

## Резюме

Статья занимается всеми видами (секция C) рода *Genus Opius Wesm. s. str.*, которые имеют мезонотум без спинной ямочки и зазубренные или морщинистые Sternauli. К этой секции относятся несколько в экономическом отношении важных видов: *Opius dacicida* Silv. (паразитирующий на *Dacus oleae* Rossi), *O. concolor* Szépl. (паразитирующий на *D. Oleae* и *Ceratitis capitata* Wied.), *O. fletcheri* Silv. (паразитирующий на *C. capitata*, *D. cucurbitae* Coq. и *ferrugineus* F.) и *O. rhagoleticolus* Sachl. (паразитирующий на *Rhagoletis cerasi* L.). Впервые описываются *Opius györfii* (Венгрия) и *O. rudiformis* (ЧСР, Финляндия и Англия).

## New Bees of the Genera *Andrena* and *Nomada* from the Island Cyprus

(Hymenoptera: Apoidea)

Part II

By

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The new bees described below were collected by me from Cyprus, and all are found in my collection, while paratypes were placed in Deutsches Entomologisches Institut, Berlin-Friedrichshagen, Germany.

*Andrena perapedica* n. sp.

Female. — Length 12,5 mm.

Black; clypeus moderately shining, transversely very finely and irregularly striate, rugosely and somewhat finely punctured, apical margin brown; process of labrum broader than long, truncate at the apex; mandibles rather long, black, apex broadly reddish brown, with somewhat long pale fulvous hairs; malar space present but small; third antennal joint shorter than  $4 + 5 + 6$ , longer than joints  $4 + 5$ ; fourth antennal joint shorter than fifth or sixth; antennal joints 5 to 10 longer than broad, equal; all better seen from above; antennae greyish black; vertex and occiput dull; vertex very finely reticulate, with sparse very fine punctures at each side, very finely reticulate and with sparse raised punctures in the middle; all face below antennae with long pale grey hairs hiding the disc; paraocular area and frons with greyish black rather long and dense hairs; vertex and occiput with long and somewhat dense pale grey hairs; cheeks with greyish white hairs; head somewhat broader than long; eyes slightly divergent below. Mesoscutum dull, somewhat minutely and densely reticulate, with very fine sparse punctures; propodeum dull, minutely granular, with somewhat dense raised punctures; median triangle minutely granular with four very fine, short well separated striae above; tegulae brownish black; wings clear, veins and pterostigma yellowish brown; basal vein a little basad of trans-

verse median vein; hairs of mesoscutum and scutellum long, dense, dull yellowish white, the hairs on propodeum and mesepisternum white; legs brownish black; basitarsi dark brown; hind basitarsi brown; floccus of hind trochanters, the dense hairs of hind femora snowy white; anterior and middle tibiae covered with rather short greyish black hairs above; basitibial plate covered with greyish brown hairs; scopa of hind tibiae dense, pale yellowish white and tinged with reddish brown above; hind basitarsi covered with greyish white hairs on outer side, shorter and denser brownish hairs on inner side; hind spurs pale yellow; small tarsal joints light reddish brown. First abdominal tergite shining, basal half black, with fine partly raised sparse punctures, remainder light reddish brown, very finely and densely punctured, the narrow apical margin pale; remaining tergites moderately shining; second tergite light reddish brown, with discal large median black mark, very finely and somewhat sparsely punctured, with transverse, fine subapical depression indistinct in the middle; third tergite black, sides, basal area and apical margin, light reddish brown; fourth and fifth tergites black; sixth tergite black; first tergite with erect, sparse, rather long snowy white hairs; second tergite with basal transverse row of snowy white hairs, with similar on the apical margin (dense at sides) not forming a band; third and fourth tergites with discal, very short brownish black dense hairs, apical margins with entire, transverse, fine band of snowy white hairs; fifth tergite covered with black hairs; sternites 1 to 3 light reddish brown, remaining sternites black; apical margin of sternites 2 to 5 with long, erect, pale brownish hairs, those on fifth brownish grey.

Male. — Length 10.0 mm.

