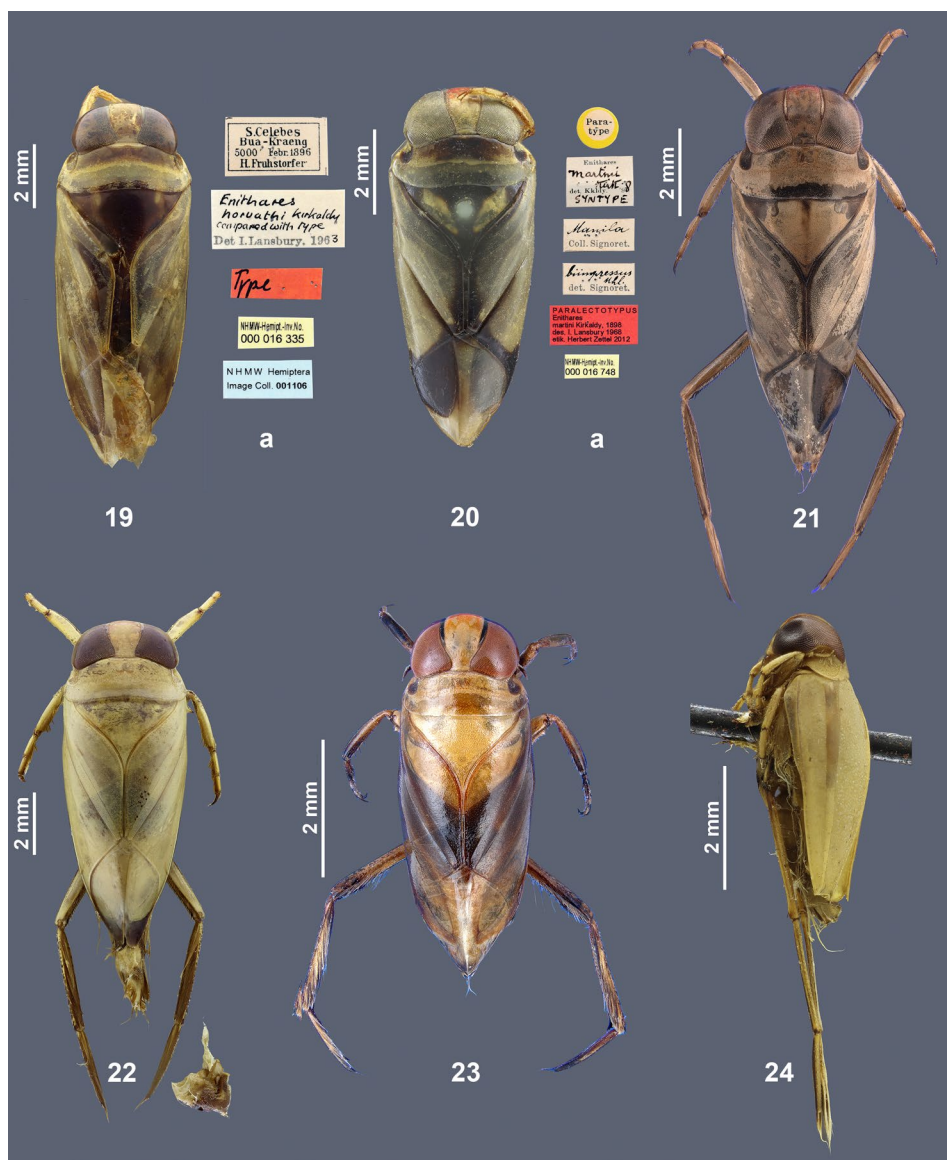
***Buenoa limnocastoris* HUNGERFORD, 1923**

Buenoa limnocastoris HUNGERFORD, 1923: 150. – Type locality: U.S.A., Minnesota, Cook County, Maple Hill, ca. N 37°48', W 90°19', ca. 500 m a.s.l.; holotype in SEMC.

Type material. Paratype (1 male, #26241): “Minnesota\ U.S.A. 8/13/22\ H.B. Hungerfd”, *Buenoa\ limnocastoris\ PARATYPE\ DET. H. B. HUNGERFORD*”.

***Enithares amboinensis* LANSBURY, 1968 (Fig. 15, a)**

Enithares amboinensis LANSBURY, 1968: 424. – Type locality: Indonesia. Maluku, Ambon Island, ca. S 4°, E 128°; holotype in NHMW.



