

«LONGINOS NAVAS, CIENTIFICO JESUITA»: ADDITIONS AND CORRECTIONS TO THE EPHEMEROPTERA

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ABSTRACT

Ten genera and 71 species-level taxa described by Longinos Navás which were not included in J. J. Bastero Monserrat's valuable book, *Longinos Navás, Científico Jesuita*, are listed with appropriate citations. Thirty-seven publications by Navás dealing with Ephemeroptera are added to the list of Bastero Monserrat.

Key words: *Ephemeroptera*, *mayflies*, *Navás*.

RESUMEN

«Longinos Navás, Científico Jesuita»: Adiciones y correcciones a los Ephemeroptera.

Se enumeran, con las citas adecuadas, 10 géneros y 71 táxones de nivel especie descritos por Longinos Navás, que no fueron en su día incluidos en el meritorio libro *Longinos Navás, Científico Jesuita* de J. J. Bastero Monserrat. Se añaden 37 publicaciones de Navás que tratan de Ephemeroptera a la lista dada por Bastero Monserrat.

Palabras clave: *Ephemeroptera*, *efimeras*, *Navás*.

INTRODUCTION

The Spanish scientist, Longinos Navás, published several hundred entomological papers between 1898 and 1936, dealing with almost every order of insects. No one knows exactly how many new taxa he described, but it was certainly more than 400 new genera and 3000 new species-level taxa. His works were scattered among dozens of journals and many of his type-specimens have been lost. Navás is renown for his brief and obtuse taxonomic descriptions throughout his prolific entomological career and has been an important source of frustration to many systematists, particularly in the neuropteroid orders in which he concentrated much of his efforts. Because of the number of taxa with which he worked, the lack of a comprehensive list of his publications and new taxa has been particularly vexing.

Juan Jesús BASTERO MONSERRAT, of the Colegio del Salvador de Zaragoza, Navás's former institution, has recently (1989) published a particularly valuable book, *Longinos Navás, Científico Jesuita*, which lists many of Navás's publications and new taxa. This

work will be invaluable to many entomological systematists. Unfortunately, even with access to the archives of the Colegio and many of Navás's original papers, Bastero Monserrat was unable to compile a complete list.

Compounding the difficulty in locating the scientific papers of Navás is lack of knowledge of the location of the type-specimens for his many species. Two papers recently published (ALBA-TERCEDOR & PETERS, 1985; DOMÍNGUEZ, 1989) have aided somewhat in relieving this problem by detailing information on his type-specimens deposited in the Museo de Zoología in Barcelona and in the entomological collections of Argentina.

In this paper, I add many new taxa (10 genera and 71 species) of Ephemeroptera described by Navás to the impressive list compiled by Bastero Monserrat and also list some of Navás's publications on Ephemeroptera not noted by him. In all probability, this list is still not complete and further taxa of Ephemeroptera and publications relating to them will come to light in the future. Nevertheless, ephemeropterists should find this information very useful.

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This paper is intended to be a supplement to Bastero Monserrat's work which should be referred to in using it. The format and abbreviations follow Bastero Monserrat with the addition of the following journal abbreviations:

ANSEFRAN: Annales de la Société Entomologique de France.

FEJENAT: Feuille des Jeunes Naturalistes.

MEMUSPAR: Memoires du Muséum National d'Histoire Naturelle (Paris).

Numbers in **boldface** refer to individual citation numbers of publications listed in Bastero Monserrat or included in this paper. Papers by Navás not included in Bastero Monserrat are listed here with subletters to indicate where their position should be in Bastero Monserrat's list.

This paper is one in a continuing series of catalogs of the Ephemeroptera (cf. HUBBARD & PESCADOR, 1978; HUBBARD & PETERS, 1978; HUBBARD, 1979, 1982a, 1982b, 1986, 1987, 1990; HUBBARD & SAVAGE, 1981).

