

THE *HYLAEUS* SPECIES FROM THE MACARONESIAN ISLANDS (*HYMENOPTERA*, *APIDAE*)

by

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RESUMEN

La revisión taxonómica del género Hylaeus en la Macaronesia ha producido los siguientes resultados: la cita de nuevas localidades de Hylaeus atra Saunders, el descubrimiento de una nueva especie, Hylaeus canariensis, y la descripción del macho de Hylaeus maderensis Cockerell.

ABSTRACT

A taxonomic revision of the Hylaeus from the Macaronesian Islands has produced the result: new localities of Hylaeus atra Saunders, a new species Hylaeus canariensis and the male of Hylaeus maderensis Cockerell. The new species and the male of H. maderensis are described and figured here.

From the Canary Islands one species of Hylaeus (Prosopis) viz. H. atra Saunders (BAEZ & ORTEGA, 1978) and from Madeira one female of H. maderensis Cockerell are known. The late professor O. Lundblad (Stockholm) has captured one male of Hylaeus from Madeira which ALFKEN (1940) determined to Prosopis atra. Professor Lundblad has also captured a fine collection of Hylaeus from Tenerife and I myself has captured two males Hylaeus atra from Te-

nerife. A comparison between the males from Lundblad's collection and my two males of H. atra showed that no males from Lundblad's collection belonged H. atra. Lundblad has captured these specimens and also females at Las Mercedes and Las Cañadas del Teide (Tenerife).

In my further investigations I have been successful to borrow Saunders' types of H. atra (London) and Cockerell's type of H. maderensis (Oxford). I have also received specimens from other collections. For this help I am greatly indebted to Mr. G.R. Else (Brit. Mus. Nat. Hist., London), Dr. M.V.R. de V. Graham (Hope Dept. Ent. Oxford Univ.), Dr. A. Pekkarinen (Zool. Mus., Helsingfors), Dr. M. Báez (Dept. Zool. Univ. La Laguna, Tenerife), Mr. A. Machado Carrillo (La Laguna), Mrs. I. Wegener (Mus. Nat. Humboldt, Univ. Berlin, DDR) and Studiendirektor H. Wolf (Plettenberg, BRD). By means of a grant from Swedish Natural Science Research (Stockholm) I was able to visit British Museum (Nat. Hist.) the last week of August 1980 in order to work with the collections of Hylaeus from the European parts of the Mediterranean countries and the Macaronesian Islands. I express my heartfeltly gratitude for this help.

In the list of localities there are the following abbreviations:

BM....British Museum of Natural History, London
MCN...Museo Insular de Ciencias Naturales, Santa Cruz de Tenerife
HMB....Zoologisches Museum der Humboldt Universität zu Berlin, DDR.
RM....Swedish Museum of Natural History, Stockholm.
ZMH....Zoological Museum of the University, Helsingfors.

Hylaeus (Prosopis) atra Saunders

Syn: Prosopis pictipes Nyl. ssp. atra Saunders (Warncke, 1970, p. 749)

The new finds of this species from the Canary Islands are:

Tenerife: Barranco Bufadero, 7-VII-1963, 2♂♂, J.M. Fernández leg. (MCN); Barranco Santos 24-II-1963, 1♂, R. Arozarena leg. (MCN); Anaga, 6-II-1966, 1♂, R. Arozarena leg. (MCN); Chio to Tamaimo, 19-II,-5-III-1975, 2♂♂, A.E. Stabbs (BM); Santa Cruz, 2-II-1898, 1♀, Hinz (HMB), 17-V-1951, 1♂, J.M. Fernández leg. (MCN); Forest of La Mina, 7-II-1904, 1♂, (det. E. Saunders, HMB); Puerto de la Cruz, Taoro Park, 4-IV-1970, 1♂ (Argyranthemum) S. Erlandsson (RM); Playa de las Américas, 25-III-1979, 1♂ (Argyranthemum) S. Erlandsson (RM).

El Hierro: Valverde, 600 m alt. 24-30-III-1930, 1♂, H. Lindberg leg. (ZMH)
La Palma: Tunel de la Galga, 25-IV-76, 1♀, F.J. Chandels (BM).

