

On some Bees of the Genus *Andrena* from the Islands Crete and Cyprus

(Hymenoptera: Apoidea)

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The present paper is based on some bees of the genus *Andrena* (types) described by STRAND from the island Crete and belonging to Deutsches Entomologisches Institut, Berlin (Germany), and on a rich material of two new species of *Andrena* collected by me from Cyprus. The types and paratypes of the new Cyprian *Andrena* are found in my collection, while paratypes were placed in Deutsches Entomologisches Institut.

To Professor Dr. HANS SACHTLEBEN, Director, Deutsches Entomologisches Institut, Berlin, I am greatly indebted in sending me for study the above said types of *Andrena* from Crete.

Andrena nigroaenea W. F. KIRBY, subsp. *candiae* Strand

Andrena candiae Strand, Arch. Naturg., 81, A, H. 4, 149, 1915

Andrena candiae Alfken, Mitt. Dtsch. ent. Ges., 11, 38, 1942

Andrena nigroaenea Kirby var. MAVROMOUSTAKIS, Ann. Mag. Nat. Hist., (12), 1, 545—546, 1948.

ALFKEN (1942) in revising the type material of the bees described by STRAND from the island Crete published the opinion that the type and allotype, female and male of *Andrena candiae* Strand are closely related to *Andrena flavipes* Panz., and the former may be a subspecies of the latter. He published also that *Andrena candiae* Strand is not related to *Andrena nigroaenea* Kirby.

I have examined the type female and allotype male of *Andrena candiae* Strand, from Crete: Candia (PAGANETTI, III—VI. 1914), and I do not agree with ALFKEN's above mentioned views concerning this species. My opinion is that *Andrena candiae* Strand is not related to *Andrena flavipes* Panz., but it is identical with *Andrena nigroaenea* Kirby, a variable and widely distributed species. *Andrena candiae* Strand belongs to a distinct subspecies of *Andrena nigroaenea* Kirby.

The type female of *Andrena nigroaenea* Kirby *candiae* Strand from Crete has the punctuation of mesoscutum very finely reticulated and dull, with fine, somewhat sparse punctures as in *Andrena nigroaenea* Kirby; labral tubercle broad, broader than long, truncate at the apex; pilosity on occiput pale fulvous, on vertex and front fuscous, on the remaining head pale fulvous (pilosity mostly badly rubbed), on cheeks very pale fulvous; mesoscutum is covered by short, mostly badly rubbed, pale fulvous hairs; scutellum

and propodeum with pale fulvous hairs; mesopleura anteriorly with similar hairs, remainder with whitish hairs; wings subhyaline, veins and pterostigma brown, basal vein black brown; floccus of hind trochanters pale yellow white; scopa of hind tibiae bright fulvous; middle tibiae above and middle basitarsi on outer side, with somewhat short subdepressed fulvous hairs; hind tarsi with basitarsi deep brown and covered with somewhat short fulvous hairs on outer side, very dense, short, bright fulvous hairs on inner side, small joints brown; abdominal tergites shining, with metallic suffusion; first abdominal tergite with somewhat dense and fine punctures (partly rugose), the punctures of the subapical area somewhat finer, apical margin impunctate; second and third tergites with similar punctures (partly rugose), the punctures of the subapical area somewhat finer and more sparse, apical margins impunctate; first and second tergites covered with pale fulvous, erect hairs (pilosity badly rubbed); third and fourth tergites with short, subdepressed, thin, pale yellowish brown hairs on the basal half and pale yellowish white on the depressed broad apical margin, but not forming transverse, apical hair bands; apical margin of tergites 2 to 4 pale yellowish brown; fifth tergite with dense black brown hairs. The allotype male is similar to the female; pilosity of all the head below front with pale fulvous hairs covering the surface, that on paracocular area and front fuscous; remaining pilosity of head badly rubbed; pilosity of cheeks pale yellowish white. Mesoscutum, scutellum, propodeum, with pale fulvous hairs; wings as in the female; middle and hind tibiae with somewhat short, pale fulvous hairs above; middle and hind tarsi with basitarsi having short fulvous hairs on outer side, dense, short, bright fulvous hairs on inner side; tergites I to 4 with erect pale fulvous hairs, the broad apical depressions with subdepressed pale yellow white hairs not forming distinct hair bands; fifth tergite with pale fuscous hairs.

