

## **NEW RECORDS OF THREE SPECIES OF HORSE FLIES (DIPTERA:TABANIDAE) IN IRAQ WITH REMARKS ON SOME ECOLOGICAL ASPECTS .**

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**key words :** Diptera, Tabanidae, Horse flies, Deer flies.

### **ABSTRAT**

The research includes superficial taxonomic study of the horse fly family Tabanidae in the Province of Basrah / South of Iraq , according to the seven districts of the province , There are Al-Mdainah , Al-Qurnah , Shatt Alarab, Abu Al-Khasib, Al-Zubair , Al-Fao and Basrah center . The Results of the study were showed recording three species for the first time in Iraq back to the three genera , and were *Haematopota subcylindrica* , *Atylotus agricola* and *Hybomitra peculiaris* .

### **INTRODUCTION**

The family Tabanidae includes horse flies ,deer flies and clegs , belongs to Superfamily Tabanoidea, Suborder Bracycera , order Diptera (1). Females are blood feeders and obtain their meals from a variety of vertebrates hosts , Males feed on nectar and pollen of flowers(2) .Tabanids are the largest blood-sucking flies , they are known to be mechanically vectors of many of diseases as surra ,anaplasmosis, tularemia , anthrax , equine infections anemia and others , (3) some species are also the biological vectors of *Loa loa* , Microfilaria and some nematodes (4) .

Tabanids can also cause economic losses by distributing laborers and tourists , because the bite of some species can very irrupting and painful (5) , secondary bacteria can be introduced into the wound , their attack on livestock can be severe as to reduce milk yields in dairy cattle (6). Tabanide are poorly known in the Iraq especially Basrah province , This study was conducted to identify Tabanidae species in Basrah , a province at south Iraq , and to find out the geographic presence and annual distribution .

## MATERIALS AND METHODS

A total of 20 locations along the province of Basrah ,includes two sites in the districts between begging of March 2013 to end of February 2014. The tabanids were trapped with canopy traps , malaise and swapping nets . A total of 1428 specimens were collected during the entire study period , the flies was identified by frontal callus , appearance of antennae and palps , figured of wing , figured of blot over the abdomen , Specimens were identified based on (1),(7),(8) and (9) . representative specimens were sent to Dr. Ferhat Oltunsoy , Anadolu University , Turkey , for confirmation , Also some samples sent to Iraqi Natural Museum in Baghdad University to confirm the diagnosis and classification .

## RESULTS

During the present survey , There are published records from three species were *Haematopota subcylindrica* , *Atylotus agricola* and *Hybomitra peculiaris* .

Family : Tabanidae

Sub family : Tabaninae

Tribe : Haematopotini

*Haematopota subcylindrica* Pandelle,1883.

Tribe : Tabanini

*Atylotus agricola* Loew,1874.

*Hybomitra peculiaris* Szilady,1914

**1- *Haematopota subcylindrica*** (figure1,plate I)

**Length** : 9-10 mm. .

**Head** : length 2mm. , Vertex grey with black and white hairs , Fronts dusted grey with black hairs form small spots , ocelli surrounded with black small spots , the callus is ribbed in shape and black , Antennae , black on basal segments and pedicel ,brownish

on segment 3 ,segment 1 prolonged cylindrical with a slight constriction before tip , Palpi flame shaped , grayish yellow , clothed with short pale and some black hairs .

**Thorax** : length 2-2.5 mm. ,blackish brown , the longitudinal stripes not very distinct , mesonotum brownish black with pale hairs , pleura grey clothed white and pale hairs .

**Wings** : length 6-6.5 mm. , very light grey with rather indefinite whitish patterns ,posterior margin usually broadly clouded , halteres grayish yellow with dark brown spot on knob .

**Legs** : coxa and femora black and very densely grey and pale haired , fore tibiae yellow but posterior yellowish brown ,segment 1 of tarsus brown and the apical tarsal segments are blackish .

**Abdomen** : length 5-5.5 mm. , grayish black , dark median strip on each segment , narrow posterior margins , grey circular sublateral spots which are absent in tergite 1 and very small in tergite 2 , but more prominent on the following segments . All tergites broadly grayish at sides . Venter dusted gray and mostly pale hairs , a broad darker median strip with darker hairs , more distinct when viewed from behind , cerci are grayish black lobes , genital plate black .

**Geographical distribution** : Exist in a few areas of the province of Basrah, as frequently in rural places as in Swaib in the district of Qurna , Ktaiban in the Shatt al-Arab and Hamdan spend in the district of Abu Al-Khasib , and exists to a lesser extent in the marsh areas and near wetlands, disappears in the residential and desert areas.

