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Hedychridium wahisi sp. n., a new cuckoo wasp from Italy

(Hymenoptera: Chrysididae)

With 2 figures

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Zusammenfassung

Hedychridium wahisi sp. n. wird aus Italien beschrieben; die Art gehört in die *Hedychridium plagiatum*-Artengruppe. *H. wahisi* sp. n. unterscheidet sich von den bisher bekannten Arten aus dieser Gruppe u.a. durch den einfarbig blauen Kopf, das blaue Mesonotum und das blau gefärbte dritte Gastral-Tergit. *H. wahisi* sp. n. wird unter Vorbehalt als adriatomediterranes Faunenelement eingestuft.

Summary

Hedychridium wahisi sp. n. is described from Italy; the species belongs to the *Hedychridium plagiatum*-species group. *H. wahisi* sp. n. can be distinguished from all known species of this group especially by its blue head, blue mesonotum, and its blue gastral tergum III. *H. wahisi* sp. n. is tentatively regarded as an Adriatomediterranean faunal element.

Keywords: *Hedychridium plagiatum*-group, key to species, zoogeography.

Introduction

The species of the *Hedychridium plagiatum*-group are characterized by having a thorax that is more slender than the abdomen and the head. In addition the lateral propodeal tooth is long drawn out, the apical margin of gastral tergite III has a transverse swelling and the genae are comparatively long (LINSENMAIER 1968). A conspicuous feature of the species of the *Hedychridium plagiatum*-group, which has originally not been used to characterize the species group, is a big black or blue triangular spot on gastral tergite II with its broad side touching gastral tergite I. Up to now, only two species have become known in this distinct species group. A further species is described in the present article.

Terminology, methods and abbreviations

For the description of the external morphological features, the terminology of GAULD & BOLTON (1988) and KIMSEY & BOHART (1990) has been adopted. The measurements were made by using a micrometer attached to a Zeiss Stemi 11 microscope that allows a maximum accuracy

of 0.015mm at a magnification of 66x. All measurements were carried out in such a way that both ends of the distance are situated in the same plain. The drawings were made with the aid of a drawing tube attached to a Zeiss Stemi SV11 microscope.

The following abbreviations are used: F = flagellomer, 1/w = length versus width, LID = least interocular distance, MOD = midocellus diameter, P = pedicel, PD = puncture diameter, S = gastral sternum, T = gastral tergum.

Hedychridium wahisi sp. n.

Holotype: Italy (Lazio), Gallinaro, male, 21.-22.VII.1983, Malaise-trap, leg. R. WAHIS.

Paratypes: Italy (Lazio) Gallinaro, 1 female, 15.VII.1983, 1 female, 19.-20.VII.1983, Malaise-trap, leg. R. WAHIS.

The type is deposited in the collection of the 'Faculté universitaire des Sciences agronomiques, Gembloux, Belgium'. The paratypes are currently deposited in the private collections of W. LINSSENMAIER (Ebikon, Switzerland) and the author.

Derivatio nominis: The specific epithet is derived from and dedicated to Mr. RAYMOND WAHIS who caught all available material. A noun in the genitive case.