Similar to the female; black; head broader than long; antennae long; third antennal joint longer than broad, nearly as long as fourth, base narrower than apex; joints 4 to 12 longer than broad, equal; all head below antennae with long, dense white hairs; paraocular area narrowly surpassing tip of eyes with long greyish black hairs; frons with short and sparse greyish hairs; vertex and occiput with long, erect greyish white hairs; cheeks with denser, erect white hairs. All thorax covered with white hairs; legs black; hind tibiae longer than the anterior or middle tibiae; tarsi with basitarsi deep brown, small joints light reddish brown. First tergite black, apical margin light reddish brown, with long, erect snowy white hairs not hiding the disc; second tergite light reddish brown, with basal black brown longitudinal macula in the middle, with basal, somewhat deep, transverse depression and a weaker transverse depression on the apical area, apical margin broadly pale subhyaline and unpunctured; third tergite black, more than the basal half light reddish brown laterally, apical margin broadly pale subhyaline and unpunctured, with basal, transverse, deep depression and a weaker, transverse depression on the subapical area; fourth and fifth tergites black, apical margins very broadly pale subhyaline (tinged with light reddish brown) and nearly unpunctured; sixth tergite with basal half black, remain-

der very light yellowish brown; seventh tergite dark reddish brown, entire; second and third tergites with erect whitish hairs not hiding the disc, with some very sparse longer white hairs towards the apical margin; fourth and fifth tergites with erect brownish white hairs not hiding the disc, with some very sparse longer white hairs towards the apical margin; sixth tergite almost covered with erect, brownish white hairs not hiding the disc; first and second sternites light reddish brown; third sternite with basal half light reddish brown, remainder light yellowish brown; fourth sternite with basal half black brown, remainder light yellowish brown; fifth and sixth sternites black brown, apical half of fifth tinged with light yellowish brown; sternites with erect pale white hairs not hiding the disc.

Pera Pedi, 2000 ft., 1 ♀ (type), 1 ♂ (allotype), 14 ♀♀, 17 ♂♂ (paratypes), all at *Quercus lusitanica infectoria* Oliv. 1 ♀ 1 ♂ (paratypes) were placed in Deutsches Entomologisches Institut.

This species belongs to the subgenus *Plastandrena* and may be compared with the Turkestanian species *Andrena punctiventris* F. Morawitz (FEDTSCHENKO: Turkestan Mellif. II. 186, 1876), *Andrena aulica* F. Morawitz, ♀ (ibid., 187, 1876), *Andrena ferghanica* F. Morawitz, ♀ (ibid., 189, 1876), *Andrena discophora* F. Morawitz, ♀ (ibid., 189, 1876), *Andrena nigrita* F. Morawitz, ♂ (ibid., 196, 1876), and differs in many details as follows: — *Andrena punctiventris* F. Mor., ♀ length 12.5 mm., has head and thorax covered with fulvous hairs above; hind tibiae and tarsi reddish brown, scopa of hind tibiae white, tergites I to 3 red. *Andrena aulica* F. Mor., ♀, has length 11 to 12 mm., mesoscutum, scutellum shining, strongly and sparsely punctured, apical fimbria of abdomen fuscous. *Andrena ferghanica* F. Mor., ♀, length 11.5 mm., has thorax yellow grey haired above, abdomen little shining, first and second tergites red; clypeus „sat crasse punctato, fere laevis“. *Andrena discophora* F. Mor., ♀, length 9 to 11 mm., abdomen red, shining; scopa white, hind tibiae and tarsi fulvous. *Andrena nigrita* F. Mor., ♂, has length 8 mm., tegulae black, scutellum shining, occiput and thorax grey haired above, cheeks and legs black haired. *Andrena turkestanica* F. Mor., ♀ (ibid., 192, 1876), has length 16 mm., with labral process bifid, apical fimbria of abdomen and the scopa fulvous.

*Andrena hyacinthina* n. sp.

*Andrena hyacinthina* Mavr., PITTONI, Soc. Scient. Fenn., Comm. Biol. 10, 41, 1950 (without description; nomen nudum).

Female. — Length 9.0 mm.