**Annual occurrence** : from mid March until end of June .

**Hosts** : cows , buffaloes , and donkeys.

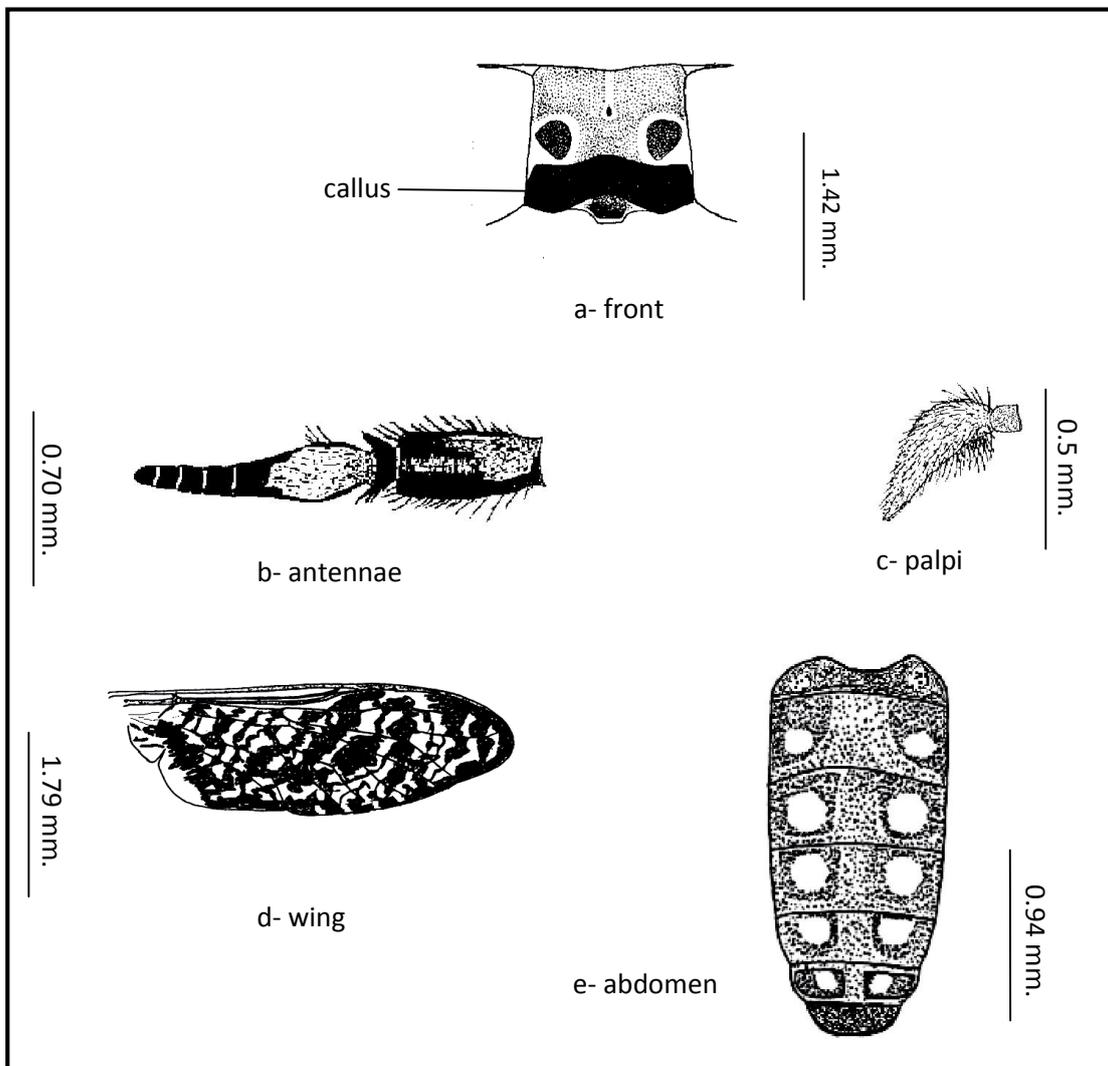


Plate I : *Haematopota subcylindrica*

2- *Atylotus agricola* (figure 2,plate II)

**Length** : 13.5-14.5 mm.

**Head** : length 3-3.5 mm. , compound eyes are yellowish green with five blackish spots and be reddish brown in dry specimens , surrounded with sparse pale hairs, vertex pale grey clothed with grey hairs , front pale grey , lower callus reddish brown , higher callus blackish brown . antennae reddish yellow , segment 1 paler with whitish hairs . palpi , base segment reddish yellow , in female apical segment oval missing clothed with short white hairs , in male pale gray and oval with pale hairs .

