

Chapter 12

THE SHORT NOTES ON BIOLOGY OF SOLIFUGES AND TAXONOMIC APPROACHES TO SOLIFUGES OF TURKEY (SOLIFUGAE, ARACHNIDA)

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◆ Introduction

Solifuges are one of the most fascinating arachnid group. They are an important part of arid and semi-arid environments. They are notorious arachnids known as flesh-eating spiders for being misrepresented by media because of their numerical increase during the summer months in recent years in Turkey. Solifuges are predator animals and they don't feed on any piece of meat. Contrary to popular belief, they are non-venomous. Solifuges have poorly studied not only systematical but also morphological, ecological, phylogenetic, etc. In this present study, general information about solifuges biology will be given and the taxonomic status of the recorded solifuges species in Turkey will be reviewed and interpreted.

Short Notes on Biology of Solifuges

Solifuges are represented by 1123 species belonging to 12 families and 138 genera with last new species records and synonyms^(1, 2, 3, 4, 5, 6). The overall body sizes of solifuges are variable and range from 1-10 cm. Most of them have yellow, pale yellow, yellowish-brown, reddish-brown, blackish-brown and black coloration^(Fig. 1.). Their bodies consist of two regions as prosoma (propeltidium, mesopeltidium and metapeltidium) and opisthosoma. Chelicerae, pedipalps and four pairs of walking legs are joint to prosoma. The most important and descriptive features as flagellum, flagellar setal complex locate on chelicerae, Chelicerae are comprised of scissors like two parts. Depending on the size of species and chelicerae, they can have very painful bites. They are non-venomous arachnids, they have no venom glands or venom apparatus. Only *Rhagodima nigrocincta* (as *Rhagodes nigrocinctus*) were recorded from India with studies on venom glands as epidermal glands along the tips of the chelicerae opens out with setae, containing 5-Hydroxytryptamine⁽⁷⁾. Erdek et al.⁽⁸⁾ claimed that those structures are not venom apparatus, just only epidermal glands and hollow tubular setae. Solifuges generally tend to escape. But, if they feel threatened they exhibit aggressive behaviors. They can

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the same species at same or close locality. To be certain, type materials should be re-examined and re-sampled from type localities.

Daesiidae and Gylippidae families contain consistent characteristics. Considering that the general structures of flagellar complex spiniform seta, retrolateral manus spiniform seta and proporsal distal setae, *Gylippus* (*Gylippus*) and *Gylippus* (*Paragylippus*) must be synonymous each other. The differences between these flagellar complex setae and flagellum should point out species-level discrimination. There is no strong biogeographic distinction between species of both subgenera. Today, the current subgenera distinction is only given depending on whether the flagellum is in S or half-U shape. In further studies, all types of both sexes should be examined and verified that the differences are not at the level of the subgenus and re-descriptions and diagnostic keys should be given.

Rhagodidae is the second family after Galeodidae distributed in Turkey that needs urgent taxonomic revision. At the beginning, some researchers used general body coloration^(18, 19). Roewer^(17, 20) based on the tarsal spinulation for rhagodid taxonomy with ignoring variation. But, Birula⁽²¹⁾ used both body coloration and tarsal spinulation.

The first studies on solifuges in Turkey started at the beginning of the 1900s. The existence of many species has not been reconfirmed after described. In further researches, it is aimed to create an up-to-date checklist of solifuges of Turkey after re-examination of type-materials and re-sampling.

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