

THE *STRATIOMYDAE* OF THE CANARY ISLANDS,
INCLUDING A DESCRIPTION OF A NEW SPECIES OF
ZABRACHIA COQUILLET (*DIPTERA*)

by

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RESUMEN

En el presente trabajo se ha revisado abundante material de dípteros *Stratiomyidae* de las Islas Canarias (263 especímenes), incluyendo los tipos de todas las especies descritas de esta parte de la Región Paleártica. En total la fauna de esta familia en el archipiélago comprende 5 especies endémicas y 1 introducida. Se describe una nueva especie, *Zabrachia occidentalis* sp. n., que representa el segundo miembro de este género en la Región Paleártica, y además *Oxycera beckeriana* Frey es considerada sinónima de *Oxycera stigmosa* Kertész. Al mismo tiempo, el género *Heraclina* Lindner se confirma como sinónimo de *Oxycera* Meigen. Finalmente, se comenta cada una de las especies estudiadas acompañadas de las sinonimias, notas biológicas y datos de distribución correspondientes; se redescriben e ilustran las especies endémicas y se elabora una clave general de todos los *Stratiomyidae* de Canarias.

ABSTRACT

A relatively large amount of material of the Canarian *Stratiomyidae* (263 specimens), including types of all the species described from this part of the Palaearctic region has been re-examined. *Zabrachia occidentalis* sp. n., which represents the second member of this genus in the Palaearctic fauna, is described. *Oxycera beckeriana* Frey is considered to be a synonym of *Oxycera stigmosa* Kertész. The genus *Heraclina* Lindner is confirmed to be a synonym of *Oxycera* Meigen. All the treated species are keyed and the endemic species are re-described and illustrated. The synonymy, biological notes and complete distribution records are added.

According to present knowledge, the fauna of Stratiomyidae on the Canary Islands consists of 5 endemic species and one almost cosmopolitan species which has been dispersed by commerce. The first contribution on the Canarian Stratiomyidae in its present concept was published by BECKER (1908) who described a new species from the genus Nemotelus (N. insularis) and a new genus with a new species from the subfamily Pachygasterinae (Alliophleps elliptica). The same author also recorded a species that he identified as Oxycera tenuicornis Macquart. However, the original material was posteriorly re-examined by KERTÉSZ (1916) who interpreted it as a further new species, Oxycera stigmosa (Kertész), and stressed that it was actually quite different from the true O. tenuicornis.

A further important paper dealing with Canarian Diptera that included the Stratiomyidae was published by FREY (1936). R. FREY described two new species from the genus Oxycera (O. grancanariensis and O. beckeriana) and noted that Becker's O. tenuicornis might represent the males of his O. beckeriana. Also in the same paper, further records concerning Nemotelus insularis and Alliophleps elliptica were given.

In Lindner's monograph of the Palaearctic Stratiomyidae (1936-1938), only 2 Canarian species were recorded as N. insularis had been omitted, namely Alliophleps elliptica and Oxycera stigmosa respectively. The latter species was regarded to be a type-species of a new genus Heraclina Lindner. However, the identification of this genus was based mainly on the absence of vein R_4 on wings, and as such on a largely variable character not only within the genus but even in some species of Oxycera. Moreover, a detailed study of Heraclina stigmosa showed a close relationship to the European Oxycera pygmaea (Fallén) and as a result, Heraclina was suggested to be only a synonym of Oxycera (see ROZKOŠNÝ, 1983).

FREY (1958) mentioned only 2 specimens of Alliophleps elliptica collected by Hakan Lindberg and more recently BAEZ (1975) has recorded Hermetia illucens on the Canary Islands for the first time, this citation being accompanied by a brief description, illustrations of the larval chaetotaxy and some biological as well as ecological notes. Finally, Nemotelus insularis has also been studied recently in the framework of a revision of the West-Palaearctic species of the genus Nemotelus (see ROZKOŠNÝ,

1977).

During our study we have re-examined all the available material of the Canarian Stratiomyidae, 263 specimens in all. The senior author revised the specimens deposited in the Natural History Museum at the Humboldt University in Berlin (MNK; specimens collected by Th. Becker in 1901, 1902 and 1904; and numerous specimens of Alliophleps elliptica reared from larvae by G. Enderlein in 1930; some records were kindly confirmed by Dr. M. Chvála from Praha during his research stay in Berlin in 1981), in the Zoological Museum at the University of Helsinki (ZMH; specimens collected by R. Frey and R. Stora in 1931, and by H. Lindberg in 1947 and 1949) and in the Zoological Institute of the Academy of Science of the USSR in Leningrad (ZIN; one specimen of Becker's). Some older specimens collected by the native Canarian entomologist Dr. Cabrera y Diaz were also found in Berlin and Helsinki. The junior author collected some interesting new material on Tenerife, La Palma, Gomera and Gran Canaria during 1973-1980 (CB; Departamento de Zoología, Universidad de La Laguna, Tenerife), and a further two specimens, described as a new species of Zabrachia here, were borrowed from the Museo Insular de Ciencias Naturales in Tenerife (MICN).