**Thorax** : 5-5.5 mm. ,brownish on mesonotum and scutellum , pale longitudinal strips , mesonotum with short pale and yellowish haired . pleura light gray dusted with brownish hairs .

**Wings** : 10-11 mm. , very light grayish with rather indefinite whitish pattern, posterior margin usually broadly clouded , halteres whitish yellow , basal half of knobs dark brown .

**legs** : coxa and femora gray other parts of leg are orange yellow except hind tibiae and fore tarsus are brownish , all legs are very densely light gray dusted .

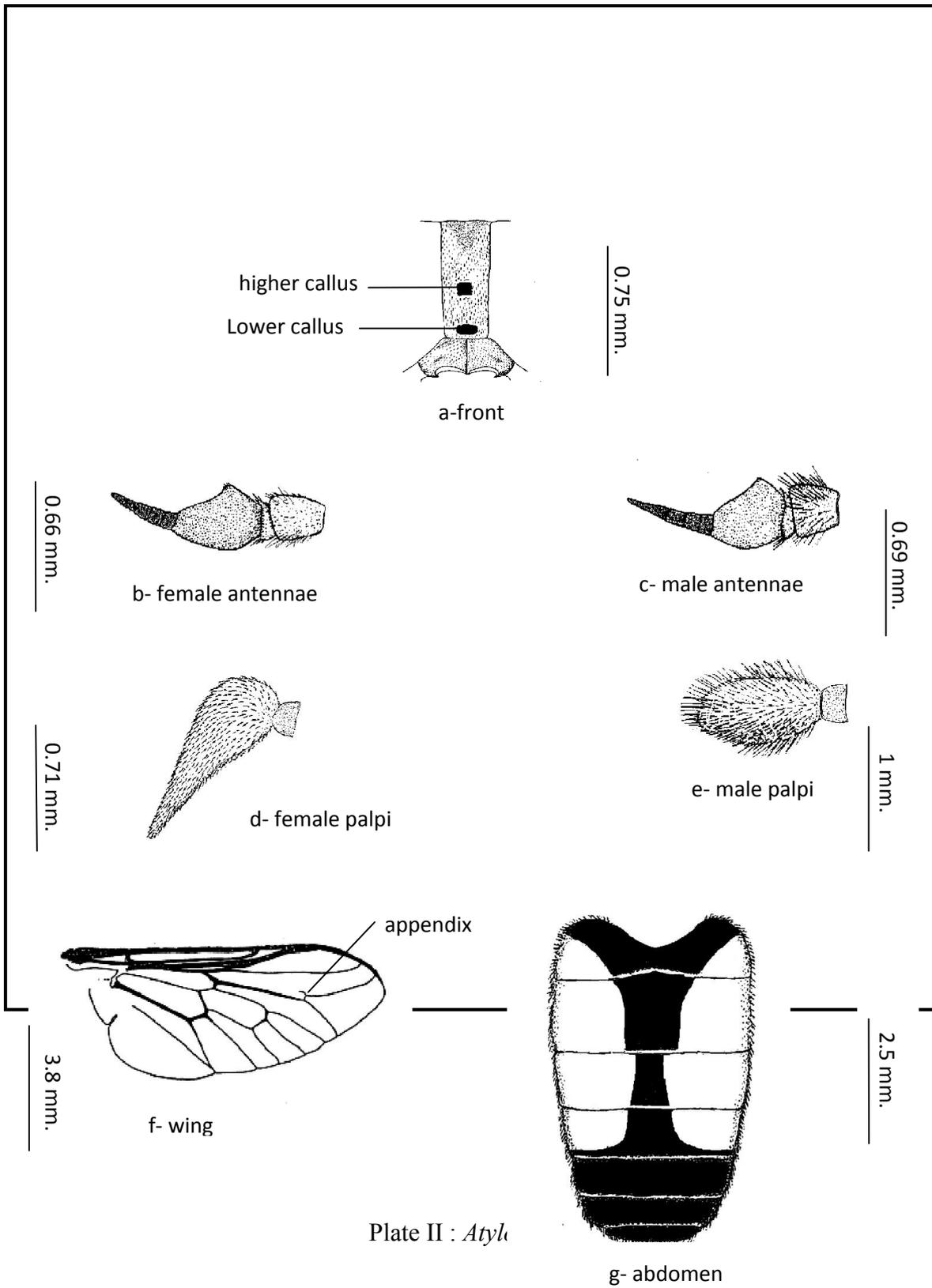
**Abdomen** : 7.5-8 mm. , orange yellow with four brownish gray spots , and not recognized in first and second tergites , Venter grayish yellow but the three apical sternites are grey ,cerci are brown lobes with darker hairs , in females genital plate is brown males aedegus and paramers are brown too .

