

## A new species of *Antonia* Loew (Bombyliidae, Diptera) from Egypt

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### Abstract

A new species of Bombyliidae belonging to the genus *Antonia* Loew is described. This species was proposed by Efflatoun Bey in an unpublished manuscript, and his proposed name (*Antonia gabalensis* sp. nov.) is maintained. I present a key to differentiate the new species from *Antonia suavissima* Loew, the other *Antonia* species represented in Egypt, together with illustrations of the genitalia and wings of the two species.

**Keywords:** New species, *Antonia gabalensis*, sp. nov., bee-flies, Egypt

### Introduction

In 1945, the famed Egyptian dipterist, Efflatoun Bey, published a monumental study representing only the first half (Homeophthalmae) of his planned two-part monograph on the bee flies of Egypt. The second half of the study, on the Tomophthalmae, remains in manuscript, unpublished because of his untimely death in 1957. Many new species were proposed and described in the unpublished manuscript: some of these were wrongly considered as new, and some others have been described subsequently and named by other authors from countries other than Egypt. However, some of the remaining proposed new species are undoubtedly still valid, and need descriptions.

In the present study, a new bee-fly species (*Antonia gabalensis* sp. nov.) is described. This species was one of those proposed as new by Efflatoun Bey in his unpublished manuscript, but his description was lengthy, with many unnecessary details but at the same time lacking many necessary characters. His proposed name, *Antonia gabalensis*, is maintained here, but the description is shortened and revised.

A key is given to differentiate the new species from *Antonia suavissima* Loew, the other *Antonia* species represented in Egypt, together with illustrations of the genitalia and wings of the two species. To classify the new species, the following studies were consulted: Bezzi (1924), Hesse (1956), Theodor (1983), Evenhuis & Greathead (1999), Greathead & Evenhuis (2001) and El-Hawagry (2002).

### Materials & Methods

The present study is based on specimens preserved in the Efflatoun Collection, Entomology Department, Faculty of Science, Cairo University (EFC), and in the collection of the Entomological Society of Egypt (ESC), in addition to specimens collected by the author and preserved in his collection (MSC). The morphological terminology of McAlpine (1981) is used throughout.

### Results

#### Systematics

##### Genus *Antonia* Loew

*Antonia* Loew, 1856: 30. Type species: *Antonia suavissima* Loew, 1856, by monotype.

*Dimorphophus* Walker, 1871: 255. *Nomen nudum*.

*Dimorphophora* Walker, 1871: 272. Type species: *Dimorphophora syrphoides* Walker, 1871 [= *Antonia suavissima* Loew, 1856], by monotype.

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Hull (1973) placed the genus *Antonia* in a new tribe, the Antoniini of the Lomatiinae. However, Theodor (1983) stated that the genus is quite aberrant and cannot be placed in any of the accepted subfamilies. Bowden (1980) raised the tribe Antoniinae to a subfamily, and Yeates (1994) showed that this was a correct conclusion.

Species of genus *Antonia* have been recorded only from the Palaearctic and Afrotropical regions. They have been reared from the nests of a *Bembix* sp. and a mud-daubing wasp. They are elongate flies with a striking pattern of yellow and black; the sand chamber has been lost, and there is only a single spermatheca (Greathead & Evenhuis, 2001).

### Key to Egyptian species of *Antonia*

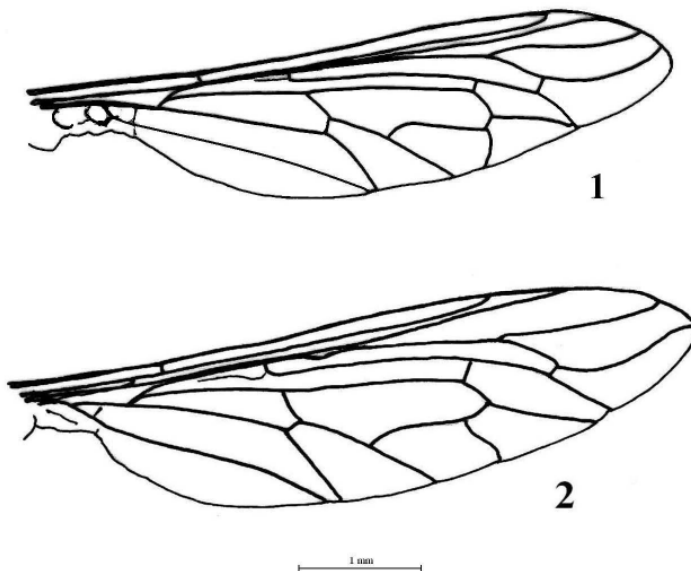
- Abdomen irregularly colored yellowish orange, brownish orange and black; vertex with two pale yellow spots immediately behind the ocellar tubercle; cell  $r_5$  closed just before the margin; larger and bulkier species ..... ***suavissima* Loew**
- Abdomen black with the lower margin of all segments whitish, giving a narrow-banded appearance; vertex black without yellow spots; cell  $r_5$  widely open at margin; smaller and much slimmer species ..... ***gabalensis* sp. nov.**

### ***Antonia suavissima* Loew, 1856**

*Antonia suavissima* Loew, 1856: 30. Type locality: Egypt.

