

On Some Bees from Greece (Hymenoptera: Apoidea)

by

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The bees recorded and described below were collected by my son Mr. Antonios G. A. MAVROMOUSTAKIS, student of Radioelectrology, Athens (Greece), from the vicinity of Athens and Mount Pendeli, and by Mr. P. M. F. VERHOEFF, Den Dolder (Holland), from the island of Corfu. In this paper I have described the new subspecies *Andrena potentillae pendelica*, the unknown female of *Andrena paganettii* Strand, and the new intersex of *Megachile albisecta caucasica* Lep.

To Mr. MAVROMOUSTAKIS and Mr. VERHOEFF, I am greatly indebted for sending me their interesting material of bees from Greece, which is in my collection now. The abbreviations used in this paper are: — A. G. A. M. = Antonio G. A. MAVROMOUSTAKIS, P. M. F. V. = P. M. F. VERHOEFF.

Andrena

Andrena flavipes Pz., subsp. *quadricincta* Brullé.

1832. *Andrena quadricincta* Brullé, in Exped. Sc. Morée, Zool. II : 351.

1904. *Andrena quadricincta* J. D. Alfken, in *Zeitschr. Hym. Dipt.* 4 : 290.

Pendeli Mt., 1 ♀, 20.V.1956 (A.G.A.M.). Originally described from Greece (1832), and belongs to the common European *Andrena flavipes* Pz., the same subsp. existing in Cyprus.

Andrena (Chlorandrena) taraxaci Gir. Pendeli Mt., 3 ♀♀, 20.V.1956 (A.G.A.M.). This species exists in Southern and Central Europe, North Africa, Palestine, Cyprus.

Andrena potentillae Pz., *pendelica* subsp. nov.

Female. — Length 6.5 mm.

Black; clypeus very slightly convex, very finely densely reticulated, moderately shining, with sparse fine punctures, sparser at the basal middle; labral tubercle broader than long, apical margin slightly convex; antennae dark brownish black; third antennal joint longer than broad, longer than joints 4 + 5; fourth antennal joint broader than long, shorter than fifth; joints 3 to 8 broader than long; malar area present, very small; clypeus with short, sparse greyish badly rubbed black hairs; paraocular area, supraclypeal plate, lower frons and scape with short greyish black hairs; vertex and occiput with greyish black hairs, those on occiput somewhat longer; cheeks with somewhat short, dense greyish black hairs; facial foveae brownish grey. Mesoscutum somewhat minutely reticulated, moderately shining, with somewhat sparse fine punctures, and with sparse mostly badly rubbed greyish black hairs; tegulae pale brownish yellow, broadly dark black brown in front; wings subhyaline, veins and pterostigma dark brown; basal vein nearly interstitial with transverse median vein; legs black, tarsi brownish black; anterior and middle femora with short greyish black hairs; flocus of hind trochanters greyish black; hind femora with short greyish black hairs; scopa of hind tibia densely greyish black; hind basitarsi with short grey black hairs; hind spurs deep reddish brown; mesepisternum, sides of propodeum with grey black hairs mostly badly rubbed. Abdominal tergites moderately shining; tergites 1 to 4 reddish, base

of first tergite very narrowly black; fifth and sixth tergites black; first tergite very finely and somewhat sparsely punctured, subapical area and apical margin minutely and densely reticulated; second tergite very finely and somewhat densely rugosely punctured, the subapical fine depression and apical margin minutely and densely reticulated; the broad fine subapical depressions of third and fourth tergites much finer in the middle; apical fimbria with dense grey black hairs; first sternite black; sternites 2 to 4 reddish; fifth and sixth sternites black, with short black hairs; second sternite with discal short greyish black hairs not reaching the basal half and sides; second sternite with subapical similar hairs in middle; apical margin of sternites 2 to 5 with very thin transverse band of greyish black hairs.

Pendeli Mt., 1 ♀ (type), 20.V.1956 (A.G.A.M.), in my collection.

Andrena potentillae subsp. nov. belongs to the subgenus *Poecilandrena* Hedicke, and the two subspecies differ as follows:

Andrena potentillae potentillae Pz., female. Labral tubercle with nearly rounded apical margin; antennal joints 4 to 12 light yellowish brown in front and dark brown behind; head with short and somewhat sparse pale hairs. Mesoscutum and scutellum with sparse pale hairs; the somewhat minute reticulation of mesoscutum finer than in *Andrena potentillae pendelica* subsp. nov.; mesepisternum, sides of propodeum, with pale hairs; veins and pterostigma light brown; floccus of hind trochanters and pilosity of hind femora white; hind spurs pale reddish brown. First abdominal tergite black, apical margin broadly reddish; second and third tergites reddish; tergites 4 to 6 black, apical margin of fourth very pale reddish; apical fimbria pale brownish grey; sternites with sparse and short pale white hairs, apical margins of sternites 2 to 5 with somewhat longer and denser similar hairs; first and second tergites sparsely and very finely punctured, subapical area and apical margin minutely reticulated.

