

Studies of Parydrinae  
(Diptera: Ephydriidae), II:  
A Revision of the Shore Fly  
Genus *Pelinoides* Cresson

WAYNE N. MATHIS

SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 410

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SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 410

Studies of Parydrinae (Diptera:  
Ephydridae), II: A Revision of  
the Shore Fly Genus *Pelinoides* Cresson

*Wayne N. Mathis*



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## ABSTRACT

Mathis, Wayne N. Studies of Parydrinae (Diptera: Ephydriidae), II: A Revision of the Shore Fly Genus *Pelinoides* Cresson. *Smithsonian Contributions to Zoology*, number 410, 46 pages, 59 figures, 1985.—The genus *Pelinoides* Cresson is revised for the first time and is divided into three species groups, with the following species: the *pallipes* group (*P. andinus*, new species and *P. pallipes*, new species); the *cyclocerus* group (*P. cyclocerus*, new species); and the *sulcatus* group (*P. sulcatus* Cresson; *P. pullus*, new species; *P. amblys*, new species; *P. chiloensis*, new species; *P. nigrihalteratus*, new species; *P. phaeopleurus*, new species; *P. australis*, new species; *P. chilensis*, new species; *P. colerus*, new species; *P. flavipalpus*, new species; *P. flinti*, new species; *P. phaeonotus*, new species; *P. fuscus*, new species; *P. obscurus*, new species; *P. opacus*, new species; *P. penai*, new species; *P. unctus* Cresson; and *P. pruinosus*, new species). Of the three species groups, the *pallipes* group is structurally the most divergent, and from the standpoint of distribution the *pallipes* group is also the exception. *Pelinoides* generally has a temperate distribution, with species occurring at southern latitudes (Argentina and Chile) or at high elevation at latitudes closer to the Equator. The *pallipes* group, however, occurs in tropical lowlands on either side of the Andes. To provide perspective to this revision, an annotated key to the neotropical genera of Parydrinae, followed by a brief discussion, is provided. In that key and discussion the tribe Philygriini is transferred from the subfamily Notiphilinae to Parydrinae. Keys to species groups and species, illustrations, and distribution maps are provided.

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FIGURE 1.—*Pelinoidea andinus*, habitus.

# Studies of Parydrinae (Diptera: Ephydridae), II: A Revision of the Shore Fly Genus *Pelinoides* Cresson

Wayne N. Mathis

## Introduction

The study of neotropical shore flies is still in its infancy. Although studies of the fauna thus far suggest considerable diversity, generous estimates are that less than half of the neotropical species has been described. Exemplary of this situation is the neotropical genus *Pelinoides* Cresson. Until this revision only two species had been described, both in the early 1930's (Wirth, 1968). To these, in the present study, are added 19 new species. These additions provide greater perspective as to the diversity within the genus and also necessitate a broader recharacterization of the genus from that which Cresson (1931) initially proposed.

*Pelinoides* was first erected by Cresson (1931) as a monotypic genus (with *P. sulcatus* Cresson as its type-species) when he reviewed the Ephydridae from Patagonia and south Chile. Three years later Cresson (1934) added one more species, *P. unctus* Cresson, from specimens collected in Uruguay. No taxa have been described subsequently, and with one exception the genus has not been treated substantively since. Wirth (1968) listed the genus and its two species in a catalog of neotropical shore flies, and more re-

cently Mathis (1977) included the genus in his key to South American genera of the subfamily Parydrinae. The one substantive paper of recent is a review of the two known species based on Argentine material (Lizarralde de Grosso, 1981). In this paper Lizarralde de Grosso provided the first illustrations of male terminalia.

No data have been published about the natural history, ecology, or immature stages of any *Pelinoides* species. Despite the paucity of information on feeding habits, I would anticipate that the larvae, like those of related taxa, feed on blue-green algae (Foote, 1977, 1981a, 1981b).

In all treatments of *Pelinoides*, the genus has been considered to be part of the subfamily Parydrinae. Within Parydrinae, however, its relationships have not been fully clarified, although Cresson (1931) did point out that the genus was structurally very similar to *Pelina* Haliday.

The purpose of this paper is first to describe the many new taxa, then to characterize species groups and recharacterize the genus, and finally to provide additional information on the subfamily Parydrinae in the form of an annotated key to the neotropical genera of that subfamily.

**METHODS.**—The methods and descriptive format used in this study were explained in Mathis (1982b) and Mathis and Ghorpadé (1985). The descriptive terminology follows that published in the recent *Manual of Nearctic Diptera* (volume 1,

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McAlpine, 1981) with the exception noted in Mathis (1984). Most of the species considered herein are new, and in the treatment of most of them I have included, as part of the type series, all specimens I had available. For a few of the new species, however, particularly those for which identification is based primarily on characters of the male terminalia, the type series comprise only specimens that I could identify without question. Other specimens, with tentative determinations, are listed under "Other Specimens Examined" with the appropriate species. Type specimens of all nominate taxa were studied. Label data accompanying each holotype are quoted verbatim, with a slash mark to separate data of one label from another. Clarifying or interpretive comments are included in brackets.

