

## Identification of scuttle fly *Dohrniphora cornuta* (Bigot, 1857)(Diptera: Phoridae), from edible mushroom farms in central of Iraq.

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### Abstract

The Phoridae family, which contains approximately 4,000 species in more than 260 genera, is one of the largest families of Diptera, The scuttle fly have been found in variety of environment, they are associated with late stages of composition. In current study both males and females of *Dohrniphora cornuta* were collected and identified for the first time from the farms of edible mushrooms in Al-Dwaniya province, central of Iraq.

The specimens were studied and identified in laboratories of Sumer university, college of soil and water sources, deposited in 70% ethyl alcohol.

**Key words:** Scuttle fly, edible mushroom, phoridae, diwaniya, Iraq.

### I. INTRODUCTION

The Phoridae family, which contains approximately 4,000 species in more than 260 genera, is one of the largest families of Diptera (Ament & Brown, 2016). The individual flies are called scuttle flies, which are a group of small flies with humpback appearances and can be identified by the rapid movement that they exhibit (Disney 1994). In addition to being highly versatile, Phoridae flies have been found to inhabit a wide variety of aboveground environments. (Borror et al. 1989), however larvae of many phorid species typically develop in a variety of decomposing organic matter (Byrd & Castner 2010). There is an association between Phoridae and the late stages of decomposition, particularly where other dipteran species and coleopteran species are found together on carrion (Gennard 2007). The genus *Dohrniphora* Dahl is a huge group (presently 167 species) of phorids located worldwide. Even though the life records of maximum species is unknown, a few have larvae which can be scavengers, fungivores, kleptoparasites, facultative predators, and parasitoids (Disney, 1989).

*D. Cornuta* (Bigot), the species has been by accident introduced around the world, and is occasionally of monetary significance, entering homes, infesting meals, and inflicting human myiasis. In current study the species is identified and detected for the first time in Iraq, an illustrated photos for male and female are found, the accurate taxonomic keys are used to identify genus and species.

## II. MATERIALS AND METHODS

The specimens were collected from farms of edible mushrooms in Al-Diwania province , Iraq, by sticking and attracting traps, during the period from 1 February to 1 April 2022.

The adult flies were studied and identified by using dissecting microscope in laboratory of agriculture college, Sumer university, deposited in 70% alcohol ethyle .

The photos were taken by Sny a7rii camera, with lens: Canon mp-e 65mm f 2.8 macro lense, installed on Novel compound microscope, in office of scientific picturing by photographer Sadiq Mithal .

An accurate taxonomic key was used to identify the species (Namakia-Khamena *et al.*, 2021).

Synonyms:

*Dohrniphora cornuta* (Bigot, 1857)

*Phora cornuta* Bigot, 1857: 348.

*Diploneura (Dohrniphora) cornuta*: Schmitz, 1926: 44.

*Dohrniphora cornuta*: Borgmeier, 1960: 277 .

*Phora navigans* Frauenfeld, 1867: 454.

*Phora cleghorni* Bigot, 1890: 191.

*Phora chlorogastra* Becker, 1901: 32.

*Phora mordax* Brues, 1911: 531.

*Dohrniphora bequaerti* Schmitz, 1914: 105.

Order: Diptera Linnaeus, 1758

Family: Phoridae Curtis, 1833

Subfamily: Phorinae Rondani, 1856

Genus: *Dohrniphora* Dahl, 1898

### III. RESULTS AND DISCUSSION

**Species diagnosis.** This species can be outstanding from other *Dohrniphora* species by the mixture of following traits: scutum is dark brown; midtibia with a dorsal hair palisade extending about one third of midtibial length; male hind coxal lobe spherical-shaped, protruded posteriorly; inner line of male hind femur with 4-6 peg-like setae grouped , together on basal sensory area and about 10-20 fine hairs near the dorsobasal margin

**Description.** Male (Fig.1 ). Body length 2.2-2.5 mm .

Thorax (Fig.2). Scutum dark brown. Scutellum dark brown with an anterior pair of short setae and a posterior pair of long bristles. Legs yellow except hind femur slightly brown at the dorsal margin.