Figs 19–24. Types of Notonectidae, habitus, dorsal (except 24: lateral). (19) *Enithares horvathi*, paralectotype (?), female, #16335. (20) *Enithares martini*, paralectotype (?), male, #16748. (21) *Enithares martini mindoroensis*, paratype, male, #16439. (22) *Enithares nieseri*, paratype, male, #16232; (23) *Enithares unguistigris*, paratype, male, #16205 (from ZETTEL 2012). (24) *Martarega bentoi*, paratype, male, #26255. (a) Labels not to scale.

Type material. Holotype (male, genitalia missing, #16206) “Holo\type”, D\Doleschal[1]\1859\Amboina.”; “luniger\Fieb.\det. Mayr”, “luniger\Fieb.”; “Enithares\amboinensis n.sp.\Lansbury\Det. I.Lansbury. 1963” (Fig. 15a). Paratype (1 female, #16207) “Para\type”, D\Doleschal[1]\1859\Amboina.”; “bergrothi\Montand\det. Kkldy ‘97”, “Enithares\amboinensis n.sp.\Lansbury\Det. I.Lansbury. 1963”.

***Enithares blandula* SIGNORET, 1860** (Fig. 16, a)

Enithares blandula SIGNORET, 1860: 971. – Type locality: Madagascar; syntypes in NHMW.

Type material. Syntypes (3 males, #34994–34996; 1 female, abdomen missing, #34997): “Madagascar\ Coll. Signoret.”, *blandula*\det. Signoret.” (Fig. 16a).

Notes. SIGNORET (1860) did not state the number of specimens. The four specimens in NHMW which originate from his private collection are syntypes.

***Enithares charakia* NIESER & CHEN, 1996** (Fig. 17, a)

Enithares charakia NIESER & CHEN, 1996: 164. – Type locality: Indonesia, Sulawesi Selatan, S. Anowah, 41 km N of Wotu, S 2°34', E 120°48', ca. 20 m a.s.l.; holotype in RMNH (transferred from Zoological Museum Amsterdam). – Type area: Indonesia (Sulawesi Selatan, Sulawesi Tengah).

Type material. Paratypes (2 males, #16210, 16211; 2 females, #16212, 16213) “INDON., Zentral [Central]-Sulawesi\ Salope, nr. Poso See [lake]\ Wasserfall [waterfall], 29.1.1995\ lg. Seyfert & Graindl(46)” (Fig. 17a).

***Enithares ektakta* NIESER & CHEN, 1996**

Enithares ektakta NIESER & CHEN, 1996: 167. – Type locality: Indonesia: Sulawesi Utara Province, Pulau Sangihe, Bowokulu, S 3°34', E 125°33'; holotype in RMNH (transferred from Zoological Museum Amsterdam). – Type area: Sangihe Island.

Type material. Paratypes (1 male, #16208; 1 female, #16209) “INDONESIA\ P.Sangihe\ 12. XI. 1994\ leg: Nieser”, N9463\ Laine\ S. [Sungai] Laine at\ waterfall”.

***Enithares gantsophora* NIESER & ZETTEL, 1999** (Fig. 18, a)

Enithares gantsophora NIESER & ZETTEL, 1999: 125. – Type locality: Philippines, Bukidnon Province, 8 km NW Lantapan, N 8°02', E 125°01', ca. 900 m a.s.l.; holotype in UPLB. – Type area: Philippines, Bukidnon, Lantapan environment.

Type material. Paratypes (7 males, 16214–16220, 5 females, #16221–16225) “PHILIPPINES, Mindanao\ Bukidnon, 8 km NW Lantapan\ Sonka, Alanib River, 950 m\ 8.11.1996, leg.Zettel (92)” (Fig. 18a). Paratypes (1 male, 16228; 1 female, #16229) “PHILIPPINEN: Mindanao\ Bukidnon, 4 km NE Lantapan\ Kaatuan, Kulasihan Riv., 850 m\ 9.11.1996, leg.H.Zettel (93)”. Paratypes (2 females, #16230–16231) “PHILIPPINEN: Mindanao\ Bukidnon, 18 km W Lantapan\ Pasak, Tugasan River, 850 m\ 10.11.1996, leg.H.Zettel (94)”.

***Enithares horvathi* KIRKALDY, 1898** (Fig. 19, a)

Enithares horvathi KIRKALDY, 1898a: 72. – Type locality: Indonesia, Sulawesi Selatan, Bua Kraeng (= Mount Lompobatang according to DUFFELS 1983), ca. S 5°21', E 119°57', ca 1500 m a.s.l.