The male may be considered as allotype and is labelled with similar data as the female.

Andrena nigroaenea Kirby, differs from *Andrena flavipes* Panz., as follows: *Andrena flavipes* Panz., female, has distinct hair bands of dense depressed hairs on the apical margin of abdominal tergites 2 to 4 (female) and 2 to 5 (male); disc of tergites and especially of first and second, almost entirely bare. Punctuation of first tergite fine, somewhat sparse, that on the broad apical margin very fine and dense. Second tergite finely, somewhat densely punctured, the broad apical margin almost covered with dense hair band, densely and very finely punctured.

In *Andrena nigroaenea* Kirby, pilosity of abdomen is very different; more than the basal half of tergites is covered with thin, short, erect hairs, while the broad depressed apical margins have thin, short subdepressed hairs not hiding the surface or forming transverse, distinct hair bands.

Andrena nigroaenea candiae Strand is separated from *Andrena nigroaenea nigroaenea* Kirby as follows: —

Andrena nigroaenea nigroaenea Kirby, female from Central and North Europe. Head with dense black brown hairs. Mesoscutum, scutellum, propodeum, mesopleura, with pale fulvous hairs, those of propodeum a little longer; tegulae brown; hind basitarsi covered with dense, short fuscous hairs; scopa of hind tibiae reddish yellow. Abdominal tergites 1 to 3 with fulvous hairs not forming apical hair bands (disc of third with fuscous hairs in the middle); fourth tergite with dark fuscous hairs; fifth tergite densely covered with dark fuscous hairs; first and second tergites very finely and somewhat sparsely punctured, subapical area with fine punctures apical margin impunctate. Male. Head with somewhat long and dense red yellow-brown hairs, the narrow paraocular area and sparsely the front, with black brown hairs. Tergites 1 to 3 with pale yellow brown hairs, remainder with short black brown hairs; apex of sixth tergite with short, dense, brown hairs.

Andrena nigroaenea candiae Strand, female, from island Crete (Greece). Pilosity on occiput pale fulvous, on vertex and front fuscous, on the remaining head pale fulvous, on cheeks very pale fulvous. Mesoscutum covered with short pale fulvous hairs; scutellum and propodeum with pale fulvous hairs; mesopleura anteriorly with similar hairs, remainder with whitish hairs; tegulae yellowish brown, narrowly brown on inner side; scopa of hind tibiae bright fulvous; hind basitarsi deep brown, with somewhat short fulvous hairs on outer side, very dense and short bright fulvous hairs on inner side. First and second tergites covered with pale fulvous, erect hairs; third and fourth tergites with short, thin (subdepressed), pale yellowish brown hairs on the basal half, pale yellowish white hairs on the broadly depressed apical margin but not forming transverse hair bands; fifth tergite with dense black brown hairs; first tergite with somewhat dense and fine punctures, partly rugose, the punctures of the subapical area somewhat finer, apical margin impunctate; second and third tergites with similar punctures, partly rugose, the punctures of the subapical area somewhat finer and more sparse, apical margin impunctate. Male. Abdominal tergites 1 to 4 with erect, pale fulvous hairs, the broad apical depressions with subdepressed pale yellow white hairs not forming hair bands; fifth tergite with pale black brown hairs.

Andrena nigroaenea Kirby, has two generations in Cyprus, the first in February (in favourable weather conditions in January), March, the second in May. One of the main characters of the second generation of *Andrena nigroaenea* Kirby in Cyprus, is that its pilosity of mesoscutum is a little shorter than same of the first generation. Taking in consideration the pilosity of the type female of *Andrena nigroaenea candiae* Strand, I may conclude that this belongs to the second generation of the species in Crete, its first generation being still unknown. The Cyprian *Andrena nigroaenea* Kirby, of the second generation belongs to *Andrena nigroaenea candiae* Strand, with some differences of minor importance. In the Cyprian female the subapical depressions of third and fourth tergites are a little stronger

than in the race from Crete (type) and besides, the punctation of first and second tergites are not so rugose as in the typical race.

