

List of type specimens of stick-insects in the Zoölogisch Museum, Universiteit van Amsterdam

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Abstract

Type material of 16 species of Phasmida have been located in the Zoölogisch Museum, Universiteit van Amsterdam. The species are listed alphabetically, with the status/number of specimens, details of sex, locality and collector (if recorded), along with the valid name (if different), details of 'missing' specimens and details of further type material deposited in other museums. The most important material relates to species described by Brunner von Wattenwyl and Redtenbacher (mainly published in their monograph, between 1906-08) and one species described by Brock & Shlagman (1994). *Pseudodiacantha obscura* Redtenbacher, 1908 is listed as a new synonym of *Orxines macklottii* (de Haan, 1842); accordingly, the genus *Pseudodiacantha* Redtenbacher, 1908 (Type species: *P. obscura*, by monotypy) becomes a new synonym of *Orxines* Stål, 1875. General notes are given on the extent of the phasmid collection.

Key words

Phasmida, type material, Zoölogisch Museum, Amsterdam.

Introduction

The Zoölogisch Museum, Universiteit van Amsterdam collection contains type material of 16 species of Phasmida, examined during visits to the museum in 1992 and 1997. All except one species were described by Brunner von Wattenwyl and Redtenbacher in their monograph published in 1906-1908. In addition there is one species described by Brock & Shlagman in 1994. Type material is included in the phasmid collection, housed in cabinet drawers.

Methods

Neither Brunner von Wattenwyl or Redtenbacher selected any holotype when dealing with a type series, nor gave an indication of the actual number of type specimens. To assist with their monograph, these authors obtained specimens on loan from several museums; in some instances, specimens have been retained in the Naturhistorisches Museum Wien i.e. "Mus. Amsterdam., coll. m." in the monograph, could refer to either:

- i) The only specimen(s) are in Brunner von Wattenwyl's collection in Vienna (= Wien), with "Mus. Amsterdam" recorded on the data label(s).
- ii) There is material in both the Amsterdam and Vienna collections. Brock (1998) gives further background on the Brunner von Wattenwyl collection.

A complete check has been made on the collection to ensure that all type material has been identified and to establish which reported type material is absent from the collection. In addition, the literature has been thoroughly examined. Type material has been divided into two categories, as follows:

- 1) Type material recorded in the literature from Amsterdam. Explanations are given for "missing material". Specimens retained in Vienna with a "Mus. Amsterdam" data label are assumed to be holotypes, where they are the only known specimen and agree with the locality and measurements recorded.

Curators' red type-labels had already been pinned beneath specimens in most cases. With regard to Brunner von Wattenwyl and Redtenbacher's specimens, New Guinea material collected in 1903 and 1906 have a large yellowish folded label with a handwritten (ink or pencil) name of the species, pinned beneath the specimen; all other type material has a white, Vienna museum, thin card label "Brunner v. Wattenwyl, det. 1904".

- 2) Likely type material, not previously associated with Amsterdam.

Museum codes are given below:

ANSP	Academy of Natural Sciences, Philadelphia, USA.
HNHM	Hungarian Natural History Museum, Budapest, Hungary.
ISNB	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium.
MNHN	Museum National d'Histoire Naturelle, Paris, France.
NHMW	Naturhistorisches Museum Wien, Austria.
RMTO	Museo Regionale di Scienze Naturali, Torino, Italy.
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany.
TAUI	Zoological Museum, Tel Aviv University, Israel.
ZMAN	Zoologisch Museum, Universiteit van Amsterdam, Netherlands.
ZMHB	Museum für Naturkunde der Humboldt Universität zu Berlin, Germany.

1. Type material associated with Amsterdam museum

(* = denotes missing from Amsterdam)