Type material. Paralectotype? (1 female, #16335) “S.Celebes\ Bua-Kraeng\ 5000”, Febr: 1896, H. Fruhstorfer”, “Enithares\ horvathi Kirkaldy\ compared with type\ Det. I. Lansbury 1963”, “Type” (Fig. 19a).

Notes. The status as a type is somewhat doubtful. KIRKALDY (1898a) described this taxon from an unstated number of males and females in “Muséum National Hongrois

et ma collection". LANSBURY (1968) selected the male in HNHM as the lectotype. Consequently, the female in NHMW with exactly the same locality label could have the status of a paralectotype, if the specimen was given by Kirkaldy. The creator of the "Type" label is unknown.

***Enithares martini* KIRKALDY, 1898 (Fig. 20, a)**

Enithares martini KIRKALDY, 1898b: 151. – Type locality: Philippines, Manila (ca. N 14°, E 121°); lectotype (designated by LANSBURY 1968) in MNHN.

Type material. Paralectotype (1 male, #16748): "Para\ type", "Manila\ Coll. Signoret.", biimpresa\ Uhl.\ det. Signoret.", "Enithares\ martini\ Kirkd\ det. Kirkdy. '98\ SYNTYPE" (Fig. 20a).

Current status. *Enithares martini martini* (NIESER & ZETTEL 1999).

***Enithares martini mindoroensis* NIESER & ZETTEL, 1999 (Fig. 21)**

Enithares martini mindoroensis NIESER & ZETTEL, 1999: 128. – Type locality: Philippines, Mindoro, 28 km S Calapan, Balite, ca. N 13°12', E 121°05', holotype in NHMW. – Type area: Eastern Mindoro.

Type material. Holotype (male, #16434): "PHILIPPINEN – Mindoro\ 28 km S Calapan 1993\ Balete [Balite] 100-700 m (19)\ leg. Jäch 27.-29.11.". Paratype (1 male, #16435): "PHILIPPINEN – Mindoro\ 20 km W Calapan 1993\ Hidden Paradise (10)\ leg. Jäch 20.-21.11.". Paratypes (1 male, #16436; 2 females, #16437, 16438): "PHILIPPINEN – Mindoro\ SE Puerto Galera\ 14.11.1993 100 m\ leg. Jäch (3)". Paratypes (1 male, #16439; 1 female, #16440): "PHILIPPINEN: Mindoro or\ W Puerto Galera, Tamaraw\ Beach, Talipanan river\ lg. Zettel 23.11.1993 (30)". Paratypes (2 females, #16441, 16442): "PHILIPPINEN: Mindoro or\ Baco, SW Calapan, Hidden\ Paradise, 20.-21.11.1992\ leg. H. Zettel (16)". Paratype (1 female, #16443): "PHILIPPINEN: Mindoro or\ Tamaraw Beach, Talipanan\ River, W Puerto Galera\ leg. H. Zettel (19)". Paratypes (2 males, #16444, 6445; 2 females, #16446, 16447): "PHILIPPINEN: Mindoro Or\ Mindoro Beach, W Puerto\ Galera, 24.11.1993\ leg. H. Zettel (31a)".

***Enithares nieseri* ZETTEL, 2003 (Fig. 22)**

Enithares nieseri ZETTEL, 2003: 122. – Type locality: Philippines, Mindanao, Surigao del Norte, SW Bacuag, Payapag, Little Baguio Waterfalls, N 9°33', E 125°37', ca. 30 m a.s.l.; holotype in UPLB.

Type material. Paratype (1 male, #16232): "Philippinen: Mindanao\ Surigao d.N., SW Bacuag\ Payapag, "Little Baguio"\ Waterfalls, 6.2.2000\ leg. H. Zettel (228)".