Andrena clypella Strand

Andrena clypella Strand, ♂, Arch. Naturg., 87, A, H. 3, 277, 1921.

Andrena clypella Alfken, Mitt. Dtsch. ent. Ges., 11, 38, 1942.

Black; labral tubercle short, polished and shining, broader than long, nearly truncate at the apex; clypeus with very broad, discal, light lemon yellow stripe, shining; head with white hairs, those on occiput erect, somewhat long, yellowish white; vertex and occiput dull. Mesoscutum moderately shining, with minute reticulation and very fine punctures denser at sides, with somewhat long, sparse, whitish hairs; scutellum shining, bare, with sparse fine punctures, denser on apical margin and laterally; mesopleura and propodeum with white hairs; wings subhyaline, veins and pterostigma brown; legs black; tibiae and tarsi deep brown; legs with white hairs; hind spurs pale yellow. Abdomen moderately shining; first tergite with raised fine punctures, subapical area with sparse very fine punctures, the somewhat broad apical margin impunctate and tinged with brown; second tergite with sparse, very fine, denser, semiraised punctures, subapical area with ill defined minute reticulation and very sparse punctures, apical margin impunctate and tinged with brown; the broad apical margin of tergites 3 to 5 tinged with brown; subapical depression of second tergite not reaching the middle; subapical depression of tergites 3 to 6 broad, ill defined in the middle of third; first and second tergites with white hairs longer at sides (not covering the surface); tergites 3 to 6 with white hairs on disc and with an ill defined, broad apical band of subdepressed white hairs; sixth tergite covered with white hairs; eight sternite not broadened, but nearly truncate at the apex.

Crete, 1 ♂ (type), iii.—vi. 1914 (PAGANETTI).

Andrena clypella Strand belongs to the subgenus *Chlorandrena*, and is a distinct species characterised by the white pilosity of abdomen and the peculiar form of antennae. This species has fourth antennal joint nearly twice shorter than fifth; fifth joint a little shorter than sixth; third joint nearly as long as joints 4 + 5; second joint broader than long, very short, slightly shorter than fourth; fourth joint short, broader than long (all better seen from below).

Andrena strigifrontalis Strand var. *nettialis* Strand

Andrena strigifrontalis Strand var. *nettialis* Strand, ♂, ibid. p. 282, 1921.

Andrena strigifrontalis Strand var. *nettialis* Alfken, ♂, ibid. p. 39, 1942.

Crete: Canea, 1 ♂ (type), iii.—vi. 1914 (PAGANETTI).

This form is identical with *Andrena pallidicincta* Brullé and belongs to the subgenus *Chlorandrena*.

Andrena paganettii Strand*Andrena paganettii*, Strand, ♂, ibid., p. 278, 1921.*Andrena paganettii*, D. Alfken, ibid., p. 38, 1942.

According to ALFKEN (1942) the type male of *Andrena paganettii* Strand is identical with *Andrena pallidicincta* Brullé (Expéd. Scient. Morée, Zool., 2, 358, 1832) the latter described from Greece: Androusa. To my opinion *Andrena paganettii* Strand is a valid species, different from *Andrena pallidicincta* Brullé. ALFKEN in his paper „Über die von Brullé angestellten griechischen *Andrena*-Arten" (Ztschr. Hym. Dipt., 4, 292—293, 1904) described the female of *Andrena pallidicincta* Brullé with, „Mesonotum . . . matt, . . . dicht und fein gekörnelt (chagriniert) und dazwischen etwas zerstreut punktiert . . . Hinterleib ziemlich glänzend. Die Skulptur der Ringe besteht in einer sehr feinen Körnelung; der erste Ring ist mit ziemlich starken Körnerchen zerstreut . . . besetzt." Taking in consideration ALFKEN's (1904) notes concerning *Andrena pallidicincta* Brullé from the typical female existing in Museum Nationale d'Histoire Naturelle, Paris (France), this species belongs to the subgenus *Chlorandrena*, to the group of *Andrena humulis* Imh., having raised punctures and „abdominis segmentis posticis rufescentibus." But *Andrena paganettii* Strand (type) male, has not any trace of semiraised or raised punctures on the body, so this species does not belong to the subgenus *Chlorandrena*. My notes from the type *Andrena paganettii* Strand are follows: —

