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DE NEDERLANDSE ENTOMOLOGISCHE VERENIGING

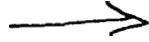
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INHOUD

M. A. LIEFTINCK, — Prodrorne to a monograph of the Palaearctic species of the genus *Melecta* Latreille 1802 (Hymenoptera, Anthophoridae), p. 129—349, text-figs. 1—359, pls. 1—8.

Tijdschrift voor Entomologie, deel 123, afl. 6	Gepubliceerd 31-X-1980
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***Melecta aegyptiaca* Radoszkowski**
(figs. 11, 127—145, pl. 4 figs. 19—21, map 1, p. 223)

Melecta aegyptiaca Radoszkowski, 1876, Horae Soc. Ent. Ross. 12: 123—24, pl. 3 fig. 2 (♀ col. fig., Egypt). Radoszkowski, 1893 (sub *aegyptiaca*, identity uncertain), Bull. Soc. Imp. Nat. Moscou, new ser. 7 (3): 182, fig. 35 a-c, i, k (♂ genit., sine loc.). — Friese, 1895, Bienen Europa's: 165—166 (pars ? orig. descr. copied; ♂ Persien, note). Friese, 1925, Konowia 4: 28 (pars !? "Agypten; Beirut; Südspänien; Algerien").

Melecta lindbergi Lieftinck, 1958, Comment. Biol., Soc. Sci. Fenn. 18: 25 (key), 28 fig. 21 (scutellum) & 39 (pygidium) (♀ Lanzarote, Canary Is.). **Syn. nov.**

Type material. — Egypt: 1 ♀ (fig. 131), labelled "Egypt C: Bra" (print on green), "Type" (orange), "*aegyptiac*" (Radoszkowski's writing), "*M. aegyptiaca* Radosz. Type Dr. Enderlein"; lectotype by present selection (MNB) ♀, gold disk, same loc. & type labels, syntype *M. aegyptiaca* (MNB). — Canary Is.: 1 ♀ (holotype *M. lindbergi* Lieft., figs. 137—139), Lanzarote I., Haria, 19.iii.1949, H. Lindberg (MH).

Further material (from W to E, roundabout Mediterranean & S Europe). — Morocco: 3 ♂ (one diss., fig. 143), Maroc, 622—19 & 623—22 (MG); 3 ♂ (one diss.), Tanger, Vaucher. Cn. Tournier (MG & CB); 2 ♂, Tanger, coll. J. Vachal 1911 (MP); 5 ♀, Maroc, Midelt, 23 & 30.v.1947, J. de Beaumont (CB). — Algeria: 1 ♀, Algérie, coll. J. de Gaulle 1919 (MP); 1 ♀, Algérie, Vauloger 138—97 (MP); 1 ♂, Algérie, coll. J. Vachal 1911, *grandis* Lep. 334, det.? (MP); 1 ♂ 2 ♀, Orléansville, Ernest André 1914 (MP, ML); 1 ♂ 1 ♀ (♂ abdomen missing), 1 Sétif, coll. O. Sichel 1867, ♀ with note "*Mel. luctuosa*, 3 ♀ 5 ♂ C. Sss" [Saussure], in Sichel's hand (MP); 1 ♀ Sétif, Cn. de Saussure (MG); 1 ♀, Algerien, vi, coll. A. Seitz, *Melecta-spec.?* det. — Alfken (SMF). — Tunisia: 1 ♂, Tunis, coll. Schmirdeknecht, *M. aegyptiaca*, det.? (MNB); 1 ♀, lilac disk, Carthag., coll. J. Pérez 1915 (MP); 1 ♀ (diss.), Tunisia, Feriana, 8 km S, 9.v.1973, K. Kusdas (CJH), and 2 ♀ (diss.), 10 km N, 8.v.1973, J. Gusenleitner (CG, ML). — Egypt: 1 ♂ (diss., figs. 131, 135, 140), Cairo Aegypt, *M. armata* var. *mediterranea* Grib., det.? (ZSM); 1 ♀, Cairo Aegypten, *M. dasypyga*, det.? ex coll. Univ. Groningen (ML); 3 ♂ (pi. 4 fig. 19), Schmirdeknecht, Aegypten, coll. A. Weis, *M. luctuosa* Scop., det.? (SMF, ML); 1 ♀, Egypt. Sezira-Cairo, iv, H. Priesner (ex CP, ML); 1 ♂ 1 ♀, Aegyptus, Cairo (MBUD) ♀, Egitto, Asyut, 2.ii.1933, Schatz-Koch (ex CGS, ML); 2 ♂ 1 ♀, Aegypten, Pyramiden III, H. Rolle-Berlin, *M. aegyptiaca*, det.? (MNB); 1 ♀, Aegypten, Ehrenberg/XIII/725, *M. grandis* Lep., det.? (old handwriting, MNB); 1 ♀, Aiexandria, Winter 1902/03, Dr. Osborne, *M. aegyptiaca* Rad., det. J. D. Alfken, Slg. Alfken 1933 (MNB); 1 ♂ (diss.), Egypte, *Melecta orientalis* Eryp (on green disk), coll. Rornand (MG). — Ethiopia: 1 ♀, Abyssinia, Dr. Rüppel, *M. luctuosa* Scop., det. H. Friese 1900 (SMF). — Israel: 1 ♂ (diss.), Israel, Jordan Valley, Zerqa R. Colony, ca. 100 m below sea level, Mid Mar. 1952, "Bee + Bornbilid" (sic), Trevor Trought, *Crocisa* sp., det. I. H. H. Yarrow (BM). — Syria: 2 ♂, Syria 1899, Morice, *M. aegyptiaca*, det. Friese 1904 (MNB). — Rodos (Greece): 3 ♂ (1 diss.), Rhodos-Kattavia & Gaduras road crossing, 5.iv.1971, V. S. v. d. Goot (MA). — Greece (mainly continental): 3 ♂ 2 ♀ (diss.), Corfu (Kerkyra), Schmirdeknecht 1912, coll. A. Weis, one with *M. luctuosa* Scop., det. Schmirdeknecht (SMF, ML); 1 ♂, Graecia (MBUD); 1 ♀, Olympia, Schmirdeknecht (SMF); 1 ♂, Olympia, coll. Schmirdeknecht, *M. luctuosa*, det.? (MNB); 3 ♀ (diss.), Graecia, Olympia, 19—21.iv.1964, W. Grünwaldt (CWG, ML); 1 ♀, Graecia, Levadlea (Levadhia), 4.vi.1966, W. Linzenmaier (CL); 4 ♀, Graecin, Peloponnesus, Alt Korinth, 11, 13 & 19.v.1964, Max. Schwarz (CMS, ML). — Hungary: 1 ♂, Sirnontornya, Hung. occ., 24.v.1933, leg. Pillich, at *Anchusa officinalis*, *M. albovaria*, det. Alfken 1933, "zur *armata*-Gruppe gehörend, sicher nicht *M. luctuosa*", Alfken (MBUD) ♀, Simontornya, Hu. occ., 27.v.33, leg. Pillich (ML); 3 ♀ (fig. 136), Sárszentmihály, 23.v.1927, Biró, *M. luctuosa*, det. Móczár (MBUD); 1 ♀, Dabas 1855, leg. Metelka, *M. luctuosa*, det. Mocsary & M. Móczár (MBUD); 3 ♂, Apaj-p., Bokor E., *M. luctuosa* Scop., det. M. Móczár, Csömör, Ujhelyi leg., same identif., and Isaszeg, Ujhelyi leg., same identif. (MBUD ML). — Czechoslovakia: 1 ♂ (diss., figs. 133—134, 145), Slovakia, Parlžán 1933, A. Hoffer (CTP); 2 ♂ (one diss., (fig. 142, pl. 4 fig. 21), CSSR, Slovak, 2.vi.1965, Sturovo,