Key to the Canarian Stratiomyidae

- 1.- Four M-veins arising from discal cell.....2
 - Only three M-veins arising from discal cell (Figs. 37-38) (Pachygas-
terinae).....5
- 2.- Antennae long, with last flagellomere elongated and flattened. Large species (12-20 mm long) with elongated abdomen (Hermetiinae: Hermetia Latreille).....Hermetia illucens (Linnaeus)
 - Antennae of another form (Figs. 4,16). Smaller species (at most 6.5 mm long) with rounded abdomen (Clitellariinae).....3
- 3.- Face cone-like, produced into a facial projection (Figs. 1, 10), scutellum without spines (Nemotelus Geoffroy).....Nemotelus insularis Becker
 - Face not produced into a facial projection, scutellum with two spines (Figs. 14, 23) (Oxycera Meigen).....4
- 4.- Male: scutellum extensively black on dorsal surface, subnotopleural stripe only narrow, yellow sternopleural spot small or missing. Female: mesonotum with yellow longitudinal stripes connecting humeral

- and postalar spots on each side (Fig. 14).....
Oxycera grancanariensis Frey
 - Male: scutellum yellow on dorsal surface, subnotopleural stripe broad, yellow sternopleural spot large. Female: mesonotum without yellow longitudinal stripes (Fig. 23).....Oxycera stigmosa (Kertész)
- 5.- Third antennal segment disc-shaped, with bristle-like arista (Fig. 39) (Zabrachia Coquillet).....Zabrachia occidentalis sp.n.
 - Third antennal segment oval, with a long cylindrical apical style (Figs. 32-34) (Alliophleps Becker).....Alliophleps elliptica Becker

Hermetia illucens (Linnaeus, 1758)

-Musca illucens Linnaeus, 1758: 589

-Hermetia illucens (Linnaeus); Baez, 1975: 173

The species was first recorded on the Canary Islands by BAEZ (1975) who also published a brief description of the adult, illustrated the chaetotaxy of the mature larva and added some biological and ecological notes. A detailed description including the terminalia of both sexes and the puparium was included in a recent revision of the European species compiled by ROZKOŠNÝ (1983). Hermetia illucens is almost a cosmopolitan and eurythermal species that has been dispersal largely through commerce. It is distributed throughout the warmer areas of the New World (from Massachusetts in the USA to northern Argentina and Bolivia), in the Old World tropics including a few areas of the Mediterranean subregion, and also in Australia, New Zealand, Hawaii Is., Micronesia, Melanesia and Polynesia. Altogether 26 specimens collected on Tenerife were examined (see BAEZ, 1975).

Nemotelus insularis Becker, 1908 (Figs. 1-12)

-Nemotelus insularis Becker, 1908: 8; Frey, 1936: 42; Rozkošný, 1977:34

Type material:

N. insularis Becker: The species was described from 3 males that are all still in Berlin (MNK). One of them was designated as lectotype by ROZKOŠNÝ (1977).

Diagnosis: The species is well-characterized by the short apical

flagellomere, haired eyes and the specific pattern of the male abdomen. The frons is uniformly black in both sexes, the subnotopleural line is very narrow or absent and the female abdomen is transversely striped.

Male: Head almost globular, with rather short facial projection that is hardly longer than the basal antennal segments in lateral view. Eye virtually contiguous, densely covered with short greyish hairs. Facets in lower third of eye distinctly smaller. Cheeks in ventral view as broad as the basal antennal segments are long. Postocular area narrow, produced only in posteroventral angle of head and there about as broad as the pedicel is long. Antennae dark, last flagellomere conical and fairly short, as long as flagellomere 4. Head pile fine, dense and mainly erect, adpressed only on postocular area, greyish-white. Head index 1.2-1.3 .

Thorax shining black and densely punctate, only small humeral spot and a very narrow yellow subnotopleural line. The latter often more brownish, not extended in front of wing base. Postalar calli dark, at most partly brown, fine and dense, about as long as the basal antennal segments, erect. Legs mainly ochre-yellow: femora extensively brown in middle, hind femora mainly dark; tibiae yellow, only hind tibiae brown except for both ends and a median ring; tarsi completely yellow. Wings hyaline, stronger veins and pterostigma yellow. R_4 present. Squamae yellow with white marginal hairs, halteres yellow with darkened stalk.

Abdomen yellow with a fairly extensive dark pattern. Black basal spot on tergum 1 connected with a black median spot at anterior margin of tergum 2. Tergum 3 darkened laterally and along posterior margin. Tergum 4 mainly black, with yellow lateral and posterior margin and with a pair of narrowly-oval patches at anterior margin, sometimes posterior margin triangle-shaped extended medially. Tergum 5 black, yellow marginate. Venter brownish-yellow, extensive brown patches distinct more or less on posterior sterna. Abdominal pile sparse and not too long, white and mainly erect anterodorsally and mainly adpressed posteriorly. Synsternum of male genitalia deeply divided distally, both lobes flat and pointed. Parameres broadly divergent.

Female: Frons about as broad as $1/3$ of head-width, facial projection much shorter than eye. Head entirely black, without any frontal spots. Eye pile very short and sparse, inconspicuous. Postocular band well-developed,

in lower half almost as broad as the basal antennal segments are long. Cheeks rather broad but narrower than half-height of eye. Antennae as in male, last flagellomere indistinctly longer. Labella of proboscis about as long as antenna. Head index about 1.3. Head pile virtually the same as that on thorax: silvery-white, dense but short, mainly semi-adpressed; only on disc of mesonotum, on scutellum and pleura partly erect, sometimes with a golden shade on mesonotum. Thorax subshining black, only lateral tops of humeri pale yellow. Legs as in male, only brown parts of femora often reduced. Knob of halteres snow-white. Abdomen subshining black, with yellow lateral and posterior margins of terga and broad whitish triangles in middle of terga 2 and 3 at their posterior margins. Venter brownish-yellow, paler in middle of sternum 2. Female terminalia: cerci short, one-segmented; subgenital plate pentagonal, sclerotized only in distal third; genital furca subtriangular, with a narrow frame and short, inwards curved posterolateral projections.

Length of both sexes: body 5.3-6.5 mm, wing 4.2-5.0 mm.

