Some Micropezidae, Psilidae, Platystomidae, Otitidae, Pallopteridae, Odiniidae, Aulacigasteridae, Asteiidae and Milichiidae (Diptera) collected in Southern Spain, with descriptions of six new species.

By
Leif Lyneborg
Zoological Museum, Copenhagen, Denmark.

The material on which the present paper is based was mainly collected by the author and his assistants in March—May 1966 in the provinces Almeria and Granada, Spain. A few specimens were collected by Dr. W. Hackman, Helsinki in the same period. Further a valuable collection made by Dr. J. R. Vockeroth in July—August 1960 has been included. 29 species are listed below. Of these, 6 are described as new to science, and further 6 are recorded from Spain for the first time. The major part of the 1966-material is deposited in the Zoological Museum, Copenhagen; the specimens collected by W. Hackman yet in the Zoological Museum, Helsinki, and the specimens collected in 1960 by J. R. Vockeroth in the Canadian National Collection, Ottawa.

MICROPEZIDAE

Micropeza corrigiolata Linné, 1776.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 5 ♂ 5 ♀, 2—21 April 1966.

Distribution. — Widely distributed in Europe. Earlier recorded from Spain by Strobl (1906: 361) and Czerny & Strobl (1909:261).

Paracalobata octoannulata Strobl, 1899.

Material. — GRANADA: Rio Lanjaron near Lanjaron, 600 m, 5 ♂ 2 ♀, 26—28 April 1966; Rio Lanjaron 9 km NW Orgiva, 1600 m, 1 ♀, 7 May 1966.

Distribution. — Described on basis of 2 ♂ 2 ♀ collected by Strobl in 1898 near Lanjaron (Strobl, 1898: 294). This is, so far, the only known locality for the species.

PSILIDAE

Psila nigricornis Meigen, 1826.

Material. — ALMERIA: Alhama 5 km W, 200—500 m, 1 ♂, 28 March 1966. — GRANADA: Rio Lanjaron 9 km NW Orgiva, 1600 m, 1 ♂, 7 May 1966.

Distribution. — Widely distributed in Europe; also in North Africa. Recorded from Spain by Strobl (1899: 229; 1906: 362) and Czerny & Strobl (1909: 262).

Remarks. — Most of the females recorded below as *Psila* spp. certainly belong to *nigricornis* Meig. The genitalia of both males agree with the figure by Lyneborg (1964: 379).

Psila sardoa Rondani, 1876.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 1 ♂ 1 ♀, 2—3 April 1966.

Distribution. — Sardinia, Spain, France, Italy, Tunesia.

Remarks. — The two specimens are conspecific with *schineri* Strobl (1906: 361) which was described on Spanish material. Hennig (1941: 24) treated it as a synonym to *sardoa* Rond. without having seen Rondani's types.

Psila spp., of **rosae-nigricornis**-group.

Material. — ALMERIA: Alhama 5 km W, 200—500 m, 4 ♀, 17 March 1966 (also W. Hackman) — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 4 ♀, 5—19 April 1966.

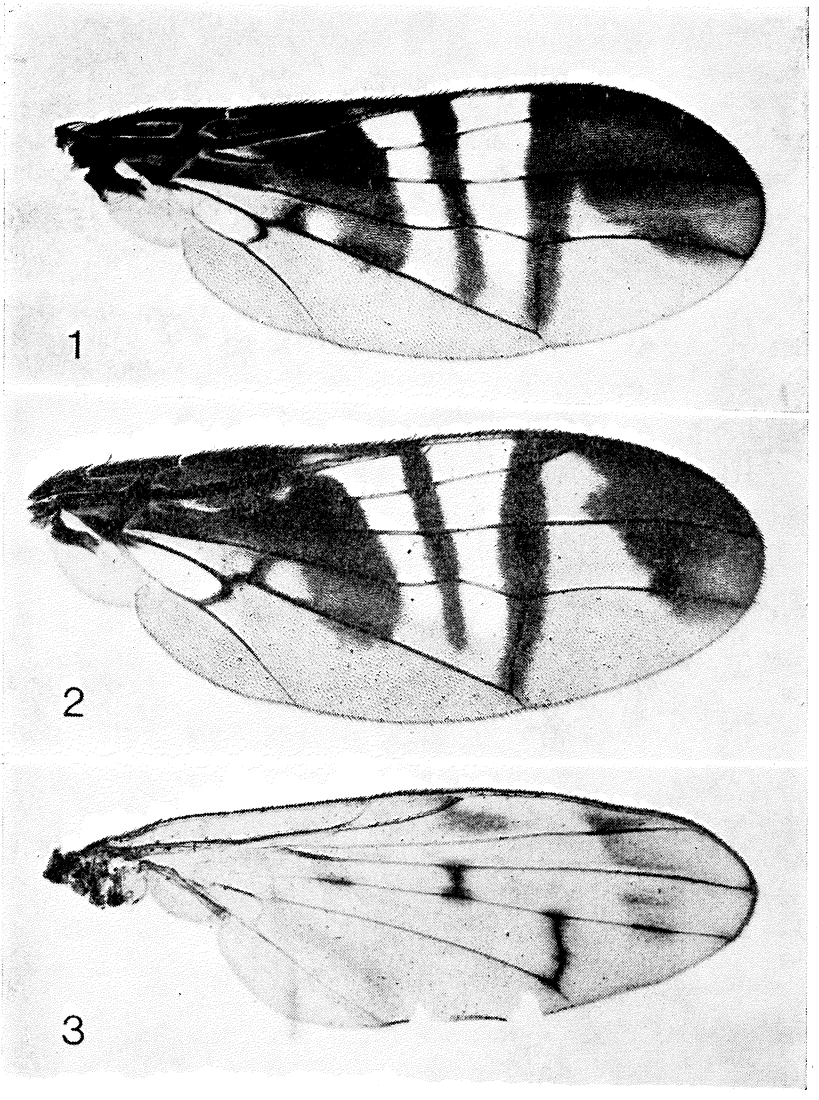
PLATYSTOMIDAE

Rivellia hispanica n. sp. (Figs. 1—2 and 7—9).