***Enithares unguistigris* ZETTEL, 2012 (Fig. 23)**

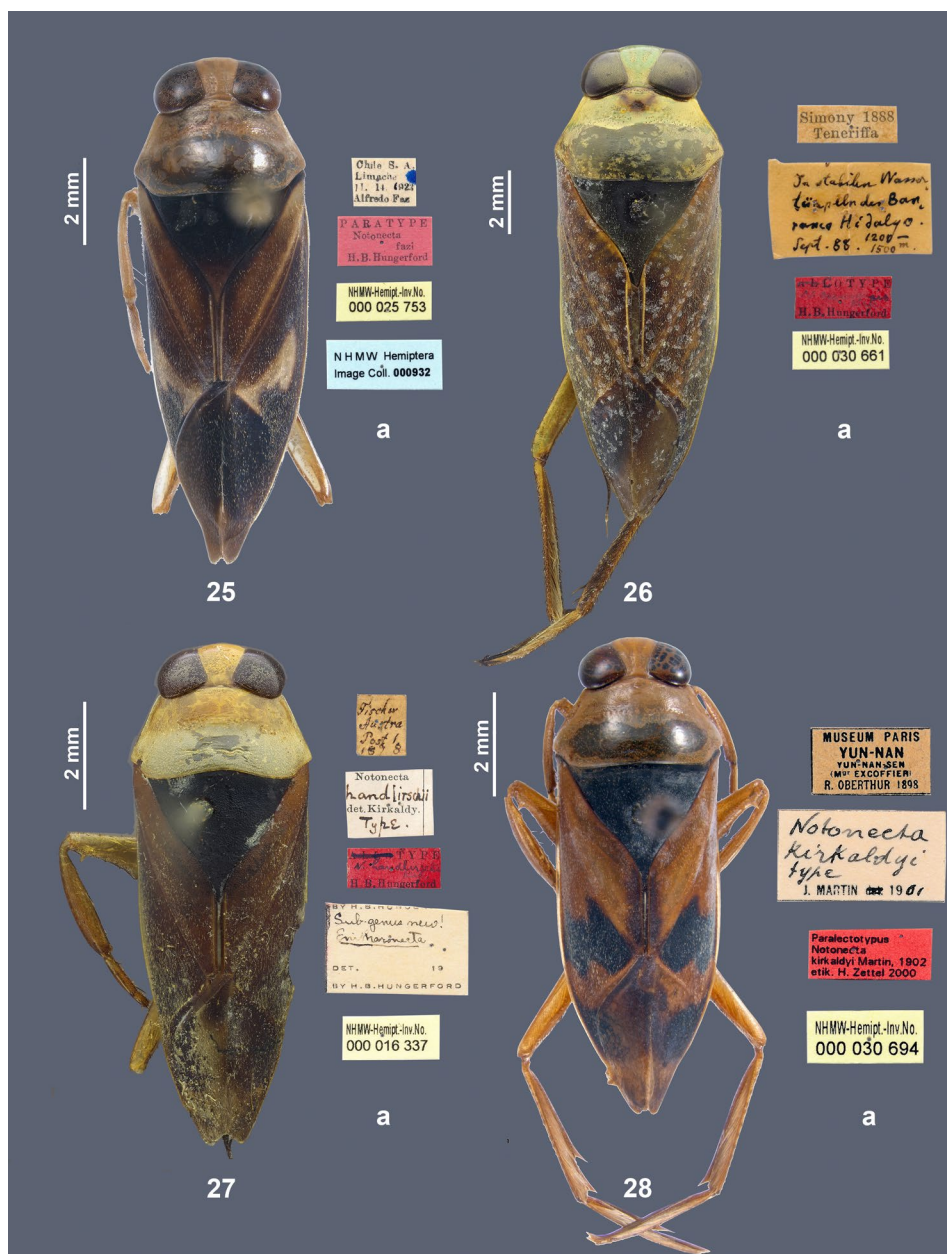
Enithares unguistigris ZETTEL, 2012: 24. — Type locality: India, N 27°08'22", E 76°20'38", ca. 1100 m a.s.l.; holotype originally in Petr Šrámek Private Collection, later transferred to NMPC (KMENT & KOLÍNOVÁ 2013).

Type material. Paratypes (1 male, #16205): "N 27° 08' 22" E 076° 20' 38"\ INDIA BOR. OCC. Rajasthan st.\ Alwar distr., Naranimata env.\ shadowy pool\ 29. 7. 2002, lgt. P. Šrámek".

***Martarega bentoi* TRUXAL, 1949 (Fig. 24)**

Martarega bentoi TRUXAL, 1949: 22. – Type locality: Brazil, Pernambuco; holotype in SEMC.

Type material. Paratypes (1 male, #26255; 1 female, #2626): "Brasil, S. A.\ Pernambuco\ Ja. 31, 1935\ Revino D. Banto".