Variation: The thoracic pile may be grey to white but sometimes more yellowish to golden-brown. The femora show usually an extensive brown pattern but the fore femora may be even entirely yellow in some females. The black pattern on the male abdomen is sometimes extended also on the posterior corners of tergum 2 and the yellow anterior spots on tergum 4 may fuse with the yellow area on tergum 3. The abdominal sterna are often darkened, leaving only narrow posterior margins pale yellow.

Biology: The original males were collected in the middle of July but some recently captured specimens originated from May 18 to September 27. An examined male and a female were accompanied with the puparial exuviae. The puparia were found incidentally in the laboratory on Pistacia atlantica Desf. As all the known larvae of Nemotelus are associated with aquatic or semi-aquatic situations, the larvae of N. insularis could search in the log of Pistacia atlantica for a suitable place to pupate.

Material examined: 13 specimens, all from Tenerife. Bajamar, 15-VII-1903 3♂♂ Cabrera leg. (1 lectotype and 2 paralectotypes; see also BECKER, 1908), in MNK. Tacoronte, 9-VII-1931 1♀ R. Frey leg.; Puerto de la Cruz, 28-VII-1931 1♂ 2♀♀ R. Frey leg., 1♂ 2♀♀ R. Storå leg. (see also FREY, 1936),

in ZMH. Bajamar, 27-IX-1974 1♀ (ex larva) P. Oromí leg., 27-VII-1975 1♂ (ex larva) M. Baez leg.; Punta Hidalgo, 18-V-1978 1♀ P. Oromí leg., all in CB.

Oxycera grancanariensis Frey, 1936 (Figs. 13-21)

-Oxycera grancanariensis Frey, 1936: 40

Type material:

O. grancanariensis Frey: The species is based on a male and 9 females that are still deposited in Helsinki (ZMH). One of females (labelled as type by Frey) is designated as lectotype here owing to the fact that the distinguishing characters from the related O. stigmosa are most striking and reliable only in females.

Diagnosis: The male scutellum is extensively black on its dorsal surface and the male subnotopleural stripe is only narrow. The yellow sternopleural spot is only small or absent in males. The female mesonotum bears a pair of lateral yellow stripes connecting the humeral and the postalar spot on each side.

Male: Head black, semiglobular in lateral view. Eyes contiguous, large, facets in lower third distinctly smaller. Eyes covered with short, dark and not too dense pile. Broad triangular frons shining black, with very short and sparse whitish hairs in lower half particularly. Face very broad, shining black, with a large, almost semicircular silvery-white hair-patch on each side. Postocular area somewhat swollen but visible only in lower half of head. Antennae inserted below middle of head in profile, entirely black. Slender last flagellomere about as long as the rest of flagellum. Ocellar triangle prominent, shining black, with a group of black hairs at posterior margin. Labella of proboscis contrasting yellow.

Thorax shining black, densely punctate. Yellow pattern confined to lateral tops of humeri, narrow subnotopleural stripe continuing usually along upper margin of pteropleuron to anterodorsal corner of hypopleuron. Subnotopleural stripe hardly wider than maximum width of antennae. Sternopleuron black or with a small and isolated yellow point. Also postalar calli and broad posterior margin of scutellum including spines yellow. Thoracic pile very fine, mainly erect and white but more golden-yellow to brownish on

disc of mesonotum. Legs black and yellow: coxae black with yellow distal ends, femora yellow, tibiae yellow but usually black along dorsal surface and hind tibiae extensively darkened, yellow narrowly along ventral surface and on a broad median ring; tarsi black but middle and hind basitarsi yellowish at base. Wings hyaline, stronger veins yellow to brown, pterostigma brownish infuscated. Dense microtrichia covering greater part of wing membrane, reduced only at base of Cu-cell and on alula. R_4 missing. Squamae blackish with white marginal hairs, halteres yellow with darkened stalk.

Abdomen oval, subshining black, with yellow lateral and posterior margin. Yellow margin somewhat enlarged in distal halves of terga. Sterna extensively black: sternum 1 entirely black, sterna 2 and 3 with a pair of transverse black triangles each, sterna 4 and 5 with a broad black band at anterior margin. Abdominal pile inconspicuous, longer, erect and white anterobasally but short, adpressed and brown to black on disc. Venter with short whitish hairs. Male genitalia: epandrium without additional lateral plates, tergum 8 produced anteriorly in middle, median process of synsternum relatively high.

Female: Head transverse and broad, mainly yellow. Frons about as broad as $1/3$ of head-width, somewhat broadened towards antennae, yellow with a black drop-like median spot, sometimes also margin along eyes darkened. Other parts of head yellow, only occiput black except for cerebrale and lower lateral parts. Also ocellar triangle contrasting black. Lower eye-margins surrounded by a wide whitish-pollinose band. Basal antennal segments mainly yellow, only pedicel darkened distally on dorsal surface. Flagellum including last flagellomere black, only apical seta whitish. Thorax black but with extensive yellow pattern. Yellow spots on humeri and postalar calli connected by a longitudinal yellow stripe on each side. Subnotopleural stripe broad, occupying greater part of mesopleuron, entire pteropleuron and reaching the base of halter. Sternopleuron with a large yellow spot in upper posterior corner. Also propleuron with a yellow spot. Scutellum yellow including spines, sometimes darkened on sides. Thoracic pile whitish, longer on lower pleura; mainly short and adpressed, yellow to brownish, on mesonotum. Legs paler as in male, all coxae yellow and

darkening of middle tibiae often reduced. Abdomen as in male but venter paler, with only partly darkened sternum 1 and lateral black spots at anterior margins of sterna 3-5. Female terminalia: cerci distinctly two-segmented, subgenital plate elongated, not sclerotized; genital furca subtriangular, with gradually tapered proximal part.

Length of both sexes: body 4.5-5.4 mm, wing 4.2-5.2 mm.