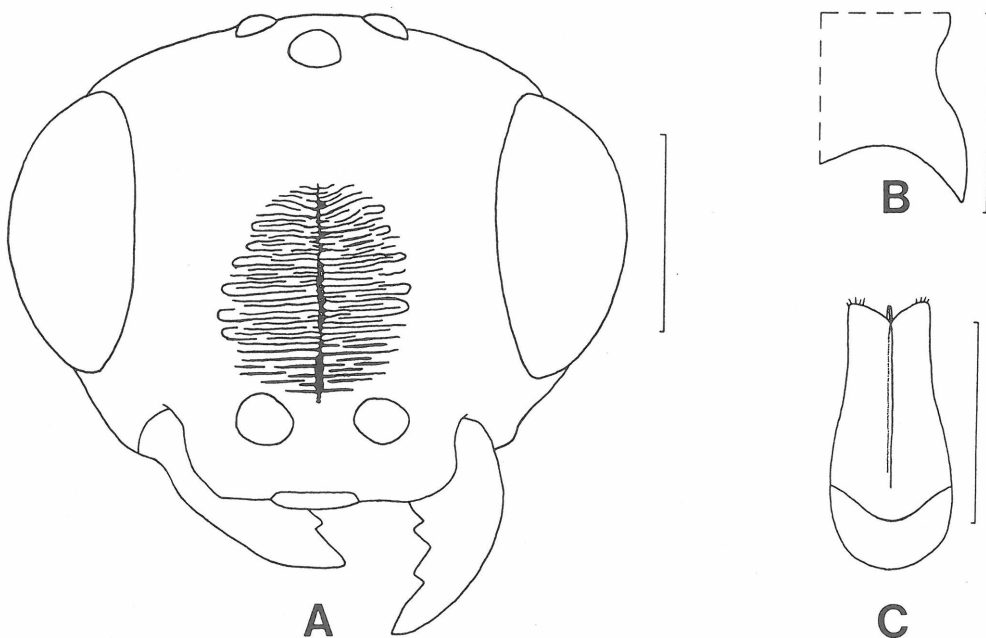


Fig. 1: *Hedychridium wahisi* sp. n. male (Holotype): A. head, frontal view; B. right lateral propodeal tooth, dorsal view; C. genital capsule, dorsal view. Scale: 0.5mm.

Description: Male (fig. 1)

Size: Body length 4.8mm.

Head: Height 1.03mm, width 1.32mm, length 0.68mm. LID = 0.77mm. Head dark blue colored. Malar space 1.1 MOD long. Face (fig. 1A) flat with depressed scapal basin and with

very fine hairs that are hard to recognize. Scapal basin punctate in outer one-third ($PD = 0.045-0.030(-0.015)$ mm), transversely ridged in the middle. Transverse frontal carina absent. PD of vertex equal to that of face. Mandibles brown with two teeth on the interior edge. In dorsal view genae more or less parallel. Scapus of antenna dark brown or with weak dark blue metallic reflections. Pedicellus and flagellum non-metallic dark brown. Relative lengths of P/F-I/F-II are 2.0/2.5/1.0. F-III and the following flagellomers nearly as long as broad.

Thorax: Length 2.1mm, width 1.3mm, $1/w = 1/1.6$. Pronotum ($1/w = \text{app. } 1/1.8$) golden colored except for the anterior margin and the lateral depression that are green or blue. Sculpture rather coarse, $PD = (0.06-0.045(-0.03))$ mm. Spaces between punctures varying between 0.2-1 PD, but usually under 0.5. Scutum dark blue colored. PD equal to that of pronotum but with reduced depth. Dorsal half of the mesopleuron golden colored. Other parts of mesopleuron dark blue or green. Scutellum golden colored and with a PD of 0.06-0.045mm. Spaces between punctures equal to that of the pronotum. Metanotum unmodified and black. Propodeum dark blue. Lateral propodeal tooth long drawn out (fig. 1B). Tibiae non-metallic brown, femora with weak dark blue metallic reflections.

Abdomen: Length 1.95mm, width 1.60mm, $1/w = 1/1.2$. T-I golden in outer one fifth, black in the middle. Border between both parts appears green or blue. T-II golden with a big triangular spot. Broad side black and touching T-I; tip of triangular spot blue and reaching T-III. Apical margin of T-II with thin transverse blue line. PD in center of black spot 0.015mm, spaces between punctures < 0.3 PD. T-III blue, apical margin with weak but conspicuous transverse swelling. T-III with very weak medial keel. S-I-II-III dark brown without metallic spots.

The genital capsule is shown in fig. 1C.

Paratypes: Morphology and coloration about as in the holotype.

Distinction of the sexes: In females, the apical margin of S-III is weakly concave instead of weakly convex.