*Dimorphophora syrphoides* Walker, 1871: 272. Type locality: Egypt.

*Distribution:* Afrotropical: Djibouti, Eritrea, Ethiopia, Somalia, Sudan, Yemen. Palaearctic: Algeria, Egypt, Italy (Sicily), Kuwait, Oman, Saudi Arabia, United Arab Emirates. I have collected specimens from Wadi Gebal (South Sinai), hovering over flowers of *Zygophyllum* sp. beside a pool of fresh water.



**Figures 1–2.** Wings: 1. *Antonia gabalensis* sp. nov.; 2. *Antonia suavissima* Loew

*Diagnosis:* Relatively large elongate species; vertex with two pale yellow spots immediately behind the ocellar tubercle; antennae relatively approximated at the base; face entirely pale yellow except for an oblong ovate to quadrate black spot at the center of the deep cavity between it and the frons; middle portion of upper part of frons, scape and pedicel with some

erect short black hairs; facial cone brownish at tip; r5 cell closed just before the margin; scutellum pale yellow with the base apparently black; abdomen colored yellowish orange, brownish orange and Black, without a conspicuous banded appearance; gonostyli triangular, slightly curved, with a rounded apex; aedeagal sheath wide, flattened, highly tapering; spermatheca with the long tubular recurved capsule about as long as or slightly longer than the wide straight membranous duct which have a plicated opening into the vagina.

*Material examined*: 1 male, W. El-Lega (South Sinai) 6-9.1943 (Efflatoun); 3 males, 3 females, Gebel Elba (South Eastern Desert), 16.3 to end of April 1929 (Tewfik); 1 male, 1 female, W. El-Sheikh (South Sinai), 21-27.4.1934 (Efflatoun) (EFC); 1 male, 1 female, W. Gebal (South Sinai) 21.7.1997 (Magdi) (MSC).

### ***Antonia gabalensis* sp. nov.**

A medium sized fly, distinguished from *A. suavissima* by its smaller size, wing venation, yellow spots on vertex, and by banded abdominal tergites. three male and three females were found amongst the collection of Efflatoun (EFC) in Cairo University, labelled in the hand of Efflatoun Bey as *nov. spec.*; his proposed name *gabalensis* was handwritten under the specimens in the box.

#### *Description*

***Holotype* (male)**: body length about 13 mm; wing length about 7.5 mm.

***Head***: As broad as thorax when seen from above, higher than broad when seen from front; narrow upper third or more of frons with a blackish coloration extending downwards, forming a mid-dorsal longitudinal stripe on the center of the bulging boss-like lower part of frons, leaving the rest of frons yellowish; all frons covered with fine glistening white vestiture; face pale yellow except for a large black spot on the center of a deep groove between face and bulging part of frons; protruding part of face more or less extensively dark brown at tip; face with sparse white fine vestiture except for a bare middle portion; ocellar tubercle blackish with black bristles; vertex entirely black; occiput black, gray dusted, with short yellowish hair and scaly hair above and longer white hair elsewhere, foramen bordered with long and yellowish hair; antennae relatively less approximated at base, scape cup-shaped, pale yellow, bare above, with few white hairs beneath; pedicel very short, sub-cylindrical, almost globular, pale yellow as the scape; flagellum black, brownish apically, pyriform, about as long as scape and pedicel together, bare.

***Thorax***: scutum black with white vestiture giving it a dull dark-gray appearance, lateral borders and calli pale yellow; hair and bristles on scutum predominantly white except for a yellowish sparse row of erect bristly hairs on post-humeral calli; pleurae yellow and black in ground color, covered with a rather dense white vestiture; scutellum as pale yellow as calli, with a narrow black band bordering its base, in addition to a conspicuous and obvious black coloration at angles; wings narrow and long, hyaline, with blackish brown veins; cell r<sub>5</sub> wide open at margin; legs pale yellow except apical third of hind femora, tips of hind tibiae, all hind tarsi, and apical segments of front and middle tarsi, blackish brown; claws black; pulvilli whitish gray, darker at base.