Variation: The small yellow spot on the male sternopleuron may be present or absent. The black frontal spot is enlarged even to the eye-margins in some females and the sides of the scutellum may be darkened to varying degrees. The black sternal patches on the abdomen are sometimes markedly reduced especially in females.

Biology: The syntype series were collected at a montane stream at an altitude of 1000 m. The available records indicate a flight period from the middle of May to the end of September.

Material examined: 13 specimens from Gran Canaria, Tenerife and La Palma. Gran Canaria: Las Lagunetas, 22-VIII-1931 1♂ 9♀♀ R. Stora leg. (1 female lectotype and 9 paralectotypes; see also FREY, 1936), in ZMH; Azuaje, 24-IX-1973 1♀ M. Baez leg., in CB. Tenerife: Adeje, 15-V-1977 1♂ M. Baez leg., in CB. La Palma: La Caldera, 27-VII-1974 1♂ M. Baez leg., in CB.

Oxycera stigmosa (Kertész, 1916) (Figs. 22-29)

-Oxycera tenuicornis Becker, 1908: 12 (nec Macquart, 1834: 251)

-Hermione stigmosa Kertész, 1916: 217

-Oxycera beckeriana Frey, 1936: 41, syn. nov.

-Oxycera beckeri, error (Frey, 1936: 42)

-Heraclina stigmosa (Kertész); Lindner, 1938: 198.

Type material:

H. stigmosa Kertész: The description was based on a sole male originating from Becker's series and identified by him as Oxycera tenuicornis. The holotype was apparently destroyed but a further two males from Becker's collection (Berlin, MNK) were examined.

O. beckeriana Frey: Frey's description of this species is based on 2 fema-

les that are still preserved in Helsinki (ZMH). One of them is designated as lectotype here.

Diagnosis: The male scutellum is predominantly yellow on its dorsal surface, the subnotopleural stripe is broad and the yellow sternopleural spot is large. The female mesonotum is completely black.

Male: Closely related to O. grancanariensis but differing in the following set of characters. Distal margin of pedicel rather brownish than black, last antennal flagellomere slender and long, distinctly longer than the rest of flagellum. Bright yellow pattern on thorax very extensive. Entire humeral calli yellow, subnotopleural stripe broad, occupying upper half of mesopleuron and anteriorly reaching the base of fore coxa, also propleuron partly yellow. Sternopleuron with a large oval spot at posterior upper corner and subnotopleural stripe continuing through pteropleuron and upper margin of hypopleuron to the base of halter. Also each laterotergite with a large yellow spot. In consequence, the yellow pleural pattern almost as extensive as in female. Postalar calli and scutellum including spines entirely yellow. Thoracic pile in general shorter than in O. grancanariensis. Darkening of middle tibia hardly visible. Yellow abdominal margin somewhat broader, also narrowly continuing on sides of tergum 1. Venter yellow, without distinct black patches, only slightly brownish along anterior margins of sterna. Male terminalia: epandrium with well-developed lateral plates; tergum 8 narrow and almost straight medially, median process of synsternum relatively low.

Female: Head black in ground colour but with extensive yellow pattern. Frons mainly black but with a pair of large yellow lateral spots in lower third that are connected with yellow face. Peristomal margin, greater part of cheeks and occipital part of head black. Postocular band broadly yellow, vertex with a transverse yellow band beyond ocellar triangle. Antennae as in male. Head pile mainly short and whitish, only on frons dark brown. Yellow pattern on thorax even more extensive than in male. Yellow subnotopleural band at least twice as broad as maximum width of antenna, sternopleuron with a large transverse yellow spot, outer parts of laterotergites also yellow. Legs, wing and abdomen as in male. Female terminalia: virtually of the same type as in O. grancanariensis but genital furca with an abrupt

tly tapered, slender proximal process.

Length of both sexes: body 4.6-6.3 mm, wing 4.5-5.2 mm.

Variation: The yellow pattern in females seems to be especially variable. The yellow area beyond the ocellar triangle may be extended round the entire ocellar triangle, also black parts of the cheeks generally reduced. The subnotopleural band occupies sometimes the greater part of the mesopleuron and is connected with the propleural spot. The female coxae may be completely yellow and the darkening of middle tibia and basitarsi is often reduced. The venter of the abdomen may be completely yellow in extremely pale specimens.

Biology: The larvae are apparently aquatic, one female emerged at the end of June from a larva found in wet moss. Data in the collections represents records from the beginning of May to the middle of September.

Material examined: 24 specimens from Tenerife, Gomera and La Palma. Tenerife: Port Orotava, n° 51158, May, 2♂♂ T. Becker leg. (collected with the holotype), in MNK; Port Orotava, 15-VII-1931 1♀, 21-VII-1931 1♀ R. Storrå leg. (lectotype and paralectotype of O. beckeriana), in ZMH; Monte del Agua, 24-VIII-1973 11♀♀; Las Mercedes, 16-IX-1973 1♀, 13-VII-1974 2♀♀; Monte Aguirre, 31-VII-1975 1♀; Los Gigantes, 1-V-1976 1♀, 30-VI-1976 1♀ (ex larva); Monte Los Silos, 17-VI-1976 1♀; all M. Baez leg., all in CB. Gomera: Meriga, 15-VIII-1977 1♀, M. Baez leg., in CB. La Palma: La Dehesa, 13-VII-1973 1♀ M. Baez leg., in CB.

Alliophleps elliptica Becker, 1908 (Figs. 31-35, 37, 40-42)

-Alliophleps elliptica Becker, 1908: 9; Frey, 1936: 43; Frey, 1958: 11; Lindner, 1938: 210.