Key to the species of the *Hedychridium plagiatum*-group

- 1 Scutum and T-III golden, head almost completely golden, genae (in dorsal view) convergent 2
- 1' Head, scutum and T-III blue, genae (in dorsal view) more or less parallel
 *wahisi* n. sp.
- 2 Propodeum golden, legs (except for tarsi) golden, mesopleuron completely golden
 *andalusicum* TRAUTMANN, 1920
- 2' Propodeum blue, legs (except for tarsi) blue or green. Only dorsal half of the mesopleuron golden colored, the other parts are blue or green *plagiatum* (MOCSÁRY, 1883)

Hedychridium plagiatum (MOCSÁRY, 1883)

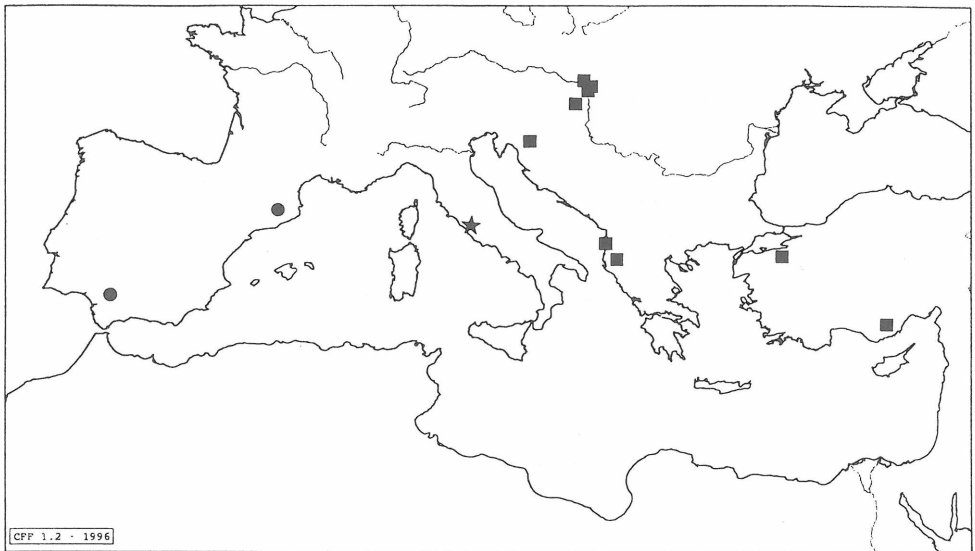
- 1883 *Hedychrum plagiatum* MOCSÁRY: p. 14, n. 17. Holotype male. Loc. typ.: Asia minor, Brussa (= Turkey, Bursa).
- 1922 *Hedychridium andalusicum* var. *albanicum* TRAUTMANN: p. 104. Lectotype female (desig. herein). Loc. typ.: Albania, Durazzo (= Durrës).

Morphology: Detailed descriptions of the species are given by BALTHASAR (1953), BUYSSON (1891-1896), MOCSÁRY (1883, 1889), MÓCZÁR (1967) and TRAUTMANN (1927). Drawings of T-III are shown by MÓCZÁR (1967, page 53, Fig. 31, F and G).

Distribution: Turkey (Bursa, Sertavul-village; MOCSÁRY 1883, SCHMIDT 1977), Albania (Bérat, Durrës; TRAUTMANN 1922), Hungary (Budapest, Kíszszentmiklós (= Örszentmiklós), Pilismarót, Simontornya, Szentlélek (not shown in map because several villages with this name exist); MÓCZÁR 1967), Kroatia (BALTHASAR 1953) (map. 1).

Phenology: A specimen from southern Turkey was caught on 1st June (SCHMIDT 1977). A further specimen from Hungary (Simontornya) was caught on 8th May (Coll. LINSSENMAIER) and the lectotype of var. *albanicum* is labeled: Mai 1917. No further information was available.