Male. Black; clypeus entirely black; labral tubercle broad, short, broader than long, apical margin not emarginate in the middle; head with shining white hairs, denser and somewhat longer on clypeus, lower paraocular area, supraclypeal plate; antennae except the black scape, dark brown; third antennal joint longer than 4 + 5, but a little shorter than 4 + 5 + 6; fourth and fifth joints broader than long, nearly equal, each shorter than sixth. Mesoscutum with ill defined minute reticulation, moderately shining, with sparse, very fine punctures; pilosity on mesoscutum and scutellum mostly badly rubbed, but the remaining pilosity shining white; mesopleura with dense shining white hairs; tegulae yellowish brown; propodeum dull; wings subhyaline; veins and pterostigma brown. Abdomen shining without any raised or semiraised punctures; first and second tergites with very fine reticulation, with very fine, sparse punctures; eight sternite broadened at the apex, apical margin truncate in the middle and rounded at sides.

Crete, I♂ (type), iii.—vi. 1914 (PAGANETTI).

Andrena insula Strand*Andrena insula*, Strand, ♀, ibid. p. 277, 1921.*Andrena insula* Alfken, ibid. p. 39, 1942.

Female. — Length 8.0 mm.

Black; labral tubercle short, broader than long, apical margin deeply emarginate in the middle; clypeus densely covered with greyish white hairs; cheeks, paraocular area, supraclypeal plate, with similar but shorter

white hairs; front, vertex, with yellowish white hairs; occiput with yellowish white longer hairs; facial foveae deep brown; antennae deep brown, scape black brown; third antennal joint very long, longer than broad, longer than joints 4 + 5, nearly as long as 4 + 5 + 6; fourth joint as long as fifth, each broader than long; sixth joint somewhat broader than long, somewhat longer than fourth or fifth. Mesoscutum minutely coriaceous, dull, with sparse, fine punctures, with somewhat sparse and long yellowish white hairs not covering the surface; propodeum very finely granulate-reticulate punctured, dull; mesopleura with somewhat long, sparse, yellowish white hairs; wings subhyaline, veins and pterostigma yellowish brown; basal vein interstitial with transverse median; legs black brown; anterior tarsi deep brown, middle and hind tarsi brown; floccus of hind trochanters white; hind femora with dense white hairs on outer side and similar shorter hairs on inner side; scopa of hind tibiae dense, somewhat long pale white; hind basitarsi with pale yellowish white hairs. Abdomen moderately shining; first tergite with minute punctures, sparse, apical margin brownish and minutely punctured; second tergite coriaceous, sparsely, very finely punctured, apical margin brownish, dull, densely coriaceous, with very fine, sparse punctures; first tergite with sparse white hairs laterally; second tergite with white hairs laterally, disc with similar hairs but more sparse, apical margin with a transverse, thin fringe of white hairs only at sides; third and fourth tergites with basal margin with a fringe of short, fine, white hairs, disc with short white, a little denser at sides, apical margin with a transverse, thin, entire, white hair band; fifth tergite with white hairs, apical margin densely covered with pale yellowish brown depressed hairs; first and second tergites with apical margin brown, its extreme margin yellowish brown; the narrow subapical area of third and fourth tergites brown, the narrow apical margin subhyaline; hind purs pale yellow.

Crete: Canea, 1 ♀ (type), iii.—vi. 1914 (PAGANETTI).

Andrena polemediana n. sp.

Female. — Length 6.5 to 7.0 mm.

Black; head slightly broader than long; clypeus somewhat sparsely and finely punctured, shining, base more densely punctured, apical margin narrowly polished and impunctate; labral tubercle broader than long, apical margin transversely slightly concave, with a row of short whitish hairs at its margin; mandibles brown; scape black brown; flagellum brown; third antennal joint a little longer than 4 + 5; fourth antennal joint broader than long, shorter than fifth or sixth; fifth antennal joint nearly as long as broad, as long as sixth (all better seen from below); all the head below front with shining white hairs, those on clypeus nearly covering the surface; vertex and occiput with very pale yellowish white hairs; cheeks with dense, shorter white hairs; facial foveae dense, white; malar space very short, brown. Mesonotum and scutellum finely, very densely punctured, moderately