Type material:

A. elliptica Becker: Based on specimens of both sexes from which one male (labelled "P. Orotava, 51159 V., Typus") and one female (labelled "Tenerife, Barranco Hondo, 19-IX-1902, 49592, Typus") are still in Berlin (MNK) and one syntype male is also in Leningrad (ZIN).

Diagnosis: A dark species with partly yellowish antennae. The eyes are

separated in both sexes and vein R_4 is absent. The basal part of flagellum is suboval and swollen, the apical part forms a slender, black haired apical style.

Male: Head markedly transverse in dorsal view and almost semicircular in lateral view. Large eyes very short and sparsely haired, consisting of uniform facets of the same size. Frons about as wide as anterior ocellus or slightly wider, shining black with a silvery-white hair-patch in small depression above antennae. Face subshining black with narrow whitish hair-stripes along eye margins and with a distinct longitudinal median groove. Postocular area very narrow, more distinct only posteroventrally. Antennae inserted just above middle of head in profile, basal segments very short, yellowish-brown. Basal part of flagellum ochre-yellow to brown, bulbose, original flagellomeres virtually indistinct. Last 3 flagellomeres forming long but rather thick, densely black haired apical style. Head pilose silvery-white, mainly short and erect, especially dense on face, longer posteroventrally. Labella of proboscis shining brown, rather long.

Thorax completely shining black. Thoracic pile on mesonotum dark brown, mainly short and erect, partly white to bronze and adpressed. Pleura with mainly silvery-white hairs. Scutellum semicircular, somewhat sub-pointed apically, without any marginal process or rim. Legs mainly black, only knees, tips of tibiae, all basitarsi and following 2 tarsal segments on middle and hind legs pale yellow. Wings hyaline with brownish stronger veins and yellowish pterostigma. R_4 absent, costal section between R_{2+3} and R_{4+5} about twice as long as that between R_1 and R_{2+3} . Cross-vein r-m virtually absent. Wing microtrichia reduced on greater part of M-cell and on basal $2/3$ of Cu-cell but dense on alula. Squamae whitish with white marginal hairs, halteres pale yellow with darkened stalk.

Abdomen shining black, partly brownish dusted in apical half dorsally. Abdominal pile mixed from short black and longer white hairs, semiadpressed longer anterobasal white hairs erect. Venter with sparse and adpressed whitish hairs. Male genitalia: proctiger and epandrium well-separated, cerci simple, without special groups of setae; dorsal bridge between basistyli complete, dorsal processes proximally about as long as synsternum; dististyli bifid apically; aedeagal complex slender, parameres well-deve-

loped but short, distinct only in its apical third.

Female: Frons about 3 times as broad as ocellar triangle, shining black but densely punctate in central area, with a distinct depression above antennae. Face subshining black, somewhat concave, with whitish hair-stripes along eye-margins and a narrow longitudinal groove in middle, short but dense silvery-white haired in greater part, leaving only bands along facial hair-stripes bare. Postocular band narrow but distinct along entire posterior eye margin. Antennae as in male but basal part of flagellum usually stouter and paler and rows of whitish sensory pits more distinct. Also other parts of body as in male, only thoracic pile somewhat shorter and sparser and yellow knees broader. Abdominal pile mainly whitish. Female terminalia slender and elongated. Cerci one-segmented, tergum 9 simple and relatively broad, genital furca with distinctly dilated posterolateral projections and very long rod-like proximal process.

Length of both sexes: body 2.4-4.6 mm, wing 2.5-4.0 mm.

Variation: Some variation in the width of the frons especially in males has been noted. The basal part of the flagellum may be darkened only along its dorsal surface or almost completely. The basal parts of the tibia are usually yellow, extent of coloration varying.

Biology: A large series of specimens preserved in Berlin (MNK) were reared from larvae found on roots of Euphorbia canariensis L.. The adults apparently occur all through the year. The examined specimens had been collected from January to December:

Material examined: 185 specimens found only on Tenerife. Port Orotava, 51159, May, 1♂ in MNK, 1♂ in ZIN; Barranco Hondo, 19-IX-1902 1♀, in MNK; all T. Becker leg. (syntypes of A. elliptica). Güimar, 20-XI-1927 1♀ Cabrera leg. (see also FREY, 1936), in ZMH. Aguirre, 22-III-1928 1♀ Cabrera leg., in ZMH. Valle de Santiago, 12-13-V-1947 1♂ H. Lindberg leg. and Puerto de San Juan, 16-22-I-1949 1♀ H. Lindberg leg. (see also FREY, 1958), in ZMH. Barranco Hondo, 30-VIII-74 2♂♂ M. Baez leg.; Teno 1-V-1977 2♂♂, 17-XII-1978 1♂ M. Baez leg.; Las Galletas, 24-II-1977 1♂ M. Baez leg.; San Andrés, 19-V-1977 1♂ M. Baez leg.; La Cuesta, 31-V-1980 1♀ M. Baez leg.; all in CB. Port Orotava, 21-22-II larvae, 25-30-V 69♂♂ 101♀♀ ex larva, G. Enderlein det., in MNK.

Zabrachia occidentalis n. sp. (Figs 36, 38-39)

Type material:

Z. occidentalis sp. n.: Holotype - female, Tenerife, La Esperanza, 1-VIII-1956 ex larva from Pinus canariensis Chr.Sm., J.M. Fernández leg. Paratype -female with the same label as in the holotype. Both deposited in the Museo Insular de Ciencias Naturales, Tenerife.

Diagnosis: This new species is closely related to the Eurasian Zabrachia minutissima (Zetterstedt) but its head is distinctly shorter and the eyes are relatively smaller, i.e. the cheeks are broader and the posteroventral angle of the head is more prominent. The legs are paler, especially the middle tibia which are entirely yellow as well as all the tarsi. Female tergum 9 is distinctly narrower and the posterolateral projections of the genital furca are broader.