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 1 ♂ holotype, 4 April 1966, and 8 ♂, 5 ♀ paratypes, same locality, 4 April—3 May 1966; Rio Lanjaron near Lanjaron, 600 m, 2 ♂ paratypes, 28 April 1966. All types in Zoological Museum, Copenhagen.

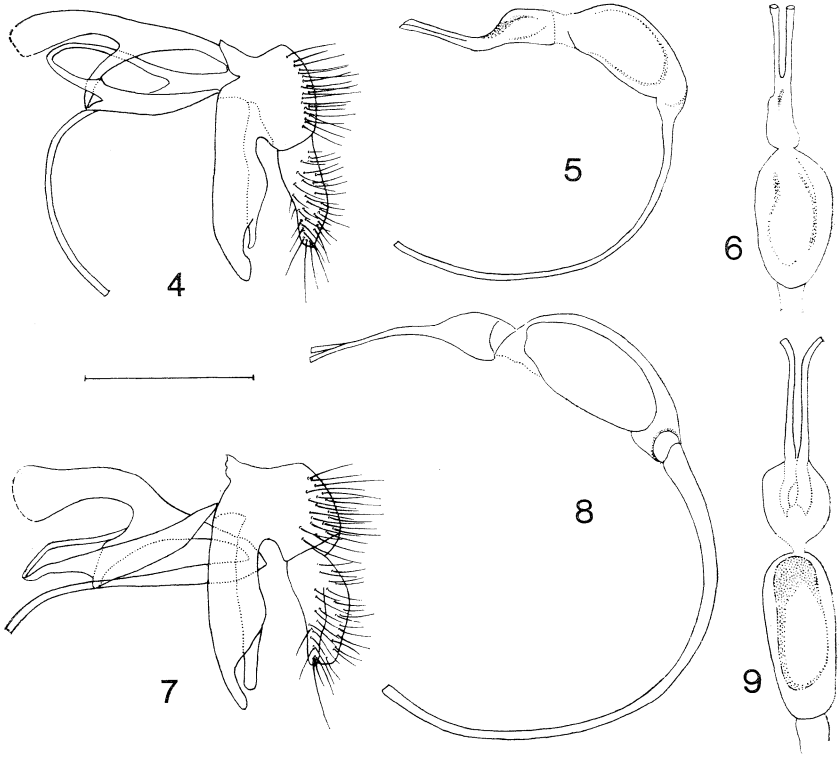
Description. Holotype, male.

A species which resembles the common and hitherto single European species of this genus: *syngenesiae* Fabricius, 1781, but



Figs. 1—3. Wings of 1. *Rivellia hispanica* n. sp., ♂ paratype, Spain, Granada: Rio Guadalfeo, Orgiva, 4 April 1966. ×35; 2. *R. hispanica* n. sp., ♀ paratype, same locality, 5 April 1966. ×35; 3. *Hypochra albufera* n. sp., ♂ paratype, Spain, Almeria: Albufera, 29 March 1966. ×24.

differs from this in coloration of wings and tarsi, and in the genitalia. Both species agree closely with the diagnosis given by Namba (1956: 24—25) of *Rivellia* R.-D. In the following, *hispanica* will be compared with *syngenesiae,* the latter being known to the present author by Danish material and by a series of 7 ♂ and 21 ♀ collected by Dr. J. R. Vockeroth on 6th July 1960 at Irun in North Spain. On the head, thorax and abdomen there are no real differences between the two species, neither in morphology nor in coloration. There is perhaps a small difference in the coloration of second and third antennal joints, these being paler (more yellowish on second and inner side of third joint) in *hispanica* than in *syngenesiae.* The best distinguishing character lies in the



Figs. 4—9. Male genitalia of 4—6. *Rivellia syngenesiae* F., N. Spain: Irun, 6 July 1960; 7—9. *Rivellia hispanica* n. sp., ♂ paratype, Spain, Granada: Rio Guadalfeo, Orgiva, 4 April 1966. Figs. 4 and 7 show the genitalia in lateral view; 5 and 8 the aedeagus in lateral view; and 6 and 9 the apex of the aedeagus in dorsal view. Scale: 0.25 mm.

coloration of the wings. In the male of *hispanica* (Fig. 1) the brownish area at base of wing (first band of Namba, l.c.) is larger, and terminates in a broad band over the basal end of discal cell, this part being narrower in *syngenesiae*. The band over posterior cross-vein (m-m) (third band of Namba, l.c.) is broadly confluent with the spot at apex of wing, leaving the entire apical end of cell R_{2+3} brownish. In *syngenesiae* this band is widely separated from the apical spot, i.e. a large hyaline area is present in cell R_{2+3} between the band and the spot.

The genitalia are clearly different in the two species (cf. figs. 4—6 and figs. 7—9), the main differences being found in the appendages to ninth tergite (Figs. 4 and 7) and in the apex (glans) of the aedeagus (Figs. 5—6 and 8—9). There is also a marked difference in coloration of the tarsi. In *hispanica* all tarsal joints are yellowish, only the two terminal joints are slightly darkened. *Syngenesiae* has the tarsi predominately blackish, at most metatarsi of p_2 and p_3 somewhat yellowish.

Paratypes, males. All male paratypes agree with the holotype in the above mentioned features. Some of them show a tendency to a small hyaline area below end of vein r_{2+3}, sometimes more in the one wing than in the other. One of the paratypes from Rio Lanjaron has a rather large hyaline area here, reaching from vein r_{2+3} to vein r_{4+5} and half as wide as the width of the third band. This third band is yet still distinctly connected with the apical spot along the costa. The coloration of the tarsi may also vary, as in some specimens more than the two terminal joints can be darkened, but in all specimens the metatarsi of all legs are clearly yellowish.

Paratypes, females. Similar to male in most respects, but with an interesting sexual difference in the coloration of the wings, which is normally not found in the genus. The female wing (Fig. 2) has large hyaline areas in cells R_{2+3} and R_{4+5}, separating the third band from the apical spot, though these coloured areas are still in connection along the costa. All five female paratypes show this feature.