Gran Canaria: Maspalomas, Barranco del Toro. 6-12-IV-1973, 3♀♀, H. Wolf, Dünen Maspalomas, 6-IV-1976, 1♀, H. Wolf. WOLF (1980, p. 68) mentions fur-

ther 9♂♂ and 1♀ from different localities.

Hylaeus (Paraprosopis) canariensis n. sp.

Type area: Canary Islands (Tenerife)

Type material: Holotype ♀ and allotype ♂. Tenerife: Las Cañadas del Teide, 2150 m. alt., 17-V-1960, O. Lundblad leg., in coll. Swedish Museum Nat. Hist., Stockholm.

Paratypes: Las Cañadas del Teide, 17-V-1960, 17♂♂ 3♀♀ O. Lundblad leg. (RM), Las Cañadas, 20-V-1947, 6♂♂ 5♀♀ H. Lindberg leg. (ZMH), 1-VI-1957, 1♂, H. Lindberg leg. (ZMH), Las Cañadas, 17-V-1966, 6♂♂, J.M. Fernández leg. (MCN), 15-V-1960, 4♂♂, G. Ortega leg. (MCN), 5-V-1972, 1♂, J.M. Fernández leg. (MCN); Las Cañadas, 2200 m. alt., 23-VII-1976, 1♂ (Ferula linki Webb.), A. Machado leg.; Las Mercedes, 20-V-1957, 2♂♂ 1♀, O. Lundblad (RM).

Female (holotype): Head black, clypeus and supraclypeal area black with reticulate-striation and punctured. Facial spots black, only a very small white spot on each side of the clypeus, labrum black in the middle part a cavity. Malar space narrow, mandibles black. Antennae scape black, 1st joint black, 2nd joint partly black, other joints black, beneath yellow-brown. Fovae on the vertex convergent against the ocelli. Vertex of the head, scapes and mandibles with long pale hairs.

Thorax black, also pronotal collare, humerale tuberculae black, tegulae pitch-black. Cordiformed area very fine lineo-reticulated above with a few short ridges. Wings hyaline, veins and stigma black. Legs black, only a little white spot at the apex of tibiae I-III. Thorax with long pale hairs.

Abdomen black, 1st tergite with reticulate-striation and minute punctuation, on each side of the margin a small more or less distinct line of white hairs, other tergites have reticulate-striation and minute punctuation.

Length: 3-3.5 mm.

Male (allotype): Head black, ocellar region of the capsula fine punctated. Clypeus, supraclypeal area and facial spots white, the spots reaching the antennal socket. Labrum and mandibles black. Malar space narrow. Antennae scape, 1st and partly 2nd joint black, other joints above black, beneath yellow-brown. Vertex of the head, scapes and mandibles with long, pale, hairs.

Thorax black, small punctured with long white hairs. Pronotal collare, humerale tuberculae black, tegulae pitch-black. Cordiformed area as the fe-

male. Wings hyaline, veins and stigma black. Legs: femur black, tibia I black in the front white, tibia II black at the apex with a white spot, tibia III black upper part white, tarsae 1st joint almost white the other joints black-brown.

Abdomen black, 1st tergite fine reticulate-striation and minute punctured, on each side of the margin a small more or less distinct line of white hairs, other tergites almost with reticulate-striation and minute punctured.

Length: 3-3,5 mm.

Variation: I have seen one female with quite black face. Two males have facial spots reaching the upper part of the antennal socket and two other males have labrum with a very small white dot.

Concerning the distribution of H. canariensis is this species up to now limited to the "alpine" area of Las Cañadas del Teide and the lower situated laurel forest Las Mercedes ca. 1000m. alt. (Tenerife).

Hylaeus (Paraprosopis) maderensis Cockerell, 1921

Syn: Prosopis pictipes Nyl. ssp. maderensis Cockerell (Warncke, 1970: 749)

Type area: Madeira

Type material: Allotype ♂, Madeira: Rabacal 1080 m. alt., 7-VII,-4-VIII-1935. O. Lundblad leg., in coll. Swedish Museum Nat. Hist., Stockholm.