shining, with very short, dense, pale yellowish white hairs nearly covering the surface, the hairs a little longer in front; postscutellum and propodeum (except the middle) with longer shining white hairs; tegulae light brownish yellow; wings subhyaline, veins and pterostigma brown or dark brown; basal vein interstitial with transverse median; legs brown; floccus shining white; femora with sparse shining white hairs; scopa of hind tibiae with very light golden white dense hairs on outer side and somewhat sparse white hairs on inner side; hind spurs whitish yellow. Abdomen shining, dark brown; first and second tergites finely, somewhat sparsely punctured, subapical area somewhat densely and finely punctured, apical margins very finely punctured; the broad apical margins of tergites 1 to 4 subhyaline, tinged with brown on inner side; first tergite with short, thin, shining white hairs mostly at sides; apical margin of tergites 2 to 4 with transverse, lateral depression not reaching the middle, that of second and third weaker; fifth tergite with white hairs at sides, golden white in the middle at the apex; sternites brown, the very narrow apical margins yellow brown, with a fringe of erect white hairs, dis with nearly similar hairs. Male. — Length 6.0 to 6.5 mm.

Similar to the female; clypeus entirely or partly ochreous yellow; lower paraocular area with an ochreous mark at each side (missing in some paratypes); fourth antennal joint broader than long, somewhat shorter than fifth; pilosity on head below front shining white and dense, longer on clypeus; cheeks with long shining white hairs; vertex and occiput with pale golden white hairs somewhat shorter. Dorsum of thorax with thin, erect, somewhat long, pale white hairs not covering the surface; mesopleura with similar shining white hairs; femora and tibiae with somewhat sparse shining white hairs; hind basitarsi with sparse, shining white hairs on outer side, short, dense, light golden white hairs on inner side. Abdominal tergites 1 to 5 with apical margin subhyaline tinged on inner side with brown; apical lateral depressions of tergites 1 to 3 weak, not reaching the middle; pilosity on the apical margins very thin, very short, not forming distinct hair bands; sixth tergite covered with white hairs; sternites brown, the broad apical margins subhyaline; eight sternite with the apical margin rounded.

Ayia Erini (near *Paramytha*), 1 ♀ (type), 1 ♂ (allotype), 12 ♀♀, 16 ♂♂ (paratypes), 12. iv. 1939, all at *Anthemis arvensis* L. Polemedia Hills, 1 ♀ 1 ♂ (paratypes), 6. iv. 1935; 7 ♂♂ (paratypes), 5. iv. 1939; 1 ♀ 2 ♂♂ (paratypes) 9. iv. 1939; 2 ♂♂ (paratypes), 13. iv. 1939. *Ayia Phyla*, 1 ♀ (paratype), 4. iv. 1935. Limassol, 2 ♀♀ 5 ♂♂ (paratypes), 14. iv. 1938; 3 ♀♀ 2 ♂♂ (paratypes) 29. iii. 1951; 3 ♀♀ 2 ♂♂ (paratypes), 14. iv. 1951; 1 ♀ (paratype), 6. iv. 1951; 12 ♂♂ (paratypes), 31. iii. 1956; 1 ♀ 13 ♂♂ (paratypes), I. iv. 1956; mostly at *Anthemis arvensis*. Phinikaria River, 1 ♀ 1 ♂ (paratypes), 18. iv. 1950, at *Anthemis arvensis*. 1 ♂, 1 ♀ (paratypes) Limassol, 4. IV. 1956 in the collection of Deutsches Entomologisches Institut, Berlin.

Some paratypes have their cuticular colour of abdomen, femora and tibiae, dark brown, black brown or nearly black (except the apical margins

and the brown basitarsi). Most of the paratypes collected from colonies in the surrounding of Limassol, have the pterostigma and veins of wings very dark brown, the flagellum of antennae dark brown; the abdominal tergites nearly black (except the apical margins); some paratypes from Limassol have the clypeus, lower paraocular area entirely black.