Descriptions are composite. For the most part information given in the generic or species group descriptions is not repeated in the species descriptions.

One head ratio and two venational ratios are used commonly in the descriptions and are defined for the convenience of the user.

1. Eye-to-cheek ratio: genal height (immediately below eye)/eye height.

2. Costal vein ratio: the straight line distance between the apices of  $R_{2+3}$  and  $R_{4+5}$ /distance between the apices of  $R_1$  and  $R_{2+3}$ .

3. M vein ratio: the straight line distance along M basad of crossvein dm-cu/distance apicad of crossvein dm-cu.

ACKNOWLEDGMENTS.—Although this study was based primarily on specimens in the National Museum of Natural History, numerous others were borrowed, particularly type specimens of the species described previously. To my colleagues and their institutions, listed below, who lent specimens, I express my sincere thanks. Without their cooperation this study could not have been completed.

AMNH American Museum of Natural History,  
New York, New York (Dr. Pedro  
Wygodzinsky)

ANSP Academy of Natural Sciences of Phil-

adelphia, Pennsylvania (Dr. Daniel  
Otte)

BMNH British Museum (Natural History),  
London, England (Dr. Brian H. Co-  
gan)

CAS California Academy of Sciences, San  
Francisco, California (Dr. Paul H.  
Arnaud, Jr.)

CNC Canadian National Collection, Ottawa,  
Canada (Dr. J.R. Vockeroth)

MZSP Museu de Zoologia da Universidade de  
São Paulo, Brazil (Dr. Nelson Papav-  
ero)

IML Fundación Miguel Lillo, Tucumán,  
Argentina (Dr. Mercedes L. Grosso)

UCB University of California, Berkeley, Cal-  
ifornia (Dr. E.I. Schlinger)

USNM former United States National Mu-  
seum, collections in the National  
Museum of Natural History, Smith-  
sonian Institution, Washington,  
D.C.

Hollis B. Williams organized the locality data and prepared distribution maps. The illustrations were carefully prepared by George L. Venable. For reviewing a draft of this paper I thank Oliver S. Flint, Jr. and Norman E. Woodley. Finally, I am grateful to S. Dillon Ripley, then Secretary, Smithsonian Institution, for financial support to conduct field work through a Fluid Research Grant.

#### PARYDRINAE

To give perspective to this revision I am providing a key to the neotropical genera of the subfamily Parydrinae. In a succinct format the key provides convenient characters for identifying the genera without necessarily implying relationships among them. Indeed, the reader is cautioned not to infer generic relationships from this key, especially as regards *Pelinoides*. Although I am confident that *Pelinoides* is related to the other parydrine genera, the generic relationships within that subfamily have not been worked out, and such is beyond the scope of this revision.



Another purpose for the key is to update my earlier effort to construct a key to the neotropical genera of Parydrinae (Mathis, 1977). Since publication of that key several significant changes have been made within the classification of Parydrinae. In addition to deletions or additions to the key, further changes are highlighted as an-

notations within the key or in the brief discussion section that follows. Parenthetic annotations within the key follow the generic entry and include the number of neotropical species within the genus and the most recent comprehensive species treatment, if one exists.

### Annotated Key to the Neotropical Genera of Parydrinae

1. Presutural or sutural dorsocentral bristle inconspicuous or absent . . . . 2  
    Presutural or sutural dorsocentral bristle present, conspicuous . . . . . 6
2. Arista pectinate, branching rays sometimes pale and difficult to discern . . . . . 3  
    Arista bare to macropubescent; if pectinate, hairs shorter than 1/2 width of 1st flagellomere . . . . . 9
3. Foreleg raptorial; forefemur greatly enlarged; foretibia ending in a spur . . . . . *Ochthera* Latreille  
    (12 species; Clausen, 1977, 1980)  
    Foreleg normal; forefemur slender; foretibia not ending in a spur . . . . 4
4. Costa short, extending only to vein R<sub>4+5</sub>. Face with a distinct vertical carina . . . . . *Brachydeutera* Loew  
    (1 species, *B. neotropica* Wirth, 1964)  
    Costa long, extending to vein M. Face without a distinct, vertical carina . . . . . 5
5. Face with gently rounded, broad swelling on dorsal half . . . . . *Gastrops* Williston  
    (7 species; Wirth, 1958; Lizarralde de Grosso, 1984)  
    Face flat or concave . . . . . *Becheriella* Williston  
    (4 species; being revised by Lizarralde de Grosso)
6. Anterior and posterior notopleural bristles equidistant from notopleural suture . . . . . *Eleleides* Cresson  
    (2 species; Mathis, 1978)  
    Posterior notopleural bristle much farther from notopleural suture than is anterior bristle (*Philygriini*) . . . . . 7
7. Face broad, concave, with prominent lower facial margin; arista conspicuously pectinate, branching rays long . . . . . *Lemnaphila* Cresson  
    (2 species; Lizarralde de Grosso, 1977)  
    Face narrow, not concave; if face prominent, lower facial margin receding; arista bare or haired . . . . . 8
8. Arista bare or minutely haired. Presutural dorsocentral bristle present . . . . . *Philygria* Stenhammar  
    (2 species)  
    Arista short- to long-haired. Sutural dorsocentral bristle present . . . . .  
    . . . . . *Nostima* Coquillett  
    (15 species; Cresson, 1941)