Remarks. As demonstrated above, both *hispanica* and *syngenesiae* occur in Spain. Earlier records from Spain of *syngenesiae*: (Strobl, 1899: 226), (Strobl, 1906: 355), (Czerny & Strobl, 1909: 251) must then be taken with reservation, until the original material has been revised. Dr. G. Morge, Eberswalde, has kindly in-

formed me (in litt. 5th February 1968) that Spanish specimens of *syngenesiae* F. are not present in Coll. Strobl in Admont, Austria.

OTITIDAE (incl. ULIDIIDAE)

Otites maculipennis Latreille, 1811.

Material. — GRANADA: Sierra de Contraviesa near Rabite, 1300 m, 1 ♂, 2 May 1966; Pinus Puente 15 km NW Granada, 500—1000 m, 1 ♀, 27 April 1966.

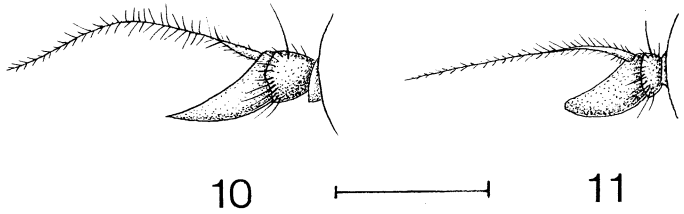
Distribution. — Spain, S. France, Italy. Recorded from Spain by Strobl (1906: 355), and Czerny & Strobl (1909: 249) as *Ortalis aspersa* Loew. Further localities by Hennig (1949: 34).

Hypochra albufera n. sp. (Figs. 3 and 10).

Material. — ALMERIA: Albufera, 0—50 m, 1 ♂ holotype, 8 March 1966; same locality, 12 ♂ 4 ♀ paratypes, 8—29 March 1966 (also W. Hackman). — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 1 ♂ paratype, 19 April 1966. Holotype and 15 paratypes in Zoological Museum, Copenhagen. One male paratype in Zoological Museum, Helsinki. One male paratype in Deutsches Entomologisches Institut, Eberswalde.

Description. — Holotype, male.

Head. Gena exactly one-third of height of eye. One distinct orbital seta and in front of this, one shorter seta. Third antennal joint ending in a sharp point, and arista with comparatively long hairs (fig. 10). Head totally yellowish; occiput with slight whitish dust which also surrounds the eye in a narrow band. Mouth-parts yellow. Antennae yellowish-brown. Thorax uniformly pale yellowish-grey, humeri and scutellum yellowish translucent. Only two pairs of long dorsocentral setae; the hairs in front of these being



Figs. 10—11. Antennae of 10. *Hypochra albufera* n. sp., ♂ holotype, Spain, Almeria: Albufera, 8 March 1966; 11. *H. albipennis* Loew. Scale: 0.5 mm.

not much longer than the adjacent thoracic hairs. Acrostical hairs in six irregular rows; a prescutellar pair of acrostical setae is not present. Only one long supraalar seta. Abdomen of same colour as thorax; no darker bands. Legs entirely yellowish. Wing as in fig. 3. Halteres whitish. Length. Total: 4.1 mm.

The thirteen male paratypes agree with the holotype in all essential characters. Instead of one short additional orbital seta some specimens show two short setae, either on one or on both sides. Three paratypes also have a small (but distinctly longer then normal hairs) anterior supraalar seta present on one or both sides. Length. Total: 3.5—4.5 mm. Average: 4.1 mm.

Female. Agrees with the male in all characters mentioned above. A little larger: 4.0—4.8 mm (without ovipositor).

Remarks. This new species of *Hypochra* can only be compared with *albipennis* Loew, 1846, and *subappenina* Rondani, 1869. Through the kindness of Dr. Morge of the Deutsches Entomologisches Institut in Eberswalde I was able to compare it with good series of these two species. *H. albufera* differs from both species in having a yellowish-grey (not dark greyish) appearance, and in having all setae comparatively shorter. It has like *albipennis* only two pairs of distinct dc setae, but differs from that species in the absence of a pair of prescutellar setae and in having a more pointed third antennal joint (cf. figs. 10 and 11). *H. albufera* is also distinctly larger than *albipennis,* being of about intermediate size between this species and *subappenina.* The latter can be easily separated from *albufera* in having additional shorter dc setae in front of the two pairs of long dc setae, and shows like *albipennis* a distinct pair of prescutellar setae. Moreover, there are differences in wing-pattern (cf. fig. 3 with Taf.III, figs. 35—36 in Hennig, 1939).

Ceroxys urticae Linné, 1758.

Material. — ALMERIA: Albufera, 0—50 m, 1 ♀, 23 March 1966.

Distribution. — Widely distributed in Europe. Also West and Central Asia, Egypt. Not earlier recorded from Spain.

Remarks. — The specimen agrees well with North European specimens. The only difference is that tergite 4 has a transverse greyish band. In North European specimens there are two well separated lateral spots on this tergite.

Myennis octopunctata Coquebert, 1798.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 3 ♂, 11 April — 3 May 1966.

Distribution. — Central and South Europe, Asia. New to Spain.

Ulidia apicalis Meigen, 1826.

Material. — GRANADA: Barranco de Miranda 8 km SW Orgiva, 300 m, 1 ♂, 21 April 1966; Sierra de Contraviesa near Rabite, 1300 m, 11 ♂ 9 ♀, 2 May 1966; Guadix 20 km E, 1000—1500 m, 1 ♀, 23 April 1966 (W. Hackman); N. slope Veleta, Sierra Nevada, 2200 m, 1 ♀, 30 July 1960 (J. R. Vockeroth).

Distribution. — Spain, Portugal, S. France, Corse, Sicily, Tunesia, Morocco. Earlier records from Spain are summarized by Hennig (1940: 14).

Physiphora demandata Fabricius, 1798.