Head black, capsulae small punctured with white hairs. Clypeus pale-yellow, elongated, dull finally reticulate, supraclypeal area black. Facial spots pale-yellow reaching the upper part of antennal socket. Malar space narrow, mandibles, labrum and antennae black, scapus normal with white hairs.

Thorax black with white hairs. Pronotal collar, humerale tuberculae and tegulae black. Mesonotum dull very fine, density punctured. Wings strongly brownish, veins and stigma pitch-black. Legs black a pale-yellowish spot on the apex of tibia I.

Abdomen black, shining very fine punctured, 1st tergite lateral without white pubescens.

Length about 5 mm.

ALFKEN (1940) has determined this species to Prosopis atra Saunders.

I suppose Alfken has never seen the types of Hylaeus atra. In such case he had discovered that this male belongs to another species.

The female of Hylaeus maderensis was captured by T.V.W. Wollaston in 1847. SAUNDERS (1903, p. 20) writes about Wollaston's collection: "The specimens are of coars old and more or less faded, the smaller ones are gummed on cards, which renders determination doubtful and as it would be dangerous to remove species of this age, I have not attempted to find any new species of them. At the same there is a bronzer Halictus which I think will prove to be new and also a ♀ Prosopis entirely with exceptions of the yellow facial spots, it is larger than the species described here and stands in the collection with a label under is in F. Smith' handwritting n. sp.? allied to signatus. It is represented by a single specimen and not referable in any species I knew".

It is this specimen which COCKERELL (1921) has described as Prosopis maderensis n.sp..

WRANCKE (1970, p. 749) places Hylaeus atra Saunders and H. maderensis Cockerell as different subspecies to Hylaeus pictipes Nylander. Concerning H. maderensis he writes (l.c.): "Vermutlich gehört das eine beschreibene Weibchen in Madeira zu dieser Art, die sie einige auch anf den Kanarischen Inseln vorkommt."

The Hylaeus-species from Madeira and the Canary Islands seem to be endemic species related to H. pictipes Nylander. Concerning H. maderensis the 7th sternite of the male has a very peculiar view quite different from the other west-palaeartic species which I have investigated. While awaiting further specimens I assign H. maderensis to the subgenus Paraprosopis. Perhaps it belongs to a separate subgenus.

Key to the Macaronesian Hylaeus species

Females:

- 1-Head black without coloured facial spots.....H. atra
- Head black with coloured facial spots.....2
- 2-Facial spots only a very little spot, apical part of the cordiformed area with small ridges.....H. canariensis n. sp.
- Facial spot oval, apical part of the cordiformed area reticulated.....H. maderensis

Males:

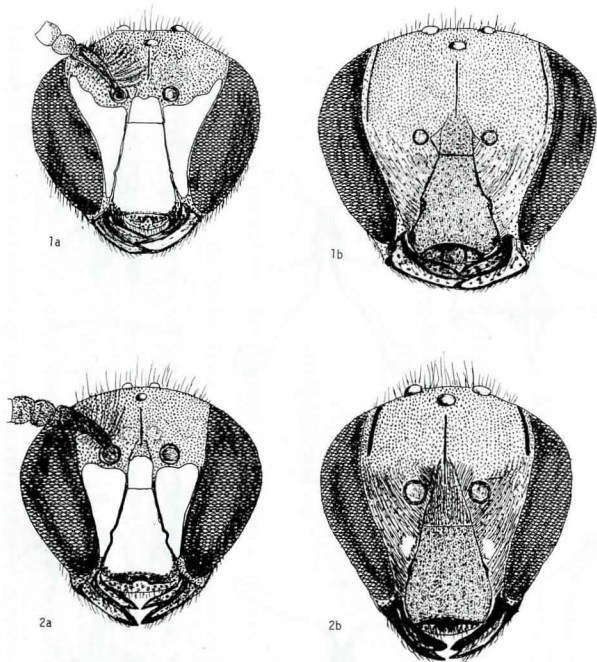
- 1-Supraclypeal area black.....H. maderensis
-Supraclypeal area coloured.....2
- 2-Facial spots yellowish, acuminated, reaching over the antennal socket,
legs almost quite black.....H. atra
-Facial spots whitish reaching to the lower part of the antennal socket,
tibiae and tarsae more or less whitish.....H. canariensis n. sp.

