



## ***Monitoriella* Hedqvist (Hymenoptera: Braconidae: Doryctinae) from Brazil, with descriptions of three new species**

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### **Abstract**

*Monitoriella* Hedqvist is a phytophagous, gall-inducer Braconidae genus, known only from the New World. Its placement in a higher taxonomic level has been uncertain until recent phylogenetic investigations on cyclostome braconids, which reinforce its position in Doryctinae. Three new species of *Monitoriella* are described: *M. costalimai* **sp. nov.**, *M. spinata* **sp. nov.**, and *M. ubatuba* **sp. nov.**, all from the Brazilian Atlantic Forest. *Monitoriella anthurii* is redescribed and illustrated. A key to all known species is provided.

**Key words:** Atlantic Forest, gall-inducer, new species, key

### **Introduction**

Since *Monitoriella* Hedqvist 1963 was erected, and even before, at the occasion of the description of *Semirhytus anthurii* Costa Lima et Guitton 1962, the position of this group of species in higher taxonomic levels has been controversial. Originally described within the Hormiinae (Hedqvist 1963), *Monitoriella* is a cyclostome braconid. Several authors noted its resemblance with some Doryctinae members (Costa Lima & Guitton 1962; Wharton 1993; Whitfield & Wharton 1997), but the genus was kept within Hormiinae for many years by the lack of phylogenetic studies. Belokobylskij *et al.* (2004) studied the phylogeny of Doryctinae and suggested that the only morphological synapomorphy of this subfamily is in the venom apparatus. However *Monitoriella* species lack venom glands and reservoir, probably due to its gall-forming habit (Infante *et al.* 1995). Recently Zaldivar-Riverón *et al.* (2006, 2008) reinforced the placement of *Monitoriella* in Doryctinae based on morphological and molecular analyses, as a sister group of *Labania* Hedqvist 1963, another phytophagous genus.

Cecidogenesis induced by *Allorhogas* Gahan (Macêdo & Monteiro 1989) was the first documented case of phytophagy in Braconidae wasps. Among the Doryctinae this habit apparently derived from a parasitoid of gall-forming insects, in a single evolutionary event in the Neotropical region (Zaldivar-Riverón *et al.* 2007). For a review on gall association in Braconidae wasps see Wharton & Hanson (2005). All *Monitoriella* species with known biology seems to be gall-formers on Araceae, however details of the cecidogenesis was described only for *Monitoriella elongata* Hedqvist 1963 on leaves of *Philodendron radiatum* Schott (Aracea) (Infante *et al.* 1995). Infante *et al.* (1995) is the most complete and updated work on biology and taxonomy of *Monitoriella*, however it does not includes *Monitoriella anthurii* (Costa Lima et Guitton 1962). This species, reared from galls on leaf petioles of *Anthurium* sp. (Araceae), was tentatively assigned within *Semirhytus* Szépligeti 1902 (Costa Lima & Guitton 1962) until it was transferred to *Monitoriella* (Shenefelt 1975). The occurrence of *Monitoriella* is restricted to the New World, known from Mexico, Guatemala, Costa Rica, Trinidad, Peru, and Brazil. Six species were previously known: *M. anthurii* (Costa Lima et Guitton 1962), *M. elongata* Hedqvist 1963 (type species), *M. rufithorax* Hedqvist 1963, *M. compressithorax* Hedqvist 1963, *M. banonensis* (Fischer 1964), and *M. curta* Wharton 1995.