Material. — ALMERIA, 1 ♂ 1 ♀, 21 April 1966 (W. Hackman). — GRANADA: Torrenueva E Motril, 0—50 m, 2 ♂, 12—17 April 1966; Rio Guadalfeo, Orgiva, 300 m, 2 ♂ 3 ♀, 2—18 April 1966; Rio Lanjaron near Lanjaron, 600 m, 1 ♀, 28 April 1966; Granada, 700 m, 5 ♂ 1 ♀, 10—13 July 1960 (J. R. Vockeroth); Iznalloz, 1 ♂ 1 ♀, 9 July 1960 (J. R. Vockeroth); Almunecar, 0—30 m, 1 ♂ 1 ♀, 16 July 1960 (J. R. Vockeroth). — GIBRALTAR: 1 ♂, 4 August 1960 (J. R. Vockeroth).

Distribution. — Europe, Asia, Africa, North America. Encobet (1912: 92) summarizes the distribution in Spain.

PALLOPTERIDAE

Palloptera muliebris Harris, 1782.

Material. — GRANADA: Rambla de Aculas 10 km E Orgiva, 400 m, 1 ♀, 27 April 1966; Rio Lanjaron near Lanjaron, 600 m, 4 ♂ 6 ♀, 28 April 1966; Granada, 700 m, 3 ♂ 5 ♀, 10—19 July 1960 (J. R. Vockeroth).

Distribution. — Europe, mainly in the southern parts.

Palloptera scutellata Macquart, 1835.

Material. — GRANADA: Rio Lanjaron 9 km NW Orgiva, 1600 m, 2 ♀, 6 April 1966.

Distribution. — England, France, Spain. Rare.

Remarks. — The specimens were kindly identified by Dr. G. Morge, Eberswalde.

ODINIIDAE

Odinia sp.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 1 ♂, 11 April 1966.

Remarks. — The specimen does not exactly fit any of the descriptions given by Collin (1952) in his paper on the European species of *Odinia*. In this paper he recognized six species and one variety of which four species and the variety were described as new. The Spanish specimen was also examined by Mr. C. W. Sabrosky, Washington, who came to the same conclusion.

AULACIGASTERIDAE

Aulacigaster leucopeza Meigen, 1830.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 1 ♂ 1 ♀, 2 April 1966.

Distribution. — Widely distributed in the Palaearctic Region. New to Spain.

ASTEIIDAE

Asteia algeriensis Sabrosky, 1956.

Material. — GRANADA: Granada, 700 m, 1 ♂, 14 July 1960 (J. R. Vockeroth).

Distribution. — Hitherto only known from Algeria. New to Spain.

Remarks. — The identifications of this and the following species were kindly confirmed by Mr. C. W. Sabrosky, Washington.

Asteia amoena Meigen, 1830.

Material. — ALMERIA: Rioja, 50—200 m, 1 ♂ 4 ♀, 7—25 March 1966. — CADIZ: La Linea, 1 ♂, 2 August 1960 (J. R. Vockeroth).

Distribution. — Europe and Asia. Recorded from Spain by Strobl (1906: 373) and Czerny & Strobl (1909: 279).

Asteia inanis n. sp. (Figs. 13 and 16).

Material. — ALMERIA: Almeria, 0—50 m, 1 ♂ holotype, 22 March 1966. In Zoological Museum, Copenhagen.

Description. — Holotype, male.

Head. About as long as high (41:40). Eye longer than high (36:27). Width of gena one third of height of eye (i.e. 9). Two

pairs of vertical setae, the outer pair slightly longer than the inner pair. Small, hairlike postvertical setae. Ocellar setae stronger than postverticals. A distinct orbital seta on each side. The frons is entirely yellowish-brown. The linear interfrontal stripes are possible more dark brownish, but are difficult to see due to the fact that the frons is somewhat shrunken. The entire frons bears rather numerous black hairs, and at anterior margin a convergent pair of longer hairs. Ocellar tubercle dark brownish. The area in front of eye is blackish-brown. Gena, face and mouth-parts whitish-yellow; the face with a narrow, black band. A pair of short, whitish vibrissae. Antenna (Fig. 16) with basal joints and ventral part of third joint yellowish-brown, upper part of third joint blackish. Arista blackish, distinctly zig-zag, with rather long hairs. The occiput is yellowish-brown to dark brownish.

Thorax. Mesonotum with an index of 59: 43. It has an "empty" appearence, as the coloration is predominantly yellowish with four pale brownish stripes which do not strongly contrast to the ground coloration. Also lateral parts of mesonotum (incl. a supraalar stripe) is pale brownish. The middle pair of stripes reaches to level of anterior dorsocentrals. Chaetotaxy: 2 pairs of dorsocentral setae, in front of anterior dc some much shorter hairs. Moreover, 2 notopleural and 2 sternopleural setae. Scutellum whitish, with a pair of strong, apical setae, and a subapical, hairlike pair. Pleura whitish-yellow, on lower parts of sternopleuron and hypopleuron a blackish stripe. Also more dorsally, i.e. over lower part of mesopleuron and pteropleuron a darker, but more indistinct, stripe is present.