Female: Head almost globular in lateral view but with a distinct posteroventral angle. Eyes bare, consisting of uniform facets, their posterior angle placed above middle of head. Frons wider than $1/3$ of head-width in middle, somewhat enlarged towards vertex, shining black, with a narrow longitudinal median groove and a deep transverse depression above antennae. Face concave in middle third, with a narrow median groove. Postocular band complete, relatively wide, markedly broadened and somewhat swollen in lower half. Antennae entirely black, inserted below middle of head in lateral view. Flagellum compressed, almost reniform, slender arista relatively short. Head pile mainly inconspicuous, silvery-white, semi-adpressed to erect, only short and sparse on frons, longer and denser on face and cheeks. Labella of proboscis whitish in ventral view.

Thorax wholly subshining black, finely and densely punctate. Scutellum simply rounded, semicircular. Pile on mesonotum very short, mainly brownish on disc, more whitish on sides, semi-adpressed. Pile on pleura snow-white, short and erect. Legs black and yellow: coxae black, femora black except for tips, tibiae and tarsi mainly yellow, only a hind tibiae with a brownish stripe along outer surface. Wings hyaline, only stronger veins and pterostigma pale yellow. R_4 absent, costal section between R_1 and R_{2+3} only slightly shorter than that between R_{2+3} and R_{4+5} . Wing microtrichia den-

se, reduced in basal third of M-cell, and basal half of Cu-cell. Squamae greyish with whitish marginal hairs, halteres white with darkened stalk.

Abdomen shining black, only very finely and sparsely punctate, ovipositor yellow. Abdominal pile short and erect, mainly white but mixed with black hairs on disc dorsally. Female terminalia: cerci one-segmented, well separated, tergum 9 relatively narrow, transverse; genital furca with dilated posterolateral projections, open in middle distally; proximal rod-like process very long and slender.

Length: body 3.4 mm, wing 3.2 mm.

Biology: Both specimens were reared from the larvae that had been found in the "tronco de pino" i.e. in a log of Pinus canariensis. Such a biological note corresponds well with the biology of other known species of the genus, the larvae of which have been mainly found under the bark of coniferous trees.

Material examined: Only two female specimens are known so far (see type-material).