Figs 25–28. Types of Notonectidae, habitus, dorsal. (25) *Notonecta fazi*, paratype, female, #25753. (26) *Notonecta canariensis*, syntype, male, #30661. (27) *Notonecta handlirschi*, syntype, male, #16337. (28) *Notonecta kirkaldyi*, syntype, female, #30694. (a) Labels not to scale.

***Notonecta fazi* HUNGERFORD, 1930 (Fig. 25, a)**

Notonecta fazi HUNGERFORD, 1930: 141. – Type localities: Chile, Limache, Santiago, and Termas Cauqueres; holotype (exact type locality not stated) in SEMC.

Type material. Paratypes (6 males, #25748, 25750–25752, 25754, 25756; 3 females, 25753, 25755, 25757): “Chile S. A. \ Limache \ 11. 14. 1923 \ Alfredo Faz” (Fig. 25a). Paratype (1 female, #25749): “Chile S. A. \ Limache \ 11.-12. 1921 \ Alfredo Faz”.

***Notonecta glauca* var. *canariensis* KIRKALDY, 1897a (Fig. 26, a)**

Notonecta glauca var. *canariensis* KIRKALDY, 1897a: 420. – Type locality: Canary Islands, Tenerife; syntypes in NHMW.

Type material. Syntype (labeled as “Co-Type”) (1 male, #30661): “Simony 1888 \ Teneriffa”, “in stabilen Wasser \ tumpeln des Bar \ ranco Hidalgo \ Sept. 88. 1200 m – \ 1500 m” (Fig. 26a). Syntypes (labeled as “Co-Type”) (1 male, #30662; 1 female, #30664): “Simony 1888 \ Teneriffa”. Syntype (labeled as “Co-Type”) (1 male, #30663): “Simony \ Teneriffa \ 1888 \ Baranco \ Hidalgo”.

Current status. *Notonecta canariensis*. The taxon was elevated to species rank by HUNGERFORD (1934: 40), who studied the same four syntype specimens (as “cotypes”).

***Notonecta glauca poissoni* HUNGERFORD, 1934**

Notonecta glauca poissoni HUNGERFORD, 1934: 49. – Type locality: Turkey, Erzerum, Mali-Nousky; holotype in NHMW.

Type material. Holotype (male, #35000) and syntypes (3 males, #35001–35003, #35003 missing head; 1 ex., only forewings existing, #35004): “Mali- \ nousky \ Erzerum \ 1868”.

Notes. HUNGERFORD (1934) states: “The two specimens mentioned by Kirkaldy are before me. I have seen eight more in Vienna. ... I propose to make the series in Vienna the types and will mark the holotype, allotype and paratypes.” Nowadays only five specimens from Mali-Nousky exist in NHMW, and the allotype is missing. There are also two specimens from “Leder \ Cauca- \ sus \ 1864”, including one female (#35005) labeled by Hungerford as paratype, which probably cannot be considered as types (locality not mentioned by HUNGERFORD 1934).

***Notonecta handlirschi* KIRKALDY, 1897a (Fig. 27, a)**

Notonecta handlirschi KIRKALDY, 1897a: 408. – Type locality: Australia, South Australia, “Post., A. Fischer”, S 34°29', E 138°37'; syntypes in NHMW.

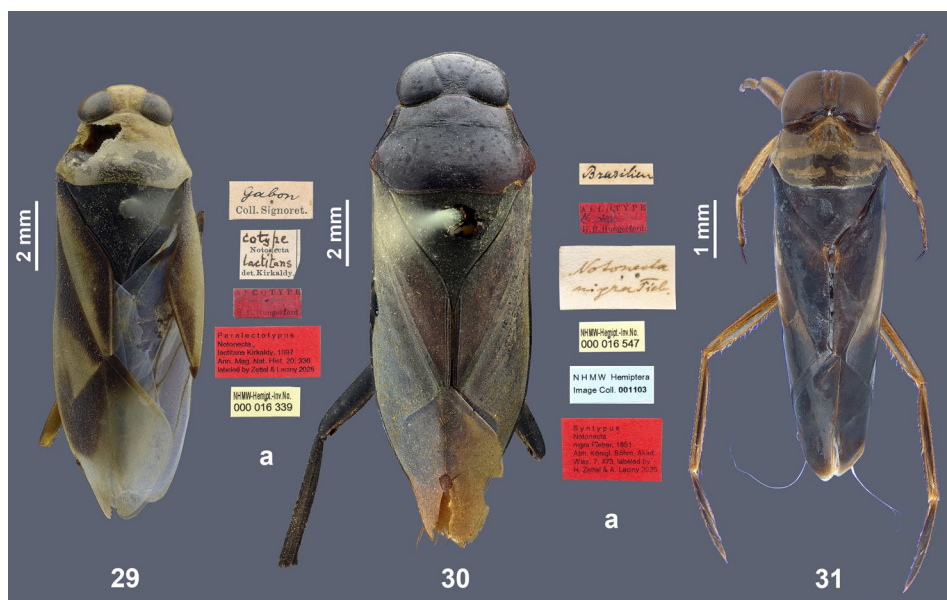
Type material. Syntypes (1 male, #16337, 1 male, #16338): “Fischer \ Austr \ Post \ 1 \ 1878” (Fig. 27a).