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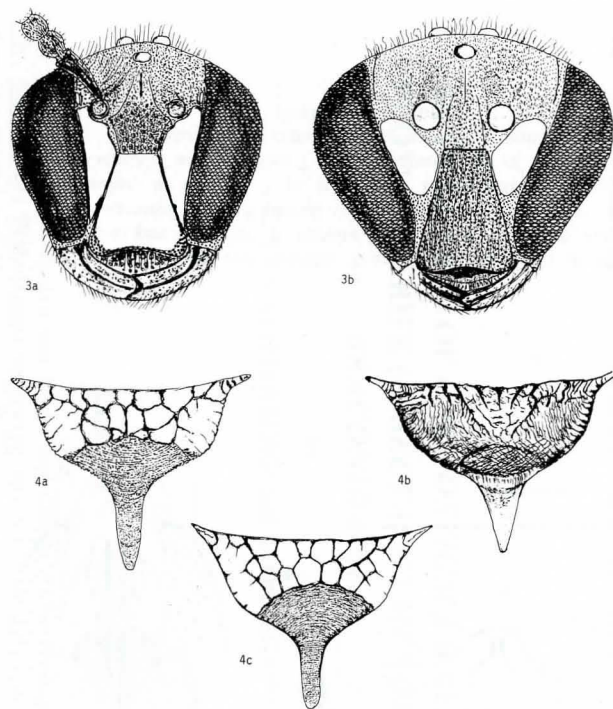
BIBLIOGRAFIA

- ALFKEN, J.D., 1940. Die Artropodenfauna von Madeira nach dem Ergebnissen der Reise von Prof. Dr. O. Lundblad Juli-August 1935. XXV. Hymenoptera: Prosopis, Andrena, Megachile, Anthophora und Osmia. Ark. f. Zool., Bd. 32B, N° 4.
- BAEZ, M. & ORTEGA, G., 1978. Lista preliminar de los Himenópteros de las Islas Canarias. Bol. Asoc. esp. Entom. 2: 185-199.
- COCKERELL, T.D.A., 1921. Descriptions and Records of Bees. Ann. Mag. Nat. Hist., Vol. VIII, Ninth Ser.
- LIEFTINCK, M.A., 1958. A preliminary account of Bees in the Canary Islands (Hym., Apidae). Soc. sc. Fern. Comentat. Biol., XVIII(5): 1-24.
- MEHELY, L., 1935. Naturgeschichte der Urbienen. Budapest.
- SAUNDERS, E., 1903. Hymenoptera aculeata collected by the Rev. Alfred E. Eaton, M.A. in Madeira and Tenerife, in the spring of 1902, including notes on species taken by the late T. Vernon Wollaston and F.A. Belling. Trans. Ent. Soc. London, 1903: 207-218.
- STRAND, E., 1909. Die Paläarktische Prosopis-Arten des Kgl. Zoologischen Museums zu Berlin. Ent. Rundsch., 26: 72-75.
- WARNCKE, K., 1970. Beitrag zu Systematik und Verbreitung der Bienen Gattung Prosopis F. in der Wästpalaäktis (Hymenoptera, Apidae, Colletidae). Bull. Rech. Agro. Gembloux, N.S. Tome V: 745-768.
- WOLF, H., 1980. Zur Kenntnis der Aculeaten-Fauna (Hymenoptera) von Gran Canaria und Teneriffa. Vieraea, 9: 65-78.



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Fig. 1. Face of *Hylaeus atra*, a: male, b: female. Fig. 2. Face of *Hylaeus canariensis*, a: male, b: female.



