

Short Communication

Delia coarctata (Diptera: Anthomyiidae), A Potential Pest of Cereals in Iran

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The family Anthomyiidae is one of the most economically important families of order Diptera and some species are serious pests in agriculture. The family contains some 1560 described species occurring mostly in the Holarctic region. Adults feed on homopteran honeydew, flower nectar, tree wounds, dead animals, dung and rotting plants [1]. Larvae of anthomyiid flies may be fungivorous, phytophagous, phytosaprophagous, zoophagous, zoosaprophagous and coprophagous [2]. Larvae in some species feed on roots, stems or flower heads, in commercial vegetable crops and ornamental plants [3].

During a survey on the anthomyiid flies in North West Iran, the wheat bulb fly, *Delia coarctata* were identified as a new record for Iran. Adult flies (3♂, 5♀) were swept by a standard insect net in July 2016 in 15km east Namin (38°26'N 48°33'E, 1500m, Ardebil Province). The specimens are deposited at the Zoological Museum of the Faculty of Agriculture, University of Tehran, Karaj and the second author's personal collection.

Wheat bulb fly is an important pest of wheat, *Triticumaestivum* L. (Poaceae), and other cereals like barley and rye [4]. *D. coarctata* is probably the most serious pest of winter wheat in many areas of Europe [5]. Crop damage by Wheat bulb fly has not been reported in Iran yet.

This species has previously been reported from most European countries, Russia, East Palaearctic and Nearctic regions [6] and this is the first record of this fly from the Middle East and Iran. Some of the morphological characteristics of *D. coarctata* are as follows:

Gray flies, prementum largely pollinose. Arista relatively long haired. Height of gena less than half height of compound eye. Distance

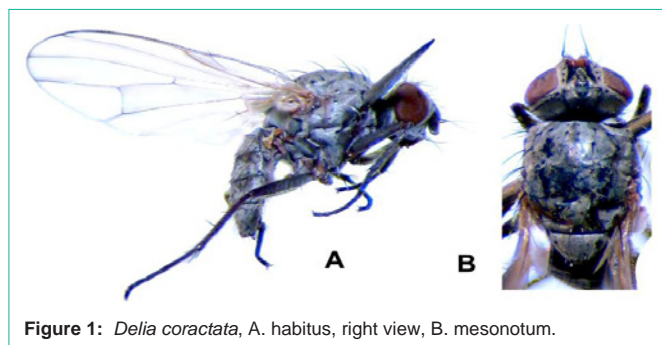


Figure 1: *Delia coarctata*, A. habitus, right view, B. mesonotum.

between cross veins 1.5 times as long as dm-cu crossvein. Prealar seta absent. Hind femur medially without lengthened posteroventral seta; only as host posteroventral seta before the apex developed. Hind tibia with 2-3 anteroventral setae and without apical posteroventral seta. Mid tibia without anterodorsal and anteroventral setae. Abdomen flattened at least in the proximal half. Abdomen conspicuously long and narrow, with almost parallel lateral margins (Figure 1).

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References

1. Suwa M, Darvas B, Papp L, Darvas B. Family Anthomyiidae. Contributions to a manual of Palaearctic Diptera. Science Herald. Budapest. 1998; 3: 571-616.
2. Ferrar P. A guide to the breeding habits and immature stages of *Diptera Cyclorrhapha*. Scandinavian Science Press. Leiden. Copenhagen. 1987.
3. Hockett HC, McAlpine JF. Anthomyiidae. Manual of Nearctic Diptera. Agric Canada Monograph No. 28. 1987; 1099-1114.
4. Rogers CD, Evans KA. Wheat bulb fly (*Delia coarctata*, Fallen, Diptera: Anthomyiidae) larval response to hydroxamic acid constituents of host-plant root exudates. Bulletin of Entomological research. 2013; 103: 261-268.
5. Young JEB, Ellis SA. Impact of changes in arable agriculture on the biology and control of wheat bulb fly. Home Grown Cereals Authority. 1996.
6. Michelsen V, Pape T, Beuk P. Fauna Europaea: Anthomyiidae. Fauna Europaea, Diptera: Brachycera. 2013.