robusta (Klug), a big, fast-flying polylectic and locally common species with a very long proboscis; I encountered this *Anthophora* in several places, a.o. near Midelt, at the foot of the High Atlas mountains, a locality where Dr. J. de Beaumont had also taken *Melecta grandis* on an earlier occasion, so the latter may well be a parasite of *A. robusta*. Females of that species were collecting pollen and nectar, while the males were observed (and filmed) hovering in front of the *Anchusa* flowers, taking nectar in the same way to a fairly large Bombyliid and a very peculiar, excessively long-tongued Nernestrinid fly (*Neorhynchocephalus rauscheri* Fischer¹⁾), with brilliant emerald green eyes. All three insects were jointly extracting nectar from flowering *Anchusa* on the same spot. Unfortunately I failed to discover the nesting sites of *A. robusta*.

I do not know whether Lepeletier's remark regarding the possible host of *M. grandis* in Algeria, the large and conspicuous *Anthophora hispanica* (F.), is indeed founded on field observations made by his son, who first discovered the species. Perhaps the statement is merely conjectural and based on the corresponding superior sizes of these bees. Otherwise actual data on the parasite-host relationship and their biology are quite unknown. It is of some interest to note that *A. hispanica* has repeatedly been taken on Ibiza, of the Balearic islands, but has never been observed in one of the more frequently visited islands of the group, neither has *M. grandis* been collected in any of the Balearics.

For its distribution, see map 2.

→ --- *Melecta prophanta* spec. nov.
 (figs. 18, 231—236)