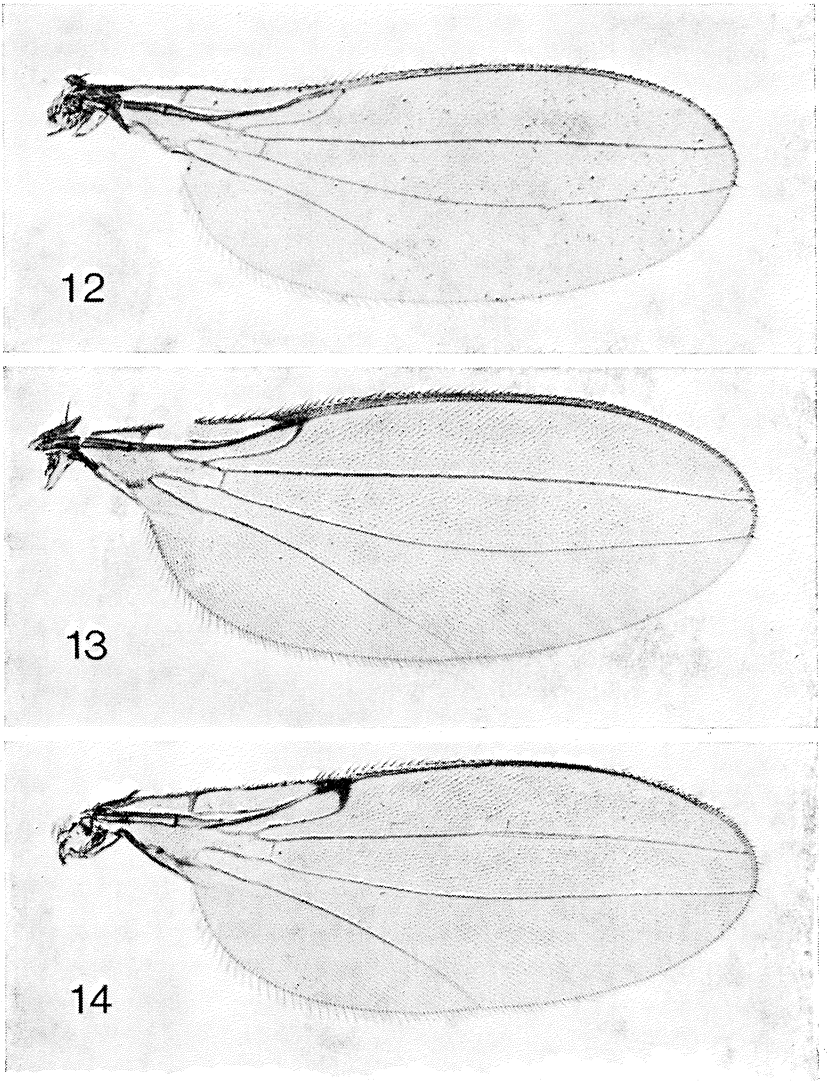
Wing. Length: 2.2 mm. Colour hyaline, veins pale yellowish. Second vein ends in a gently curve (Fig. 13) and reaches first vein where this joins the costa. The joining area is slightly infuscated. Knob of halteres large and mainly blackish.

Legs. Yellowish-white, middle and hind tibiae with two dark rings.

Abdomen. Chiefly membranous, and yellowish-white. Tergites small and partly dark brownish.

Length. Total: 1.7 mm.

Remarks. *A. inanis* n. sp. and the following new species can, among the Palaearctic species of *Asteia,* only be confused with *A. ibizana* Enderlein, 1935. This species was reviewed by Sabrosky (1956: 228) who designated a lectotype. Through the kindness



Figs. 12—14. Wings of 12. *Asteia ibizana* End., ♂ lectotype, Ibiza. ×56; 13. *A. inanis* n. sp., ♂ holotype, Spain, Almeria: Almeria, 22 March 1966. ×41. 14. *A. caesia* n. sp., ♀ holotype, Spain, Almeria: Almeria, 21—31 March 1966. ×47.

of Dr. H. Schumann, Berlin, I was able to borrow the lectotype and a paratype to *ibizana* which is only known from Ibiza. The three species is question form a natural group clearly separated from other Palaearctic *Asteia* species by the elongated head, which makes the eyes distinctly longer than high (Fig. 15). *A. ibizana* is most nearly related to *inanis*. Both have the arista distinctly pubescent (Figs. 16—17) whereas *caesia* n. sp. has a naked arista (Fig. 15). Also in colour-pattern *ibizana* and *inanis* come near to each other. *A. ibizana* differs, however, from *inanis* in size and a few other characters as will appear from the following (compare with the above description): Index of head 30: 24; of eye 27: 18; gena 6; third antennal joint more triangular and darkened all over; aristal hairs shorter; mesonotal stripes darker and mesonotum distinctly dusted; index of mesonotum 38:30; second vein (Fig. 12) ends as in *inanis* but joining area not infuscated; t_2 and t_3 without dark rings; total length: 1.1 mm.

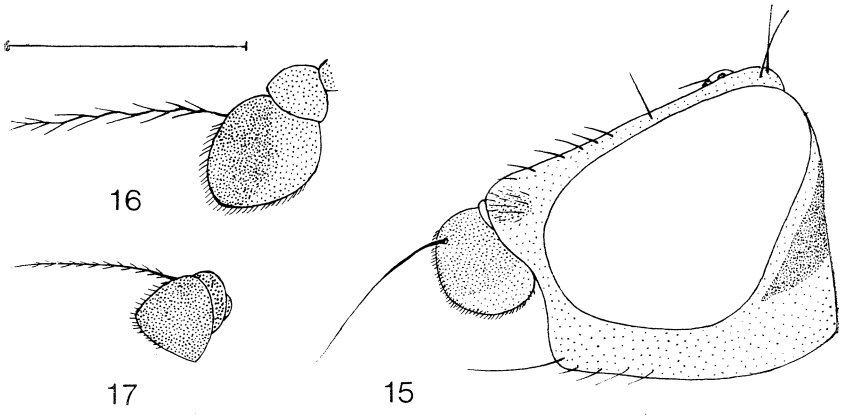
Asteia caesia n. sp. (Figs. 14—15).

Material. — ALMERIA: Almeria, 0—50 m, 1 ♀ holotype, 21—31 March 1966 (W. Hackman). In Zoological Museum, Helsinki.

Description. — Holotype, female.

Head. The length is equal to the height (37:37). Eye longer than high (28:25). Width of gena 8. Two pairs of vertical setae of equal size. Small, hairlike postvertical setae. Ocellar setae stronger than postverticals. A distinct orbital seta on each side. Middle stripe of frons yellowish-brown, becoming gradually darker towards ocellar tubercle. The linear, blackish, interfrontal stripe reaches to orbital seta. Parafrontalia (orbits) whitish, with a few blackish hairs anterior to orbital seta. Middle stripe with a more dense cover of blackish hairs. Ocellar tubercle blackish-brown. The area in front of eye orange. Gena, face and mouth-parts whitish-yellow. A pair of short, whitish vibrissae. Antenna (Fig. 15) yellowish, third joint darkened on dorsal part. Arista blackish, absolutely bare. The occiput dark brownish, ventrally with blackish wedges following lower eye-margin.

