

II TAXONOMIC STUDIES OF THE EGYPTIAN EUMENIDAE (ORDER : HYMENOPTERA)

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INTRODUCTION

The present work aimed at studying the taxonomy of the solitary wasp family, Eumenidae. An earlier study (Zalat *et al.*, 1991) dealt with ten genera belonging to this family. In the present study, seventeen others are outlined. It is hoped that both studies would correct some misidentifications and incorrect nomenclature of this important group.

MATERIAL AND METHODS

After four years of survey in Southern Sinai, with the aid of an ordinary sweeping net (May, 1982 to September, 1986), the collected material together with the preserved eumenid specimens were examined and identified. Abbreviations of the used collections and museums are as follows :

1 — British Museum (Natural History) = BMNH; 2 — Berlin Museum = Ber. Mus.; 3 — Ministry of Agriculture = Min. of Agric.; 4 — Entomology Dept., Fac. Sci., Ain Shams Univ. = Ain Shams Univ.; 5 — Entomology Dept., Fac. Sci., Cairo Univ. = Cairo Univ. and 6 — Zool. Dept., Fac. Sci., Suez Canal Univ. = Suez Canal Univ.

RESULTS AND DISCUSSION

1 — Genus *Delta* Saussure

Delta Saussure, 1855, *Et. Fam. Vesp.* 3 : 130, 132, 143. *Type species* : *Veaspa maxillosa* DeGeer, 1775 (= *Delta emarginatum* (L.) (designated by Bequart, 1926). *Distribution* : Palaearctic and Afrotropical regions.

KEY TO SPECIES

- 1 — Sternite II with median depression 2
 — Sternite II regular and convex 4
- 2 — Tergite II ferruginous on the basal margin. Wings transparent with blackish and violet reflection apically *dimidiatipenne* (Saussure).
 — Tergite II black. Wings entirely black with violet reflections 3
- 3 — Body nearly entirely black ... *emarginatum emarginatum* (Linne)
 — Body more or less extensively ferruginous *emarginatum savignyi* (Guerin)
- 4 — Clypeus large and short. Mesonotum with two yellow lines laterally *asina mixtum* (Giordani Soika)
 — Clypeus variable in shape. Mesonotum black or ferruginous without yellow 5
- 5 — Pronotum yellow. Metathorax yellow with black bands 6
 — Pronotum ferruginous. Metathorax ferruginous 7
- 6 — In male, anterior part of clypeus (Fig. 1) shorter than the basal interocular part. Mesonotum black. Sides of propodeum simple. Wings transparent *campaniforme gracile* (Saussure)
 — In male, anterior part of clypeus nearly as long as the basal part. Mesonotum black with two small ferruginous lines on the margins. Sides of propodeum more angular. Wings ferruginous with brown *lepeleterii* (Saussure)
- 7 — Female : larger in size, clypeus yellow, abdominal segments II-V with broad apical yellow bands, wings transparent *ungiculatum sporadense* (Schulthess)
 — Female : smaller in size, clypeus ferruginous, abdominal segment II with narrow apical yellow band, wings darker *hottentottum elegans* (Saussure)

Delta asina mixtum (Giordani Soika)

Eumenes (*Delta*) *mixtus* Giordani Soika, Atti 1st. veneto Sci. 130 : 166, m*.

Distribution : N.E. Africa; Jordan; Sudan; Palestine; Arabia.

* When present, f is female and m is male.

Delta campaniforme gracile (Saussure)

Eumenes gracilis Saussure, 1852, Et. Fam. Vesp. 1 : 57, f* and m*.

Type : f* & m*, Egypt; Senegal (Paris). *Distribution* : N. Africa; Tropical Asia.

Delta dimidiatipenne (Saussure)

Eumenes dimidiatipennis Saussure, 1852, Et. Fam. Vesp. 1 : 51, f- and m-

Type : Egypt; Arabia, f* and m* (Paris).

Distribution : from Western Sahara to Western India.

Delta emarginatum emarginatum (Linné)

Vespa emarginata Linne, 1758, Sys. Nat. 10th Ed. 1 : 574.

Vespa maxillosa DeGeer, 1773, Mem. Hist. Ins. 3 : 377, pl. 29, f. 1, 2.

Type : van der Vecht & Fischer, 1972 mentioned about the types that : "in America : (error) (? loc.). Surinam, leg. Rolander (Stockholm). *Distribution* : N. Africa; Derna; Tripoli; Egypt.

Delta emarginatum savignyi (Guerin)

Eumenes savignyi Guerin, 1835, Iconogr. Regne Animal, Atlas, pl. 72 f. 4, 1844, Ibid. (texte) 3 : 446. *Eumenes savignyi* Spinola, 1838, Annls Soc. ent. Fr. 7 : 503, f and m. Types : Senegal; Egypt (loc. not mentioned). (van der Vecht & Fischer, 1972).

Delta hottentottum elegans (Saussure)

Eumenes elegans Saussure, 1852, Et. Fam. Vesp. 1 : 58, f, pl. 11 f. 3.

Type : Di jidda en Arabia; les Indes orientales. (Musee de Paris) (Saussure, 1852). *Distribution* : Arabia; Palestine; Persia; Egypt.

Delta lepeleteri (Saussure)

Eumenes lepeleteri Saussure, 1853, Et. Fam. Vesp. 1 : 45, f, pl. 10 f. 3.

Eumenes lepeleteri Saussure, 1853, Et. Fam. Vesp. 1 : 273.

Type : Senegal (Paris and Genova).

Distribution : Tropical and Southern Africa, N. Yemen and Somaliland; "also in Egypt" (van der Vecht & Fischer, 1972).

Delta unguiculatum sporadense (Schulthess)

Eumenes unguiculus sporadensis Schulthess, 1929, Arch zool. Ital. 13 : 137, f.

Type : Rhodes; 1 f (Zurich). (van der Vecht & Fischer, 1972). *Distribution* : Rhodes; Egypt.

2 — Genus *Eumenes* Laterille

Eumenes Laterille, 1802, Hist. Nat. Crust. Ins. 3 : 360. *Type species* :
Vespa coarctata Linne (designated by Laterille, 1810).

Distribution : all over the main world regions except Australia.

KEY TO SPECIES

- 1 — Tergite I largely swollen with a narrow apical yellow band; tergite II largely convex without preapical depression and with two lateral oval yellow spots *pomiformis pomiformis* (Fabricus)
— Tergite I less swollen and with a broad apical yellow band; tergite II less convex, with a small projection shown in the profile, and with two large yellow bands laterally 2
- 2 — Clypeus mainly yellow (Figs. 2 ♀ & 3 ♂); scutellum with two large spots; tergite V & VI with yellow apical band (Fig. 4) *mediterraneus mediterraneus* Kriechbaumer
— Clypeus and scutellum black; tergite V-VI black *mediterraneus opacus* Gusenleitner.
Eumenes mediterraneus mediterraneus Kriechbaumer

Eumenes mediterraneus Kriechbaumer, 1879, Ent. Nachr. 5 : 85, f and m.

Types : Dalmatia, 1 m & 1 f lectotypes, Munchen (van der Vecht & Fischer, 1972). *Distribution* : mediterranean region; West & Central Asia.

Eumenes mediterraneus opacus Gusenleitner

Eumenes mediterraneus opacus Gusenleither, 1972 : Boll. Mus. Civ. Venezia.

Types : females and males in Guserleitner's collection of Italian Museum.

Distribution : Germany, France, Austria, Italy, Yugoslavia, Spain, Portugal, Switzerland, Greece, Albania, Bulgaria, Turkey, Lebanon, Syria, Israel, Morocco, Tunisia, Egypt, Jordan, Iraq, Iran, USSR, Afghanistan.

Eumenes pomiformis pomiformis (Fabricius)

Vespa pomiformis (Fabricius), 1781, Spec. Insect. 1 : 467.

