
Predatory Syrphinae of phytophagous insects in Brazil: taxonomy, interaction network and agricultural host plants

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Abstract

Almost 10% of the worldwide species of Syrphidae are recorded in Brazil (*i.e.* 591 species in 79 genera). Larvae have different feeding habits and predation gives an outstanding look to the members of the Syrphinae subfamily, which have a fundamental role in biological control. They represent about 35% of all species in the family. There are 231 species within 28 genera of Syrphinae recorded in Brazil according to Morales & Marinoni (2021). Most larvae feed on soft-bodied insects and are easily found associated with infestations of Hemiptera, Lepidoptera and Thysanoptera. Syrphinae have great potential as biological control agents and their adults mostly visit flowers for pollen and nectar search, being potential pollinators. Immatures are the developmental stage most commonly found in infestations, and the larvae must be reared to obtain adults to identify. The lack of identification keys to larvae difficult researches – *e.g.*, ecology and biology. The aim of this investigation is to update the list of Brazilian species presented by Rojo *et al* (2003), produce images of the immature stages and an identification key, besides information on interaction networks. We are collecting on organic and traditional crops (with low to intense pesticides use), infested with phytophagous insects in Minas Gerais, Brazil, seeking new interactions. The captured larvae are individually placed in Petri dishes and fed with the insect prey they were feeding in the host plant to obtain the adult. Rojo *et al* (2003) listed 80 occurrences of interactions between syrphids and their preys in Brazil. Until now, we have sampled individuals of one specie belonging to *Dioprosopa* Hull, 1949, one to *Eosalpingogaster* Hull, 1948, two to *Allograpta* Osten-Sacken, 1875, four *Ocyptamus* Macquart, 1834, and two *Toxomerus* Macquart, 1855 in *Solanum paniculatum* L., *Citrus* spp., *Nicotiana tabacum* L., *Vigna unguiculata* (L.) Walp., *Brassica oleracea* L., *Punica granatum* L.

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