9. Both inner and outer vertical bristles present and lateral margins of scutellum not densely microtomentose; 1 to 2 fronto-orbital bristles evident. Wing with vein  $R_{2+3}$  long, 2nd costal section about 3 times as long as 3rd . . . . . 10  
 Only inner vertical bristle present, or if outer is present, lateral margins of scutellum densely microtomentose, velvety; fronto-orbital bristles either absent or at most only 1 evident. Wing with vein  $R_{2+3}$  shorter, 2nd costal section at most 2 times as long as 3rd . . . . . 11
10. Subcranial cavity small to moderately large; clypeus narrow, tongue-like . . . . . *Pelina* Haliday  
 (not neotropical but 2 species occur in northern Mexico)  
 Subcranial cavity large, gaping; clypeus a broad band . . . . .  
 . . . . . *Parydra* Stenhammar  
 (5 species; being revised by Clausen)
11. Wing with vein  $R_{2+3}$  moderately long, 2nd costal section about 2 times as long as 3rd . . . . . *Pelinoides* Cresson  
 (21 species; present revision)  
 Wing with vein  $R_{2+3}$  short, 2nd costal section considerably less than 2 times as long as 3rd . . . . . 12
12. Tergum 4 from 1.3 to 2.0 times as long as tergum 5, both conspicuously punctate. Inner vertical bristle present, outer vertical bristle absent. Lateral margins of scutellum not densely microtomentose, not appearing velvety . . . . . *Lytogaster* Becker  
 (5 species)  
 Tergum 4 subequal in length to tergum 5, neither conspicuously punctate. Usually both vertical bristles present, if outer absent then lateral margins of scutellum densely microtomentose, appearing velvety . . . .  
 . . . . . *Hyadina* Haliday  
 (3 species)

### Discussion

Neotropical Parydrinae include 13 genera that are now arrayed into three tribes: Parydrini, Hyadinini, and Philygriini. Some authors (Dahl, 1959; Miyagi, 1977) have also recognized *Ochthera* as a separate subfamily, Ochtherinae, but because its relationships with other genera or subfamilies, Parydrinae in particular, have not been elaborated, I have not chosen to recognize Ochtherinae. Other neotropical genera that are equally as different are *Brachydeutera*, *Gastrops*, or *Beckeriella*. Separate tribes have not been erected for them, and I am not recommending that this be done. Suprageneric categories should reflect relationships as well as differences, and

when relationships have not been clarified, I prefer broad, more conservative, and generally more inclusive categories.

*Physemops* Cresson, and *Diedrops* Mathis and Wirth, were previously included in Parydrinae (Wirth, 1968; Mathis and Wirth, 1976; Mathis, 1977). These have now been transferred to Ephydrinae, where together with *Dagus* Cresson and *Psilephadra* Hendel, they comprise the tribe Dagini (Mathis, 1982a).

Philygriini has been placed in the subfamily Notiphilinae (Wirth, 1965, 1968), although I prefer Dahl's (1959) placement of Philygriini close to his subfamily Hydrininae (= Hyadinini, subfamily Parydrinae), perhaps ultimately to be included within that taxon (whether the included

genera are given tribal or subfamilial status is not of concern here). Character evidence for including Philygriini in Parydrinae is as follows: Eyes hairy, unlike Notiphilinae; number of fronto-orbital bristles reduced, similar to Hyadinini; general facies of head similar to Hyadinini; position of notopleural bristles, particularly the elevated insertion of the posterior bristle, like Hyadinini; tendency for velvety tomentose areas, especially along the lateral margin of the scutellum, like Hyadinini; enlarged fourth tergum of the abdomen, like *Hyadina*, *Axysta* Haliday, and especially *Lytogaster*—all genera of Hyadinini; shape of the antenna, especially the lack of a spinous, dorsoapical seta, like Parydrinae.