Eumenes mediterranea var. *heri* Kriechbaumer, 1879, Ent. Nachr. 5 : 88, m

Types : Italia, 1 f lectotype (leg. Allioni) (Coll. Fabricius), Italia, 1 m lectotype, Venezia Giulia (Col. Giordani Soika).

Distribution : Europe & N. Africa.

3 — Genus *Eustenancistrocerus* Bluthgen

Eustenancistrocerus Bluthgen, 1938, Dt. ent. Z. 1938 : 443, 360.

Types species : *Odynerus* (*Odynerus* div. *Epsilon*) *blanchardianus* Saussure, 1855.

KEY TO SPECIES

1. Tergite II with tubercle on the base (Fig. 5). Tergite I much more narrow than tergite II. Anterior carina of pronotum completely rounded (Fig. 6). Body black with yellow *pharo* (Saussure)
 - Tergite II without tubercle on the base. Tergite I slightly narrower than tergite II. Anterior margin of pronotum more or less protruding laterally (Fig. 7). Colour of the body black or ferruginous with yellow 2
 2. Large in size, up to 9 mm. Postscutellum distinctly bilobed. (Fig. 8). Lateral carina of lower part of propodeum more protruding and sharp. Colour yellow with ferruginous or black. *inconstans* (Saussure)
 - Smaller in size, up to 6 mm. Postscutellum not bilobed. Lateral carina of propodeum less developed and less pointed. Colour black with yellow. *nilensis* (Giordani Soika)
- Eustenancistrocerus inconstans* (Saussure)

Odynerus (*Stenancistrocerus*) *inconstans* Saussure, 1863, Mem. Soc. Phys. Hist. nat. Geneve 17 : 217, f.pl.2 f. 24.

Odynerus flavus Walker, 1871, List Hym. J.K. Lord, Egypt : 32 (key), 33, m. *Types* Ethiopia, f, (Frankfurt), Egypt : Sinai, Wadi Feiran, m (destroyed, Walker Coll.).

Distribution : Sudan; North Africa; Iran; Dead Sea region; Egypt.

Eustenancistrocerus nilensis (Giordani Soika)

Anistrocerus nilensis Giordani Soika, 1935, Bull. Soc. ent. Egypte 19 : 170, 174, m, f. 9-12.

Types : Egypt : Ain Shams, 1 m, type, 27. III. 1914 (BMNH); 1 m, lectotype, 27. II. 1914. (El-Azhar Univ. Coll.), Ezbet El-Nakhl, 1 m, paratype, 3. VI. 1917 (BMNH).

Distribution : Egypt.

Eustenancistrocerus pharo (Saussure)

Leptochilus parvulus Saussure, 1853, Et. Fam. Vesp. 1 : 237 (name for the

species figured by Savigny "Species not seen").

Odynerus (*Ancistrocerus* div. *Hypancistrocerus*) *massanensis* Saussure, 1863, Mem. Soc. phys. Hist. nat. Geneve 17 : 213, pl. 2 f. 22, f.

Odynerus (*Ancistrocerus* div. *Hypancistrocerus*) *massanensis* Saussure, 1863, Mem. Soc. Phys. Hist. nat. Geneve 17 : 213, pl. 2 f. 22, f.

Odynerus invisus Dalla Torre, 1894, Cat. Hym. 9 : 74.

Types : Ethiopia : Massana, f (Frankfurt). Egypt, m (type loc. unknown).

Distribution : Sahara; Ethiopia; Egypt.

4 — Genus *Ischnogasteroides* Magretti

Ischnogasteroides Magretti, 1884, Bull. Soc. ent. ital. 15 (1883) : *Annali Mus. civ. Stor. nat. Genova* 21 : 603.

Type species : *Ischnogasteroides flavus* Magretti.

KEY TO SPECIES

1. Anterior margin of pronotum with clear lateral tooth (Fig. 9) 2
- Anterior lateral margin of pronotum without tooth, but with small concave part (Fig. 10) 3
2. Fundamental colour of the body ferruginous. Tergite II more arched, especially on the basal part. Female tegulae ferruginous *leptogaster leptogaster* (Walker)
- Fundamental colour of the body yellow. Tergite II more flattened, especially on the basal part. Female tegulae yellow *leptogaster flavus* Magr
3. In male, tegulae elongate, about twice as long as wide, bright yellow, antennal joint thick, pleural parts black with yellow spots *tenuissimus* (Giordani Soika)
- In male, tegulae short and convex with little punctation, yellow reddish in colour, antennal joints more slender, pleural parts black (Fig. 11) ... *annae* (Kostylev)

Ischnogasteroides annae (Kostylev)

Eumenes (*Ischnogasteroides*) *annae* Kostylev, 1939, Arch. Mus. zool. Univ. Moscou, 5 : 163, 1686, f. 1.

Types : Yemen, Sahara, 1 f holotype, 4. x. 1931 (Moscou). Egypt, Saint Catherine, Wadi Telah, 1 m Allotype, 29. V. 1983. (Suez Canal Univ. Coll.). *Distribution*: Yemen; Saudi Arabia; Egypt.

Ischnogasteroides leptogaster leptogaster (Walker)

Eumenes leptogaster Walker, 1871, List. Hym. Egypt 30, m.

Types : Egypt, Wadi Feiran, 1 m, without date (no. 18. 153) (BMNH).

Distribution : Dead Sea region; Egypt.

Ischnogasteroides leptogaster flavus Magretti

Ischnogasteroides flavus Magretti, 1884, Boll. Soc. ent. ital. 15 : 251, f. 3.

Eumenes (Ischnogasteroides) flavus var. *tripolitamus* Giordani Soika, 1939, Atti Soc. ital. Sci. nat. 78 : 198.

Types : Egypt, Gabal Elba, 1 m, 27. XII. 1938 (BMNH). Abyssinia, Kor Cheru, 1 f (Genova Mus.).

Distribution : Abyssinia; Egypt.

Ischnogasteroides tenuissimus (Giordani Soika)

Eumenes (Ischnogasteroides) gracillimus Giordani Soika, 1941, Mem. Soc. ent. ital. 20 : 97 (key), 98, E, f. 1.3, 5, 7, 9.

Ischnogasteroides tenuissimus Giordani Soika, new name for the species (van der Vecht & Fischer, 1972).

Types : Egypt, Gabal Elba, 1 m, 30. I. 1930 (BMNH).

Distribution : Egypt.

5 — Genus *Katamenes* Meade-Waldo

Katamenes Meade-Waldo, 1910, Ann. Mag. nat. Hist. (8) 5 : 46.

Type species : *Katamenes watsoni* Meade-Waldo, 1910 (nontypic).

Distribution : Palaearctic and Afrotropical regions.

KEY TO SPECIES

1. Male median metatarsus long and slender, nearly 5 x longer than wide 2
- Male median metatarsus short and broad, less than 5 x longer than wide 4
2. Clypeus elongate. Tergite I more longer than wide *sichelii biblicus* (Giordani Soika)
- Clypeus slightly shorter. Tergite I more elongate, nearly 4 x longer than wide 3

3. Tergite I black with yellow. Last abdominal segment black. In female, clypeus elongate, mesopleuron and scutellum yellow *libycus* (Giordani Soika)
- Tergite I ferruginous with black. Last abdominal segment ferruginous ... *jenjouristei rubroniger* (Giordani Soika)
4. Body completely black, including the wings (except male clypeus which is pale yellow) *niger* (Brulle)
- Body black with ferruginous and yellow 5
5. Clypeus longer than wide. Tergite I long and slender, swollen on the base. Body black with yellow and ferruginous *priesneri* (Giordani Soika)
- Clypeus broad (Fig. 12). Tergite I shorter and largely swollen on the basal part. Body black with ferruginous 6
6. Large in size, tergite I & II very long and broad (Figs. 13 ♀ & 14 ♂). In male, clypeus nearly as long as wide, mid-tibiae thick *dimidiativentris* (Giordani Soika)
- Smaller in size, tergite I & II (Figs. 15 ♀ & 16 ♂) shorter and narrower. In male, clypeus slightly longer than wide, midtibiae more slender *dimidiativentris francisi* : n. subsp.