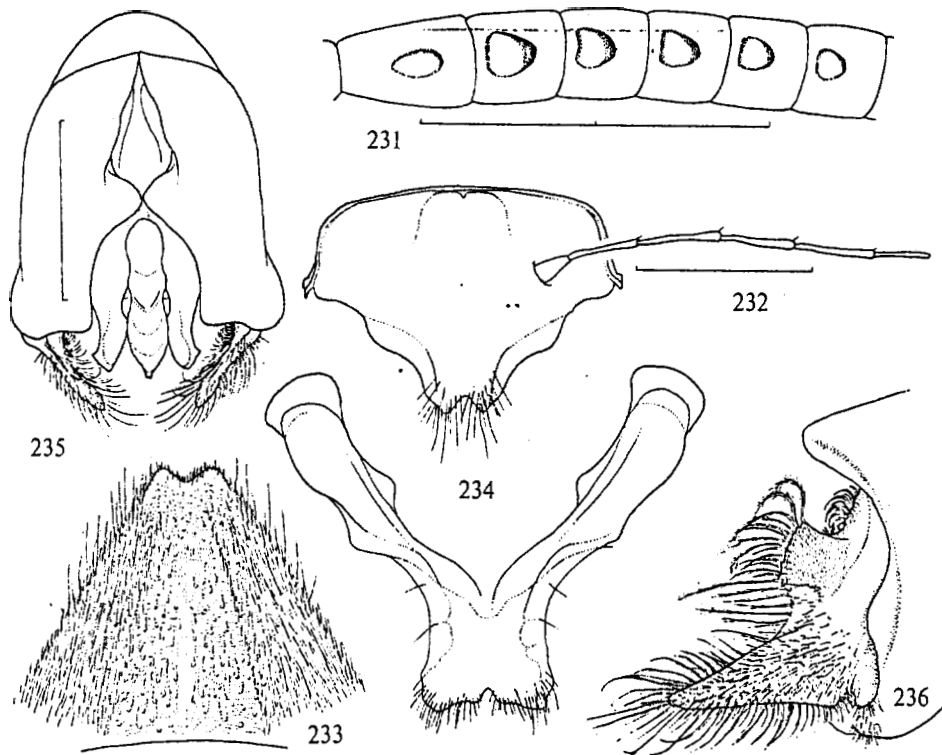
Type material. — Canary Is.: 1 ♂ (holotype, diss., figs. 18, 231—236), Lanzarote I., Famara, 4—15.ii.1979, W. N. Ellis & R. T. Simon Thomas (MA).

Large species, total length 18 mm approx., fore wing 12 mm. Stature and pubescent pattern most closely resembling *M. transcaspica* and *baeri*, but abdominal markings even more transverse and prolonged inward.

Male (unique). — Labrum a trifle longer than its greatest breadth across basal tubercles, a little narrowed toward apex (breadth ratios 100 : 67), anterior border straight, angles broadly rounded. Squarish silvery patch lying flush upon clypeus, the tips of long hairs exceeding anterior border. Antenna (fig. 231) ~~232~~ markedly shorter and thicker than in *aegyptiaca*, 4—12 square instead of somewhat longer than broad, with larger, more deeply impressed rhinaria; long fringes on either side of scape white. Ocelli closely approximated, distance separating them less than one-half their own diameter. Punctuation of head and thorax as in *aegyptiaca*, but pubescence, though shorter on all parts, relatively long and

¹⁾ Nernestrinidae are known to be parasitic upon the larvae of small Larnellicorn beetles, but in view of the same semblance in behaviour, body size and striking co-operation noticed at the spot, this particular species might deposit its eggs at the nest entrances or within the burrows of *Anthophora robusta* as well. The fly was kindly identified by my colleague, Dr. P. J. van Holsdingen, of the Leiden museum.

predominantly white, e.g.: raised tufts on each side of antennal scape, behind antennae, fringes at occipital border, and most of thoracic sclerites; black are only hinder part of mesonotum, scutellum and, narrowly so, metepisternum between spines, as also whole posterior surface. Scutellar spines straight, slightly raised and pricker-shaped, punctate, directed straight back, much shorter than long white tufts beside each of them, the area between spines remaining only narrowly black. Mid tibial pad (fig. 18) narrow, the white squarely cut off basally, with very few black spicules and some longish posterior bristles. Outer face of hind tibia with few raised spicules, the black posterior bristles short. Hind basitarsus wholly black, slightly less than three times as long as its widest point about midway length (ratio 100 : 35.7), moderately outbent, outer face concave, evenly closely punctate, short-haired, with few longish bristles at lower level posteriorly. Inner rami of mid and hind tarsal claws about $\frac{1}{4}$ length of outer. Tergites of abdomen distinctly more shiny than in *aegyptiaca*, all punctures setiferous, much smaller and more superficial, the setae shorter, more finely branched. Snow-white marks very conspicuous, more approximated, compact and better defined, than in *aegyptiaca*, the hairs markedly shorter; 2-5 all transverse, 2 and 3 three times broader than deep, especially spots on 2 somewhat hollowed out anteriorly. Tergite 7 tapering



Figs. 231—236 *M. prophanta* (♂ holotype, Lanzarote, Canary Is); 231, antennal segments 3—8 (scale line 2 mm); 232, antenna (scale line 0.5 mm); 233, dorsal view of tergite 7; 234, sternites 7 and 8; 235, dorsal view of genital capsule (scale line 1 mm); 236, right lateral view of gonostylus, with dorsobasal process

maxillary
palpus

rapidly, apex narrow, slightly emarginate (fig. 233), the oblique ventral ridges low, flattened and hairless. Sternites all black; ventral ridges at apex of 6 low, barely visible in profile, densely black-haired, the enclosed median area elongate, with sparse setiferous punctures on somewhat shiny ground. Sternites 7—8, figs. 234, apices of both strongly setiferous. Genital capsule 2.3 mm long, gonocoxal angle subrectangulate, evenly rounded; gonostylus much less rapidly tapering in full profile view than shown in fig. 236, which shows the curious squarish form of the basodorsal process in side view.