This species belongs to the subgenus *Notandrena*, Pérez and comes near to *Andrena insula Strand* from the island Crete (Greece). The Cyprian *Andrena polemediana* sp. nov., is very different in many details. *Andrena insula Strand* (type), female, has the clypeus dull, densely covered with greyish white hairs; labral tubercle broader than long, apical margin deeply emarginate in the middle; mesoscutum minutely coriaceous, dull, with sparse, fine punctures, with somewhat sparse and long yellowish white hairs not covering the surface; abdomen moderately shining; first tergite with minute sparse punctures; apical margin brownish and minutely punctured; second tergite coriaceous, sparsely, very finely punctured, apical margin brownish, dull, densely coriaceous, with very fine, sparse punctures; apical margin of second tergite with a transverse, thin fringe of whitish hairs; apical margin of third and fourth tergites with thin, entire whitish hair band.

Andrena polemediana sp. nov., female, has clypeus shining; labral tubercle broader than long, apical margin very slightly concave in the middle; mesoscutum finely, very densely punctured, moderately shining, with very short, dense, pale yellowish white hairs nearly covering the surface, the hairs in front a little longer; abdomen shining, dark brown; first and second tergites finely, somewhat sparsely punctured, subapical area somewhat densely and finely punctured, apical margin very finely punctured; apical margins of tergites 1 to 4 broadly subhyaline (tinged with brown on inner side) and covered with short, thin, shining white hairs forming a band, very thin in the middle.

Andrena polemediana sp. nov., differs from the closely related *Andrena paganettii Strand* as follows: — *Andrena paganettii Strand* (type), male; labral tubercle with apical margin entire; fourth and fifth antennal joints broader than long, nearly equal; mesoscutum with ill defined minute reticulation, moderately shining, with sparse very fine punctures; tegulae yellowish brown; basal veins mesad of second transverse median vein; tergites 3 to 6 with the subapical area and apical margin dull subhyaline; eight sternite broadened at the apex, apical margin truncate.

Andrena polemediana sp. nov., male; apical margin of labral tubercle transversely slightly concave; fourth antennal joint broader than long, somewhat shorter than fifth; mesoscutum only in front and at sides with very ill defined minute reticulation, very shining, with sparse, very fine punctures, somewhat sparser in the middle of the polished disc; tegulae light brownish yellow; basal vein interstitial with transverse median vein; tergites 3 to 6 with the apical margins shining subhyaline, subapical area yellowish brown; eight sternite not so broadened at the apex, apical margin rounded.

Andrena neocyprica n. sp.

Female. — Length 7.0 mm.

Black; clypeus dullish, with finely coriaceous irregular surface, somewhat strongly rugosely and irregularly punctured (except the dull, narrow apical margin); labral tubercle much broader than long, apical margin entire; malar space short; scape black; antennal joints 2 to 5 black brown, remaining joints brown; third antennal joint longer than $4 + 5$; pilosity of all head below front short, sparse, white, not covering the surface of clypeus; facial foveae dense, brown at the tip; pilosity on vertex, occiput and cheeks, white, more dense. Mesoscutum very finely, very densely, partly rugosely punctured, moderately shining; tegulae light brown; wings subhyaline, veins and pterostigma brown; basal vein considerably basad of transverse median; pilosity on mesoscutum and scutellum very short, erect, nearly covering the surface, yellowish white; mesopleura and sides of propodeum with white hairs, long and somewhat sparse; propodeum dull, very densely granular, with sparse shallow punctures, median triangle shining, with a longitudinal fine ridge in the middle and at each side of the ridge with somewhat dense, very fine, irregular ridges reaching the base laterally; anterior legs black brown, small tarsal joints light yellow brown; middle and hind legs black brown, tibiae and basitarsi brown, small joints light yellow brown; floccus of hind trochanters white; scopa of hind tibiae white; hind basitarsi with white hairs on outer side, dense, light golden white, short hairs on inner side; hind spurs very pale yellow. Abdomen moderately shining; first and second tergites very finely and somewhat densely (partly rugosely) punctured, subapical area finely coriaceous, very densely and more finely punctured (apical margin of second very narrowly impunctate); the broad apical margins of tergites 2 to 5 subhyaline, tinged inside with brown, the brown tinge nearly covering the subapical area; apical margin of first tergite subhyaline and tinged inside with brown; apical depression of first tergite distinct only at sides; apical depressions of tergites 2 to 4 somewhat weak, with extremely thin, short, sparse white hairs forming a broad hair band on fourth; pilosity on fifth tergite dense, golden white, that on the base whitish; pilosity on first tergite sparse, white, existing only at sides.