Katamenes dimidiativentris (Giordani Soika)

Eumenes niger var. *dimidiativentris* Giordani Soika, 1941, Memoire Soc. ent. ital. 20 : 104. Types : Palestine; Jericho, 1 f, holotype, X. 1900 & 1 m, allotype, 20-28 IV, 1927 (BMNH).

Katamenes dimidiativentris francisi new subspecies

This new subspecies is similar to the original species *Katamenes dimidiativentris* (Giordani Soika) but differs in the following :

Character	<i>Katamenes dimidiativentris</i>	<i>dimidiativentris francisi</i>
Size	length to tergite II	length to tergite II
f	17.5 — 21.5 mm.	16.5 mm.
m	16.5 — 17.0 mm	13.5 mm.
Clypeus	larger in size	smaller in size
f	(L. = 2.3 mm., W. = 2.4 mm.) with a short black band on the basal margin.	(L. = 2 mm., W. = 2 mm.) a thick black band, extends to the central part laterally. (Figs. 17 ♀ & 18 ♂)
m	Nearly as long as wide (L. = 2-2.5, W. = 1.8-2.5 mm.) Wide between eyes (W. = 1.7-1.9 bb.)	Slightly longer than wide (L. = 1.6-1.8, W. = 1.8-2 mm.) Narrower between eyes (W. = 1.3-1.6 mm.)
Scutellum	In m black but sometimes with two small reddish spots.	Black in colour
m Mid. tibiae	Thick	More slender
Petiole	In f & m, long and the apical 2/3 very broad (W. = 2.5 mm.).	Shorter and the apical part less swollen and narrower with nearly parallel lateral sides and slightly wider in f than m (f W. = 1.8, m W. = 1.7 mm.).
Tergite II	Very broad, wider in f than m (f W. = 5.3, m W. = 4.5 mm.).	Much narrower, but also wider in f than m (f W. = 4.1, m W. = 3.3 mm.).

Key : L. = length; W. = Width; f female, m, male. *Distribution* : Egypt.

Katamenes Jenjouristei rubroniger (Giordani Soika) *Eumenes (Delta) libycus* var. *rubroniger* Giordani Soika, 1941, Mem. Soc. ent. Ital. 20 : 103, f. (incorrectly under *libycus*). *Types* : Egypt : Sinai, Wadi Ummital, 1 f, lectotype, 21. III. 1937 (coll. Giordani Soika) & 1 f, 8. V. 1938 (BMNH).
Distribution : Saudi Arabia; Palestine; Egypt.

Katamenes libycus (Giordani Soika)

Eumenes (Delta) libycus Giordani 1941, Mem. Soc. ent. Ital. 20 : 102, f. 1-3, 5, 7.

Eumenes algerus (Schulz) var. *libycus* (!); Giordani Soika, Boll. Soc. ent. Ital. 79 : 42, 46 *Types* : Cirenaica : Tobruk, 1 m, lectotype, 12.III. 1925 (coll. Giordani Soika) & Porto Bardia, a f, 1927. (Gen. Mus.). *Distribution* : Libya; Egypt.

Katamenes niger (Brulle)

Eumenes niger Brulle, 1839, in Barker-Webb & Berthelot, Hist. nat. iles Canar. 2, livr. 44 : 89, f and m. *Types* : Les Canaries : f and m (Paris). *Distribution* : Canaries; Morocco; Saudia; Egypt.

Katamenes priesneri (Giordani Soika)

Eumenes (Delta) priesneri Giordani Soika, 1941, Mem. Soc. ent. Ital 20 : 104, m, f. 1-3 (p, 105). *Types* : Egypt, Gabal Elba, 1 m, holotype, 27.XII. 1937 (BMNH). *Distribution* : Egypt.

Katamenes sichelii biblicus (Giordani Soika)

Eumenes sichelii var. *biblicus* Giordani Soika, 1935, Bull. Soc. ent. Egypt 19 : 162 (key), 176, f. *Types* : Egypt : Sinai, 2 f, without date (Vienna Mus.) & Gabal Elba, 1 m, holotype, 27.XII. 1938 (BMNH). *Distribution* : Jordan; Palestine; Egypt.

6 — Genus *Labochilus* Bluthgen

Labochilus Bluthgen, 1939, Mitt. ent. Ges. Halle 17 : 12.

Type species : *Pterochilus linguarius* Saunders, 1905.

Leptoperocheilus Giordani Soika, 1953, Bull. Soc. Sci. ant. phys.

Morocco 32 (1952) : 262. *Type species* : *Pterochilus linguarius* Saunders, 1905. *Distribution* : N. & W. Africa; Sahara.

Labochilus pulawskyi Giordani Soika

Labochilus pulawskyi Giordani Soika, 1970, Boll. Mus. civ. Stor. nat. Venezia 20/21 : 83 f and m. *Types* : Egypt : Luxor, f and m. (holotype and allotype). 24.II. 1958 (BMNH). *Distribution* : Egypt.

7 — Genus *Leptochilus* Saussure

Leptochilus Saussure, 1953, Et. Fam. Vesp. 1 : 233, pl. 6 f. 3.

Distribution : Palaearctic, Afrotropical and Nearctic regions.

Type species : *Pterochilus mauritanus* Lepetier, 1841 (designated by Ashmed, 1902; mauritanus).

KEY TO SPECIES

- 1 — Tibiae, large part of tegulae, apical margin of tergites I & II and sternite II, white in colour *salomon* Gusenleitner
- Colour otherwise 2
- 2 — Apical lamella of tergite and sternite II with a row of points more or less developed on the basal margin. (Fig. 19) 3
- Apical lamella of tergite and sternite II smooth and slightly punctate on the basal margin. (Fig. 20) 4
- 3 — Clypeus emargination narrow and shallow. Pronotum black with white patches; tegulae orange, legs ferruginous *bellus* Blüthgen
- Clypeus deeply emarginate apically. Pronotum and tegulae black and yellow; legs rusty-yellow *medanae* (Gribodo)
- 4 — Tegulae very large with completely rounded posterior lobe. Antennal hook in male, large. (Fig. 21) 5
- Tegulae normal in size, posterior lobe slightly narrower. Antennal hook in male, small. (Figs. 22 & 23) 7
- 5 — Sternite II strongly convex on the base. Abdominal segment I apical margin of tergite and sternite II red orange *flegias* (Giordani Soika)
- Sternite II not convex on the base. Abdominal segments I and II black with yellow bands or spots 6
- 6 — Clypeus slightly wider than long : in female, the apical margin moderately emarginate, punctuation fine. In male, the posterior metatarsus swollen. In both sexes, tergite I with apical yellow band *camurus* (Giordani Soika)
- Clypeus much wider than long, in female, the apical margin deeply emarginate, punctuation dense and large. In male, posterior metatarsus normal. In both sexes, tergite I and II with apical yellow band *limbiferoides* (Giordani Soika)

- 7 — Tergite I elongate, as long as wide. Pronotum with sinuous carina more protruding laterally. Thorax much longer than wide *flexilis* (Giordani Soika)
- Tergite I shorter than wide. Pronotum with normal carina, Thorax slightly longer than wide 8
- 8 — Tergite I long. Tergite II much wider apically than the base ... 9
- Tergite I short. Tergite II slightly wider apically than the base 12
- 9 — Thorax dark, with dense punctation; hairy *errabundus* (Giordani Soika)
- Thorax bright, with fine or moderate punctation; less hairy 10
- 10 — The base of sternite II completely rounded without a median furrow *torretassoi torretassoi* (Giordani Soika)
- The base of sternite II with median longitudinal furrow 11
- 11 — Scutellum slightly convex. Propodeum normal with nearly flat posterior margin. Mesoepisternum black; postscutellum black with yellow posteriorly *osiris* (Schmiedeknecht)
- Scutellum more convex. Propodeum shorter, more swollen posteriorly. Mesoepisternum mainly black with pale yellow spot; postscutellum ferruginous *praestans* (Giordani Soika)
- 12 — Body mainly black and yellow-ferruginous. Tergite I with dense and uniform punctation *schindleri* (Guiglia)
- Body mainly black with ivory-white. Tergite I with irregular and less dense punctation *schatzmayri* (Giordani Soika)
- Leptochilus bellus* Blüthgen

Leptochilus (Lionotulus) bellus Blüthgen, 1955, Bull. Res. Coun. Israel 5B : 25, f. *Types* : Palestine Jericho, 1 f, holotype, 20-28. IV. 1957 (Ber. Mus.) *Distribution* : Palestine; Egypt.