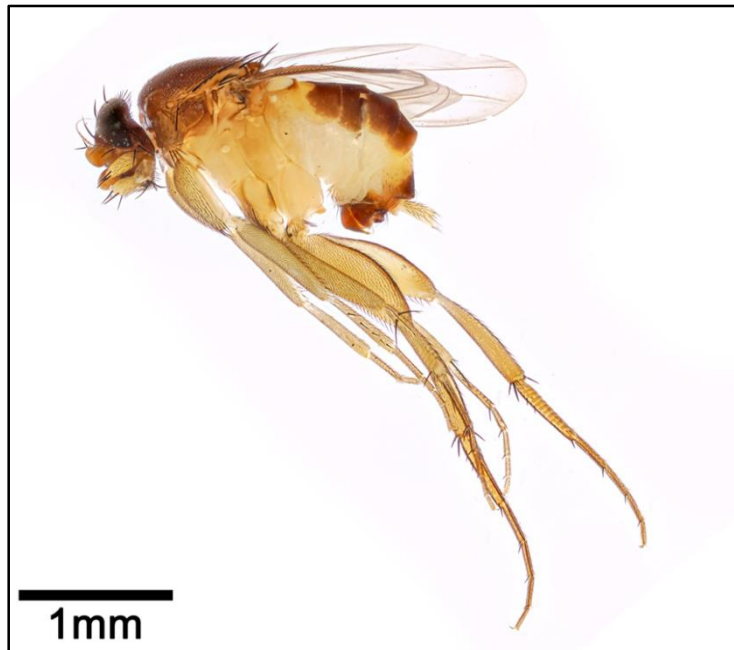
Inner side of hind femur (Fig.3) with 4-6 peg-like setae . Abdominal tergite 1 yellowish brown except dark brown posterior margin; Tergite 2 yellowish

Brown on anterior half and darkish brown on posterior half, tergites three-five dark brown with yellowish brown inverted triangular-shaped markings anteromedially; sixth tergite yellowish brown anteriorly and darkish brown posteriorly.

Male genitalia (Fig. 5) Epandrium dark brown with long hairs near the anal tube. Hypandrium dark brown. Anal tube is yellow .

Female (Fig.6). Body length 2.6-2.9 mm. It resemble male except the size, female is bigger than male in size.

This species is known to be delivered and spread global via human activities. They may be easily found from urban area. They're referred to as polyphagous scavenger, and on occasion predate on larvae of moth flies in sewage as a facultative predator (Disney, 1994). Many adults had been discovered from rubbish, rearing cages for stag beetles and rhinoceros beetles and from decaying cricket cadaver. Larvae particularly lived in moisten surroundings and ate up partly degraded coconut fiber for stag beetle rearing.



**Fig 1: Habitus of male lateral view.**



**Fig 2: Habitus of male dorsal view.**



**Fig 3: Inner side of hind leg**



**Fig 3: Outer side of hind leg.**



**Fig 4: Male genitalia**



Fig 5: Habitus of female.

#### IV. REFERENCES

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## التسجيل الاول لذبابة (*Dohrniphora cornuta*) (Diptera:Phoridae), من مزارع الفطر في محافظة الديوانية وسط العراق

### الخلاصة:

تعد عائلة Phoridae ، التي تحتوي على ما يقرب من 4000 نوع في أكثر من 260 جنسًا ، واحدة من أكبر عائلات Diptera ، و توجد في مجموعة متنوعة من الظروف البيئية ، وهي مرتبطة بالمراحل المتأخرة من التحلل. في الدراسة الحالية تم جمع وتحديد ذكور وإناث بالغات ذبابة *Dohrniphora cornuta* لأول مرة من مزارع الفطر الصالح للأكل في محافظة الديوانية وسط العراق.

صيدت البالغات بواسطة المصائد اللاصقة والجاذبة ، تم دراسة وتشخيص العينات في مختبرات جامعة سومر ، كلية الزراعة من خلال المفاتيح التصنيفية ، و حفظت في 70٪ كحول ايثيلي