Andrena potentillae pendelica subsp. nov., female. Labral tubercle with apical margin slightly convex; antennal joints 4 to 12 dark brownish black; head with greyish black hairs. Mesoscutum, scutellum, mesepisternum, sides of propodeum, with somewhat short mostly badly rubbed greyish black hairs; veins and pterostigma dark brown; floccus of hind trochanters and pilosity of hind femora greyish black; hind spurs deep reddish brown. First abdominal tergite reddish, base very narrowly black; tergites 1 to 4 reddish; fifth and sixth tergites black; apical fimbria greyish black; sternites with short greyish black discal hairs, apical margin of sternites 2 to 5 with very thin transverse band of greyish black hairs; first tergite very finely and somewhat sparsely punctured, subapical area and apical margin minutely and densely reticulated; second tergite very finely and densely rugosely punctured, subapical area and apical margin minutely and densely reticulated.

In treating *Andrena limassolica* Mavromoustakis from Cyprus (1948, *Ann. Mag. nat. Hist.* (12), 1: 574—575), I published that the clypeus in *Andrena potentillae* is "very shining, mesonotum polished and very shining". This may be corrected thus: "Clypeus and mesoscutum moderately shining, mesoscutum somewhat minutely reticulated."

Andrena paganettii Strand, female.

1921. *Andrena paganettii* E. Strand, in *Arch. Naturg.*, 87, A, (3): 278.

1942. *Andrena paganettii* J. D. Alfken, in *Mitt. Deutsche Ent. Ges.*, 2: 38.

1956. *Andrena paganettii* G. A. Mavromoustakis, in *Beitr. Entom.* 6 (3—4). Originally described from the island of Crete (Greece), and as I pointed out (1956), this bee stands as a valid species. Its unknown female may be recognised as follows:

Length 6.5 mm.

Black; labral tubercle broader than long, apical margin entire, very slightly convex; clypeus dullish, very finely densely granulate-punctured, with very large wide confluent shining punctures, smaller at sides and absent from base, disc slightly depressed in middle; malar area present, very small; antennae black; antennal joints 6 to 12 brown behind, joints 5 to 12 yellow-brown in front; third antennal joint longer than 4 + 5, but somewhat shorter than 4 + 5 + 6; antennal joints 4 to 7 broader than long, equal; facial foveae white; pilosity on head white, thin, somewhat short (longer on occiput), mostly badly rubbed from clypeus, lower paracocular area. Mesoscutum and scutellum very finely reticulated, with somewhat sparse partly rugose punctures, densely covered with somewhat short, erect shining white hairs; median triangle of propodeum with fine longitudinal ridge in middle starting from base and reaching apex, with somewhat distant granulations broadly at each side of the ridge and with shining polished intervals; wings subhyaline, veins and pterostigma light brown; mesepisternum and sides of propodeum with white hairs; legs black; small joints of anterior tarsi yellow-brown; last two small joints of hind tarsi yellow-brown; hind spurs pale; floccus of hind trochanters and scopa of hind tibia shining white; hind femora with short white hairs above. Abdomen black, moderately shining; tergites 1 to 4 with apical margins broadly pale yellow-brown (apical margin of first very narrow), and narrowly subhyaline at their apex; tergites without raised or semiraised punctures; first and second tergites very finely reticulated, with very fine and partly rugose punctures, subapical area and apical margin very finely granulate-reticulated; first and second tergites with very short, fine, very sparse white hairs, a little denser at sides; third and fourth tergites with similar, but denser hairs forming a very ill-defined transverse apical white hair-band (better seen at sides); fifth tergite with fine, short, discal white hairs, apical margin broadly and densely covered with pale yellow brown longer depressed hairs; sternites tinged with brown; sternites 1 to 4 with sparse white hairs; apical margin of fifth and sixth sternites with dense pale yellow-brown hair fringe.

Pendeli Mt., 1 ♀ (allotype), 20.V.1956 (A.G.A.M.), in my collection.

Andrena paganettii Strand belongs to the subgenus *Notandrena* Pérez, and may be compared with *Andrena* (*Notandrena*) *polemediana* Mavrom., and *Andrena* (*Notandrena*) *neocyprica* Mavrom., the latter described from Cyprus (1956). Apart from the many differences of punctuation between these species, *Andrena paganettii* Strand stands as a valid species in having the clypeus peculiarly punctured, and with a depression in the middle of its disc.

Halictus

Halictus marginatus Brullé.

1832. *Halictus marginatus* Brullé, in *Expéd. Sc. Morée, Zool.* II.: 351.

Pendeli Mt., 4 ♀ ♀, 20.V.1956 (A.G.A.M.).

Originally described from Greece, existing in Syria, Lebanon, Cyprus.

Anthophora

Anthophora acervorum L., subsp. *squalens* Dours, var. Athens 3 ♂♂, 1.IV.1956 (A.G.A.M.).