Leptochilus camurus (Giordani Soika)

Odynerus (Leptochilus) camurus (Giordani Soika), 1938, Boll. Soc. veneziana Stor. nat. 2 : 8, f, m, f. 2. *Types* : Egypt : Abu Rawash, f and m, 10. V. 1930, 27. VI. 1937 (Coll. Giordani Soika); Abu Rawash, 1 f, holotype, 23. V. 1937 (BMNH); Wadi Hof, f and m, 16. V. 1937 (BMNH). Cairo, 1 m, 23. V. 1937 (BMNH). *Distribution* : Egypt.

Leptochilus errabundus (Giordani Soika)

Odynerus errabundus Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 11, f and m. *Types* : Egypt : Wadi Hof, 1 m and 2 f, allotype and holotype, 21.II. 1937 and 18.X. 1936 (BMNH); Wadi Garawi, 1 m, 3.III. 1935 (Coll. Giordani Soika); Orget El-Sheikh, 1 m, 12.X.1925 (BMNH). Borgash, 1 m, 31.VII. 1932 (Coll. Giordani Soika). *Distribution* : Egypt.

Leptochilus flegias (Giordani Soika)

Odynerus (Leptochilus) flegias Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 6, f, f.2. *Types* : Egypt, Sinai, Tor, 1 f, holotype, 26.II. 1933 (BMNH). Palestine, Revivim, 1 m, allotype, 7.III. 1955 (Coll. Bytinski-Salz). *Distribution* : Palestine; Egypt.

Leptochilus flexilis (Giordani Soika)

Odynerus (Leptochilus) flexilis Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 10, f and m. *Types* : Egypt : Wadi Hof, 1 f, holotype, 16.V. 1937 (BMNH); Wadi Hof, 4 f, 16-17.V. 1937 (Coll. Giordani Soika); Wadi Galala, 1 f, 21.III. 1935 (BMNH); Wadi Digla, 1 m, allotype, 21.III. 1935 (BMNH). *Distribution* : Dead Sea region; Egypt.

Leptochilus limbiferoides (Giordani Soika)

Odynerus (Leptochilus) limbiferoides Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 9, f and m, f. 2. *Types* : Egypt : Helwan, Wadi Garrawi, 1 f, holotype, 8.II. 1933 (Coll. Giordani Soika); Wadi Um El-Elek, 1 f, paratype, 26.XI. 1924 (BMNH); Wadi Hof, f and m, allotypes, 1897 (Vienna Mus.). *Distribution* : Dead Sea region and Egypt.

Leptochilus medanae (Gribodo)

Odynerus medanae Gribodo, 1886 in : Andre, Spec. Hym. Eur. 2 : 874, f
Odynerus punctizona Fertou, 1914, Anns Soc. ent. Fr. 83 : 112, f and m.
Odynerus (Lionotus) falkenhyni Dusmet, 1917, Mem. Soc. esp. Hist. nat. 8 : 365, f and m.

Leptochilus catalonicus Nouvel et Ribaut, 1956, vie et Milieu 7 : 567, f and m. *Types* : Tunisie, 1 f (Genova). Algeria, La Calle, f and m (Paris) *Distribution* : Morocco; Algeria; Dead Sea region; Egypt

Leptochilus osiris (Schmiedeknecht)

Odynerus (*Microdynerus*) *osiris* Schmiedeknecht, 1900, Termesztr. Fuz. 23 : 299, f and m. *Types* : Egypt; Sakkarah, 1 f, paratype, without date (BMNH). *Distribution* : Sudan; Palestine; Egypt.

Leptochilus praestans (Giordani Soika)

Leptochilus (*Lionotulus*) *praestans* Giordani Soika, 1970, Boll. Mus. Civ. Stor. nat. Venezia 20/21 : 71, f. *Types* : Egypt, Sinai, Wadi Mitla, 1 f, holotype. 24. IV. 1938 (BMNH). Palestine, Kaser Muhalla, 1 f., 12. IV. 1935 (Coll. Bytinski-Salz). *Distribution* : Palestine;

Leptochilus salomon Gusenleitner

Leptochilus salomon Gusenleitner, 1971, Israel J. ent., VI, 4 f. *Types* : Palestine : Mishor Rotem, 1 f, holotype, II.XI. 1964 (Coll. Bytinski-Salz); Jericho, 1 f, paratype, 6. IV. 1971 (Coll. Bytinski-Salz). Egypt : Sinai : 1 f, paratype, 6. IV. 1971 (Coll. Bytinski-Salz); Cairo, 1 f, paratype, 20-30. V. 1947 (Ber. Mus.). *Distribution* : Palestine and Egypt.

Leptochilus schatzmayri (Giordani Soika)

Odynerus (*Leptochilus*) *schatzmayri* Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 13, f. *Types* : Egypt, Sinai, 1 f, holotype, 25. II. 1939 (BMNH). *Distribution* : Egypt.

Leptochilus schindleri (Guiglia)

Odynerus (*Lionotus*) *schulthessi* Guiglia, 1929, Annali Mus. civ. Stor. nat. Genova 53 : 404, f, f. 3.
Odynerus schindleri Guiglia, 1933, Annali Mus. civ. Stor. nat. Genova 56 : 366. *Types* : Cyrenaica, Porto Bardia, f (Genova).
Distribution : Cyrenaica; Egypt.

Leptochilus torretassoi torretassoi (Giordani Soika)

Odynerus (*Leptochilus*) *torretassoi* Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 12, m.
Types : Egypt, Cairo, 1 m, holotype 27.VIII.1933 (Coll. Giordani Soika) *Distribution* : Tunis; Oran; Egypt.

8 — Genus *Microdynerus* Thomson

Microdynerus Thomson, 1974, Hym. Scand. 3 : 58.
Type species : *Odynerus exilis* Herrich-Schaeffer, 1841 (designated by Jones, 1937, Entomologist's mon. 73 : 15).
Distribution : Europe; some Asian countries; N. Africa.

Microdynerus Abdelkader pharaonum Giordani Soika

Microdynerus Abdelkader pharaonum Giordani Soika, 1960, Boll. Mus. civ. Stor. nat. Venezia II (1958) : 97, f. *Types* : Egypt, 1 f holotype, without date or exact locality (BMNH). *Distribution* : Egypt

9 — Genus *Odynerus* Laterille

Odynerus Laterille, 1802, Hist. Grust. Ins. 3 : 362.

Type species : *Vespa spinipes* Linne, 1758 (designated by Shuckard, 1837, Mag. nat. Hist. N. S. 1 : 494).

Odynerus III iger, 1807, Magaz. Insektenk. 6 : 196. *Epipone* Kirby & Spence, 1815, Introd. Ent. 1 : 346.

Types species : *Vespa spinipes* Linné, 1758.

Oplopus Wasmel, 1836, Bull. Acad. r. Belg. Cl. Sci. 3 : 45.

Type species : *Vespa spinipes* Linne, 1758 (designated by Giraud, 1879, Traite elem. d'Ent. 2(2) : 902).