Black; head a little longer than broad, with straight occiput (better seen from infront); oculo-ocellar distance shorter than transverse interocular distance, but longer than longitudinal ocello-occipital distance; clypeus shining, minutely coriaceous, densely and mostly rugosely punctured (more densely at sides), with a median longitudinal polished area from apical margin to middle of the disc; labral tubercle broader than long, polished and shining, nearly rounded; mandibles long, reddish brown at the apex, with sparse, somewhat long greyish white hairs; malar space present; third antennal joint longer than joints 4 + 5, nearly as long as joints 4 + 5 + 6; fourth and fifth antennal joints broader than long, fourth somewhat shorter than fifth; antennal joints 6 to 10 somewhat longer than broad; all better

seen from above; facial foveae light brown; all head below frons with somewhat long, plumose, somewhat sparse greyish white hairs, those on the apical half of clypeus grey; the hairs on occiput dull yellowish brown; cheeks narrowly with dark grey hairs on inner side and pale grey hairs on outer side. Mesoscutum dullish, very finely and densely reticulate punctured, with somewhat sparse and fine, shallow punctures, more sparse in the middle; scutellum with similar punctures, the punctures everywhere somewhat sparse; mesoscutum and scutellum with a slight deep bronzy tinge, with somewhat long pale yellow hairs not hiding the disc; propodeum uniformly very finely reticulate punctured, dullish, with indistinct, sparse very short striae anteriorly, otherwise with very sparse slightly raised very fine punctures; propodeum and mesepisternum with very pale yellow white hairs at sides; tegulae dark brown; wings subhyaline, veins and pterostigma brown; basal vein interstitial with transverse median vein; legs black, tarsi black reddish brown; anterior femora with somewhat long pale white hairs beneath; middle femora with similar but somewhat shorter hairs; tibiae with dark, short brownish hairs; floccus of hind trochanters and the somewhat sparse hairs of hind femora whitish; scopa of hind tibiae long shining white nearly not hiding the disc, with a few short, dark brown hairs at base above; basitibial plate with very shorter and fine dark hairs; middle femora with short, dense, depressed pale brownish grey hairs at the apex; hind basitarsi somewhat short, base as broad as the apex, with somewhat dense brownish grey hairs on outer side, shorter and denser paler hairs on inner side; hind spurs yellow. Abdomen dullish; first and second tergites very finely reticulate punctured, subapically to apical margin (narrowly at sides) partly coriaceous, disc with very fine, very sparse punctures missing subapically in the middle; first tergite without subapical depression; second tergite with indistinct subapical depression not reaching the middle; third and fourth tergites with very weak transverse depression; second and third tergites with a transverse row of fine slightly erect hairs along the anterior margin of the depression and nearly missing in the middle; fourth tergite with the fine pale hairs covering the apical half, but not hiding the disc; fifth tergite with somewhat long very pale greyish brown depressed hairs not hiding the disc, apical margin with denser and shorter similar hairs; apical margin of tergites 1 to 4 very narrowly dark reddish brown; apical margin of sternites 2 to 4 narrowly dark reddish brown; apical margin of sternites 2 to 4 narrowly light reddish brown, with transverse, narrow very thin, very pale yellowish brown hair fringe; abdomen very slightly tinged with very dark nigroaeneous tinge.

Male. — Length 9.0 to 9.5 mm.

Similar to the female; head a little broader than thorax; mandibles very long, with an apical long, obtusely edged tooth, and a smaller one at inner side very distant from it, base broadly with a large tooth on inner side, with somewhat long, very pale yellowish brown hairs; third antennal joint

longer than fourth, fifth or sixth, longer than joints 4 + 5; sixth antennal joint longer than fourth or fifth; all face below frons, cheeks, with erect pale yellowish brown hairs not hiding the disc, in older specimens pale whitish; vertex and occiput with erect pale yellowish brown hairs not hiding the disc (in older specimens pale whitish). Pilosity on thorax as in the female; legs with very pale yellowish brown, somewhat long hairs not hiding the disc; hind basitarsi longer than the median ones. Apical margin of tergites I to 5 broadly tinged with dark reddish brown; pilosity on abdomen sparse as in the female; fifth and sixth tergites with sparse very pale yellowish white hairs; apical margin of sternites 2 to 5 somewhat broadly deep reddish brown, with transverse, dense very pale yellowish hair fringe.