Thorax. Mesonotum with an index of 47: 42. Seen dorsally the mesonotum is bluish-grey pollinose, with two narrow darker (less pollinose) stripes which are narrowly separated. Laterally the mesonotum becomes gradually dark brownish. Chaetotaxy: 2 pairs of dorsocentral setae, in front of anterior dc a row of five



Figs. 15—17. 15. Head in profile of *Asteia caesia* n. sp., ♀ holotype, Spain, Almeria: Almeria, 21—31 March 1966; 16. Right antenna from inside of *A. inanis* n. sp., ♂ holotype, Spain, Almeria: Almeria, 22 March 1966; 17. Right antenna from inside of *A. ibizana* End., ♂ lectotype, Ibiza. Scale: 0.25 mm.

distinct hairs. Moreover, 2 notopleural and 2 sternopleural setae. Scutellum whitish with central area orange; a pair of strong apical setae, and a subapical, hairlike pair. Pleura extensively darkened. The palest area is the dorsal part of sternopleuron which is yellowish; rest of pleura yellowish-brown to dark brownish.

Wing. Length: 1.8 mm. Colour hyaline, veins pale yellowish. Second vein ends in an abruptly curve (Fig. 14) and reaches first vein where this joins the costa. The joining area is distinctly infuscated. Knob of halteres large and darkened.

Legs. Yellowish-white; hind tibiae with two indistinctly darkened rings.

Abdomen yellowish-white, the small tergites not darkened.

Length. Total: 1.5 mm.

MILICHIIDAE

Milichia albomaculata Strobl, 1900.

Material. — Granada: Rio Guadalfeo, Orgiva, 300 m, 2 ♂, 5—19 April 1966; Rio Sucio 5 km NW Orgiva, 700 m, 1 ♀, 3 April 1966; Sierra de Contraviesa near Rabite, 1300 m, 4 ♂, 2 May 1966.

Distribution. — Only known from Spain. Further localities gives Encobet (1912:68).

Milichia speciosa Meigen, 1830.

Material. — GRANADA: Rio Guadalfeo, Orgiva, 300 m, 2 ♀, 2—18 April 1966.

Distribution. — Mediterranean subregion, East Asia. Earlier recorded from Spain by Encobet (1912:154) and Séguy (1934:49).

Desmometopa m-nigrum Zetterstedt, 1848.

Material. — ALMERIA: Almeria, 0—50 m, 7, 6—22 March 1966 (also W. Hackman); Albufera, 0—50 m, 3, 29 March 1966; Cabo de Gata, 0—50 m, 3, 26 March 1966; Rioja 10 km N, 200—500 m, 2, 12 March 1966; Alhama, 200—500 m, 1, 22 March 1966. — GRANADA: Torrenueva E Motril, 0—50 m, 8, 10—14 April 1966; Rio Guadalfeo, Orgiva, 300 m, 1, 14 April 1966; Sierra de Contraviesa near Rabite, 1300 m, 1, 8 April 1966; Granada, 700 m, 1, 10—14 July 1960 (J. R. Vockeroth); N. slope Veleta, Sierra Nevada, 2200—3000 m, 5, 20—30 July 1960 (J. R. Vockeroth); Sierra Nevada Highway, 2000 m, 1, 27 July 1960 (J. R. Vockeroth); Almunecar, 0—30 m, 1, 16 July 1960 (J. R. Vockeroth).

Distribution. — The main distribution lies in the Mediterranean subregion. Also in Central Europe up to Central Sweden, in North America etc. Localities from Spain are summarized by Encobet (1912:126).

Leptometopa niveipennis Strobl, 1900.

Material. — GIBRALTAR: 1 ♀, 4 August 1960 (J. R. Vockeroth).

Distribution. — Central and South Europe, North Africa, Central Asia. Recorded from Spain by Czerny & Strobl (1909: 278).

Madiza glabra Fallén, 1820.

Material. — ALMERIA: Rioja 10 km N, 200—500 m, 1 ♂, 12 March 1966. — GRANADA: Maitena, 900 m, 1 ♀, 10 July 1960 (J. R. Vockeroth); N. slope Veleta, Sierra Nevada, 2800—3000 m, 1 ♂, 20 July 1960 (J. R. Vockeroth).

Distribution. — Widely distributed in the Palaearctic Region. Encobet (1912: 105) summarizes the distribution in Spain.

Meoneura Rondani, 1856.

At least five species are represented in the Spanish material. Two of them are easily identified as *obscurella* Fallén, 1823, and *seducta* Collin, 1937. One of the remaining three species is obviously conspecific with *freta* Collin, 1937, the other two are apparently undescribed. The first of these, *M. nevadensis* n. sp., seems by its

brownish halteres and other characters related to the Palaearctic *elongella* Zetterstedt, 1838, and the Nearctic *wirthi* Sabrosky, 1959, and *nigrifrons* Malloch, 1915. As *elongella* is only known in the female type specimen from Lapland, it seems unjustifiable to adopt the Zetterstedt name for the Spanish specimen. The two Nearctic species are quite different in their male genitalia. The second new species, *M. granadensis* n. sp., is very distinct from any other Palaearctic species. It shows most affinity to the Nearctic *polita* Sabrosky, 1959. The genitalia of actual Spanish specimens of *nevadensis* n. sp., *granadensis* n. sp., *freta* Coll. and *seducta* Coll. are figured. A few additional female specimens of the genus are listed as *Meoneura* spp.

Meoneura nevadensis n. sp. (Figs. 20—21)

Material. — GRANADA: N. slope Veleta, Sierra Nevada, 2400 m. 1 ♂ holotype, 25 July 1960; 1 ♀ paratype, 30 July 1960; Same locality, 2800—3000 m, 1 ♂ paratype, 20 July 1960 (J. R. Vockeroth). Holotype and ♀ paratype in Canadian National Collection. Ottawa; ♂ paratype in Zoological Museum, Copenhagen.

Description. — Holotype, male.

Head absolutely black, only extreme anterior margin of frons a little brownish. Ocellar triangle only little differentiated from rest of frons, being less dulled by microscopic punctation. Tip of ocellar triangle situated a little more than half-way of the distance from anterior ocellus to anterior margin of frons.

Thorax black, slightly covered by brownish dust. Only one pair of distinct dorsocentral setae.

Wings as normal for the genus, not milky. Halteres with a "dark" knob; its colour being dirty yellowish-brown, not the luminous whitish-yellow as is normal in the genus.