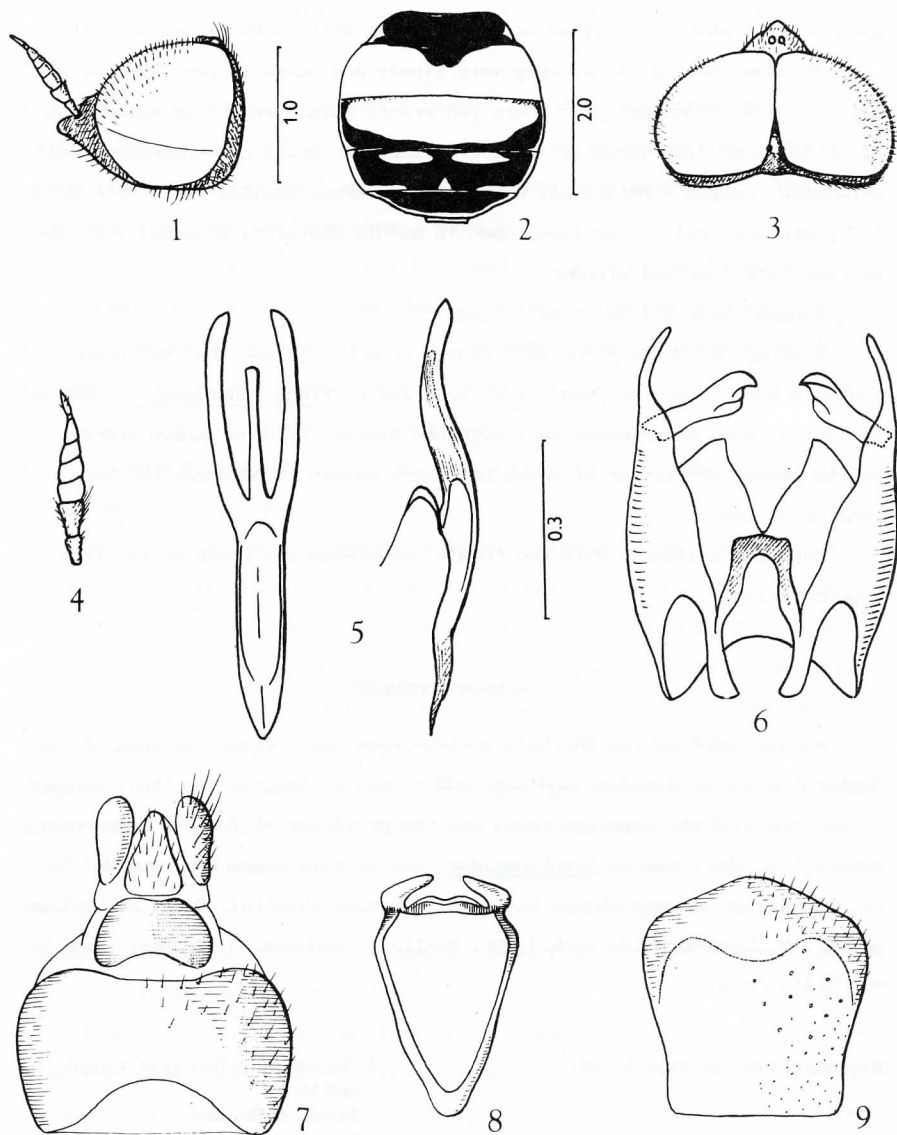
ACKNOWLEDGEMENTS

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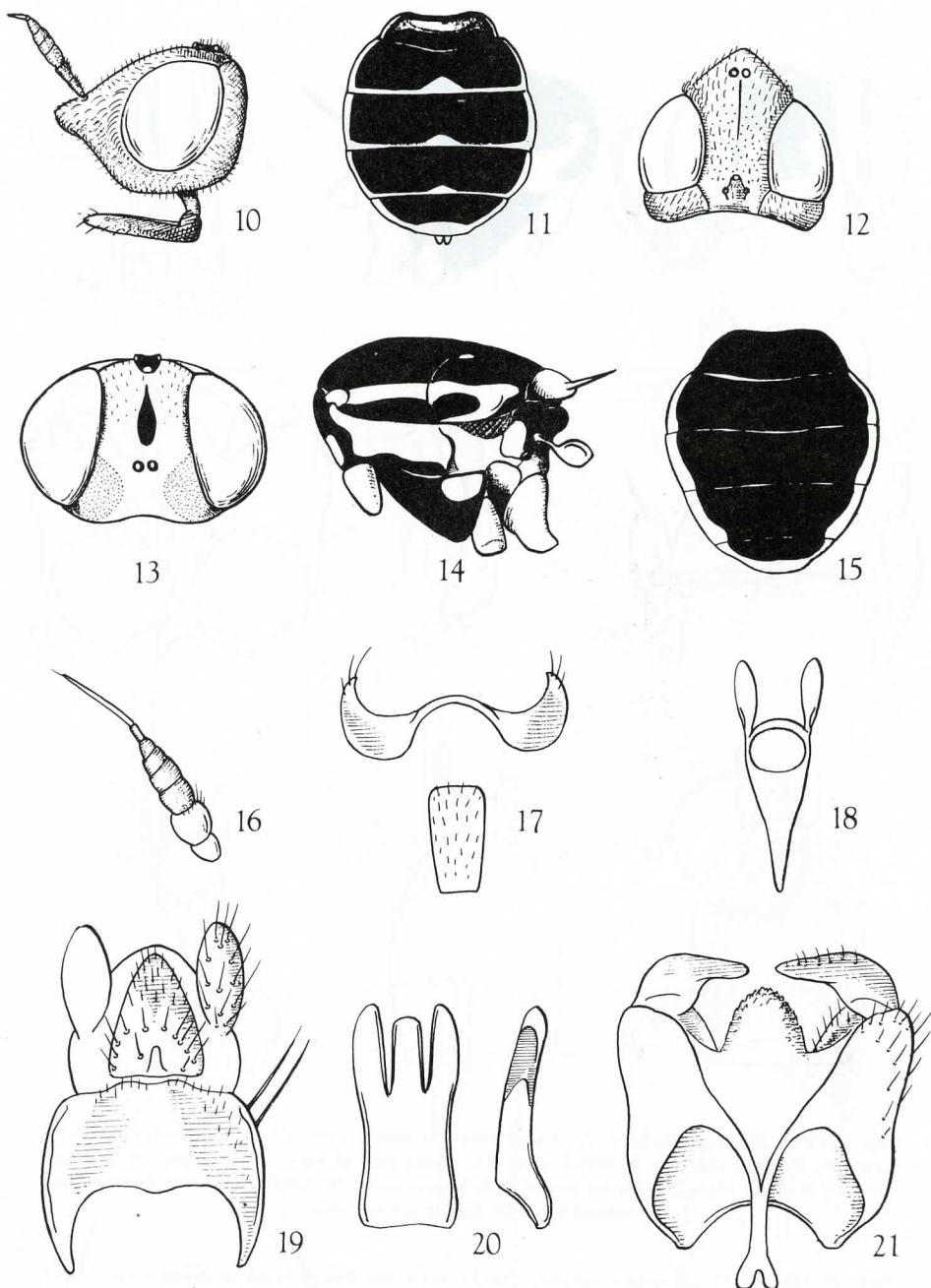
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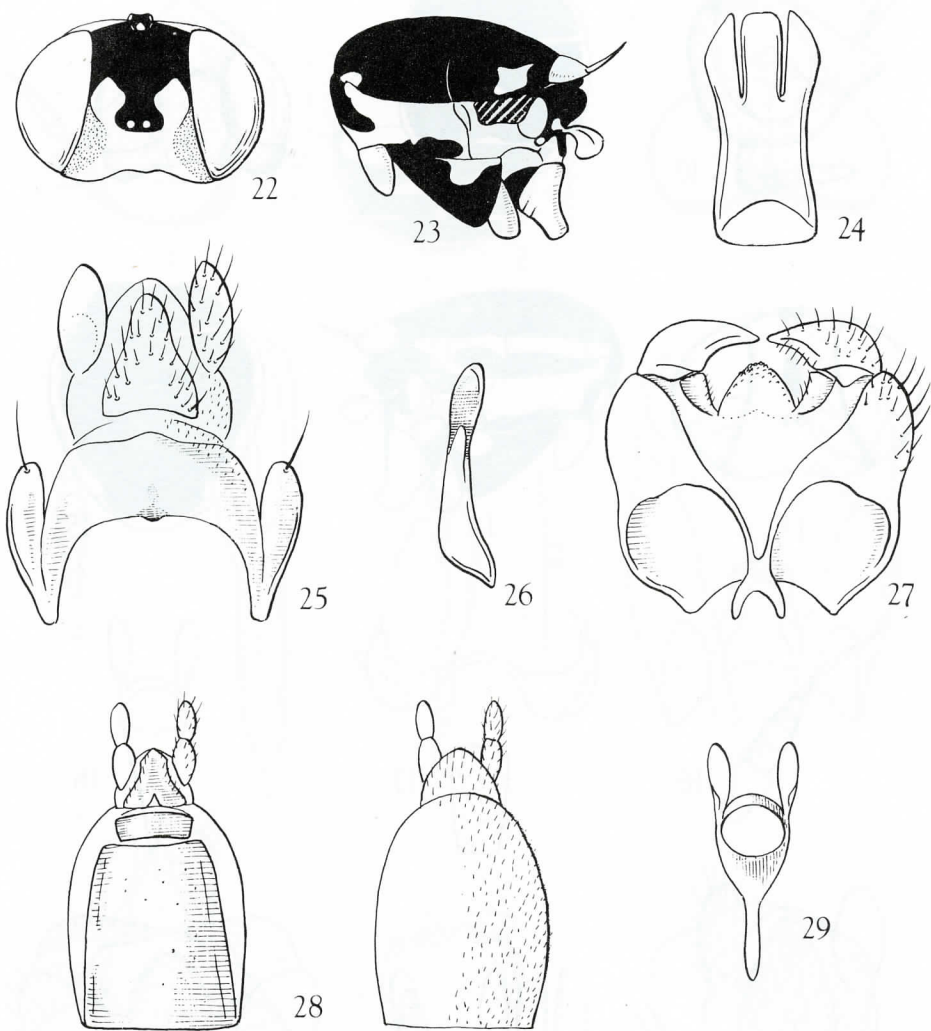
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Figs. 1-9. *Nemotelus insularis*: 1. male head in lateral view, 2. male abdomen, 3. male head in dorsal view, 4. male antenna, 5. aedeagal complex in dorsal and lateral view, 6. ventral part of male Hypopygium, 7. female terminalia in dorsal view, 8. genital furca, 9. female subgenital plate. (Scales in mm)