PAPERS ON EPHEMEROPTERA BY L. NAVAS NOT RECORDED BY BASTERO MONSERRAT

- 58a** Neurópteros de España y Portugal. BROTEZOL Vol. 5 (1906), 145-184, pl. 9-11.
- 67a** Neurópteros de España y Portugal (continua-do). BROTEZOL Vol. 6 (1907), 43-100, pl. 1.
- 77a** Neurópteros de España y Portugal (continua-do). BROTEZOL Vol. 7 (1908), 5-131, pl. 2-6.
- 90a** Mis excursiones entomológicas durante el ve-rano de 1909 (2 julio-3 agosto). BULINS (1909).
- 91a** Neurópteros de Egipto. BROTEZOL Vol. 8 (1909), 105.
- 150a** Sur quelques insectes névroptères de Saint-Nazaire (Loire-Inférieure) et voisinages. FEJENAT Ser. 5, Vol. 41 (1911), 69-70.
- 150b** Sur quelques insectes névroptères de Saint-Nazaire (Loire-Inférieure) et environs (2^e sé-rie). ANLEVAL Vol. 17 (1911), 11-12.
- 151a** Synopsis des Névroptères de Belgique. RENAMUR Vol. 11 (1911), 19-22, 27-32, 35-39, 42-44, 51-54, 68-71, 86-90, 97-100, 107-110.
- 170a** Notes sur quelques Névroptères d'Afrique. REVAFRIC Vol. 1 (1912), 401-410, pl. 21.
- 176a** Synopsis des Névroptères de Belgique (Sui-te). RENAMUR Vol. 12 (1912), 9-13, 27-31, 35-39, 47-51, 57-59, 63-67, 72-75, 80-82, 91-95, 104-107, 116-119, 128-130.
- 203a** Sesión del día 2 de julio de 1913. BOLAR Vol. 12 (1913), 122-123.
- 256a** Neue Neuropteren. Erste Serie. ENTOMITT Vol. 4 (1915), 146-153.
- 383a** Efemerópteros nuevos o poco conocidos. BOLSENT Vol. 5 (1922), 54-63.
- 427a** Névroptères de l'Indochine Française. OPU-SIN Vol. 8 (1924), 125-161.
- 463a** Quelques insectes des environs de Grenoble et des Collections de l'Institut d'Hydrobiolo-gie et de Pisciculture. ASOFRAN, Grenoble, 1925 (1926), 417-419.
- 473a** Insectos nuevos de la República Argentina. RENTARG Vol. 1 (1927), 27-29, pl. 3.
- 509a** Comunicaciones entomológicas. 11. Insectos de la Cirenaica. REZAR Vol. 13 (1930).
- 514a** Insectes du Congo Belge (Serie IV). REVA-FRIC Vol. 19 (1930), 305-336.
- 514b** Insectos de la Argentina. Sexta Serie. REN-TARG Vol. 3 (1930), 125-132.
- 517a** Insectos neotrópicos. 6.^a Serie. RECHIL Vol. 34 (1930), 62-75.
- 518a** Insetti della Romagna. BOLITA Vol. 62 (1930), 148-151.
- 523a** Insectes du Congo Belge. Série V. REVA-FRIC Vol. 20 (1931), 257-279.
- 523b** Insectes du Congo Belge. Série VI. REVA-FRIC Vol. 21 (1931), 123-144.
- 540a** Insecta orientalia. XI Series. MEPACLIN Ser. 2, Vol. 16 (1932), 951-956.
- 540b** Insectes du Congo Belge. Série VII. REVA-FRIC Vol. 22 (1932), 269-290.
- 550a** Insecta Orientalia. XII Series. MEPACLIN Ser. 2, Vol. 17 (1933).
- 559a** Névroptères et insectes voisins. Quatrième Sé-rie. NOCHIN Vol. 9 (1933), 1-22.
- 561a** Voyage de Mm. L. Chopard et A. Méquig-non aux Açores (août-septembre 1930). III. Névroptères et pseudo-névroptères. ANSE-FRAN Vol. 102 (1933), 19-20.
- 570a** Insectos suramericanos. 9.^a Serie. RACMAD Vol. 31 (1934), 155-184.
- 586a** Insectes du Congo Belge. Série IX. REVA-FRIC Vol. 28 (1936), 333-368.
- 587a** Insectos del Brasil. 5.^a Serie. REPAUL Vol. 20 (1936), 731-734.
- 587b** Neuroptera, Embioptera, Plecoptera, Ephe-meroptera et Trichoptera. MEMUSPAR Vol. 4 (1936), 101-128.
- 587c** Névroptères et insectes voisins. Chine et pays environnants (Neuvième Série) (Suite). NO-CHIN Vol. 3 (1936), 117-132.
- 595a** Insectos neurópteros nuevos. Verh. 8th In-tern. Zool. Kongr., Graz, 1910 (1912), 746-751.
- 596a** Algunos órganos de las alas de los insectos.

- II Intern. Congr. Entomology, Oxford, 1912, Vol. 2 (1913), 178-186.
615a Muestra entomológica limnológica de Italia. Actos del IV Congr. Intern. Limnol. Teór. y Aplic. (1929), 512-515.
620a Manual del Entomólogo. 2.^a Edición. Librería Casals, Barcelona (1937), 136 pp.

