

New records of Black Fungus Gnats (Diptera: Sciaridae) from Iran, including the reinstatement of *Bradysia cellarum* FREY

[Erstnachweise von Trauermücken (Diptera: Sciaridae) aus dem Iran, einschließlich der Wiedereinsetzung von *Bradysia cellarum* FREY]

by

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Abstract

Seven species of Black Fungus Gnats were identified morphologically and by DNA barcoding from insects that were collected on pine branches in urban green spaces in Mashhad (Iran). *Bradysia cellarum* FREY, *Bradysia ocellaris* (COMSTOCK), *Bradysia trivittata* (STAEGER), *Lycoriella sativae* (JOHANNSEN) and *Scatopsciara atomaria* (ZETTERSTEDT) were found to be new to Iran. *Bradysia cellarum* FREY spec. rev. is again recognized as a distinct species.

Key words

Sciaridae, Palaearctic Region, Iran, faunistics, DNA barcoding, *Pinus*

Zusammenfassung

Sieben Trauermücken-Arten wurden morphologisch und mittels DNA-Barcoding von Insekten identifiziert, die an Kiefernäzweigen auf städtischen Grünflächen in Mashhad (Iran) gesammelt worden sind. *Bradysia cellarum* FREY, *Bradysia ocellaris* (COMSTOCK), *Bradysia trivittata* (STAEGER), *Lycoriella sativae* (JOHANNSEN) und *Scatopsciara atomaria* (ZETTERSTEDT) sind neu für den Iran. *Bradysia cellarum* FREY spec. rev. wird wieder als Art betrachtet.

Stichwörter

Sciaridae, paläarktische Region, Iran, Faunistik, DNA-Barcoding, *Pinus*

Introduction

Urban green spaces are the most important element of cities with a key role in many fields such as biodiversity, nature conservation, pollution control and other ecological benefits. This survey on the biodiversity of insect species associated with *Pinus mugo*, which is one of the dominant conifers in Mashhad, was conducted in parks, squares and other green spaces. One of the most important groups of these insects is the order Diptera, of which Sciaridae was found to be the most frequent family. The Sciaridae from Iran are poorly studied, with only three species previously reported and none from Razavi Khorasan province.

Material and methods

Sciaridae specimens were sampled in an urban green space in Mashhad, Iran (36°15'N 59°38'E) by randomly cutting 20 cm terminal branches of pine trees (*Pinus mugo*), that were put separately in small plastic bags and searched for insects in the laboratory. Single specimens were collected by picking them directly from the tree with a brush. To obtain adult gnats, parts of the host plant were kept in rearing cages until the emergence of the adults. We suppose that at least some species develop as larvae in the pine, but cannot prove at the moment which species do this. The specimens were first stored in 70 % ethanol, later transferred into 96 % ethanol and finally sent to the German Barcode of Life Project (GBOL) for DNA barcoding and reverse identification.