Oplomerus Westwood, 1840, Introd. Modern Classif. Ins. 2 (Synopsis) : 84

Hoplomerus Agassiz, 1846, Nomencl. Zool., Index Univ. : 185.

Euepipona Dalla Torre, 1904, Genera Insect. 19 : 39.

Type species : *Vespa spinipes* Linne, 1758 (designated by Richards, 1937, Gen. Names Br. Ins. 5 : 128). *Distribution* : Europe; Asia; Africa.

KEY TO SPECIES

- 1 — Body black and rusty-red *consobrinus consobrinus* Dufour
 — Body black and yellow 2
- 2 — Abdominal segment I with wide yellow band, almost covering the whole segment, mesopleuron with yellow spot, scutellum and propodeum patterned with yellow *nigrospinus* (Morawitz)
 — Abdominal segment I black with thin yellow band on the apical margin, mesopleuron, scutellum and propodeum black without yellow *alexandrinus* Saussure

Odynerus alexandrinus Saussure

Odynerus (Oplopus) alexandrinus Saussure, 1853, Et. Fam. Vesp. 1 : 218 (key), 225, f and m.

Odynerus (Oplopus) savignyi Saussure, 1853, Et. Fam. Vesp. 1 : 218 (key) 226, f. *Types* : Egypt, f and m (Paris). Saudi Arabia, Jida, f (Paris). *Distribution* : Palaerctic especially Egypt and Saudi Arabia.

Odynerus consobrinus consobrinus Dufour

Odynerus consobrinus Dufour, 1839, Annis Sci. nat., Zool. (2) 11 : 91, f

Odynerus variolosus Lepeletier, 1841, Hist. nat. Ins. Hym. 2 : 613, f & m.

Types : France, Landes, f (Paris). f and m, without locality given (Coll. Lepeletier; Paris). *Distribution* : S. W. Europe; Asia Minor; N. Africa.

Odynerus nigrospinosus (Morawitz)

Hoplomerus nigrospinosus Morawitz, 1895, Hor. Soc. ent. ross. 29 : 436, f and m. *Types* : Transcaspia, Serachs, f and m (Leningrad).

Distribution : S. W. Europe; Egypt.

10 — Genus *Pseudepipona* Saussure

Pseudepipona Saussure, 1865, Et. Fam. Vesp. 3 : 309.

Type : *Odynerus herrichii* Saussure, 1856. *Distribution* : Asia; Europe; N. Africa.

KEY TO SPECIES

- 1 — Hind metatarsus of male normal, carina of pronotum centrally raised in male, lateral sides dentiform. Tergite II in female, with a broad central dark spot. Large yellow spots behind the eyes (Figs. 24 & 25)
 *nekt* (Giordani Soika).
 — Hind metatarsus of male swollen, carina of pronotum of male regular, not dentiform laterally, Tergite II of male with 3 black spots, one in the middle and 2 lateral. Small yellow spots behind the eyes (Figs. 26 & 27). *Tripunctata* (Fabricius).

Pseudepipona nekt (Giordani Soika)

Odynerus (Rhynchium) tripunctatus var. *convergens* Giordani Soika, 1935, Bull. Soc. ent. Egypte 19 : 184, 192, f.

Odynerus (Rhynchium) nekt Giordani Soika, 1943, Boll. Soc. veneziana Stor. nat. 3 : 36, f (female) and m (male).

Types : Egypt, Wadi Hof, f and m lectotypes, (Coll. Giordani Soika). Egypt, Helwan, 2 f paratypes, 21.X.1933 (BMNH).

Distribution : Dead Sea region; Egypt.

Pseudepipona tripunctata (Fabricius)

Vespa tripunctata Fabricius, 1787, Mant. Insect. 1 : 290.

Odynerus rocellae De Stefani, 1889, Naturalista Sicil. 8 : 230, pl. 3 f, 5-6
Type : Barbaria, 1 f (Kobenhaven).

Distribution : Mediterranean including Egypt.

11 — Genus *Pseudodontodynerus* Blüthgen

Pseudodontodynerus Blüthgen, 1939, Veroff. dt. Kolon. u. Ueberrsee Mus. Bermen 2 : 249.

Type : *Odynerus (Lionotus) pretiosus* Dusmet, 1928 (monotypic).

Distribution : Palaearctic and Afrotropical regions.

Pseudodontodynerus pretiosus (Dusmet)

Odynerus (Lionotus) pretiosus Dusmet, 1928, Eos, Madr. 4 : 101, f.

Types : Algeria, Biskra, f. (Coll. Roth).

Egypt, Fayum, Kom Oshim, 1 m, 2.IV.1958 (W. Pluawski).

Distribution : Algeria; Egypt.

12 — Genus *Pseudomicrodynerus* Blüthgen

Pseudomicrodynerus Blüthgen, 1938, Konowia 16 (1937) : 276, Dt. ent. z. 1938 : 446, 445.

Type : *Odynerus parvulus* Herrich-Schaeffer, 1838.

Pseudomicrodynerus felinus Giordani Soika

Pseudomicrodynerus felinus Giordani Soika, 1938, Boll. Soc. veneziana Stor. nat. 2 : 3, f. *Type* : Egypt, Sakkara, 1 f, 26.III.1933 (Coll. Giordani Soika).

Distribution : Egypt.

13 — Genus *Pseudonortonia* Giordani Soika

Pseudonortonia Giordani Soika, 1936, Annali Mus. civ. Stor. nat. Genova 59 : 268. *Type* : *Odynerus difformis* Saussure, 1853.

Subancistroceroides Blüthgen, 1938, Dt. ent. z. 1938 : 441, 460.

Type species : *Odynerus aegyptiacus* Saussure, 1863.

Distribution : Palaearctic & Afrotropical regions.

KEY TO SPECIES

- Tergite I with clear carina on the median part. Sternite II with a small projection on the basal margin and the rest slightly convex (Fig. 28) ...
... .. *aegyptiaca* (Saussure).
- Tergite I with very small carina. Sternite II more convex
... .. *aberratica* (Morice)

Pseudonortonia aberratica (Morice)

Odynerus (*Ancistrocerus*) *aberraticus* Morice, 1903, Ann. Mag. nat. Hist. (7) 12 : 613, m.

Nortonia moricei Kohl, 1907, Denkschr. Akad. Wiss., Wien, math. naturw. kl. 71 (1) : 233, 245, pl. 6 f. 18, 20, pl. 7 f. 10, 19.

Type : Egypt, Abba Island, 1 m (Oxford). Distribution : Erithrae; Egypt.

Pseudonortonia aegyptica (Saussure)

— Savigny, 1812, Descript. de l'Egypte, Atlas, Zool., Ins. Hym., pl. 8 f. 15 female.

Odynerus (*Ancistrocoerus*, div. *Hypancistrocerus*) *aegypticus* Saussure, 1863, Mem. Soc. Phys. Hist. nat. Geneve 17 : 210, pl. 2 f. 19, female.

Odynerus (*Ancistrocerus* div. *Hypancistrocerus*) *heydenianus* Saussure, 1863, Mem. Soc. Phys. Hist. nat. 17 : 211, pl. 2 f. 20, female.

Type : Egypt (Savignyi, 1812). Distribution : Egypt.

14 — Genus *Pterochelilus* Klug

Pterochelilus Klug, 1805, Beitr. Naturk. 1 : 143.

Type species : *Vespa phaleratata* Panzer, 1797 = *Pterochelilus phaleratatus* (Panz) (designated by Blanchard, 1840).

Pterochilus Illiger, 1807, Mag. Insketenk. 6 : 196.

Nannopterochilus Blüthgen, 1961, Abn. dt. Akad. Wiss. Berl. 1961 (2) : 62, 86, 231. Type: *Pterochelilus phaleratus* (Panzer, 1797) Distribution : Asia; Europe; Africa.