Doubtful female (unique). — Morocco: 1 ♀ (worn, wing borders damaged), High Atlas, Oukaïmeden, 2600—2800 m, 8.vii.1976, J. Gusenleitner, *M. luctuosa albovaria*, det. J. Heinrich (CG).

Stature, size and tergal markings very similar to male, length 17.5 mm approx. Labrum shaped similarly, but with distinct, subacute, median crest extending anterad for little less than two-thirds its whole length and terminating in a small tubercle (barely indicated in male); anterior border slightly but distinctly concave. Basal half of mandible smooth and shiny externally, impunctate (male, finely longitudinally striato-punctate). Head above as in male, closely punctate, vertex lacking impunctate areas. Antenna more slender, 3rd one and one-fourth as long as next flagellar segments, all being a trifle longer than broad. Mesonotum and scutellum deeply, contiguously punctate, as in male, the median mesonotal line not impressed, reaching back to a level halfway length of tegulae, very finely bilineate; parapsidal lines similar, though considerably shorter. Scutellar tubercles directed obliquely upward, triangular, very slightly curved and punctate, as in male. Propodeum dull, closely punctate throughout. Legs strong, size normal; distal portion of inner faces (behind median carina) of mid and hind femora almost impunctate, the carina of hinder pair distinct, almost complete, subobtusate. Wings only little darker than in male; distal side of third submarginal slightly less markedly angled. Abdomen much as in male, tergites smooth and shiny, finely superficially punctate (microsetae rubbed off on disk of tergites). Pygidial plate shaped much as in *festiva*, about twice as long as its width at base, almost straight in profile, only the broadened apex a little downbent; disk flat, very finely transversely wrinkled, with few scattered punctures at extreme base only; colour black. — Pubescence moderately long and dense (rubbed off in places); depressed patch of longish white hairs upon middle of clypeus not nearly reaching anterior border, raised upon whole vertex, and fringing occipital border. Mesonotum with the usual white areas and a pair of subrectangular black spots anteriorly; scutellum mostly black, a few long white hairs only below the tubercles; sides and under surface black, upper portion of mesopleurae with large patch of white. Legs moderately hairy, as in most species; robust, suberect, shiny macrosetae at outer faces of mid and hind tibiae interspersed with longish bristles and short decumbent fine hairs. White are: basal one-third of fore tibiae and about basal half of mid and hinder pair; for the rest all black. Compressed inner rami of mid and hind tarsal claws about two-fifths as long as outer. White lateral marks of abdominal tergites 2—4 very similar in shape and size to those of male, all transverse spots broadest on 3, about three times broader than deep; spots at sides of 1 isolated, subquadrangular, a little diverging posteriorly, consisting of longer, somewhat

tufted, suberect hairs, the remaining spots compact, decumbent, though not raised above level of integument. Sternites fringed with longish black bristles at gradular lines; no white hairs.

This conspicuous new species superficially resembles other fairly large-sized congeners, like *aegyptiaca*, *baeri*, *festiva* and *tuberculata*, but can be distinguished from all by a combination of characters. Its nearest ally would seem to be *aegyptiaca*. Apart from the differently shaped copulatory organs, the male disagrees with the latter by having much more enlarged white tergal spots, a shorter labrum, stronger antennae, broader and more outbent hind basitarsi, and by the very differently shaped 7th tergite. An additional feature separating the two is the sculpture of the outer face of the broad basal portion of the mandible, which in *aegyptiaca* is smooth and shiny with a few scattered punctures distally, whereas in *prophanta* this part is wholly finely striato-punctate. The differences between *prophanta* and the other species just mentioned are best understood by consulting the key and illustrations. It is impossible to associate the male of *prophanta* with the female of my "*lindbergi*", described from the same island of the group, but which has now proved to be synonymous with *aegyptiaca*, the male of which is wholly different from that of *prophanta*. The same applies to the supposed female of the latter, of the high mountains in Morocco, which is immediately distinguished from *aegyptiaca* by the shape of its pygidial plate. Hence we are confronted with two evidently related species occurring side by side in the same island of the north-eastern group of the Canaries. This is surprising and certainly needs confirmation. It is of interest to note that Dr. S. Erlandsson recently sent me a single pair of yet another *Melecta*, taken in Gran Canaria (San Bartolome, 9.iv.1973, leg. T. Palin), representing an undescribed species. I am reluctant to characterize these as new, because both specimens are in too poor condition to serve as types of a new taxon. At all events these discoveries indicate that the bee fauna of the Canary Islands is of high quality and unexpectedly rich in species. For some further remarks, see under *M. caroli* (p. 324).

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Melecta festiva spec. nov.

(figs. 6, 16, 237 — 265, pl. 6 figs. 31—32, map 2, p. 303)

Melecta luctuosa var. *albovaria* subvar. *eczmiadzini*: Friese, 1895, *Bienen Europa's*: 163—164 (key: *Kaukasus*).

Type material. — France: 1 ♂ (diss., fig. 237, holotype) and 1 ♀ (diss., paratype), Callian (Var), 22.v.1963, W. Linsenmaier (both ex coll. Linsenmaier, ML).