Yermasoyia River plain, 1 ♀ (type), 1 ♂ (allotype), 2 ♀♀, 2 ♂♂ (paratypes), 3. III. 1952; 3 ♀♀ (paratypes), 12. III. 1935; 5 ♀♀, 2 ♂♂ (paratypes), 5. III. 1956; 1 ♀ (paratype), 8. IV. 1957; 3 ♀♀, 17 ♂♂ (paratypes), 15. III. 1957; 2 ♀♀, 2 ♂♂ (paratypes), 6. III. 1956; 48 ♀♀, 20 ♂♂ (paratypes), 7. III. 1952; 3 ♂♂ (paratypes), 1. III. 1935; 1 ♀, 10 ♂♂ (paratypes), 25. II. 1952; 4 ♀♀ (paratypes), 25. III. 1952. Limassol, 2 ♀♀, 5 ♂♂ (paratypes), 9. III. 1957; 3 ♀♀, 9 ♂♂ (paratypes), 17. III. 1957; 4 ♂♂ (paratypes), 27. II. 1957; 1 ♀ (paratype), 29. III. 1949; all the above specimens at *Hyacinthus trifolius* Ten. 1 ♀ 1 ♂ (paratypes), 7. III. 1952, in Deutsches Entomologisches Institut.

*Andrena hyacinthina* n. sp., is a monolectic bee visiting only the flowers of *Hyacinthus trifolius* Ten., and belongs to *Andrena* s. str. It is related to *Andrena apicata* Smith, the two species differ as follows: —

*Andrena apicata* Smith. Female. Head as long as broad; tip of eyes to level tip of occiput; facial foveae black brown; pilosity on head from below of frons dark black brown, that on occiput deep brown; pilosity on cheeks black brown; pilosity on dorsum of thorax somewhat dense dull fulvous; mesoscutum and scutellum without bronzy tinge; subapical depressions of tergites 2 to 4 evident, that of second nearly reaching the middle; pilosity on abdomen somewhat rich; first and second tergites with sparse pale fulvous slightly erect hairs not hiding the disc, with similar dark brown hairs at sides; third and fourth tergites covered with somewhat sparse, slightly erect dark brown hairs not hiding the disc; fifth tergite with dense, short, depressed dark brown hairs. Male. Third antennal joint shorter than joints 4 + 5.

*Andrena hyacinthina* n. sp. Female. Head a little longer than broad, with straight occiput (better seen from in front); facial foveae light brown; all head below frons with somewhat long, plumose, sparse greyish white hairs, those on the apical half of clypeus grey; occiput with dull yellowish brown hairs; cheeks with dark grey hairs on inner side and pale grey hairs on outer side; mesoscutum and scutellum with somewhat long, pale yellow hairs not hiding the disc, with deep bronzy tinge; first tergite without subapical depression; second tergite with indistinct subapical depression not hiding the middle; third and fourth tergites with a very weak transverse depression; pilosity on abdomen sparser; second and third tergites with a transverse row of fine pale slightly erect hairs along the anterior margin of the depression (nearly missing in the middle); fourth tergite with fine pale hairs covering the apical half, not hiding the disc; fifth tergite with somewhat long, very pale greyish brown depressed hairs not hiding the disc, apical margin with denser and shorter similar hairs, Male. Third antennal joint longer than joints 4 + 5.

*Nomada kornosica* n. sp.

Female. — Length 6.5 to 7.0 mm.