KEY TO SPECIES

- 1 — Body black (including wings), densely clothed with long black hairs *cyaneipennis* Andre
- Colour otherwise with fewer hairs 2
- 2 — Yellow-orange species with black patches 3
- Black species with coloured patches 4
- 3 — Female mesonotum completely black. Male propodeum not smooth. Wings dark *chobauti chobauti* Dusmet
- Female mesonotum with lateral yellow stripes. Male propodeum smooth and shining. Wings more transparent
- *chobauti calefactus* Giordani Soika

- 4 — Tergite III-VII completely black 5
 — Colour of tergites II-VII otherwise 7
- 5 — Tergite II black with a narrow yellow band, regular centrally, wider laterally. Tegulae yellow *coctus* Giordani Soika
 — Tergite II red with dark spot usually in the centre. Tegulae dark 6
- 6 — Clypeus slightly emarginate. Thorax black (except the legs) (Fig. 29) *unipunctatus* Lepelétier
 — Clypeus largely emarginate. Thorax black with red especially on pronotum and metathorax *rothi* Dusmet
- 7 — Clypeus deeply emarginate anteriorly 8
 — Clypeus truncate or slightly emarginate anteriorly (Fig. 30) ... 9
- 8 — Large species up to 11 mm. Tegulae, clypeus, mandible, scutellum and postscutellum yellow-ferruginous *lutorius* Giordani Soika.
 — Small species up to 6 mm. Tegulae, clypeus, mandible, scutellum and postscutellum creamy-white *albidus albidus* Giordani Soika
- 9 — Small species up to 9 mm. Sternites III & IV black 10
 — Large in size, more than 10 mm. Sternites III & IV black with yellow or yellowish apical bands 11
- 10 — Clypeus short, deeply truncate and ferruginous. Postscutellum black. Tergite I straighter and longer than tergite II, tergite III black *merpeba* Giordani Soika
 — Clypeus more wider, slightly emarginate, black with median yellowish spot. Postscutellum with large yellowish band. Tergite I slightly shorter than tergite II, tergite III with yellow apical band *dives* Radoszkowski
- 11 — Male last antennal joint spindle-shaped; clypeus white-yellowish, with black free part, short and emarginate; mesopleuron & scutellum black *mochii* Giordani Soika
 — Male last antennal joint twice longer than wide; clypeus uniformly convex, yellow; mesopleuron & scutellum with yellow spots *mena* Giordani Soika

Pterocheilus albidus albidus Giordani Soika

Pterochilus albidus Giordani Soika, 1941, Boll. Soc. veneziana Stor. nat. 2 : 266, m. Type : Egypt, Ikingi Mariut, 1 m holotype, III. 1935 (BMNH).

Pterocheilus chobauti chobauti Dusmet

Pterochilus chobauti Dusmet, 1928, Eos, Madr. 4 : 109, f.

Pterochilus Possibilis Dusmet, 1928, Eos, Madr. 4 : 109, m.

Types : Algeria, Ain Sefra, 1 f & m (Coll. P. Roth.).

Distribution : Morocco; Algeria; Egypt.

Pterocheilus chobauti calefactus Giordani Soika

Pterocheilus chobauti ssp. *calefactus* Giordani Soika, 1970, Boll. Mus. civ. Stor. nat. Venezia 20/21 : 54, f.

Types : Giordania, 1 f holotype, 6. V. 1966 (Coll. Giordani Soika). Syria, 2 f, paratypes, 14, IV. 1955. Palestine, 1 m, allotype, 26, III. 1970.

Distribution : Algeria; Dead Sea region; Egypt.

Pterocheilus coctus Giordani Soika

Pterocheilus coctus Giordani Soika, 1970, Boll. Mus. civ. Stor. nat. Venezia 20/21 : 42, m, pl. 1.

Type : Egypt, Wadi Um Mitla, 1m, holotype, 24. IV. 1938 (BMNH).

Distribution : Egypt.

Pterocheilus cyaneipennis Andre

Pterocheilus cyaneipennis Andre, 1895, Rev. Ent. (Caen) 14 : 355, f.

Pterocheilus korbi Schulz, 1905, Hymenopteren-Studien : 48, f, f. 1, 2.

Pterocheilus aterrimus Saunders, 1905, Trans. R. ent. Soc. Lond. 1905 : 403, f and m.

Types : Algeria, Biskra, 1f (Coll. André).

Distribution : Algeria; Palestine; Egypt.

Pterocheilus dives Radoszkowski

Pterocheilus dives Radoszkowski, 1876, Hor. Soc. ent. ross. 12 : 145, f.

Pterocheilus pharaonum Schmiedeknecht, 1900, Termeszetr. Fuz. 23 : 232, f and m.

Pterocheilus iterabilis Kohl, 1906, Denkschr. Akad. Wiss., Wien. Math. Naturw.

K1.71 (1) : 259, f, pl. 2f. 12, pl. 2f. 12, pl. 8f. 2, 13, 14.

Types : Egypt, Wadi Ostlich, 1f & 1m (holotypes) (Ber. Mus.). Egypt, Helwan, 1m paratype, without date (BMNH).

Distribution : Egypt

Pterocheilus lutorius Giordani Soika

Pterocheilus lutorius Giordani Soika, 1942, Boll. Soc. ent. ital. 47 : 56, m, pl. f. 3.

Type : Egypt, 1m holotype, 18. I. 1933 (BMNH).

Distribution : Egypt.

Pterocheilus mena Giordani Soika

Pterocheilus mena Giordani Soika, 1943, Boll. Soc. veneziana Stor. nat. 3 : 38, f and m, f. 3 (1).

Types : Egypt, 1 f & 1 m holotype, VIII. 1935 & VIII. 1925 (BMNH).

Distribution : Palestine; Egypt.

Pterocheilus merpeba Giordani Soika

Pterocheilus merpeba Giordani Soika, 1943, Boll. Soc. veneziana Stor. nat. 3 : 42, f.

Type : Egypt, 1 f holotype, 21. III. 1937 (BMNH).

Distribution : Egypt.

Pterocheilus mochii Giordani Soika

Pterocheilus mochii Giordani Soka, 1942, Boll. Soc. ent. ital. 74 : 57, m. pl. f. 4.

Types : Egypt. 1 m holotype, 21. III. 1937 (BMNH).

Distribution : Egypt.

Pterocheilus rothi Dusmet

Pterocheilus rothi Dusmet, 1928, Eoc, Madr. 4 : 111, f.

Pterocheilus algericus Schulthess, 1940, Mitt. schweiz. ent. Ges. 18 : 63, m.

Types : Algeria, Ghardaia, 1f (Coll. Roth.) and 1 m (Zurich).

Distribution : North Africa (from Marocco to Algeria); Palestine.

Pterocheilus unipunctatus Lepeletier

Pterocheilus unipunctatus Lepeletier, 1841, Hist. nat. Ins. Hym. 2 : 676, f.

Odynerus rhombiferus Dufour, 1853, Anns Soc. ent. Fr. (3) 1 : 381, f.

Types : Algeria, Oran, f (Coll. Lepeletier) & Pontebae, f, leg. A Dours (Coll. Dufour, Paris).

Distribution : Algeria; Egypt.

15 — Genus *Rhynchium* Spinola

Rhynchium Spinola, 1806, Insect. Ligur. 1 : 84 (emendation).

Type : *Ryqchium europaeum* Spinola, 1806, junior subjective synonym of *Vespa oculata* Fabricius, 1781.

Rhynchium Billberg, 1820, Enum. Ins. : 109.

Ryqchium Sturm, 1829, Verz. Ins. Nuernberg : 12.

Ryqchium Saussure, 1853, Boll. Soc. veneziana Stor. nat 6 : 49.

KEY TO SPECIES

1. Male clypeus yellow. Tergite II with large yellow spots on the lateral sides, sometimes extended laterally on the following tergites
..... *oculatum oculatum* (Fabricius)
- Male clypeus yellow, laterally ferruginous. Tergite II dark brown or black, the following segments black 2
2. Male clypeus deeply and widely emarginate (Fig. 31)
..... *aenigmaticum* Schulthess
- Male clypeus slightly emarginate anteriorly (Fig. 32)
..... *cyanopterum* Saussure.

