

Abstract

Pipunculid flies (Diptera: Pipunculidae) as a parasitoid of hoppers have an important role in biological control. This research was carried out to study taxonomy and diversity of pipunculid flies in the eastern province of Iran (Sistan and Baluchestan, South Khorasan, Razavi Khorasan, North Khorasan). Specimens were collected by the Malaise trap, funnel-Malaise trap, sweeping net. All specimens were surveyed in a laboratory and then pipunculid flies were separated. The identification was performed by reliable keys, main description, comparison with type specimens and collaboration with Canadian and German taxonomist. Totally, 1049 specimens were collected including 22 species in 2 tribes and 5 genera of which 1 genus, 4 species are new records from Iran and 4 species *Claraeola bousynterga* Motamedinia & Skevington [**sp. nov.**], *Claraeola khorshidae* Motamedinia & Kehlmaier [**sp. nov.**], *Claraeola parniana* Motamedinia & Kehlmaier [**sp. nov.**], *Clistoabdominalis persicus* Motamedinia & Skevington [**sp. nov.**] were described. The SDR software was used to study the species diversity of pipunculid flies. Diversity, evenness and richness indices were evaluated. Concerning the results, the highest abundance was related to agroecosystem and middle altitude. The highest and the lowest abundance belonged to *Tomosvaryella* genus with %66.1 and *Dasydorylas* with %0.7, respectively. According to combinational analyse of species structure, *Tomosvaryella kuthyi* and *Tomosvaryella geniculata* with %27.1 and %11.1 abundance were the dominant species. On the basis of species diversity and evenness indices, agroecosystem and natural ecosystem have more diversity and evenness than the orchard ecosystem.

Keywords: Fauna, pipunculid flies, parasitoid, hopper, diversity, East of Iran.



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