Legs blackish. Fore femora with two anteroventral setae at tip.

Abdomen dull blackish with normal pubescence. Basal shell of hypopygium (Figs. 20—21) short, with short setulose hairs only. Anal lamellae (Lamellen 3 of Hennig, 1937) very small, not visible in a lateral view, and finely pubescent. Side lamellae (Lamellen 1+2 of Hennig, l.c.) shaped like a boxing-glove, the anterior part being larger than the posterior part. The aedeagus has a very stout apical part.

Length. Total: 1.2 mm.

The female paratype agrees closely with the holotype except

for the usual sexual differences in the end of abdomen. The male paratype has the frons entirely black (without brownish anterior margin), and the thorax seems a little more dusted. However, the genitalia are identical with those of the holotype.

Meoneura freta Collin, 1937. (Figs. 22—23)

Material. — GRANADA: Maitena, 900 m, 1 ♂ 2 ♀, 10—11 July 1960 (J. R. Vockeroth).

Distribution. — In fact, hitherto only known in the type-series (4 ♂ 2 ♀) from Blackeney Point on the Norfolk coast of England. New to Spain.

Remarks. — The specimens agree closely with Collin's description, and the genitalia of the single Spanish male specimen (Figs. 22—23) are practically identical with those figured by Collin of one of the type-specimens.

Meoneura granadensis n. sp. (Figs. 24—25)

Material. — GRANADA: Granada, 700 m, 1 ♂ holotype, 10 July 1960 (J. R. Vockeroth). In Canadian National Collection, Ottawa.

Description. — Holotype, male.

Head. Frons yellowish-brown with blackish ocellar triangle. The tip of the latter nearly reaches anterior margin of frons. Both parts slightly dulled by microscopic punctation. Frontal setae (2 ors and 2 ori) much shorter than usual in the genus, especially the anterior ors very short and not longer than the postvertical hairs. Face and a wedged-formed area below eyes also yellowish-brown. Rest of gena and whole occiput black. Basal joints of antennae brownish, third joint blackish.

Thorax shining black, absolutely undusted, but slightly dulled by punctation. Thoracic pubescence very scanty and short. Only one distinct pair of dorsocentral setae.

Wings not milky. Halteres with a whitish knob.

Legs blackish, fore femora brownish at base and tip, and with two anteroventral setae at tip. All tarsi annulated.

Abdomen coloured as thorax. Hypopygium (Figs. 24—25) with a basal shell shaped as in *freta,* but with three pairs of setae. Anal lamellae (Lamellen 3) distinctly visible in a lateral view, though very weakly sclerotized. Side lamellae (Lamellen 1+2) simple as in *freta,* but of quite different shape. The aedeagus is very slender compared with that of *freta,* the inner copulatory complex on the other hand much larger.

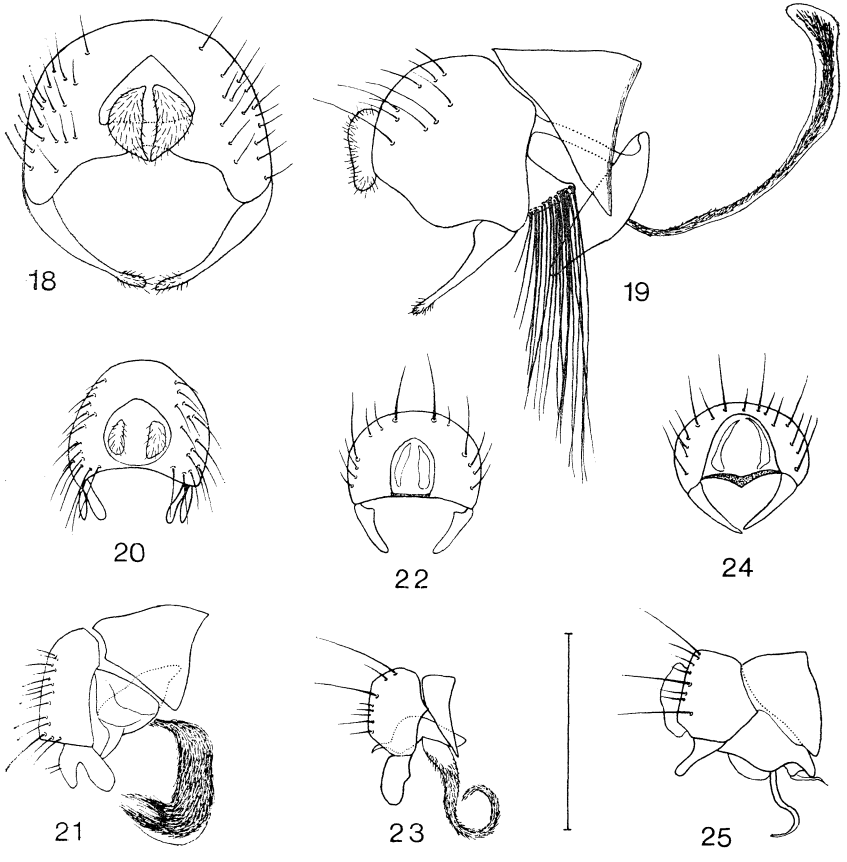
Length. Total: 1.3 mm.

Meoneura obscurella Fallén, 1823.

Material. — ALMERIA: Almeria, 0—50 m, 1 ♂, 22 March 1966.

Distribution. — From South Sweden and Great Britain through Central Europe to Greece. Also recorded from Spain.

Remarks. — The female specimens recorded below as *Meoneura* spp. and collected in the same house (on windows) in Almeria as the male above may belong to *obscurella*.



Figs. 18—25. Male genitalia of Spanish *Meoneura*. 18—19. *M. seducta* Coll., Granada: Rio Lanjaron near Lanjaron, 28 April 1966; 20—21. *M. nevadensis* n. sp., ♂ holotype, Granada: N. slope Veleta, Sierra Nevada, 25 July 1960; 22—23. *M. freta* Coll., Granada: Maitena, 11 July 1960; 24—25. *M. granadensis* n. sp., ♂ holotype, Granada: Granada, 10 July 1960. Figs. 18, 20, 22 and 24 show the genitalia in caudal (ventral) view; figs. 19, 21, 23 and 25 in lateral view. Scale: 0.25 mm.