Natural history data also support placement of Philygriini near Hyadinini. Foote (1983) recently discovered that larvae of *Nostima approximata* Sturtevant and Wheeler, a species of Philygriini, utilize blue-green algae, which is likewise the larval food of hyadinine genera (Foote, 1977, 1981a, 1981b). Foote (1983) further noted that the mature larva of *Nostima approximata* is structurally more similar to other hyadinine genera than to taxa of the subfamily Notiphilinae. Feeding data, in addition to the many structural similarities of both adults and larvae, support the premise that Philygriini is better placed in the subfamily Parydrinae.

### Genus *Pelinoides* Cresson

*Pelinoides* Cresson, 1931:102 [type-species: *Pelinoides sulcatus* Cresson, by original designation].—Wirth, 1968:19 [neotropical catalog].—Mathis, 1977:555 [generic key].—Lizarralde de Grosso, 1981:93–95 [review of species from Argentina].

**DIAGNOSIS.**—Small to moderately small shore flies, length 1.50 to 2.55 mm.

**Head:** Height subequal to width. Frons wider than long, vestiture variable, sparsely to densely microtomentose, appearing subshiny to completely dull, mesofrons distinguished from parafrons, the latter frequently densely microtomentose, appearing velvety; no fronto-orbital bristles evident; only inner vertical bristle present; no

interfrontal bristles; ocelli borne on distinct ocellar tubercle, arranged to form an isosceles triangle, distance between posterior ocelli greater than distance between anterior ocellus and either posterior ocellus; ocellar bristles well developed, proclinate, and divergent. Antenna with 2nd segment lacking dorsoapical, prominent bristle; arista inserted dorsally, near base of 1st flagellomere; arista bare or bearing small hairs, these frequently inconspicuous and their length at most subequal to arista width at base; 1st flagellomere slightly longer than wide, subtruncate to broadly rounded apically. Face bare medially, but with several mostly inconspicuous setulae ventrolaterally along facial suture; face shallowly carinate verticomediaally, mostly flat to slightly convex in profile, not broadly arched or shield-like; epistomal margin of face broadly emarginate medially, emargination shallowly rounded to angulate; clypeus conspicuous within epistomal emargination as a short, tongue-like, transverse band. Eyes prominent, bare, large, hemispherical from an anterior view, slightly oval vertically from a lateral view. Gena lacking bristle, height variable.

**Thorax:** Vestiture generally microtomentose, appearing dull, brown to nearly black; scutum vittate in some species. Chaetotaxy generally weakly developed; scutum with only postalar and posterolateral dorsocentral bristles developed (in 2 species other dorsocentral bristles developed); acrostichal setulae in 2 rows, generally inconspicuous; scutellum with 1 pair of apical bristles, these not arising from tubercles, usually other setae laterally, disc bare; notopleural bristles variable, lacking or with up to 2, anterior bristle, if present, less well developed than posterior bristle, posterior bristle usually present and usually inserted at level above that of anterior bristle; pleural chaetotaxy variable depending on species group; prosternum bare of setulae. Costal vein extended to M;  $R_{2+3}$  long, extended beyond level of crossvein dm-cu; M apicad of crossvein dm-cu strong, continued to wing margin. Legs generally lacking prominent setae; basotarsomeres subequal to combined length of other tarsomeres;

claws with curvature normally developed; pulvilli evident, well developed.

*Abdomen:* General conformation of segments 1–4 of male and female specimens generally similar. Male abdomen and terminalia as follows: 5th tergum elongate, length variable depending on species; epandrium well developed dorsally, extended around cerci to form cercal cavity; cerci well developed, relative size variable with species; surstyli either lacking or fused indistinguishably with epandrium; aedeagal apodeme well developed, usually triangular; aedeagus well sclerotized, narrow, much longer than wide, sharply pointed to bluntly rounded apically; lateral gonite well sclerotized, shape variable with species; hypandrium bowl-shaped, longer than wide, usually better sclerotized medially.

*DISTRIBUTION.*—Neotropical: with the exception of the *pallipes* group, *Pelinoides* (the *sulcatus* and *cyclocerus* groups) has a temperate distribution. Species either occur at southern latitudes, Chile and Argentina, or, for those species occurring more toward the Equator, at higher elevations. The *pallipes* group, which is structurally

different from the other two groups, occurs on either side of the Andes and Central America in tropical lowlands (below 1000 m).

*DISCUSSION.*—Of the 13 parydrine genera known from the neotropics, only *Beckeriella* and *Pelinoides* occur exclusively there. These two are not closely related, however. *Beckeriella* is the sister genus of *Gastrops*, and *Pelinoides* is apparently more closely related to *Hyadina* and *Lytogaster*.