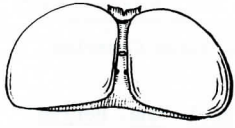


Figs. 10-21.— 10-12. *Nemotelus insularis*, female: 10. head in lateral view, 11. abdomen, 12. head in dorsal view. 13-21. *Oxycera grancanariensis*: 13. female head in frontal view, 14. female thorax in lateral view, 15. female abdomen, 16. female antenna, 17. male tergum 8 (above) and sternum 8 (below), 18. female genital furca, 19. dorsal part of male hypopygium, 20. aedeagal complex in dorsal and lateral view, 21. ventral part of male hypopygium.

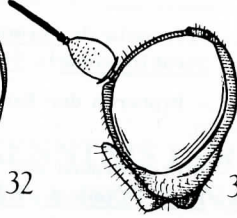
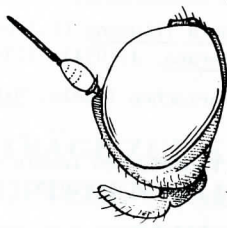


Figs. 22-29.- *Oxycera stigmosa*: 22. female head in frontal view, 23. female thorax in lateral view, 24. aedeagal complex in dorsal view, 25. dorsal part of male hypopygium, 26. aedeagal complex in dorsal view, 27. ventral part of male hypopygium, 28. female terminalia in dorsal and ventral view, 29. female genital furca.

Figs. 30-42.- 30-35. *Alliophleps elliptica*: 30-31. male and female heads in dorsal view, 32-33. male and female heads in lateral view, 34. male antenna, 35. female terminalia, 36. *Zabrachia occidentalis* sp. n., female terminalia, 37-38. wings of *Alliophleps elliptica* and *Zabrachia occidentalis* sp. n., 39. *Zabrachia occidentalis* sp. n., female head in lateral view. 40-42. *Alliophleps elliptica*, male genitalia: 40. dorsal part, 41. aedeagal complex in dorsal and lateral view, 42. ventral part.



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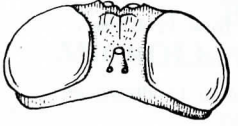


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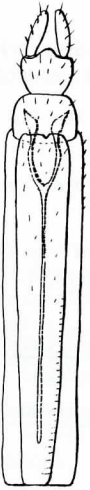
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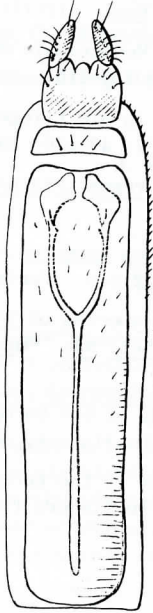
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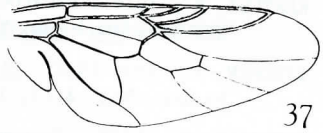
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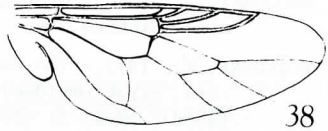
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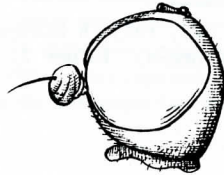
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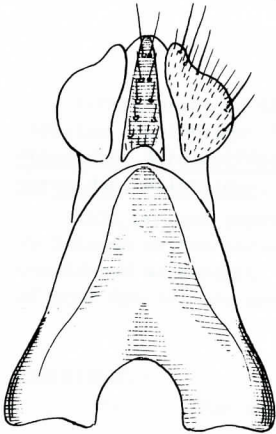
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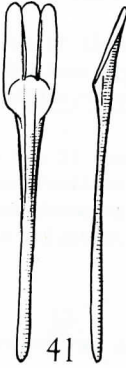
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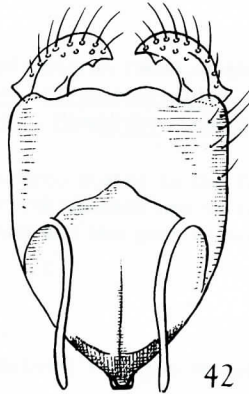
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