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Fig. 3. Face of *Hylaeus maderensis*, a: male, b: female. Fig. 4. Cordiform area of female, a: *Hylaeus atra*, b: *Hylaeus canariensis*, c: *Hylaeus maderensis*.

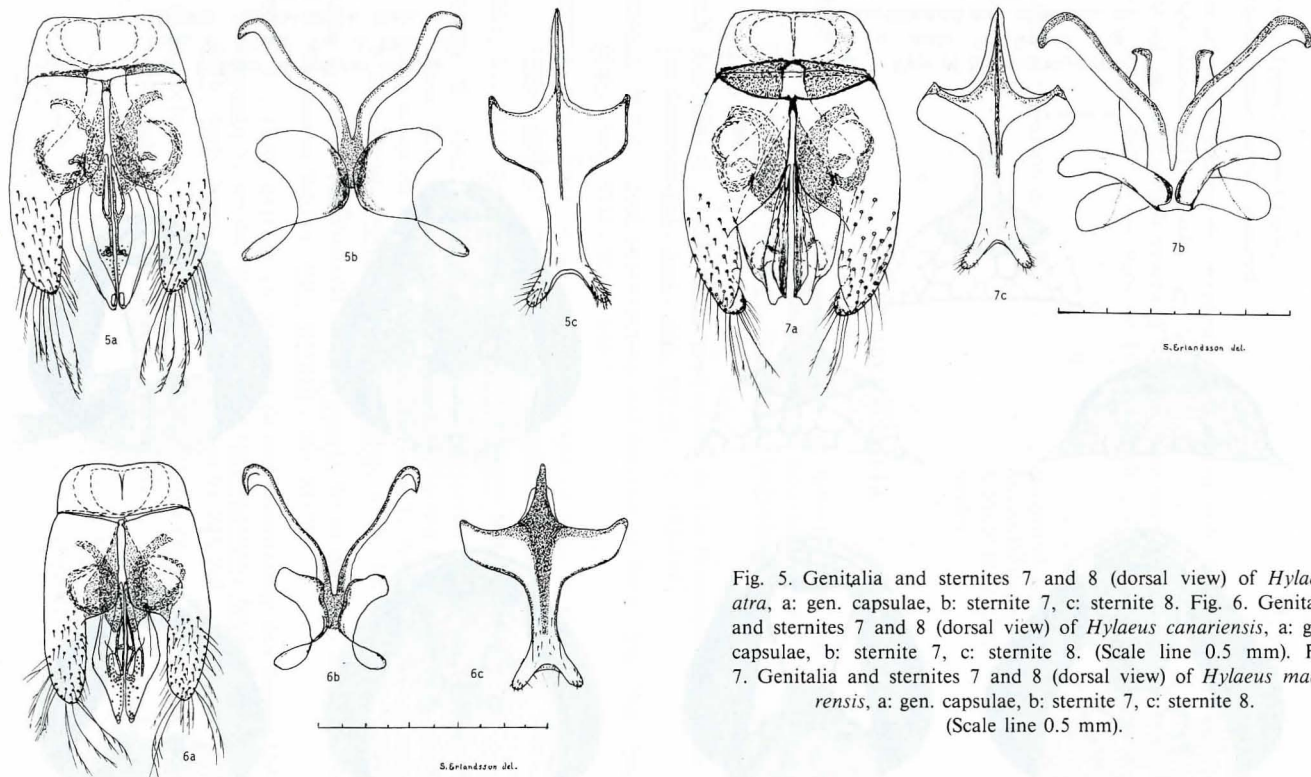


Fig. 5. Genitalia and sternites 7 and 8 (dorsal view) of *Hylaeus atra*, a: gen. capsulae, b: sternite 7, c: sternite 8. Fig. 6. Genitalia and sternites 7 and 8 (dorsal view) of *Hylaeus canariensis*, a: gen. capsulae, b: sternite 7, c: sternite 8. (Scale line 0.5 mm). Fig. 7. Genitalia and sternites 7 and 8 (dorsal view) of *Hylaeus maderensis*, a: gen. capsulae, b: sternite 7, c: sternite 8. (Scale line 0.5 mm).