As noted previously, the *pallipes* group is the most structurally divergent of the species groups being recognized, and if differences alone were the criteria used to justify description of another genus, certainly that group would be accorded generic status. Indeed, when the relationships of the Parydrinae are better understood, perhaps the *pallipes* group will be given generic status, but for the present, with so much unknown about the *pallipes* group or *Pelinoides* in general, I feel that it would be premature to erect yet another genus. As with suprageneric categories, genera should be recognized as much on their relationships with other taxa as with their differences.

### Key to Species Groups and Species of *Pelinoides* Cresson

(For some couplets only male specimens will run)

1. Femora pale, mostly yellowish, concolorous with tibiae; arista with dorsal branches equal to aristal width at base; eye height about twice genal height (the *pallipes* group) . . . . . 2
  - Femora dark, mostly black but frequently with considerable grayish, microtomentose vestiture; arista mostly bare, if dorsal branches are present, they are smaller than aristal width at base; eye height only slightly larger than genal height, sometimes smaller . . . . . 3
2. Face narrower, not much wider than length of 1st flagellomere; mesonotal chaetotaxy better developed, especially dorsocentral bristles anterior of posteriormost bristle; anepimeron with 1 seta; knob of halter brown, contrasted with lighter colored stem . . . . . *P. andivus*, new species
  - Face wider, conspicuously wider than length of 1st flagellomere; mesonotal chaetotaxy not as well developed; anepimeron lacking setae; knob of halter concolorous with stem . . . . . *P. pallipes*, new species
3. Tergum 4 mostly bare dorsally, shiny, tergal length subequal to combined length of terga 2 plus 3 (the *cyclocerus* group) . . . . .
  - . . . . . *P. cyclocerus*, new species

- Tergum 4 microtomentose, appearing dull, at most subshiny, tergal length usually only slightly longer than 3 (the *sulcatus* group) . . . . . 4
- 4. Basolateral margins of scutellum appearing densely velvety black from posteroblique angle . . . . . 5
  - Basolateral margins of scutellum with vestiture and coloration similar to that on disc, not appearing densely velvety black from posteroblique angle . . . . . 9
- 5. Scutum with small triangular area immediately anterior of scutellum black, densely microtomentose, appearing velvety; disc of scutellum sparsely microtomentose, subshiny, dark brown, contrasted distinctly with dull, densely microtomentose scutum; mesofrons with areas immediately laterad of ocellar triangle bare of vestiture, shiny, otherwise mesofrons sparsely microtomentose, subshiny . . . . .
  - . . . . . *P. colerus*, new species
  - Scutum unicolorous and with similar vestiture; scutellar disc concolorous and with similar vestiture as scutum; mesofrons uniformly sparsely microtomentose, subshiny . . . . . 6
- 6. Epandrium with a broadly and conspicuously arched posteroventral projection on ventral half; anteroventral angle projected as a setulose narrow process . . . . . *P. chiloensis*, new species
  - Epandrium with posteroventral half as a continuation of dorsal half, but either with posteroventral angle pointed or with midventral point; anteroventral angle broadly rounded . . . . . 7
- 7. Mesonotum densely microtomentose, brown, except for 4 distinct stripes, the latter bare, shiny, and black; ventral portion of epandrium with midventral point . . . . . *P. pullus*, new species
  - Mesonotum sparsely microtomentose and lacking distinct stripes; ventral portion of epandrium with posteroventral angle pointed . . . . . 8
- 8. Aedeagus, in lateral view, conspicuously arched throughout its length; gonite triangular, lacking smaller, posteroventral, setose projection . . . . . *P. sulcatus* Cresson
  - Aedeagus very shallowly sinuate; gonite with 2 posterior projections, the ventral one much smaller and bearing 2 prominent setae . . . . .
    - . . . . . *P. amblys*, new species
- 9. Mesonotum densely microtomentose, mostly brown, appearing dull . 10
  - Mesonotum sparsely microtomentose, blackish brown . . . . . 17
- 10. First flagellomere, maxillary palpus, and tibiae mostly pale, yellowish orange; posterior notopleural bristle well developed, almost as long as ocellar bristles; terga 2–4 with large, wedge-shaped, whitish gray areas dorsolaterally . . . . . *P. flavipalpus*, new species
  - First flagellomere, tibiae, and usually maxillary palpus mostly dark, blackish brown to black; either notopleural bristles lacking or much reduced; terga 2–4 lacking large, whitish gray, wedge-shaped areas, although posterior margin frequently whitish gray . . . . . 11
- 11. Mesofrons entirely densely microtomentose, vestiture similar to that on mesonotum . . . . . 12

