

Collembola and Acariformes recorded for the first time as prey of Asilidae (Diptera: Brachycera)

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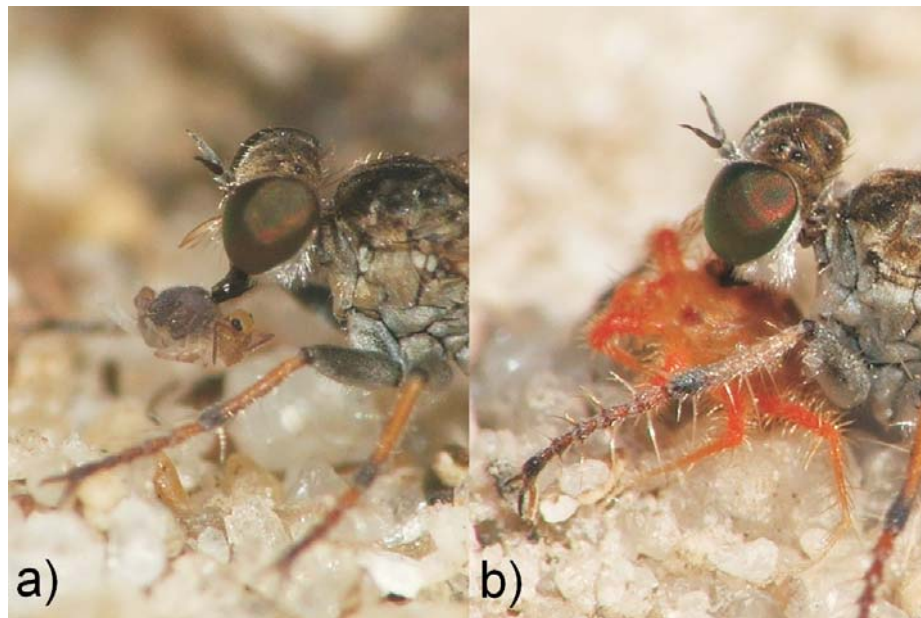


Fig. 1. *Stichopogon elegantulus* feeding on: a) Collembola; b) Acariformes

Members of the family Asilidae (Diptera: Brachycera) are small to large flies that are predators both in the adult and larval stages.

As adults, asilids are generally opportunistic predators that adapt their prey selection to availability. The most common prey are insects of the Orders Diptera, Hymenoptera, Coleoptera, Lepidoptera, and Odonata, which are most often caught in flight. There are, however, some records of asilids preying on arachnids (Araneae, Opiliones and Acari belonging to the Parasitiformes) (Lavigne 2006, Lehr 1988).

In this short note, collembolans (Hexapoda: Collembola) and mites (Acari: Acariformes) are recorded for the first time as prey of asilids. In all instances adults observed preying and feeding on these organisms belonged to the species *Stichopogon elegantulus* (Wiedemann, 1820); however, the asilid observed in Lagoa Sto. André was not collected, so the identification could not be confirmed. The acariform specimens belonged to the Anystoidea (Acariformes: Prostigmata), while the collembolans belonged to Sminthuridae (Collembola: Symphypleona). Prey were identified using photographs. Some of these records were both filmed and photographed; some videos can be seen on the Internet: <http://www.youtube.com/user/stichopogon>

MATERIAL OBSERVED:

Lagoa Sto. André – Santiago do Cacém – Portugal (38° 5'0.51"N; 8°47'7.14"W): 13.VIII.2008 – 1 specimen observed feeding on Anystoidea indet. (probably Erythracaridae).

Canideb – Vila Nova de Gaia – Portugal (41° 8'10.12"N; 8°39'43.67"W): 18.VI.2009 – Several specimens observed preying and feeding on Anystoidea indet. (probably Erythracaridae) and collembolans (Sminthuridae indet.).

Apúlia – Esposende – Portugal (41°28'48.46"N; 8°46'31.11"W): 03.VIII.2009 – Several specimens observed preying and feeding on Anystoidea indet. (probably Erythracaridae).

All three sites are sandy and located near the coast. Lagoa de Santo André (which is designated as a Natural Reserve) is a brackish

water lagoon separated from the sea by a thin sand dune barrier. The flies were found on a more inland margin of the lagoon, in an area dominated by pine trees (*Pinus pinaster* and *P. pinea*). In Canideb the flies were found on a sand spit at the mouth of the river Douro. This area is very disturbed due to human pressure with many exotic plant species present; however the area is undergoing revegetation efforts and legal protection has been created. In Apúlia, observations were made on the dunes of the local beach. This area is part of the Esposende coastal protected landscape, where many plant dune species can be found, among them: *Calystegia soldanella*, *Euphorbia paralias*, *Helichysum italicum*, *Medicago marina*, *Pancratium maritimum*, *Ammophila arenaria* and the exotic *Carpobrotus edulis*.

A typical hunting scenario involved the asilid watching for prey while resting on the ground or vegetation very close to the ground. When a prey was observed, the asilid would make a short flight before striking the prey from above. *S. elegantulus* feeds while resting on the ground, on the same capture spot or very nearby. More observations are needed to describe in more detail how this occurs.

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References: LAVIGNE, R.J. 2001. Predator - Prey Database for the family Asilidae (Hexapoda: Diptera). [Internet - (<http://www.geller-grimm.de/catalog/lavigne.htm>)] Updated – February 2006. Accessed 17th November 2010. ● LEHR, P.A. 1988. Family Asilidae. – In: Soós, Á. & L. PAPP (eds.). *Catalogue of Palearctic Diptera. Vol. 5. Athericidae – Asilidae*. Budapest: Akadémiai kiadó: 197-326.