Rhynchium aenigmaticum Schulthess

Rhynchium aenigmaticum Schulthess, 1922, Vjchr. Fes. Zurich 67 : 32, 36, m, f. 6-9.

Types : Senegal, 1m (Zurich).

Distribution : Senegal; Egypt.

Rhynchium cyanopterum Saussure

Ryqchium cyanopterum Saussure, 1852, Et. Fam. Vesp. 1 : 108, f and m.

Types : Senegal, 1 f & 1 m (Paris).

Distribution N. Africa to Dead Sea region.

Rhynchium oculatum oculatum (Fabricius)

Vespa oculata Fabricius, 1781, Spec. Insect. 1 : 463.

Scolia mutabilis cyrillo, 1787, Entom. Neap. specim. : 3, p 1.2, f. 8.

Rygiichium europaeum spinola, 1806, Insect Ligur. 1 : 86, f and m.

Type : Italy, leg. Allion (coll. Fabricius).

Distribution : S. Europe; Egypt.

16 — Genus *Tachyancistrocerus* Giordani Soika

Tachyancistrocerus Giordani Soika, 1952, Boll. soc. veneziana Stor. nat. 6 : 37.

Type species : *Odynerus rhodensis* Saussure, 1855.

Tachyancistrocerus serenus (Giordani Soika)

Ancisterocerus (*Subancistrocerus*) *serenus* Giordani Soika, 1935, Bull. Soc. ent. Egypte 19 : 169, 177, f and m, f.

Types : Egypt, Wadi Rashrash, 1 m & f allotype, V - VII. 1932 (Min. Agric.)

Egypt, Dakhla Oasis, 1 f holotype, 13. v. 1918 (BMNH).

Distribution : Libya; Sahara; Dead Sea region; Egypt.

17 — Genus *Xanthodynerus* Bluthgen

Xanthodynerus Bluthgen, 1954, Dt. ent. z. (N.F.) 1 : 225, 256 (subgenus of "Eudynerus Bluthgen").

Type : *Odynerus* (*Rhynchium*) *octavus* Giordani Soika, 1943.

KET TO SPECIES

1. Vertex strongly arched, clypeus with strong punctation, mesoepisternum and mesosternum yellow 2
 2. In male, body shining yellow, clypeus wide and convex, mandible nearly blunt with acute apical tooth, last antenna joint long and thick, base of midfemora deeply angulated *octavus* (Giordani Soika)
- In male, body yellow with black, clypeus elongate and slightly narrower between eyes, mandible teeth short and sharp, last antennal joint short

and thin, base of midfemora less angulated (Figs. 33, 34 & 35)
 *trichopygus* Bluthgen

Xanthodynerus castrorum Bluthgen

Euodynerus (Xanthodynerus) castrorum Bluthgen, 1954, dt. ent. z. (N.F.)
 268, 269. f.

Type : Egypt, 1 f, holotype, 26. VI. 1924 (Type loc. unknown).

Distribution : Egypt.

Xanthodynerus octavus (Giordani Soika)

Odynerus (Lionoius) testaceaceus Schulthess, 1928, Eos, Madr. 4 : 407, 408, f
 and m, f. 3. (emendation).

Odynerus (Rhynchium) testaceus Giordani Soika, 1934, annali Mus. civ. Stor.
 nat. Genova 57 : 65, 75, m, f; 10. (emendation).

Odynerus (Rhynchium) octavus Giordani Soika, 1943, Boll. Soc. veneziana Stor.
 nat. 3 : 37.

Pseudepipona (Eudoxynerus) nona Giordani Soika, 1953, Bull. Soc. Sci. nat. phys.
 Maroc. 32 : 252, 255, m.

Types : Egypt, Luxor, 1 m, lectotype, 1-5. v. 1927 (Coll. Schulthess, Zurich).
 Morocco, Imiter; 1 f, (BMNH).

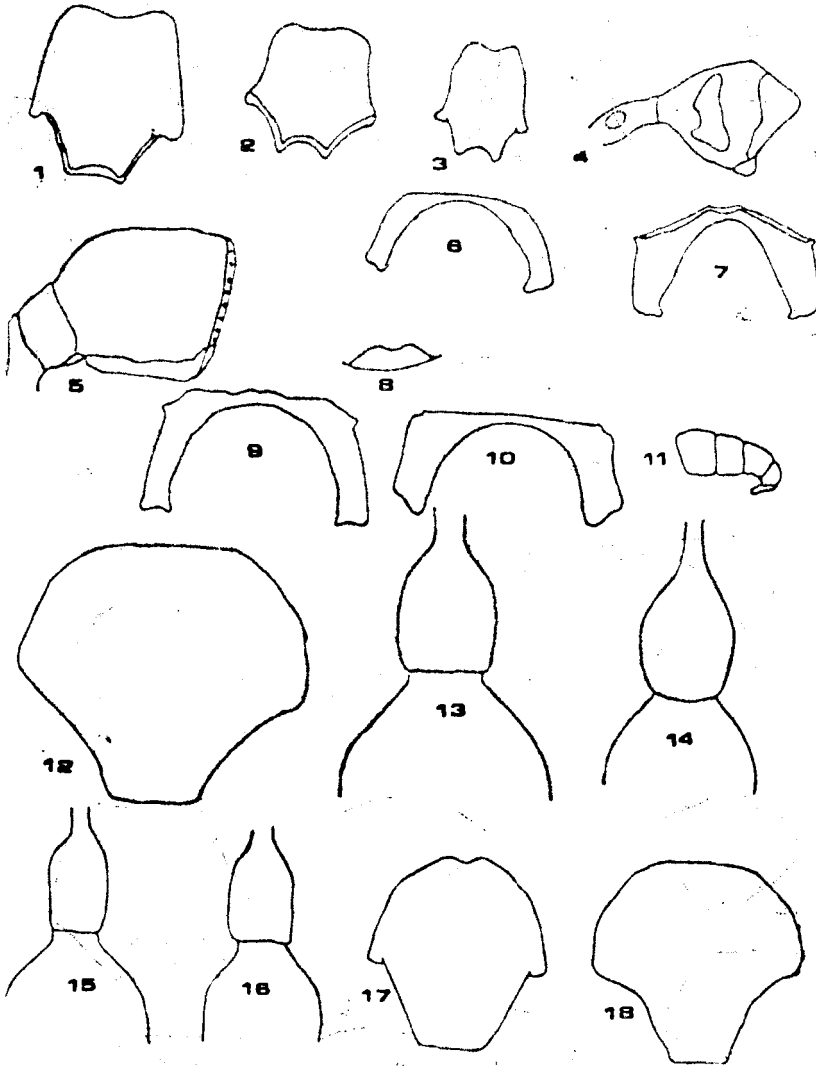
Distribution : Morocco; Egypt.