- Mesofrons more thinly microtomentose than mesonotum . . . . . 14
12. Anepisternum and anepimeron almost entirely brown; knob of halter dark brown, darker than stem . . . . . *P. obscurus*, new species  
 Anepisternum and anepimeron with central area whitish; knob of halter concolorous with stem, mostly yellowish . . . . . 13
13. Cerci of male terminalia normally developed, broadly crescent-shaped; ventral margin of epandrium bearing a tooth-like projection with a posteroventral orientation . . . . . *P. unctus* Cresson  
 Cerci of male terminalia with a long, slightly clavate, ventral projection; epandrium narrowly rounded ventrally, lacking a tooth-like projection as above . . . . . *P. pruinosis*, new species
14. Scutellar apex with small but usually prominent whitish microtomentose spot, in one species partially or wholly connected with whitish area at scutal-scutellar furrow to form a median stripe, otherwise scutellum mostly brownish . . . . . 15  
 Scutellum mostly unicolorous, brownish, lacking white spot at apex . . 19
15. Mesonotum with prominent, wide, sparsely microtomentose stripes immediately laterad of acrostichal and dorsocentral tracks, the latter stripe shorter and sometimes with sinuate lateral margin . . . . .  
 . . . . . *P. chilensis*, new species  
 Mesonotum mostly unicolorous and with similar vestiture, not with conspicuous, sparsely microtomentose stripes . . . . . 16
16. Brown coloration of mesonotum continued ventrally to dorsal about  $\frac{1}{3}$  of anepisternum, thereafter sharply contrasted with whitish gray coloration on basal  $\frac{2}{3}$  of anepisternum; mesofrons immediately laterad of ocellar triangle only slightly less densely microtomentose than remainder of mesofrons, mostly appearing dull . . . . *P. opacus*, new species  
 Anepisternum either mostly dark brown, similar to mesonotum, or grayish brown, but not distinctly bicolored as above; mesofrons with areas immediately laterad of ocellar triangle nearly bare, shiny . . . . . 17
17. Disc of scutellum mostly brown, lacking white, median stripe . . . . .  
 . . . . . *P. phaeonotus*, new species  
 Disc of scutellum with median white stripe . . . . . *P. flinti*, new species
18. Forebasotarsomere blackish brown, darker than other basotarsomeres . . . . . *P. fuscus*, new species  
 Forebasotarsomere mostly yellowish, concolorous with other basotarsomeres . . . . . *P. penai*, new species
19. Knob of halter blackish . . . . . *P. nigrihalteratus*, new species  
 Halter concolorous, pale, mostly yellowish to whitish yellow . . . . . 20
20. Posterior notopleural bristle well developed, almost as long as ocellar bristles; anepisternum and anepimeron mostly dark brown . . . . .  
 . . . . . *P. phaeopleurus*, new species  
 Posterior notopleural bristle either lacking or much reduced, much smaller than ocellar bristles; anepisternum with anteroventral and small dorsal area whitish gray, anepimeron with central area whitish gray . . . . . *P. australis*, new species

### THE *pallipes* GROUP

DIAGNOSIS.—Specimens generally pale, yellowish to light brown and with considerable whitish gray, microtomentose vestiture, especially ventrally.

*Head*: Antenna with 1st flagellomere pale, yellowish at least basoventrally and usually more extensively so; dorsoapical angle of 1st flagellomere rounded, although less so than ventroapical angle, not distinctly angulate; arista with dorsally branching rays evident, their length subequal to arisal width at base; eye height about twice genal height.

*Thorax*: Pleural areas mostly gray to bluish gray; dorsum of anepisternum and anepimeron brownish. Femora and tibiae unicolorous, generally pale, yellowish orange, but with some sparse, whitish gray microtomentum. Wing with area immediately surrounding crossveins hyaline, not clouded.

*Abdomen*: Fourth tergum only slightly longer than 3rd, extent of microtomentose vestiture similar to that of 5th. Epandrium of male terminalia with small, pointed tooth along posterior to posteroventral surface.

DISTRIBUTION.—Peru north through Ecuador and Colombia to Mesoamerica (Panama, Honduras, and Guatemala).

DISCUSSION.—Only two known species belong to the *pallipes* group, both newly described herein.

This species group is structurally the most divergent, and unlike the other species groups, which have temperate distributions, the *pallipes* group occurs in tropical lowlands on either side of the Andes. When the generic relationships of the subfamily Parydrinae are better understood, this species group may be accorded generic status.