- Arrhidaeus aemulus* Redtenbacher, 1908: 376. Holotype ♂ [52mm, not 55mm], New Guinea: Manikion, 14-28.ii.[1906]. Valid name: *Ophicrania aemula* (Redtenbacher).
- **Arrhidaeus bifasciatus* Redtenbacher, 1908: 379. Not traced in ZMAN or NHMW. There should be ♂, ♀ type material from "New Guinea: Kamp Cykloop". Valid name: *Ophicrania bifasciata* (Redtenbacher).
- **Carausius bilineatus* Brunner, 1907: 270. Not traced in ZMAN or NHMW. There should be ♀ specimen(s) from "Dutch New Guinea" [i.e. Irian Jaya].
- Dimorphodes carinatus* Redtenbacher, 1908: 364. Syntype ♀, New Guinea: Manikion Gebiet, 14-28.ii.1906. Syntypes also in SMTD: ♀, New Guinea: K[aiser] Wilhelmsland, Bongu; ZMHB: ♀ [number of specimen(s) not known], New Guinea.
- **Dimorphodes catenulatus* Redtenbacher, 1908: 365. In NHMW: Syntypes: ♀, New Guinea: Key Is., leg. Staudinger; ♂, 2♀♀, New Guinea: Key Is., leg. Fruhstorfer. Not traced in MNHN and ZMHB. Valid name: *Dimorphodes mancus catenulatus* (Redtenbacher), see Günther (1934: 88).
- Dimorphodes clypeatus* Redtenbacher, 1908: 366. Holotype ♂ [44mm, not 52mm], New Guinea: Manikion Gebiet, 14-28.ii.1906. Valid name: *Dimorphodes mancus cristatipennis* (Redtenbacher, 1908), see Günther (1934: 89).
- **Neocles cordifer* Redtenbacher, 1908: 505. Not traced in ZMAN or NHMW. There should be ♀ specimen(s) from "N.O. Borneo". Valid name: *Neoclydes cordifer* (Redtenbacher).
- Dimorphodes cuspidatus* Redtenbacher, 1908: 367. Holotype ♂ [51mm, not 56mm], New Guinea: Manikion Gebiet, 14-28.ii.1906. Valid name: *Dimorphodes mancus cuspidatus* (Redtenbacher), see Günther (1934: 89).
- Ramulus eitami* Brock & Shlagman, 1994: 106. Paratype ♀, Israel: Eilat, 28.iv.-2.v.1967, leg. C.A.W. Jeekel. Other material in TAUI: Holotype ♂, Israel: Samar, 19.i.1992, leg. A.Eitam. Paratypes: ♂, same data as holotype; ♀, Samar, 25.i.1992, leg. A. Eitam; 2♀♀, Yotvata, 22.xii.1991 and 27.xi.1992, leg. A. Eitam; ♀, Ze'elim, 25.viii.1992, leg. Y. Zvik. Valid name: *Gratidia eitami* (Brock & Shlagman).
- Eurycantha immunis* Redtenbacher, 1908: 342. Holotype ♀, New Guinea: Tawarin, 14-20.vi.1903.
- Creoxylus impennis* Redtenbacher, 1906: 143. Syntype ♀, No locality. Syntypes also in NHMW: ♂, ♀, No locality, "Mus. Dresden".
- Leptinia lineolata* Brunner, 1907: 231. Holotype ♂, Natal: lower Illoso, [18]94, leg. M.Wehr. Valid name: *Leptynia lineolata*.

- **Promachus meijerei* Brunner, 1907: 297. Syntypes in NHMW: 2♂♂, New Holland, "Mus. Amsterdam" [♀ - not traced]. Valid name: *Neopromachus meijerei* (Brunner).
- **Promachus modestus* Brunner, 1907: 299. In NHMW: Holotype ♂, New Holland, "Mus. Amsterdam". Valid name: *Neopromachus strumosus modestus* (Brunner), see Günther (1929: 723).
- Otocrania mutica* Redtenbacher, 1908: 424. Holotype ♀, ["Java" is recorded on a specimen label in error? Redtenbacher recorded the locality as "?". The genus is found in Brazil.], 1856.
- Pseudodiacantha obscura* Redtenbacher, 1908: 552. Holotype ♂, Java: Tjibodas, i.[18]94, Siboga exp[edition]. Valid name: *Orxines macklottii* (de Haan, 1842: 126) New synonym. As *P. obscura* is the type species of the genus *Pseudodiacantha* Redtenbacher (by monotypy), this genus becomes a new synonym of the genus *Orxines* Stål, 1875.
- **Promachus perspinosus* Brunner, 1907: 299. In NHMW: Syntype ♀, New Holland, "Mus. Amsterdam". Günther (1929: 746), did not regard the specimen as a type, as Brunner only referred to a ♂, which has not been traced. However, Brunner may have recorded the sex in error. Valid name: *Pseudopromachus perspinosus* (Brunner).
- **Carausius reductus* Brunner, 1907: 269. In NHMW: Holotype ♀, New Holland, "Mus. Amsterdam". Valid name: *Leprocaulinus vipera* (Kaup, 1871).
- Dimorphodes serripes* Redtenbacher, 1908: 364, plate 16: 14-15. Syntype ♂, Celebes, v. Musschenbroek, 1884 [Locality recorded by Redtenbacher as "?"]. Syntypes also in NHMW: ♀, New Guinea, leg. Deniseb; ♀, New Guinea: Stephansort, leg. Rolle; ♀, New Guinea, leg. Fruhstorfer; ♀, New Guinea, NE coast, 1904-05, leg. Dr. Poch; ♀ nymph, New Guinea: Milne Bay, leg. Staudinger; ♂, New Guinea: Takar, leg. Fruhstorfer; ♂, New Guinea, Kaiser Wilhelmsland, leg. Schlüter; MCSN: ♀, New Guinea: Paumemterio, ix.-xii.1892, leg. Loria. Not traced in SMTD from Borneo [Locality appears to be in error], although there are ♂, 2♀♀, 2♀♀ nymphs, New Guinea: K[aiser] Wilhelmsland. HNHM material from New Guinea was destroyed in fire. Valid name: *Dimorphodes prosthesis serripes* (Redtenbacher), see Günther (1934: 88).
- Gratidia simplex* Brunner, 1907: 221. Holotype ♂, Z. Afrika, 18[94], leg. M. Wehr.
- Myronides spinulosus* Brunner, 1907: 254. Holotype ♂, Celebes: Is. Saleyer, Siboga exp[edition].
- **Promachus vestitus* Brunner, 1907: 299. Holotype ♂, New Holland, "Mus. Amsterdam". Valid name: *Neopromachus vestitus* (Brunner).