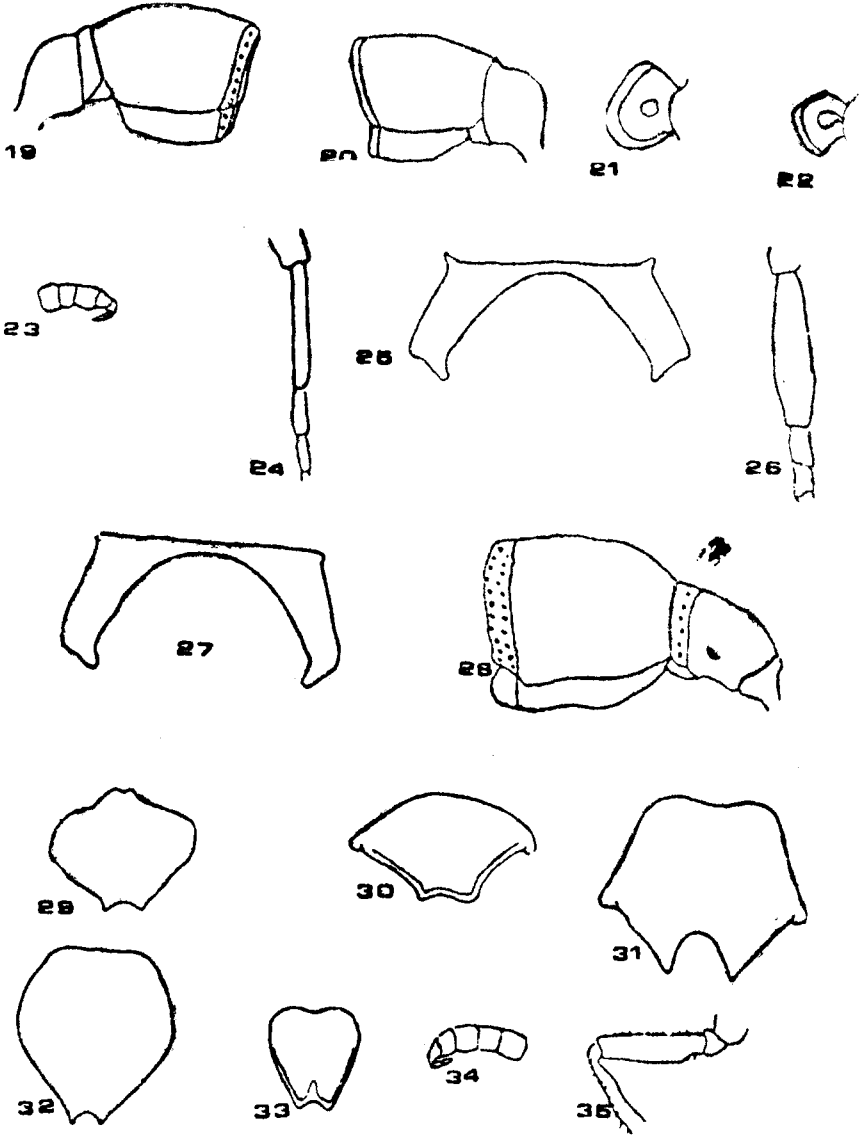
Xanthodynerus trichopygus Bluthgen

Euodynerus (Xanthodynerus) splendens Giordani Soika, 1954, Dt. ent. z. (N.F.)
 1 : 207, 269, m. *Type* : Egypt, Sinai, 1 m, holotype, without date, no. 103a (Ber.
 Mus.) *Distribution* Egypt.

SUMMARY

Seventeen Egyptian eumenid genera are revised : *Delta*, *Eumenes*, *Eustenancistrocerus*, *Ischnogasteroides*, *Katamenes*, *Labochilus*, *Leptochilus*, *Microdynerus*, *Odynerus*, *Pseudepipona*, *Pseudodontodynerus*, *Pseudomicrodynerus*, *Pseudonortonia*, *Pterocheilus*, *Rhynchium*, *Tachyancistrocerus* and *Xanthodynerus*. The following aspects are discussed for the studied genera : synonyms, key to species & types and general distribution. Also, some illustrations for different parts of studied taxa are given.





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m : male

f : female

REFERENCES

- BLUTHGEN, P. (1939) : Beitrage zur kenntnis der palaearktischen und einiger athiopischer Faltenwespen (Hym. Vesp.) Veroff. datsch. kol. Mus. Bremen 2, 233 - 267, 6 figs.
- BLUTHGEN, P. (1954) : Untersuchungen überpalaearktische Eumenidae (Hym. Diptera). I. Die Untergattungen Cholorodynerus und Xanthodynerus der Gattung Euodynerus Bluthgen. Dtsch. ent. z. Berlin (N.F.), 1, 224 - 270.
- BLUTHGEN, P. (1955) : New Diptera from Israel and the near East, I. Bull. Res. Courc. Israel, Jerusalem 5 (B), 24 - 31.
- BYTINSKI SALZ, H. and GUSENLEITNER, J. (1971) : The Vesopidae of Israel. J. ent. 6 (2) : 239 - 299.
- GIORDANI SOIKA, A. (1934) : Monografia degli Odynerus etiopici. Ann. Mus. Stor. Nat. Genova 57 : 23 - 83.
- GIORDANI SOIKA, A. (1935) : Contributo alla conoscenza degli Eumenini Egiziani (Hym. Vesp.) Bull. Soc. ent. Egypte, 19 : 161 - 199.
- GIORDANI SOIKA, A. (1938) : Diagnosi di nuovi Eumenini mediterranei. Boll. Soc. Venez. Stor. Nat., Venic, 2 : 2 - 14, 6 figs.
- GIORDANI SOIKA, A. (1941) : Contributo alla conscenza degli *Eumenes mediterranei* e descrizioni di una nuova *Afreumenes* etiopica (Hym. Vesp.). Mem. Soc. ent. ital., Genova, 20 : 97 - 108.
- GIORDANI SOIKA, A. (1942) : Vespidi mediterranei nuovvi o poco noti. Boll. Soc. ent. ital. Genova, 74 : 51 - 61, 1 pl., 2 figs.
- GIORDANI SOIKA, A. (1943) : Nouvi Vespidi mediterranei ed etioppici apparteneti ai generi *Eumenes*, *Leptomenes*, *Odynerus* & *Pterochilus*. Boll. Soc. Venez. Stor. nat. 3 : 29 - 42, 5 figs.
- GIORDANI SOIKA, A. (1944) : Risultati raccolte Imenottologiche in Sicilia, Atti. soc. ital. Sci. nat. 83 : 5 - 8.
- GIORDANI SOIKA, A. (1952) : Sulle caratteristiche biogeografiche della Palestina, Arabia ed Egitto, con un contributo alla Soc. Venez. Stor. nat., Venice, 6, 5 - 62

- GIORDANI SOIKA, A. (1953) : Hymenopteres recoltés par une mission suisse au Maroc (1947) : Eumeninae. Bull. Soc. Sci. nat. Maroc, Rabat 32 : 235 - 267, 4 figs.
- GIORDANI SOIKA, A. (1958) : Notulae Vespidologicae. IV - IX. Boll. Mus. Stor. nat. Venez. 11 : 35 - 102.
- GIORDANI SOIKA, A. (1970) : Contributo alla conoscenza degli Eumenidi del Medio Oriente. Boll. Mus. Civ. Stor. nat. Venez. 20/21 : 183.
- GIORDANI SOIKA, A. (1981) : Contributo alla conoscenza dei *Delta* Afrotropicali. Mem. Soc. ent. Genova 60 : 209 - 213.
- MEADE-WALDO, G.M. (1910) : New species of *Diploptera* in the collection of the British Museum. Ann. Mag. Nat. Hist. London, 5 : 30 - 51.
- MORICE, F. (1903) : New Hymenoptera Aculeata taken by the Swedish Zoological expedition to Egypt and the White Nile in the spring of 1901. Ann. Mag. nat. Hist. 7 (12) : 610 - 615.
- SAUNDERS, E. (1905) : Hymenoptera Aculeata collected in Algeria by Rev. A.E. Easton, II *Diploptera*. Trans. R. Ent. Soc. London : 400 - 416.
- SCHULTHESS, A. (1928) : Beritrag zur kenntnis nord afrikanischer Hymenopteren. Eos, Madrid, 4 : 65 - 92, 405 - 410.
- VAN DER VECHT, J. & FISHER (1972) : Hymenopterorum Catalogus. Palaeartic Eumenidae Uitgeneri J. Dr. W. Junk., 8 — Gravennhage, 24.
- ZALAT, S.; ABO-GHALIA A., GILBERT F. and NAGAT SHAUMER (1991) : Taxonomic studies of the Egyptian Eumenidae (Order : Hymenoptera) J. Egypt. Ger. Soc. Zool. (Under publication).