Owing to the somewhat old age of the specimens, I am unable to decide whether these specimens belong to a known or to a new form. The hind basitarsi are somewhat narrower and longer than those of *Anthophora acervorum palestinensis* Hedicke from Palestine (1935, *Sitz. Ges. Naturf. Fr.* 3 : 401), and are similar to the basitarsi of subsp. *Anthophora acervorum squalens* Dours. The pilosity on mesoscutum and vertex, with pale intermixed white and greyish black hairs; scutellum, sides of propodeum and mesepisternum with pale white hairs; occiput intermixed with similar, but more greyish black hairs; anterior three tergites with white hairs.

Nomada

Nomada agrestis F.

Athens, 1 ♂, 1.IV.1956 (A.G.A.M.).

South Europe, North Africa, Syria, Palestine.

Nomada femoralis, F. Mor.

Pendeli Mt., 3 ♀♀, 20.V.1956 (A.G.A.M.).

South Europe, North Africa, Palestine.

Lithurgus

Lithurgus chrysurus Fonsc.

Corfu, 1 ♀, 23.VII.—4.VIII.1954 (P.M.F.V.).

Eriades

Eriades (Eutrypetes) dalmatica Maidl.

1922. *Eriades dalmatica* F. Maidl, in *Ann. Naturhist. Mus. Wien*, 35 : 93.

1950. *Eriades dalmatica* Maidl, subsp. *troodica* G. A. Mavromoustakis, in *Ann. Mag. nat. Hist.* (12), 4 : 352—353.

Corfu, 1 ♀, 23.VII.—4.VIII.1954 (P.M.F.V.).

Originally described from Dalmatia: Spalato. The type is in the Natural History Museum, Vienna, but with the head missing. The female from Corfu is identical with the original description and the species belongs to the subgenus *Eutrypetes* Popov (1955).

The Cyprian *Eriades (Eutrypetes) dalmatica* subsp. *troodica* Mavrom., is identical with the specimen from Corfu. It has some sculptural differences, but these are due to geographic variation.

Anthocopa

Anthocopa bisulca Gerst.

Corfu, 4 ♀♀, 23.VII.—4.VIII.1954 (P.M.F.V.).

Southern Europe, Palestine, Rhodos Island.

Anthocopa papaveris Latr.

Pendeli Mt., 1 ♀, 20.V.1956 (A.G.A.M.).

Osmia

Osmia (Chalcosmia) latreillei Spin.

Athens, 2 ♂♂, 17.IV.1956 (A.G.A.M.).

Hoplitis

Hoplitis villosa Schk.

Pendeli Mt., 1 ♂, 20.V.1956 (A.G.A.M.).

Structurally identical with *Hoplitis villosa* Schk., from Europe, in having the characteristic spine on the apical margin of the third sternite in the middle. ALFKEN recorded from Pendeli Mt. (1927) *Hoplitis obtusa* Friese (*Osmia obtusa* Friese), but that bee has not any spine on the third abdominal sternite and is very different.

Megachile

Megachile (Eutricharea) albipila J. Pér.

Corfu, 1 ♂, 23.VII—4.VIII.1956 (P.M.F.V.).

Megachile (Eutricharea) apicalis Spin.

Corfu, 1 ♀, 23.VII—4.VIII.1956 (P.M.F.V.). Athens, 1 ♀, 17.VI.1956 (A.G.A.M.).

Megachile albisecta caucasica Lep.

Corfu, 3 ♀ ♀, 23.VII—4.VIII.1954 (P.M.F.V.).

One of the females is newly emerged, the other two specimens are somewhat older. The ventral scopa is reddish and broadly black, at the sides. Known also from the Caucasus and Dalmatia.

Megachile albisecta caucasica Lep., intersex.

Mr. VERHOEFF collected one sexually anomalous specimen from Corfu, 23.VII.—4.VIII.1954, belonging to a new intersex the description of which is as follows: Length 12.5 mm. (normal female 13.5—14.0 mm). Antennal joints although much longer than in the female are twelve in number; head otherwise as in the male. Thorax and legs are male in character. Abdomen has six tergites, and an extended sting; abdomen less robust than with the female, with punctuation and pilosity as in the male, ventral scopa is missing.

This intersex has head, thorax and abdominal tergites as far as the fifth of male character, and is female in the sixth tergite and in the sternites of the abdomen. The antennae, although twelve segmented (character of the female), have their joints as long as in the male.

Anthidium (s.str.)

Anthidium variegatum meridionale Gir.

Corfu, 1 ♀, 5 ♂ ♂, 23.VII—4.VIII.1954 (P.M.F.V.).

Anthidium fasciatum Latr. (*taeniatum* Latr.).

Corfu, 2 ♀ ♀, 1 ♂, 23.VII—4.VIII.1954 (P.M.F.V.).

Anthidium florentinum F.

Athens, 2 ♀ ♀, 17.VI.1956 (A.G.A.M.).

Intermediate between *Anthidium florentinum subspinosum* Klug, from Lebanon-Syria and Cyprus, but having less cuticular yellow colour and the frontal yellow macula smaller.

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