Further material. — Switzerland: 1 ♂ (diss.), Wallis (Valais), Vesperterminen, S of Visp, 1250 m, 8.vi.1972, on *Thymus serpyllum* (figs. 16, 244). M. A. Lieftinck (ML); 1 ♀, Wallis, Useigne, 26.vi.1924, Th. Steck (NMB); 2 ♀, Valais, Sierre, vi.1949 and v.1950, W. Linsenmaier (CL & ML). — Italy: 1 ♀, Piemonte, with square label / Susa (written) 108, "*Melectrapuncraia* F. *Lep. notata* Illig. Klug. Ped. 9" (old writing), Spinola collection, supplement (MT) 2 ♂ (one diss., figs. 241, 247), Tirol, Bozen 1886 F. Kohl, *M. luctuosa* v. *albovillosa* (sic) and v. *albovaria* Er., det. Friese 1893 (NMW). — France: 1 ♀, Nyons (Drôme), coll. J. de Gaulle (MP); 1 ♀ (figs. 239—240), Vallouise (Htes Alpes), ca 400 m,

with longish black bristles, but all hairs much shorter and less closely set than in *italica*. Tergal plate 7 with narrow, smooth and shiny, median area extending nearly whole length, this space slightly concave but sparsely punctate at base only, deeply sulcate between the two apical tubercles; colour brown, the posterior border in ventral view yellowish (figs. 297). Apex of sternite 6 broadly rounded, median depression elongate-triangular between low ridges, which are invisible in profile but more hairy than the impressed area. Sternites 7—8, figs. 298. Genital capsule, fig. 299: gonostylus short and broad, gradually narrowed toward apex, which is broadly rounded; dorsobasal process distinct, subtriangular, one-fourth to one-fifth as long as stylus, apical bristles very long, the longest exceeding tip of stylus (fig. 300). Total length 14.0 mm approx., fore wing 11.2 mm.

Female (unique). — Head and thoracic sclerites rather deeply punctate on shiny ground, punctures only little smaller than interspaces, except middorsally on mesonotum where punctures are more spaced, those at sides being much smaller and contiguous. Scutellar spines short and strong, bluntly pointed and shiny, raised almost straight up, but shorter than surrounding pubescence. Abdomen short, broadest at end of 1, as in male, deep black; tergites moderately lustrous, tergal punctuation and pubescence also similar, but all black hairs shorter than in male; white lateral spots small, 1—2 and 4 subcircular, 3 slightly more transverse, all placed far apart, very compact, composed of depressed hairs slightly raised above surface level, the hair tips not extending beyond hind margin of tergites; spots on tergite I somewhat tufty, the broad space separating them clothed basally with few long and thin, raised darkish hairs. Pygidial plate broad at base, then converging with slightly convex, subacute and raised lateral carinae, the smooth median ridge occupying about apical one-third of whole length of plate (fig. 301). Total length 13.5 mm approx., fore wing 11.0 mm.

The male of this remarkable species is very similar in many respects to *italica* and was first thought to be only an aberrant individual of that species. It can be distinguished therefrom by the thin fringes of much shorter and fewer raised hairs covering the hind femora at all sides, the latter being replaced in all fresh specimens of *italica* by a dense garment of much longer black pubescence covering this and other parts of all legs.

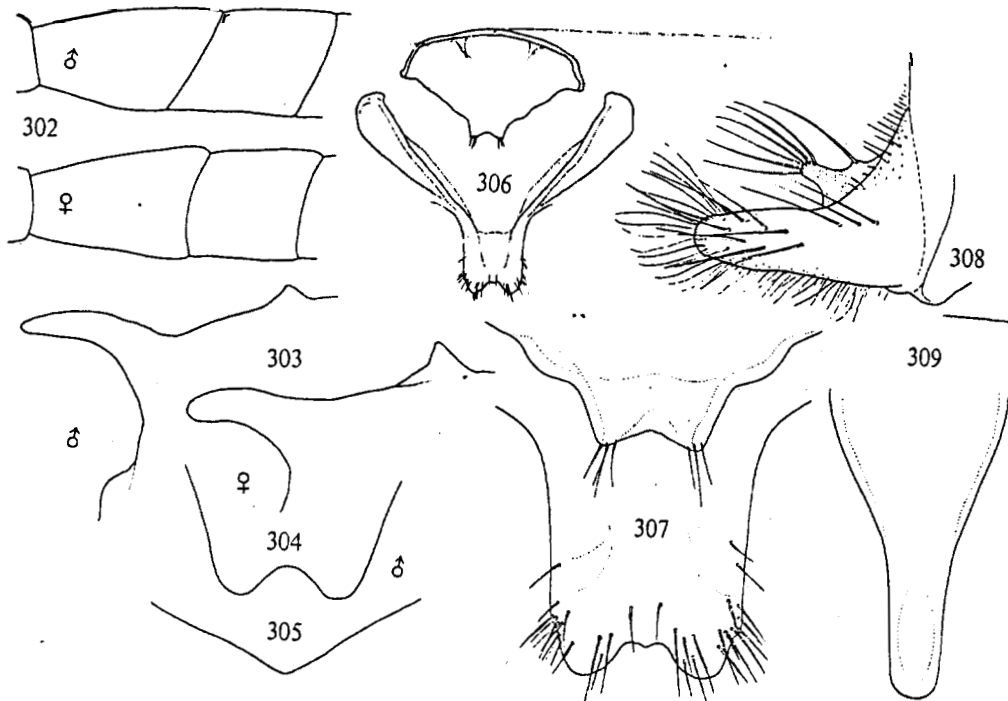
Always excepting the sexual differences, the female is the only specimen which corresponds closely with the type. As to its stature and markings, the resemblance to Egyptian examples of *italica* is undeniable; but, in addition to the main key characters, it can be distinguished from the latter by the darker wing membrane, shorter third submarginal cell, smaller tergal spots, less shiny abdomen, and shorter vestiture of all body parts; the more slender and swollen apical portion of the pygidial plate of the female being an additional feature of *assimilis*.