Black; labrum black, densely and partly rugosely punctured, shining with three light reddish brown small subapical tubercles in a triangular position, base very narrowly light reddish brown, disc with erect greyish hairs not hiding the disc; mandibles light yellowish red, apex deep reddish brown; clypeus densely and shallowly punctured, shining, light yellowish red, with short slightly depressed snowy white hairs, and intermixed with sparse, erect somewhat longer greyish hairs; lower paraocular area to sides of clypeus and then narrowing along inner orbits to the tip of occiput, most of inner side of cheeks, all light yellowish red; supraclypeal plate and paraocular area with somewhat sparse slightly depressed short snowy white hairs; cheeks with erect somewhat dense snowy white hairs; vertex and occiput with erect, very sparse greyish black hairs; eyes divergent above; antennae light yellowish red; scape with sparse greyish black, somewhat short erect hairs; antennae long; third antennal joint with base narrower than apex, longer than broad, one and half times shorter than fourth; fourth antennal joint a little longer than fifth, much longer than broad; joints 5 to 7 longer than broad, equal; all joints better seen from below. Pronotum deeply and widely divided, each lateral branch light yellowish red; mesoscutum dull, somewhat strongly, densely and partly rugosely punctured, with extremely sparse, somewhat short greyish black very fine hairs, with four broad longitudinal light yellowish red stripes; tegulae light yellowish brown; tubercles light yellowish red; scutellum bigibbose, light yellowish red, with median longitudinal black furrow; postscutellum and axillae, light yellowish red; mesepisternum except its anterior area, light yellowish red; mesepisternum with some sparse, short snowy white hairs, with denser similar hairs at each lower side of propodeum; anterior legs very light yellowish red; middle and hind legs light yellowish red; middle coxae and trochanters partly black brown above; hind coxae, trochanters mostly black brown above; hind tibiae longer than middle or hind basitarsi; apex of hind tibiae with two very short, black brown fine spines, with a hair-like much longer one on inner side; middle femora with dense, transverse row of very short snowy white hairs on apical inner side; propodeum with basal area (broadly in middle) longitudinally striate and shining, the striae well separated, irregular in shape, curved, interrupted, polished and shining, apical half of median triangle transversely, minutely granular, moderately shining, remainder densely rugosely punctured; wings slightly infuscated, marginal cell more infuscated above; veins and pterostigma brownish black; basal vein mesad of transverse median vein; hind wings with seven hamuli. Abdomen elongate ovate, pale red; first tergite shining, with the very narrow base black, with very minute dense microsculpture, the broad apical margin paler; second tergite with basal half very minutely and densely microsculptured,



dull, remainder as the preceding, the broad apical margin paler; fourth and fifth tergites as the first; fifth tergite with very minute dense microsculpture and intermixed with very sparse, very fine, shallow micropunctures, from each micropuncture starting an erect greyish black hair; apical fimbria dense snowy white; otherwise tergites bare; sternites pale red, with very short, extremely sparse, very fine snowy white hairs; fifth sternite with dense, somewhat short, erect black hairs at each side.

Male. — Length 6.5 to 7.0 mm.

Similar to the female; apical margin of clypeus light yellowish brown; malar space pale yellow; mandibles light yellowish brown, apex deep reddish brown; scape of antennae rather short and broad, black, with greyish white hairs, remaining antennal joints light brown in front and black behind, last small joint yellowish brown; third antennal joint nearly three times shorter than fourth, nearly as long as broad; fourth joint very long, much longer than fifth; joints 5 to 9 much longer than broad, equal; all joints better seen from below; clypeus almost bare except anteriorly, with some very sparse, erect, fine white hairs; paraocular area, supraclypeal plate with similar but somewhat denser hairs; frons, vertex, occiput, with very sparse, erect fine, greyish hairs; cheeks with sparse and short snowy white hairs. Thorax black; mesoscutum, scutellum with very sparse, erect whitish hairs; propodeum at each side, mesepisternum with sparse white hairs not hiding the disc; anterior legs light yellowish red, anterior femora black beneath; middle and hind legs light yellowish red, femora black beneath except the apex; hind femora with a dense row of very short snowy white hairs on apical inner side; hind tibiae as in the female. Abdomen pale red, the broad apical margins paler; first tergite black; seventh abdominal tergite somewhat long, elongate, triangular, base much broader than apex, apical margin emarginate in the middle; sternites pale red, basal half (except the sides) black; tergites almost bare; fifth and sixth tergites with very sparse, erect greyish white hairs; sternites bare; fifth and sixth sternites with very sparse, short snowy white hairs.

*Lania*, 1 ♀ (type), 23. III. 1953, 1 ♂ (allotype), 11. III. 1953; 5 ♀♀, 6 ♂♂ (paratypes), 26. II. 1953; 4 ♀♀, 2 ♂♂ (paratypes), 11. III. 1953; 1 ♀, 2 ♂♂ (paratypes), 23. III. 1953. Mt. Kornos (Northern Mts), 3 ♂♂ (paratypes), 2. III. 1936. 1 ♀, 1 ♂ (paratypes), *Lania*, 26. II. 1953, in Deutsches Entomologisches Institut.