#### 1. *Pelinoides andinus*, new species

FIGURES 1-6

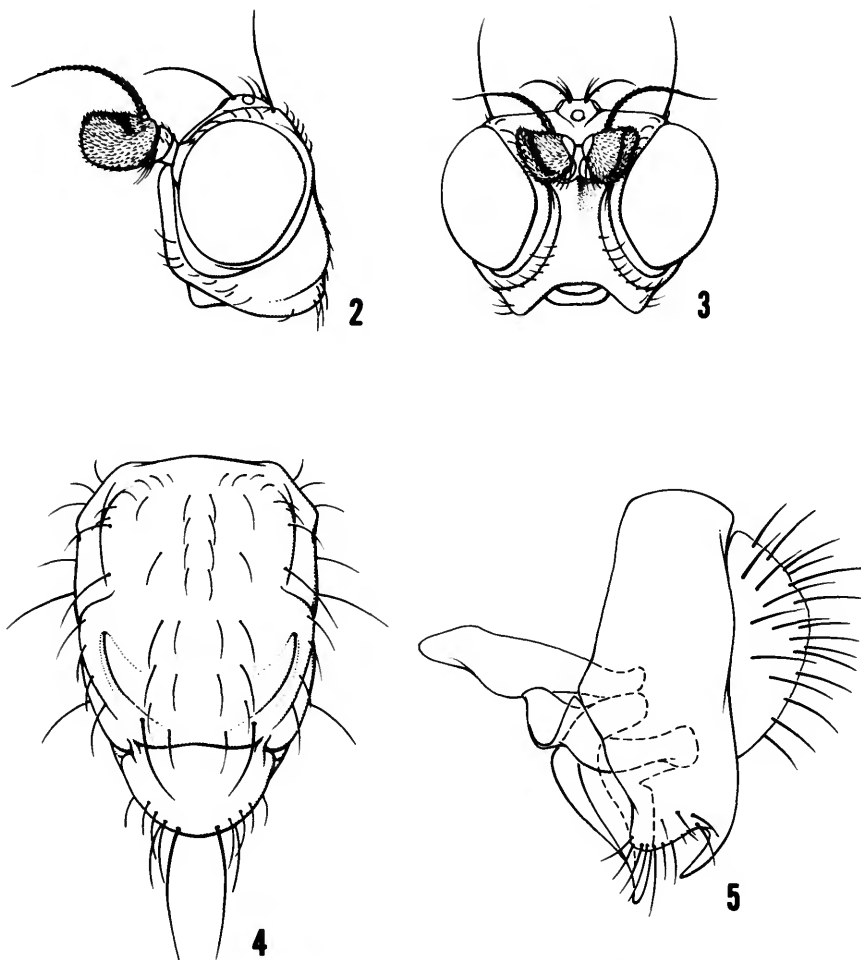
DESCRIPTION.—As in generic and species group descriptions with the following details.

Small shore flies, length 1.70 to 1.90 mm.

*Head* (Figures 2-3): Mesofrons and ocellar tubercle moderately densely and mostly uniformly brown microtomentose, at most slightly subshiny anterior of ocellar tubercle; parafrons bark brown posteriorly to yellow anteriorly, posterolaterally appearing velvety. First flagellomere yellowish basoventrally, tan to dark brown apicodorsally. Face at narrowest point comparatively narrow, width subequal to length of 1st flagellomere, midface grayish to lightly bluish gray; parafacies and gena lightly yellowish white. Eye-to-cheek ratio 0.36. Palpus brownish.

*Thorax* (Figure 4): Mesonotum densely microtomentose, mostly uniformly brown but with faint golden brown stripes laterad of acrostichal track, stripes more evident anteriad; scutellar disc densely microtomentose; basolateral scutellar margins not appearing velvety. Acrostichal rows with 3-5 larger setulae; dorsocentral bristles 5, anterior 1 or 2 presutural; presutural bristle evident; 3-4 setulae in supra-alar region; scutellum with 1 anaclinate large seta and several smaller setulae at margin of disc and lateral margin, anterolaterad of scutellar bristles; notopleural bristles usually 2, anterior one weaker, posterior one inserted at level higher than anterior bristle; anepisternum with several setulae and 1 bristle at posterior margin; anepimeron with 1 bristle inserted toward anteroventral margin; katepisternal bristle evident. Halter with knob brownish to lightly blackish brown; stem yellowish. Wing hyaline, very lightly infumose; costal vein ratio 0.54; M vein ratio 0.53.

*Abdomen*: Mostly dark brown, vestiture less densely microtomentose than on thorax. Male abdomen and terminalia (Figure 5) as follows: epandrium with sharp, moderately long to long, tooth-like, ventral projection posteroventrally, extended below ventral epandrial margin, projection shallowly curved anteriorly; ventral epandrial margin deeply emarginate, anteroventral portion angulate and with longer setulae; aedeagal apodeme 4 to 5 times higher than wide, narrowly triangular; aedeagus L-shaped with shorter arm basad, longer arm tapered, apex



Figures 2-5.—*Pelinoides andinus*: 2, head, lateral aspect; 3, head, anterior aspect; 4, thorax, dorsal aspect; 5, male terminalia, lateral aspect.

pointed; gonite broadly triangular.