Notes. In the original description, KIRKALDY (1897a) erroneously interpreted “Fischer” as the collector and even invented a first name (“A.”); in fact, it is a historical locality in South Australia. HUNGERFORD (1934) based the subgenus *Enitharonecta* HUNGERFORD, 1934 on the two syntype males in NHMW.

***Notonecta kirkaldyi* MARTIN, 1902 (Fig. 28, a)**

Notonecta Kirkaldyi MARTIN, 1902: 336. – Type locality: China, Yunnan, “Yunnan-Sen”, 2150 m a.s.l.; syntypes in MNHN and (originally) in Kirkaldy Collection.

Type material. Syntypes (1 male, #30693, 3 females, #30694–30696): “MUSEUM PARIS \ YUN-NAN \ YUN-NAN-SEN \ Mst Excoffier \ R. OBERTHÜR 1898”, *Notonecta* \ Kirkaldyi \ type \ J. MARTIN det 1901” (Fig. 28a).



Figs 29–31. Types of Notonectidae, habitus, dorsal. (29) *Notonecta lactitans*, paralectotype, female, #16339. (30) *Notonecta nigra*, syntype, female, #16547. (31) *Paranisops leucopardalos*, paratype, male, #16248. (a) Labels not to scale.

Notes. The syntypes were acquired from MNHN by exchange in 2000.

***Notonecta lactitans* KIRKALDY, 1897b (Fig. 29, a)**

Notonecta lactitans KIRKALDY, 1897b: 336. – Type locality: Guinea; lectotype in USNM. – Type area: Guinea, Gaboon, and South Africa.

Type material. Paralectotype (1 female, #16339) “Gabon\ Coll. Signoret.”, “co-type\ *Notonecta lactitans*\ det. Kirkaldy.” (Fig. 29a).

Notes. By naming the female specimen from the Kirkaldy Collection (USNM) “the type”, HUNGERFORD (1934) designated the lectotype. We have accordingly labeled the specimen in NHMW as paralectotype.

***Notonecta nigra* FIEBER, 1851 (Fig. 30, a)**

Notonecta nigra FIEBER, 1851: 473 (reprint: p. 49). – Type locality: Brazil.

Type material. Syntype (1 female, #16547); “Brasilien”, “*Notonecta nigra* Fieb.”, “ALLOTYPE\ *N. nigra* Fieb.\ det. H.B. HUNGERFORD”; syntype (1 specimen (female) with missing posterior part of abdomen, #16548): “Brasilien”, “COTYPE\ *N. nigra*\ Fieb.\ det. H.B. HUNGERFORD” (Fig. 30a).

Notes. HUNGERFORD (1934) treated this taxon in his revision, but it remains dubious. As he mentioned, the specimens resemble black-stained specimens of the common European *Notonecta glauca* LINNAEUS, 1758. As HUNGERFORD (1934) did not fix a lectotype, the two specimens in NHMW are syntypes (Co-Types in Hungerford’s

terminology) and have been labelled by us as such. HUNGERFORD (1934) also mentioned a third specimen (a male) in NHMW, which is not present anymore.

***Paranisops leucopardalos* NIESER & ZETTEL, 2001 (Fig. 31)**

Paranisops leucopardalos NIESER & ZETTEL, 2001: 244. – Type locality: Thailand, Mukdahan Province, Phu Pha Thoep National Park, ca. N 16°26', E 104°48'; holotype in NHMW.

Holotype (male; #16246) and paratypes (3 males, #16247–16249): “E-THAILAND: Mukdahan [Province] \ Phu Pha Thoep National] P[ark] \ 31.12.1999 \ leg. P. Mazzoldi (22)”.

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