This species is parasite of *Andrena kornosica* Mavrom. (Ann. Mag. Nat. Hist. (12), 7, 584—586, 1954), and I have collected it while entering or hovering above the mouth of the burrows of *Andrena kornosica* Mavrom., an endemic Cyprian bee.

*Nomada kornosica* n. sp., may be compared with *Nomada bispinosa* Mocsary (Magy. Akad. Termész. Értek., 13, 64, 1883), from Hungary, but the latter differs in having the labrum edentate. This species is not related to members of the group of *Nomada flavoguttata* W. K., and differing in cuticular colour and structure.

### Summary

The author described two new species of bees of the genus *Andrena* from the island Cyprus (Mediterranean East). These bees are *Andrena perapedica*, visiting the flowers only of *Quercus lusitanica infectoria* Oliv., and *Andrena hyacinthina*, visiting the flowers of *Hyacinthus trifolius* Ten. Of these monolectic bees, the former is related to some Turkestanian species of *Andrena* and the latter to *Andrena apicata* Smith. Besides he described the new parasitic bee *Nomada kornosica* n. sp., which is parasite of *Andrena kornosica* Mavrom., an endemic species described before from Cyprus. Paratypes from all the above mentioned species were placed in Deutsches Entomologisches Institut, Berlin-Friedrichshagen, Germany.

### Zusammenfassung

Der Autor beschreibt zwei neue Bienen der Gattung *Andrena* von der Insel Cypern: *Andrena perapedica*, die nur die Blüten von *Quercus lusitanica infectoria* Oliv. besucht, und *Andrena hyacinthina*, Blütenbesucher von *Hyacinthus trifolius* Ten. Erstere ist verwandt mit einigen *Andrena*-Arten aus Turkestan, die zweite mit *Andrena apicata* Smith. Außerdem wird die neue Schmarotzerbiene *Nomada kornosica* beschrieben, die bei *Andrena kornosica* Mavrom. lebt, einer endemischen Art, die vom Autor bereits früher von Cypern beschrieben wurde. Paratypen von allen hier erwähnten Arten befinden sich im Deutschen Entomologischen Institut, Berlin-Friedrichshagen.

### Резюме

Автор описывает две новые пчелы из рода *Andrena* с острова Кипра: *Andrena perapedica*, которая посещает исключительно цветки *Quercus lusitanica infectoria* Oliv., и *Andrena hyacinthina*, посещающая *Hyacinthus trifolius* Ten. Первая состоит в родстве с некоторыми видами *Andrena* из Туркестана, вторая — с *Andrena apicata* Smith. Кроме того описывается новая пчела-паразит *Nomada kornosica*, которая живет у *Andrena kornosica* Mavrom., эндемического вида, описанного автором уже раньше на острове Кипре. Паратипы всех упомянутых здесь видов находятся в Немецком Энтомологическом Институте в Берлин-Фридрихсгагене.

### Besprechungen

Imms, A. D., A General Textbook of Entomology. Ninth Edition entirely revised by O. W. RICHARDS & R. G. DAVIES. Verlag METHUEN & Co. LTD., London, 1957, 8°, X & 886 S., 609 Textfig. Preis 75,— s.

IMMS' „General Textbook of Entomology“, neben J. H. COMSTOCKS „Introduction to Entomology“ wohl das am meisten verbreitete Lehrbuch der Entomologie, erschien zuerst im März 1925; es folgten zwei revidierte Ausgaben 1930 und 1934, dann die vierte bis achte Titelaufgabe 1938, 1942, 1947, 1948 und 1951; seit der dritten revidierten und erweiterten Ausgabe (1934) war das Buch zunehmend veraltet und trug vielen neueren Erkenntnissen nicht mehr Rechnung. Durch die vorliegende neunte, von O. W. RICHARDS & R. G. DAVIES besorgte, Auflage ist es wieder zu einem Standardwerk der Entomologie geworden. Der allgemeine Plan der ersten Auflage ist beibehalten worden; jedes Kapitel jedoch ist eingehend revidiert,



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