

Isoptera, Embioptera, Neuroptera, Mecoptera, Raphidioptera and Diptera (exclusive of Phoridae) Types in ZFMK

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Abstract. The total type material of the Embioptera, Isoptera, Neuroptera, Mecoptera, Raphidioptera and Diptera (exclusive of Phoridae) collections housed in the Zoologisches Forschungsmuseum Alexander Koenig (ZFMK), as of 31 December 2006, are catalogued. The collection contains 253 holotypes, 79 lectotypes and five neotypes. Thirty-nine species are represented by syntypes and 304 by para- and paralectotypes. Reference to the original description of each taxon is provided and sex and number of each type given.

Key words. type specimens, ZFMK

1. INTRODUCTION

The collections of insects covered in this paper are primarily from Europe, with additional holdings from expeditions to North Africa, Afghanistan and China (e.g., Klapperich collections). Additional information concerning the Diptera collection is briefly described in a report on the German Diptera collections (BAHRMANN 1999). The total number of types for Embioptera, Isoptera, Neuroptera, Mecoptera and Raphidioptera is summarized in Table 1.

Under each Order, this catalogue is arranged alphabetically by species name, using the original combination and spellings. Within Diptera, the entries are divided among families, which are also arranged alphabetically. Each entry is arranged in the following order: species and subspecies names, author, year of publication, page number where species was described, original generic assignment in brackets, and the number, sex and kind of type. The following abbreviations were used in the lists: alc. - alcohol or spirit collection, HT - holotype, LT - lectotype, NT - neotype, PLT - paralectotype, PNT - paraneotype, PT - paratype, ST - syntype. Notes about nomenclature, genitalic dissections, general condition of the types, discussion of some problems encountered in determination of the type status and the present generic combination (wherever possible, if readily available from current printed and on-line catalogues) are included in the Remarks. The complete list of original references follows each major category (Order or family). The species are all pinned and dried, unless otherwise indicated. The validity of each type was checked, wherever possible, against the original descriptions.

REFERENCES

Bahrmann, R. 1999. Zur Kenntnis der Dipterensammlungen Deutschlands. Beiträge zur Entomologie **49**(1): 173-209.

NEUROPTERA

cephalicus Navás, 1911: 244 (*Myrmeleon*) – 1 ♂ ST

geyri Ebsen-Petersen, 1915: 85 (*Chrysopa*) - ♀ LT; 3 ♀ PLT (in alc.)

Remarks: Syn. of *Brinckochrysa chlorosoma* (Navás). LT designated by OHM & HÖLZEL (1992: 294).

koenigi Ebsen-Petersen, 1915: 82 (*Berotha*) - ♂ LT; 5 ♀ PLT (in alc.)

Remarks: Assigned to *Lekrugeria* Navás. LT designated by ASPÖCK & ASPÖCK (1986: 88).

leroiana Ebsen-Petersen, 1915: 81 (*Berotha*) - ♂ LT; 2 ♂, 62 ♀ PLT (in alc.)

Remarks: Assigned to *Podallea* Navás. LT designated by ASPÖCK & ASPÖCK (1981: 86).

nitotica Tjeder, 1957: 161 (*Sisyra*) - 5 ♂, 9 ♀ PT

Remarks: All material from type locality is missing (incl. HT).

punctatus Navás, 1911: 245 (*Nelees*) – 1 ♀ ST

trilineata Navás, 1911: 243 (*Cueta*) - 1 ♂, 1 ♀ ST

varius Navás, 1911: 240 (*Palpares*) – 1 ♀ ST

REFERENCES

- ASPÖCK, U. & ASPÖCK, H. 1981. Das Genus *Podallea* Navás, 1936 (Neuropteroidea: Planipennia: Berothidae). Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen **32**(1980)(3/4): 81-96.
- ASPÖCK, U. & ASPÖCK, H. 1986. Das Genus *Lekrugeria* Navás (Neuropteroidea: Planipennia: Berothidae: Berothinae). Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen **37**(1985)(3/4): 85-86.
- EBSEN-PETERSEN, P. 1913. Neuropteren und Embiiden aus Ober-Aegypten und dem Aegypt. Sudan. Entomologische Mitteilungen **4**: 79-88.
- NAVÁS, L. 1911. Notes sur quelques Névroptères. Insecta (Rennes) **1**(11): 239-246.
- OHM, P. & HÖLZEL, H. 1992. Aspects of biogeography and phenology of Chrysopidae from the Republic of Sudan (Insecta: Neuroptera). Pp. 291-301, in: CANARD, M., ASPÖCK, H. & MANSELL, N. W. (eds.) Current Research in Neuropterology. Proceedings of the Fourth International Symposium on Neuropterology. Banères-de-Luchon, France, 1991.
- TJEDER, B. 1957. Neuroptera-Planipennia. The lace-wings of Southern Africa. 1. Introduction and families Coniopterygidae, Sisyridae, and Osmylidae. Chapter 3. Pp. 95-188, in: HANSTRÖM, B., BRINCK, P. & RUDEBECK, G. (eds.) South African Animal Life, Results of the Lund University Expedition in 1950-1951, Vol. 4. Almqvist & Wiksells, Uppsala. 508 pp.

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Table 1. The total number of types for Embiidina, Isoptera, Neuroptera, Mecoptera and Raphidioptera in ZFMK

Taxon	ST			PT & PLT	
	# spp.	HT	LT	NT	# spp.
Embiidina		1			
Isoptera	1				
Neuroptera	4		3		1
Mecoptera	1	6			1
Raphidioptera	1				