→ *Melecta curvispina* Lieftinck
(figs. 302—309)

Melecta curvispina Lieftinck, 1958, Comment. Biol. Helsingfors 18.5: 22 & 25 (key ♂ ♀), 28—29, fig. 9—10, 16—17, 22—25, 35 & 38 (♂ ♀ struct., Tenerife & Gran Canaria).

Additional material. — Canary Is., Tenerife: 1 ♀, Tenerife, Dr. Verneau (MP); 1 ♂ 2 ♀, Bajamar, 4.xii.1955, J. M. Fernandez (CB); 4 ♀, Las Canadas, 14.iv.1957 (♀), El Rosaria, 20.iv.1960 (♀), and Cumbre de Ergo, 13.v.1960 (2 ♀), all O. Lundblad (NRS, ML); 1 ♀, Cumbre de Aguirre, 26.iv.1959, Fernandez (ex coll. Verhoeff, ML); ♀ ♂, Cruz da Afur, 5.iv.1904, E. Saunders coll. (BM); series ♂ ♀ Tenerife, 1000—2100 m, v—vi.1964, K. M. Guichard (BM); series of 72 ♂ ♀, Orotava, Agua Garcia, Canadas, Mercedes, Villaflor and P. del Hidalgo, 25.iv—2.v.1971, H. Teunissen (CT, ML); 2 ♂ 1 ♀, Las Canadas, 6.iv.1972 (2 ♂) and Buenavista, 19.iv.1972 (♀), K. W. R. Zwart (ML); 1 ♀, Arona, 13—26.ii.1977, J. Wolschrijn, coll. H. Wiering (MA); 1 ♀, Barranco de los Silos, 170 m, 27.iii.1972, J. Klimesch (CE); 4 ♂, Puerto de la Cruz, 23—27.iii.1976, S. Erlandsson, together with *Anthophora a. alluaudi* J. P. (NRS, ML); 3 ♂, Vilaflor, 1300 m, 4.iv.1977, H. Wolf (CHW); 1 ♂ 1 ♀, Bco. Infierno, 25.iii.1972 (♂), A. Machado, and Los Gigantos, 11.iii.1972 (♀), B. Gustafsson (NRS). — La Palma: series ♂ ♀, v—vi.1964, K. M. Guichard (BM); 1 ♀, La Palma, Cumbre Nueva, W slope, "cleared pine woods", 30.v.1976, P. J. Chandler (BM); 1 ♀, La Palma, La Caldera, 4.v.1973, A. Machado (NRS); 1 ♀, Palma, Canar. Is., 23.iii.1898, Hintz (MNB). — Gomera: 1 ♀, Gomera, Can. Ins., 15.iv.1898, Hintz, *M. luctuosa*, det. Friese (MNB); 1 ♂ (diss.), Kanar. Ins., La Gomera, Valley Gran Rey, 2—16.iv.1971, J. Klimesch (CE). — Gran Canaria: 2 ♀, Grande Canaria, env. de Sta. Brigida, San José Montañela, 26.iii.1903, P. Lesne, *M. luctuosa* Scop., det.? (MP, ML); 1 ♂ 1 ♀, Gran Canaria, San Agustin, 27.iii—6.iv.1970, H. Wolf (ML); 1 ♂ 1 ♀, Gran Canaria, Caldera de Bandama, 11.iii.1968 (♂) and San Bartolomé de Tirajana, 16.iii.1968 (♀), W. Backhuys (ML).

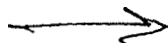
A very distinct species, well characterized by the curved processes arising from the scutellar lobes. The type is from Tenerife.



Figs. 302—309. *M. curvispina* (Canary Is.); 302, frontal view of left antennal segments 3—4 (♂ ♀, Tenerife); 303, left scutellar spines (same specimens); 304, apices of tergites 7 and 8 (♂, same specimen); 305, apical border of sternite 6 (♂, same specimen); 306, sternites 7 and 8 (♂, same specimen); 307, apices of gonostylus (♂, same specimen); 308, oblique lateral view of gonostylus (♀, Tenerife); 309, dorsal view of pygidial plate (♀, Tenerife). After Lieftinck, 1958

Male. — The characters summarized in my previous key (1958) are incomplete, no mention having been made of one very important character, viz. the presence of rhinaria on the antennal segments, which are well developed in the males of all species known from the Canaries. In *M. luctuosa* these scent organs are absent, but this species has not yet been found in the islands. With the amended note on the antennal structure, the original descriptions and copied illustrations (figs. 302—309), it will be easy to separate *curvispina* from its congeners. Apart from the usual infraspecific variation in structure, no differences could be detected between males from Tenerife and three other main islands of the group.