2. Type material in Amsterdam not recorded in the literature

- Dixippus jejunos* Brunner, 1907: 278. Syntype ♀, ? locality [Data label reads "Eiland Zuid Broeder, Riouw Arch., iii.99, Kluit leg. (met 3 jonge ex. van 14 dagen oud)" i.e. Island south of Broeder island, Riouw Archipelago, iii.1899, leg. Kluit (with 3 young specimens of 14 days old).]. Syntypes also in NHMW: 2♂♂, 2♀♀, Borneo, leg. Frivaldsky; ♂, Borneo, "Mus. Budapest"; ♂, Borneo: Labuan, leg. Swinhoe; ♀, Borneo, leg. Xantus; 2♂♂, Brunei, leg. Staudinger; ♂, Borneo; alcohol material - Sarawak: Baramfluss, leg. Kükenthal. Also in NHMB: Sumatra: Indragiri. Valid name: *Lonchodes catori* Kirby, 1896.
- Promachus obrutus* Brunner, 1907: 296. Syntype ♂, New Guinea: Skanto-Gebied, 4-8.vi.1903. Syntypes also in NHMW: 2♀♀, New Guinea: Sattelberg, Huon Golf, leg.

Staudinger; ♂, ♀, New Guinea: Sattelberg, Huon Golf, 1899, leg. Biró. HNHM material was destroyed in fire. Valid name: *Neopromachus obrutus* (Brunner).

Clitumnus serrulatus Brunner, 1907: 190, pl. 7: 3a-b. Syntype ♀, Java: Tengger-Geb., x.[18]98, leg. Drescher. Syntypes also in NHMW: 4♂♂, 4♀♀, 1 nymph, Java: Tengger-Geb., leg. Fruhstorfer; ♂, Malaysia: Penang, viii.1889, leg. Fruhstorfer [misidentified ♂ of *Baculum nematodes* (de Haan, 1842), det. Brock]; ANSP: ♀, Java; ISNB: ♀, Java, leg. Fruhstorfer; RMTO: 2♂♂, Java. HNHM material from Borneo was destroyed in fire. Valid name: *Baculum serrulatum* (Brunner).

Notes on the phasmid collection in Amsterdam

There is a modest sized collection of phasmids, housed in 54 cabinet drawers, which includes many unidentified specimens. Specimens from a wide range of countries have been examined by known specialists in Orthoptera: P.D. Brock, K. Brunner von Wattenwyl [a wide range of common material, identified in 1904, in addition to types], K. Günther, C. Willemse and F. Willemse. Brock (in press) used a male *Eurycnema versirubra* (Serville, 1838) and other males reared from Javan stock in the Amsterdam zoo, 1940's to formally redescribe the male of this species (due to uncertainty with Redtenbacher's 1908 description).

Conclusion

During completion of the monograph on phasmids, it appears highly probable that Brunner von Wattenwyl (1907) overlooked reference to type material in Amsterdam, in the case of three species. Having identified these specimens in 1904, along with other material from Amsterdam actually described in the monograph, the obvious conclusion is that he intended them to be part of the type series. Other errors in omitting material in some museums has already been identified (Brock, 1998). Redtenbacher described material in 1908 some of which had been collected as recently as 1906 e.g. "Nieuw Guinea Expeditie, 14-28.ii.1906, Manikion Gebied", indicating close contact with the curator of the Amsterdam museum prior to completion of the manuscript.

Some measurements were found to be inaccurate, although the specimens concerned otherwise agreed with the original descriptions. It is probable that Redtenbacher (1908) recorded the body lengths incorrectly (or was provided with the wrong information) and I have therefore concluded that they are holotypes.

Type material of *Arrhidaeus bifasciatus*, *Carausius bilineatus* and *Neocles cordifer* has not yet been traced in any museum collection.

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