Remarks: TRAUTMANN (1922) described var. *albanicum* from two localities in Albania: Durazzo and Bérat. He does not give any information about number and sex of syntypes. According to the information of the 'Museum für Naturkunde, Humboldt-Universität zu Berlin' only one potential syntype exists in the collection of TRAUTMANN. It has the following labels: 1. label white, handwritten: *Durazzo Mai 1917 Albanien*. 2. label red, handwritten: *Hedychridium plagiatum* M. var. nov. *albanicum* Tr. *Type!*. 3. label white, printed: *Coll. Trautmann*. 4. label white, printed: *Zool. Mus. Berlin*. 5. label yellow, handwritten: *Hed. albanicum*. I studied this specimen and it matches completely the original description given by TRAUTMANN (1922). For this reason I have no doubt that this specimen from Durazzo is one of the syntypes and designate it as lectotype. Except for the somewhat bigger body length (8mm) I have not found any difference to a typical specimen of *H. plagiatum* from Simontornya studied by myself and to the descriptions of *H. plagiatum* given by various authors (see above). As long as there are no truly distinctive features known, I regard *albanicum* TR. as synonym to *plagiatum* (MOC.).



Map 1: Distribution of the members of the *Hedychridium plagiatum*-group. 1. *Hedychridium andalusicum* TRAUTMANN, 1920 [dots] - 2. *Hedychridium wahisi* sp. n. [star] - 3. *Hedychridium plagiatum* (MOCSÁRY, 1883) [squares] (BALTHASAR 1953, LINSSENMAIER 1968, MOCSÁRY 1883, MÓCZÁR 1967, SCHMIDT 1977, TRAUTMANN 1920, 1922).

Hedychridium andalusicum TRAUTMANN, 1920

1920 *Hedychridium andalusicum* TRAUTMANN: p. 150. Holotype female. Loc. typ.: Spain, Andalusia.

Morphology: See LINSSENMAIER (1968) and TRAUTMANN (1920).

Distribution: Only known from two provinces in Spain (Andalusia and Cataluña; TRAUTMANN, 1920, LINSSENMAIER 1968) (map. 1).

Phenology: No data are known.

Remarks: The taxon was described by TRAUTMANN (1920) as species. However, he later regarded this specimen only as a variation of *Hedychridium plagiatum* (TRAUTMANN 1926, 1929). LINSSENMAIER (1968) was able to study a further specimen, caught in Cataluña, Spain, and came to the conclusion that it is more likely to be a good species. Apart from the distinctively different color the holotype of *H. andalusicum* shows coarser (2x) punctation (PD = 0.023-0.03mm) and bigger spaces between punctures (0.5 PD or more) on I-II than a specimen of *H. plagiatum* from Simontorya, Hungary (Coll. LINSSENMAIER).

Table 1: Coloration features distinguishing the species of the *Hedychridium plagiatum*-group from each other: *Hedychridium andalusicum* Tr., *Hedychridium plagiatum* (MOCs.), *Hedychridium wahisi* sp. n.

	<i>H. andalusicum</i>	<i>H. plagiatum</i>	<i>H. wahisi</i> sp. n.
Caput	golden	golden except for green-golden clypeus	blue
Pronotum	golden	golden	golden
Scutum	golden	golden	blue
Scutellum	golden	golden	golden
Metanotum	black	black and/or blue	black
Propodeum	golden	blue	blue
T-I	black and golden	black and golden	black and golden
T-II	black, blue and golden	black, blue and golden	black, blue and golden
T-III	golden	golden	black or blue

Discussion

The species of the *H. plagiatum*-group are very rare and poorly known. Consequently little can be said about the actual distribution of the members of this species group. However the markedly distant occurrence of the three known species indicate a glacial separation into the well known Mediterranean faunal refuges. If this assumption is correct *H. plagiatum* could be regarded as Pontomediterranean, *Hedychridium wahisi* sp. n. as Adriatomediterranean, and *H. andalusicum* as Atlantomediterranean faunal element in the sense of DE LATTIN (1967). As neither *H. plagiatum* nor *H. andalusicum* are mentioned by STRUMIA (1994) from Italy, *H. wahisi* sp. n. is the only species of the *H. plagiatum*-group known from Italy. But since *H. plagiatum* is also reported from Kroatia (BALTHASAR 1953), the occurrence of this species in northern Italy could be possible.

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