Female. — Two fairly distinct insular varieties (subspecies?) are recognizable: (1) Tenerife: Clypeus, a broadly hairless anterior border excepted, invariably clothed with raised black hairs; long dense pubescence fringing antennal scape white anteriorly, black posteriorly; abdominal spots conspicuous, largest and completely isolated on tergite 1. — (2) Gran Canaria: A brilliant fan-like patch of decumbent silvery hairs upon middle of clypeus; hairs all around antennal scape black; tergal spots similar to (1), but all comparatively smaller. These (unisexual!) differences in hair colour and size of tergal spots between populations from Tenerife (terr. typ.) and Gran Canaria, are worthy of note. By the absence of a female from Gran Canaria, these features could not be taken into account in my earlier description, but certainly deserve full attention. La Palma and Gomera are new insular records for this species. Females from these islands are no more available for comparison with the others.



Melecta canariensis Lieftinck

(figs. 3 10—3 12)

Melecta canariensis Lieftinck, 1958, *Commeni. Biol. Helsingfors* 18.5: 26—28 (key ♀), 30, fig. 11, 18 & 40 (♀ struct., "Canary Is.", MP).

Additional material. — Canary Is.: 1 ♀ (diss.), labelled "69/85" (written on white disk), small purple square, "Canary Islands" (written on white rectangle), and my own identification "*M. canariensis* = ?*curvispina* Lieft., det. 1958" (BM).

This second female, though not in too good a condition, compares well structurally, in colour and size, with the holotype of *canariensis*, whose precise habitat is also unknown! Apart from the specific difference in the scutellar processes, which are distinctly shorter and not markedly curved, it agrees best with variety (2) of *curvispina*, since it possesses a silvery spot upon middle of clypeus, while all hairs fringing the antennal scape are black. Pubescent pattern and size of tergal spots as in population from Gran Canaria. It is evident, therefore, that this specimen was not collected on the island of Tenerife. With the discovery of yet another species, *M. prophanta* spec. nov., in the Canaries, it seems best to consider all taxa presently known from these islands distinct species. The nearest ally of *canariensis* would seem to be *M. leucorhyncha* Gribodo, discussed hereafter.

Male. — Unknown, but likely to be discovered in one of the islands, which will be necessary to establish its status and affinities with more precision.


***Melecta caroli* Lieftinck**

(figs. 313—321)

Melecta caroli Lieftinck, 1958, Comment. Biol. Helsingfors 18.5: 23 & 28 (key ♂ ♀), 29—30, fig. 12—13, 19—20, 26—29, 36 & 41 (♂ ♀ struct., Lanzarote).

Melecta nigra Brullé, 1839, in Webb & Berthelot, Hist. nai. Iles Canaries 2 Ent.: 89 (♀ Canaries). — Lieftinck, 1958, Comment. Biol. Helsingfors 8 (5): 30 (homonym).

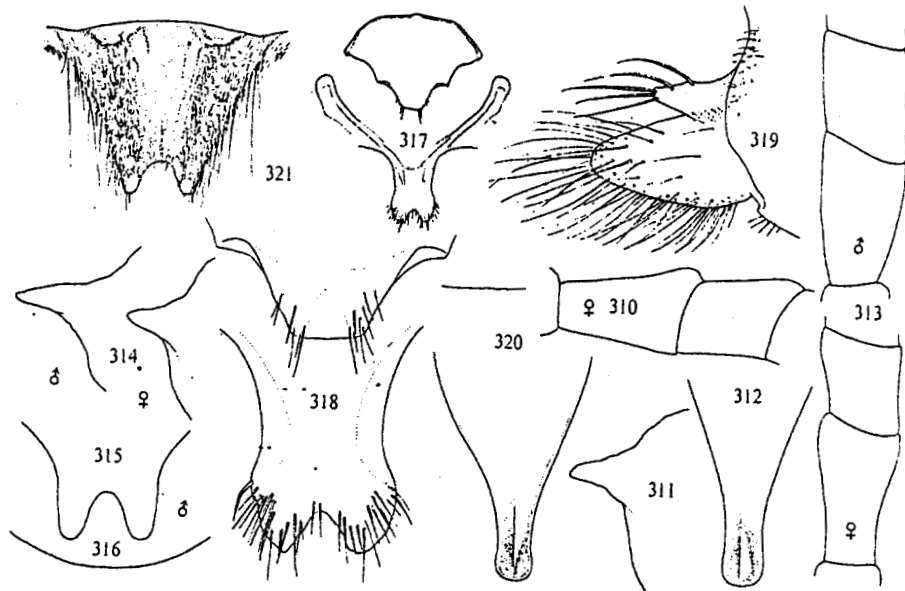
Additional material. — Canary Is., Lanzarote: 4 ♀, Islas Canarias, Lanzarote. Puerto del Carmen, 1.iii.1977 (♀), Mozaga, 5.iii.1977 (♀), Mirador del Rio (♀), and 3 km N of Maguez, 9.iii.1977 (2 ♀), M. C. & G. Kruseman (MA, ML); 22 ♂ 11 ♀, Lanzarote, Famara, 4—18.ii.1979, R. T. Simon Thomas & W. N. Ellis (MA, ML). — Fuerteventura: 2 ♀, Betancuria, 2.v.1964 & above Ampuyenta, 29.iv.1964, K. M. Guichard (BM); 1 ♀, Fuerteventura, Canar. Ins., Polatzek, ii.1894 N.1 (NMW) 2 ♂ 2 ♀ (diss.), Fuerteventura, Betancuria (♀), Vega Rio Palma (2 ♂) and La Oliva (♀), 12—13.ii.1977, leg. M. Báez (MLLT, ML); 2 ♀, Fuerteventura, La Oliva, 11.v.1974, J. M. Fernandez, and 29.v.1974, A. Machado (NRS); 1 ♀, Canar. Ins., Fuerteventura, 13—26.iii.1926, Hering (MNB).