NEW GENERA OF EPHEMEROPTERA
 ESTABLISHED BY L. NAVAS NOT
 RECORDED BY BASTERO MONSERRAT

- 176** (1912) *Andromina*
256a (1915) *Chimura*
596a (1913) *Eatonica*
514a (1930) *Fulleta*
595a (1912) *Neophlebia*
586a (1936) *Neurocaenis*
383a (1922) *Nirvius*
595a (1912) *Noya*
425 (1924) *Noyopsis* [erroneously listed in Embioptera by Bastero Monserrat]
170a (1912) *Povilla*

NEW SPECIES OF EPHEMEROPTERA
 DESCRIBED BY L. NAVAS NOT RECORDED
 BY BASTERO MONSERRAT

- 541a** (1930) *Adenophlebia bequaerti*
541a (1930) *Adenophlebia collarti*
523b (1931) *Adenophlebia decora*
523a (1931) *Adenophlebia decorata*
523a (1931) *Adenophlebia elegantula*
523a (1931) *Adenophlebia eatoni*
540b (1932) *Adenophlebia inflexa*
586a (1936) *Adenophlebia infuscata*
514a (1930) *Adenophlebia seydeli*
514a (1930) *Adenophlebia tortinervis*
540a (1932) *Anagenesia birmanica*
570a (1934) *Atalophlebia axillata*
514a (1930) *Atalophlebia dentifera*
424 (1924) *Baetis pumilus* var. *dissimilis*
291 (1916) *Baetis longipennis* [nomen nudum]
309 (1917) *Baetis longipennis*
540b (1932) *Caenis regia*
514b (1930) *Callibaetis amoenus*
383a (1922) *Callibaetis depressus*
517a (1930) *Callibaetis gregarius*
321 (1919) *Callibaetis vitreus* [second time name used for new species by Navás]
473a (1927) *Campsurus dallasi*
514b (1930) *Campsurus juradinus*
570 (1934) *Campsurus zikani*
356 (1920) *Campsurus zottai*

- 514a** (1930) *Centroptiloides collarti*
256a (1915) *Chimura aetherea*
550a (1933) *Chironetes sumatranus*
514a (1930) *Cloeon affine*
558 (1933) *Cloeon apicatum* [second time named used for new species by Navás]
514a (1930) *Cloeon areolatum*
523a (1931) *Cloeon bellum*
586a (1936) *Cloeon carneum*
540b (1932) *Cloeon nigroalbum*
514a (1930) *Cloeon pusillum*
586a (1936) *Cloeon rimosum*
586a (1936) *Cloeon stigmale*
514a (1930) *Cloeon vitreum*
587b (1936) *Ecdyonurus aethereus*
550a (1933) *Ecdyonurus? bifasciatus*
587c (1936) *Ecdyonurus hyalinus*
550a (1933) *Ecdyonurus illotus*
587c (1936) *Ecdyonurus pallescens*
587c (1936) *Ecdyonurus radialis*
550a (1933) *Ecdyonurus? sinuosus*
383a (1922) *Ephemera innotata*
427a (1924) *Ephemera longiventris* [second time name used for new species by Navás]
587c (1936) *Ephemera spilosa*
514a (1930) *Fulleta dentata*
587c (1936) *Heptagenia costata*
383a (1922) *Heptagenia flavata*
587c (1936) *Heptagenia limbata*
383a (1922) *Hexagenia benedicta*
587a (1936) *Hexagenia dominans*
550a (1933) *Hexagenia philippina*
587c (1936) *Iron dominans*
587c (1936) *Iron famulans*
587c (1936) *Leptophlebia duplex*
587c (1936) *Leptophlebia simplex*
575 (1935) *Metamonius needhami*
595a (1912) *Neophlebia garciai*
586a (1936) *Neurocaenis fuscata*
383a (1922) *Nirvius punctatus*
587b (1936) *Oligoneuriella grandaeva*
550a (1933) *Polymitarcyus birmanus*
170a (1912) *Povilla adusta*
383a (1922) *Rhithrogena loyolaea*
383a (1922) *Rhoenanthus obscurus*
383a (1922) *Rhoenanthus vitalisi*
587a (1936) *Thraulodes limbatus*
570a (1934) *Thraulodes subfasciata*

CORRECTIONS TO BASTERO MONSERRAT'S LIST

- 425** (1924) *Noyopsis fusca* [erroneously listed in Embioptera by Bastero Monserrat]

- 309 (1917) *Rhithrogena diaphana* [spelled *diafana* by Bastero Monserrat]
508 (1930) *Siphonella fazi* [placed in *Siphonurus* by Bastero Monserrat]

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