Meoneura seducta Collin, 1937. (Figs. 18—19)

Material. — GRANADA: Rio Lanjaron near Lanjaron, 600 m, 3 ♂, 26—28 April 1966.

Distribution. — Originally described from four pairs, all taken on Grasholm Island off the Pembrokeshire coast, England. Sabrosky (1959a: 23) records it from several states of the U.S.A., and from Greece and Jordan. New to Spain.

Remarks. — The Spanish specimens agree well with Collin's description. The genitalia of one of them are figured (Figs. 18—19), and correspond to the figures given by Collin, except for the side lamellae which seem more straight in the Spanish than in the English specimen.

Meoneura spp.

Material. — ALMERIA: Almeria, 0—50 m, 7 ♀, 4—22 March 1966 (also W. Hackman); Rioja, 50—200 m, 1 ♀, 7—14 March 1966 (W. Hackman).

Remarks. — The seven females from Almeria were taken on windows in a house together with a male of *obscurella* Fall. They may all belong to the same species. The single female from Rioja is certainly not conspecific with any of the five species recorded above.

Summary

The paper brings records of 2 species of Micropezidae, 2 species of Psilidae, 1 species of Platystomidae (*Rivellia hispanica* n. sp.), 6 species of Otididae (incl. *Hypochra albufera* n. sp.), 2 species of Pallopteridae, 1 species of Odiniidae, 1 species of Aulacigasteridae, 4 species of Asteiidae (incl. *Asteia inanis* n. sp. and *A. caesia* n. sp.), and 10 species of Milichiidae (ncl. *Meoneura nevadensis* n. sp. and *M. granadensis* n. sp.), all collected in the southern provinces of Spain in 1960 and 1966. Besides the 6 new species mentioned above, further 6 species have not earlier been recorded from Spain.

References

Collin, J. E., 1930: Some species of the genus Meoneura (Diptera). — Ent. mon. Mag., 66: 82—89, pl. III.

—, 1937: Two new species of the genus Meoneura (Diptera, Carnidae). — Ent. mon. Mag., 73: 250—252, 2 figs.

—, 1952: On the European species of the genus Odinia R.-D. (Diptera: Odiniidae). — Proc. R. Ent. Soc. Lond. (B), 21: 110—116.

Czerny, L. & P. G. Strobl, 1909: Spanische Dipteren. III. Beitrag. — Verh. zool.-bot. Ges. Wien, 59: 121—301.

Czerny, Leander, 1930: 42a. Tylidae und 42b. Neridae, in Lindner: Die Fliegen der palaearktischen Region, Band 5_1, 18 pp. Stuttgart.

—, 1934: 43. Lonchaeidae, in Lindner: Die Fliegen der palaearktischen Region, Band 5_1, 40 pp. Stuttgart.

Duda, Oswald, 1934a : 58b. Astiidae, in Lindner: Die Fliegen der palaearktischen Region, Band 6_1, 15 pp. Stuttgart.

—, 1934b: 58c. Aulacogastridae, in Lindner: Die Fliegen der palaearktischen Region, Band 6_1, 5 pp. Stuttgart.

Encobet, J. Arias, 1912: Datos para el conocimiento de la distribución geográfica de los Dipteros de España. — Mem. R. Soc. esp. Hist. nat. Madrid, 7 : 61—246.

Frey, Richard, 1964: Beitrag zur Kenntnis der ostasiatischen Platystomiden (Diptera). — Not. Ent., 44: 1—19.

Hennig, W., 1937: 60a. Milichiidae et Carnidae, in Lindner: Die Fliegen der palaearktischen Region, Band 6_1, 91 pp. Stuttgart.

—, 1938: 60b. Odiniidae, in Lindner: Die Fliegen der palaearktischen Region, Band 6_1, 11 pp. Stuttgart.

—, 1939: 46./47. Otitidae, in Lindner: Die Fliegen der palaearktischen Region, Band 5_1, 78 pp. Stuttgart.

—, 1940: 45. Ulidiidae, in Lindner: Die Fliegen der palaearktischen Region, Band 5_1, 34 pp. Stuttgart.

—, 1941: 41. Psilidae, in Lindner: Die Fliegen der palaearktischen Region, Band 5_1, 38 pp. Stuttgart.

Lyneborg, Leif, 1964: Danske acalyptrate fluer. 2. Psilidae, Platystomidae og Otitidae (Diptera). — Ent. Medd., 32: 367—88.

Namba, Ryoji, 1956: A revision of the flies of the genus Rivellia (Otitidae, Diptera) of America north of Mexico. — Proc. U.S. Natl. Mus., 106: 21—84.

Sabrosky, Curtis W., 1943: New genera and species of Asteiidae (Diptera), with a review of the family in the Americas. — Ann. Ent. Soc. Amer., 36: 501—514.

—, 1956: Additions to the knowledge of Old World Asteiidae. — Rev. fr. d'Ent., 23: 216—243.

—, 1957: Synopsis of the New World species of the dipterous family Asteiidae. — Ann. Ent. Soc. Amer., 50: 43—61.

—, 1959a: The Nearctic species of the filth fly genus Meoneura (Diptera, Milichiidae). — Ent. Soc. Amer. Ann., 52: 17—26, 1 pl.

—, 1959b: Flies of the genus Odinia in the Western Hemisphere. (Diptera: Odiniidae). — Proc. U.S. Natl. Mus., 109: 223—236.

Séguy, E., 1934: Diptères (Brachycères), (Muscidae Acalypterae et Scatophagidae). — Faune de France, 28, 832 pp. Paris.

Soós, A., 1957: Neue Angaben über die paläarktischen Otitiden (Diptera). — Ann. hist.-nat. Mus. nat. Hung., 8: 389—399.

S t r o b l, P. G., 1898: Spanische Dipteren, I. Theil. — Wien. ent. Ztg., 17: 294—302.

—, 1906: Spanische Dipteren. II. Beitrag. — Mem. R. Soc. esp. Hist. nat. Madrid, 3: 271—422.