Male. — Length 7. to 7.5 mm.

Similar to the female; clypeus, lower paraocular area ochreous yellow; antennae thick; third antennal joint longer than fourth, slightly shorter than $4 + 5$; antennal joints 3 to 8 knotted below (better seen from below); pilosity on head below front somewhat long, shining white; pilosity on vertex and occiput pale, somewhat shorter and more sparse; cheeks with shining white hairs, denser and longer on lower area. Mesoscutum and scutellum with sparse white hairs (yellowish white in freshly emerged specimens); the postscutellum and propodeum with shining white hairs at each side; mesopleura and sternum with dense shining white, somewhat long

hairs; legs brownish black; anterior basitarsi with their apex brown; middle and hind tarsi with the basitarsi deep brown, small joints brown; legs with somewhat sparse, shining white hairs, denser on the hind ones; hind basitarsi with short and dense light golden white hairs on inner side. First abdominal tergite with sparse, shining white hairs at sides; second and third tergites with sparse, short and thin, white hairs on apical margins not forming hair bands; fourth and fifth tergites with similar hairs, somewhat denser and longer on apical margin; sixth tergite densely covered with somewhat long shining white hairs; sternites tinged with brown; apical margin of sternites 1 to 4 pale, with a fringe of white hairs.

Limassol, 1 ♀ (type), 1 ♂ (allotype), 1 ♀ 2 ♂♂ (paratypes), 16. iv. 1949; 4 ♀♀ 1 ♂ (paratypes), 14. iv. 1949; all at *Anthemis arvensis* L.; 7 ♂♂ (paratypes), 15. iv. 1936; 3 ♀♀ 3 ♂♂ (paratypes), 24. iv. 1956; 2 ♀♀ 2 ♂♂ (paratypes), 18. iv. 1956; 13 ♂♂ (paratypes), 14. iv. 1956; 1 ♀ (paratype), 9. iv. 1956; 2 ♀♀ (paratype), 30. iv. 1956. Polemedia Hills, 4 ♂♂ (paratypes), 9. iv. 1939; 1 ♀ (paratype), 10. iv. 1939. Near Palodkia, 10 ♀♀ 20 ♂♂ (paratypes), 13. iv. 1939. Yermasoyia River, 3 ♂♂ (paratypes), 16. iv. 1956. Near Kilani 1800—2000 ft., 3 ♀♀ 2 ♂♂ (paratypes), 1. iv. 1936. 1 ♂ (paratype) Limassol, 4. IV. 1956 in the collection of Deutsches Entomologisches Institut.

Andrena neocyprica sp. nov., is closely related to *Andrena polemediana* sp. nov., and the two species differ as follows: —

Andrena neocyprica sp. nov., female; clypeus dullish, with finely coriaceous irregular surface, somewhat strongly rugosely and irregularly punctured (except the dull, narrow basal margin); pilosity on clypeus short, white, not covering the surface; tegulae light brown; abdomen moderately shining. In the male clypeus and lower paraocular area ochreous yellow; antennal joints 3 to 8 knotted below.

Andrena polemediana sp. nov., female; clypeus shining, somewhat sparsely and finely punctured, base more densely punctured; pilosity on clypeus dense, white and nearly covering the surface; tegulae light brownish yellow; abdomen distinctly shining. In the male clypeus and lower paraocular area partly ochreous yellow or entirely black; antennal joints 3 to 8 regular, without knots.

Andrena cinerea Brullé (Expéd Scient. Morée, Zool., 2. 357, 1832), from Greece, female may be compared with *Andrena neocyprica* sp. nov., but the former is a little larger, with mesoscutum and scutellum densely, finely coriaceous, dull, with sparse, very fine punctures.

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Jahr/Year: 1956

Band/Volume: [6](#)

Autor(en)/Author(s): Mavromoustakis G. A.

Artikel/Article: [On some Bees of the Genus Andrena from the Islands Crete and Cyprus \(Hymenoptera: Apoidea\). 580-589](#)