**Geographical distribution** : This species frequently in rural areas and farmland, as in Al Hadadiya in the district of AlMdaina , AlNeshwa in the Shatt al-Arab and Alamieriah in Abu Al-Khasib, spreads to a lesser extent in the dry and barren areas as Safwan in Al- Zubayr , some samples collected in places of breeding and slaughter of animals as AlEmtaiha in south of Basrah Center .

**Annual occurrence** : from April to begging of November

**Hosts** : cows , horses , camels and donkeys .





### **3- *Hybomitra peculiaris***

**Length** : 15-17 mm.

**Head** : length 2-2.5 mm. , compound eyes are darker green with three colored bands and be reddish brown in dry specimens , surrounded with sparse minute pale hairs in females and whitish in males , vertex dark grey clothed with grey hairs , front grey , lower callus rather dull blackish brown and narrowly connected with spindle shaped higher brownish callus , antennae reddish brown on basal segments , segment 3 blackish on apical half including terminal flageller segments , reddish brown on basal half slender with indistinct dorsal tooth . Palpi whitish yellow ,in females long , slender and apically pointed clothed with short pale hairs with some additional black ones , in males oval , clothed with long pale hairs and some shorter black .

**Thorax** : length 4-5 mm. , dusted gray clothed with paler haired but on mesonotum are dark , notopleural lobes yellowish brown with short and dense whitish haired .

**Wings** : length 8-9 mm. , clear with brown vines , halteres brownish with white spot on knob .

**Legs** : very light yellowish brown to orange yellow , but there were some grayish spots on coxa and femora , and black on apical tibiae and fore tarsus , otherwise legs mostly pale haired , in males legs somewhat darkened .

**Abdomen** : length 5-6 mm. , oval shaped , there were dark grey median and narrow strip , on the four segments there are two brownish spots in the sides , clothed with some yellowish hairs , the three apical tergites are dark grayish with black hairs , the ventral yellowish but the three apical sternites are grey, cerci are blackish brown lobes with darker hairs , in females genital plate is brown,in males aedeagus and paramers are brown. **Geographical distribution** : Mainly it resides in the farmland, gathering places of breeding and slaughter animals , its spread in small numbers in the dry lands, and did not score near the marshes and swamps .