The rich supply of specimens presently available for study enabled me to supplement the original description of this interesting little species (see also the keys and figs. 313—321).

Both sexes. — Incomplete median carina of labrum slightly compressed and upturned apically, occasionally extending upward toward base for about $\frac{3}{4}$ whole length of labrum. Antenna invariably 6-segmented.

Female. — Body totally black or almost so; occasionally a tiny white spot on outer faces of mid and hind tibiae at some distance from base, and (still more rarely) tufts of white in front of tegulae, behind wing bases and at outer sides of tergite 1. No condensed black hair spots at sides of tergites 2—4.

Labrum short and squarish, broadest at base, anterior border slightly projecting, the mid-apical crest ending in a pinched tubercle. Antenna slender, 3 much shorter than scape, about one and one-third as long as next segments, but all distinctly longer than broad; 2—5 subequal, 6 from one-half to two-thirds as long as preceding ones. Head and thoracic sclerites closely punctate, punctures on ocellocular area and disk of mesonotum deep, rather irregular, sometimes smaller in part than smooth and shiny interspaces. Median mesonotal line very fine, not impressed, ending at a level halfway length of tegulae, the latter superficially punctate only near base. Scutellar tubercles suberect, bluntly pricker-shaped, slightly divergent, shorter than surrounding pubescence. Inner (antecarinal) faces of mid and hind femora impunctate for a long distance beyond base. Hind tibiae densely hairy, outer faces dull, with numerous spicules evenly distributed. Inner rami of mid and hind tarsal claws less than half as long as outer. Wings strongly infuscated with slight bronze reflex, darkest along main veins and in cell centres; third submarginal cell a little higher than long, outer angle not strongly convex; nervellus well proximal to fork. Abdominal tergites finely, rather superficially punctate, most closely on posterior segments, all punctures setiferous on smooth, somewhat shiny ground. Pubescence moderately long and dense, as are the raised subapical bristles on abdominal segments and legs, those fringing posterior faces of mid and hind basitarsi distinctly longer than diameter of same. Pygidial plate gradually downcurved, broad at base, length-breadth ratio about 100 : 70; sides almost rectilinear, strongly converging as far as about $\frac{3}{4}$ length from base, then



Figs. 310-312. *M. canariensis* (Canary Is.); 310, frontal view of left antennal segments 3-4 (♀ holotyp); 311, left scutellar tubercle (same specimen); 312, dorsal view of pygidial plate (same specimen). — Figs. 313-321. *M. caroli* (Canary Is.); 313, frontal view of left antennal segments 3-4 (Lanzarote); 314, left scutellar spines (same specimens); 315-316, contour of apex ♂ tergite 7 (315) and apical border sternite 6 (316); 317, sternites 7 and 8 (♂, same specimen); 318, apices of the same, more enlarged; 319, oblique exterolateral view of right gonostylus (♂, same specimen); 320, dorsal view of pygidial plate (♀, Lanzarote); 321, dorsal view of tergite 7 (♂, Fuerteventura). All except in 321 after 1:10.

pinched, the long slender apical portion almost parallel-sided (fig. 321).

Hab.: Apparently restricted to Lanzarote and Fuerteventura.

M. caroli is one of the five *Melecta* species presently known from these Atlantic islands, and the only one showing pronounced melanism. It is quite distinct from the other small-sized members, which are probably closely interrelated. At the same time, however, *caroli* comes very near three other melanistic forms separated from it geographically by a wide gap, all occurring in the mid-Mediterranean area. These taxa are: *gracilipes*, from Menorca I. (Balearic Is.), and the much obscured geographical subspecies of two very distinct and widely distributed species, viz. *albifrons nigra* and *leucorhyncha taormina*, occurring in most parts of Italy as well as in the islands of Corsica, Sardinia, Sicily, and Malta. They share the same tendency towards darkening of the vestiture, and accordingly look remarkably similar, especially the two extremes amongst them, namely females of *taormina* (Sicily) and *caroli* (Canaries), which are distinguishable only on close scrutiny. The phenomenon is difficult to explain, but I venture to suppose that climatic as well as edaphic influences have played an important role in the development of subspecies showing a similar colour design.