



Revision of world species of the genus *Heptascelio* Kieffer (Hymenoptera: Platygastroidea, Platygasteridae)

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Abstract

The world species of the genus *Heptascelio* Kieffer (Hymenoptera: Platygastroidea, Platygastriidae) are revised. The generic concept is expanded and the genus is redescribed. Eighteen species are recognized, of which only two were described previously: *H. lugens* Kieffer (Philippines) and *H. striatosternus* Narendran & Ramesh Babu (India, Sri Lanka, Nepal, Madagascar). Both species are redescribed, and *H. punctisternus* Narendran & Ramesh Babu is considered a junior synonym of *H. striatosternus* (**new synonymy**). The following species are described as new: *H. albipes* Masner, van Noort & Johnson, **n.sp.** (Cameroon, Gabon, Uganda); *H. anthonyi* Masner & Johnson, **n.sp.** (Zimbabwe); *H. aquilinus* Masner & Johnson, **n.sp.** (South Africa); *H. bivius* Johnson & Masner, **n.sp.** (Indonesia); *H. castor* Masner & Johnson, **n.sp.** (Indonesia, Malaysia); *H. dayi* Masner & Johnson, **n.sp.** (Indonesia); *H. dispar* Masner & Johnson, **n.sp.** (Botswana, Namibia, South Africa); *H. hamatus* Masner & Johnson, **n.sp.** (Thailand, Laos, Vietnam, Malaysia, Indonesia, Taiwan); *H. lateralis* Johnson, van Noort & Masner (Central African Republic, Gabon); *H. noyesi* Masner & Johnson, **n.sp.** (Madagascar); *H. orarius* Johnson & Masner, **n.sp.** (Madagascar); *H. paralugens* Masner & Johnson, **n.sp.** (Philippines); *H. sicarius* Johnson & Musetti, **n.sp.** (Madagascar), *H. strigatus* Masner, Johnson & van Noort, **n.sp.** (Gabon, Central African Republic); *H. teres* Johnson & Masner, **n.sp.** (Madagascar), and *H. watshami* Masner & Johnson, **n.sp.** (Democratic Republic of Congo, Kenya, Malawi, Zimbabwe). *Heptascelio watshami* has been reared from the eggs of *Plagiotriptus pinivorus* Descamps (Orthoptera: Thericleidae), a pest of pine. An electronic version of the identification key is available at WaspWeb at <http://www.waspweb.org/Platygastroidea/Keys/>. The electronic version of this document has been formatted with embedded links to additional resources available online via the internet both to enhance the content and as a demonstration of the utility of international standards for biodiversity informatics.

Introduction

The genus *Heptascelio* (Hymenoptera: Platygastroidea, Platygastriidae) was described originally by J.-J. Kieffer (1916) from a single male specimen collected from Los Baños in the Philippines. Masner (1976) placed *Heptascelio* within the tribe Scelionini and included it in his key to world genera of Scelionidae. This assignment was primarily based on the reduction of the radial vein in the hind wing, the 1-1-1 tibial spur formula, and the 3-2 palpal formula. Masner considerably broadened the known distribution of species of *Heptascelio* within the Oriental region, including southeast Asia (Thailand, Laos, Vietnam) and Nepal, and extending into both the Australasian (New Guinea) and Afrotropical regions (Angola and South Africa). Twenty years later, Narendran & Ramesh Babu (1996) described two new species from the southern Indian state of Kerala, thus further increasing the known geographic distribution.

Sharkey (2007) recently synonymized the families Platygastriidae and Scelionidae, correctly noting that the former name has priority. This taxonomic action was based on two lines of reasoning. First, he cited the analysis of Murphy *et al.* (2007) as purportedly demonstrating the paraphyly of Scelionidae. The second justification was the “inadvisability of subdividing a morphologically homogeneous taxon.” In this paper we have accepted this synonymy, although it may be premature and is certainly not the only resolution of the issue consistent with the criterion of monophyly.

The tribe Scelionini *sensu* Masner (1976) comprises those genera with an incomplete radial vein (submarginal vein) in the hind wing; 3-2 palpal formula; 1-1-1 tibial spur formula; a single sex segment (A5) on the male antenna; an elongate, subequally-segmented metasoma with 6 tergites and sternites externally visible in the female, and 8 tergites and 7 sternites visible in the male. Host records are available for four of the ten genera included in this tribe: *Scelio* Latreille, *Pseudoheptascelio* Szabó, *Sceliocerdo* Muesebeck, and *Synoditella* Muesebeck. All are parasitoids of the eggs of Acrididae (Orthoptera), and adults of the last two are phoretic on their hosts. The only known host of *Heptascelio* is a species of the family Thericleidae (Orthoptera: Eumastacoidea; see under *H. watshami*).

Our taxonomic objective is to reassess the three known species of *Heptascelio* and to describe the new species discovered. The characters supporting the treatment of the genus as a monophyletic group and distinguishing it from other genera are also reviewed.