**Annual occurrence** : from mid of April to mid of July .

**Hosts** : cows and horses .

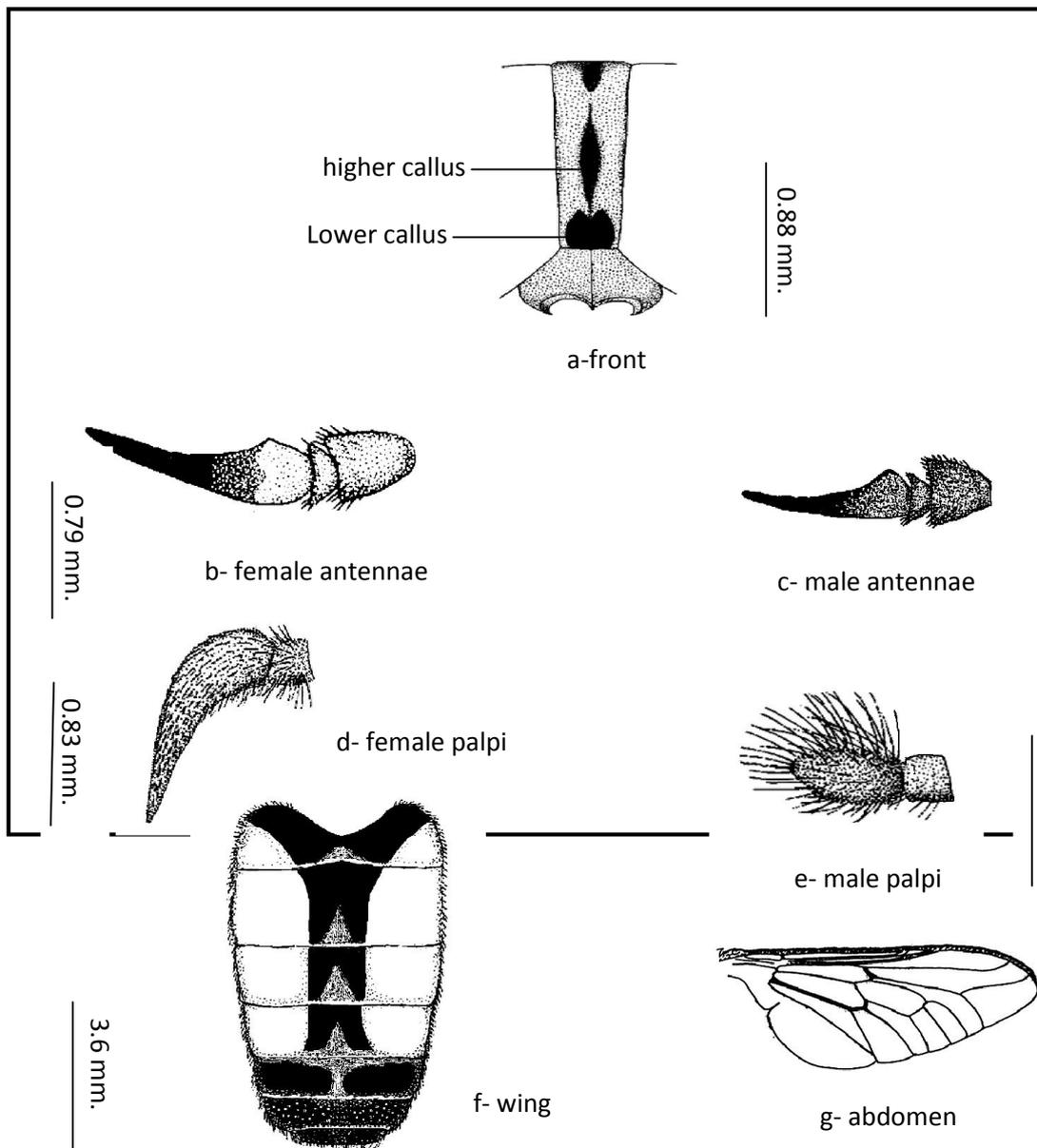


Plate III : *Hybomitra peculiaris*

## DISCUSSION

Approximately ,3500 species of Tabanidae were identified in the world (6) , basically on morphological taxonomic studies, which mainly depends on the front , installation of callus , shape and color of antenna , palpi , wing and abdomen ,and less on eye color and number of colored bands (1) .

The horse flies fauna of Iraq consists of 30 species belonging of five genera , (10) recorded seven species belonging to three genera , Leclercq (7) recorded 27 species belonging to five genera , In recent study it was three new records , *Haematopota subcylindrica* , *Atylotus agricola* and *Hybomitra peculiaris* .

*Ha. subcylindrica* is a closely related species to *Ha. pluvialis* , differing from the basic segment of antennae , it was prolonged and subcylidric shaped, has one notch only but in *Ha. pluvialis* contains two or more (7) . It distributed in Central and Europe and its recorded in Turkey and Iran (11).

*Atylotus agricola* , no taxonomic differences , but Austen (12) described *A. ochrops* as a subspecies to *A. agricola* from Palestine , it defers about the yellowish brown on the abdomen . (8) said that *A. agricola* is known in South Europe and North Africa from Morocco to Sinai peninsula ,and (13) recorded it in Turkey .

*H. peculiaris* is a variety species especially in the abdominal patterns ,antennae , callus and body length . (14) described the various *kroberi* from Central Asia , in extremely a pale species a grayish median strip very narrow , the yellowish brown mismarking very enlarged . The various *kashmirians* was described by (15) from Kashmir , has entirely reddish antennae , dull black and rounded lower callus , with 13 mm. in length . (8) explained this species is known in south eastern of Europe , central of Asia and Russia , In middle east its recorded in Turkey and Saudi Arabia (17) .

## تسجيل أنواع جديدة من عائلة ذباب الخيل (Diptera : Tabanidae) في العراق مع الإشارة الى بعض الجوانب البيئية لها

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### الخلاصة

تضمن البحث دراسة تصنيفية مظهرية لعائلة ذباب الخيل Tabanidae في محافظة البصرة وحسب أفضية المحافظة السبع وهي المدينة والقرنة وشط العرب وأبي الخصيب والزبير والفاو إضافة إلى مركز مدينة البصرة وللمدة من آذار 2013 وإلى شباط 2014 ، وبينت نتائج الدراسة تسجيل ثلاثة أنواع للمرة الأولى في العراق تعود لثلاثة أجناس وهي *Haematopota subcylindrica* Pandelle و *Atylotus agricola* و *Hybomita peculiaris* Szilady و Weidemann ، كما درست بعض الجوانب البيئية لها مثل موسم الانتشار ومكان التواجد والمضائف .

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