***Abdomen***: long, very narrow, with segments almost equal in length; tergites entirely black with lower margins whitish gray covered with pure white vestiture, giving a characteristic narrow banded appearance; ventrally curved sides of tergites pale yellow to orange; vestiture of abdomen uniformly white except for very few yellowish and blackish hairs which are rather more numerous on apical segments; sternites entirely pale yellow, 5<sup>th</sup> to 7<sup>th</sup> entirely hidden by

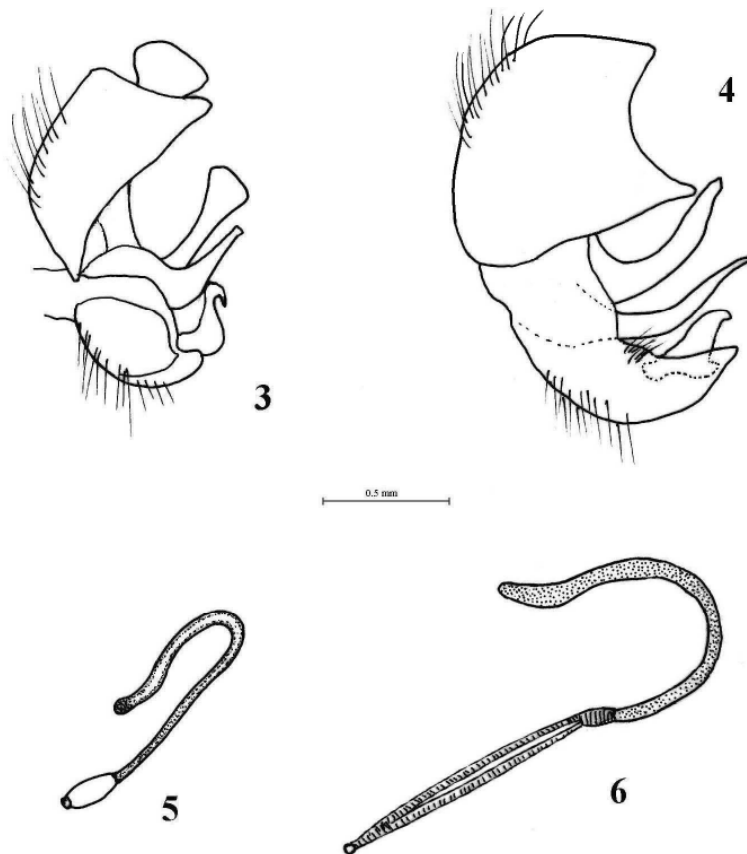
margins of corresponding tergites. *Male genitalia*: Gonocoxites broadly truncate-triangular, fused; gonostyli long and narrow, with hook-like recurved apex; aedeagus with apical part long, narrow and conical, basal part wide; aedeagal sheath wide, flattened, becoming wider apically, with a broadly rounded apex.

*Paratype (female)*: similar to male but abdomen somewhat broader, with 8<sup>th</sup> segment with short bristly hairs on outer margin forming a brownish fringe among which numerous black hairs are interspersed. Spermatheca with a long tubular recurved capsule, slightly constricted before the rounded tip which is heavily sclerotized; capsule passes directly into short wide membranous duct, about one fifth or shorter than capsule in length.

*Material examined*

*Holotype male*: W. El-Shallalah (near Rabbah, South Sinai), 30.6.1943 (Efflatoun) (EFC).

*Paratypes*: 2 males and 1 female, same data; 2 females, W. El-Lega (South Sinai), 6-9.1941 (Efflatoun) (EFC); Male, Wadi Garagniya, 6-8.1942 (Efflatoun) (ESC).



**Figures 3–4.** Male genitalia: 3. *Antonia gabalensis* sp. nov.; 4. *Antonia suavissima* Loew.  
**Figures 5–6.** Spermatheca: 5. *Antonia gabalensis* sp. nov.; 6. *Antonia suavissima* Loew.

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## العربي الملخص

نوع جديد ينتمي لجنس *أنتونيا* لوو (فصيلة ذباب النحل – رتبة ثنائيات الأجنحة) من مصر

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يقدم البحث وصفاً علمياً لنوع جديد ينتمي لجنس *أنتونيا* (فصيلة ذباب النحل – رتبة ثنائيات الأجنحة) من جمهورية مصر العربية. وهذا النوع كان قد اقترحه البروفيسور حسن افلاطون بك رحمه الله كنوع جديد في خمسينات القرن الماضي، وكان قد دون ذلك في عمل غير مكتمل لم يتم نشره. وبعد مراجعة كل ما اقترحه افلاطون بك كأشكال جديدة مراجعة علمية دقيقة ووجدت أن أكثر الأنواع المقترحة قد تم وصفها وتسميتها ونشرها خلال الخمسين عام الأخيرة في دول أخرى، ولكن أيضاً وجدت أن بعض تلك الأنواع ما زالت لم توصف أو تسمى حتى الآن ومنها النوع موضوع البحث. ولقد تركت اسم النوع كما اقترحه افلاطون بك كما هو (*أنتونيا جيلنسييس*)، بيد أنني اختصرت الوصف الذي اقترحه افلاطون والذي كان مطولاً وبه الكثير من الصفات العامة المكررة في كل أنواع ذباب النحل، كما أنني أضفت الكثير من الصفات النوعية الهامة مثل صفات المناسل الخارجية وغيرها والتي لم يتطرق إليها افلاطون بك. ويقدم البحث مفتاحاً تصنيفياً لتفريق النوع الجديد من نوع آخر (*أنتونيا سوافيسيمًا*) موجود في الفونا المصرية، كما يقدم البحث رسوماً تفصيلية لأجنحة ومناسل كلا النوعين.