**TYPE MATERIAL.**—Holotype male is labeled "ECUADOR: Napo Prov. Baeza (17 km. S.) 1815 m. elev. 17 Jan 1978 WNMathis." The allotype female and seven paratypes (4♂, 3♀; USNM) bear the same label data as the holotype. Other paratypes are as follows: ECUADOR. *Napo Province*: San Francisco de Borja, 1610 m, 17 Jan 1978, W.N. Mathis (7♂, 9♀; USNM). *Pastaza Province*: Rio Puyo, J.R. Levi-Castillo (1♂, 2♀; USNM). PERU. *Huánuco Province*: Las Palmas (1 km S), 8 Feb 1984, W.N. Mathis (13♂, 8♀; USNM); Tingo

Maria (6 km S), 8 Feb 1984, W.N. Mathis (1♀; USNM). The holotype is double mounted (minute nadel in plastic block), is in excellent condition, and is deposited in the Smithsonian Institution (USNM).

**OTHER SPECIMENS EXAMINED.**—COLOMBIA. *Nariño*. 32 mi (51.2 km) N Pasto, 1550 m, 4 Mar 1955, E.I. Schlinger, E.S. Ross (1♀; CAS). PERU. Tingo Maria, 40 mi (64 km) E, 12 Dec 1954, E.I. Schlinger, E.S. Ross (1♀; CAS).

**DISTRIBUTION** (Figure 6).—Peru north through Ecuador to Colombia, between 2° north



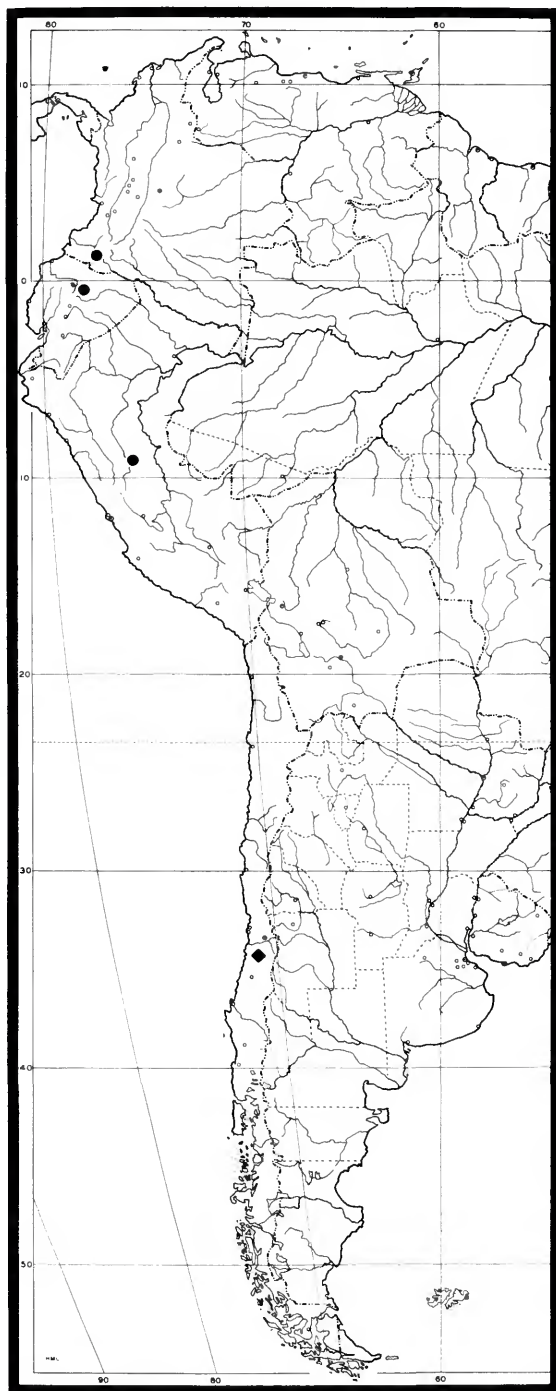


FIGURE 6.—Distribution map of *Pelinoides andinus* (circles) and *Pelinoides cyclocerus* (diamond).

latitude and 9° south latitude.

**NATURAL HISTORY.**—I collected the topotypical type series by sweeping through emergent vegetation along the margins of the Rio Cosanga and Rio Quijos (the same river; different sections with different names), a river running northward along the eastern slope of the Andes in Ecuador. Other paratypes were collected from rocks and other debris at the base of a small waterfall in Peru (Departamento de Huánuco) just before its source stream (unnamed) entered the Rio Hualaga.

**ETYMOLOGY.**—The specific epithet, *andinus*, is a Latinized adjective referring to the general region of the Andes Mountains where the species was collected.

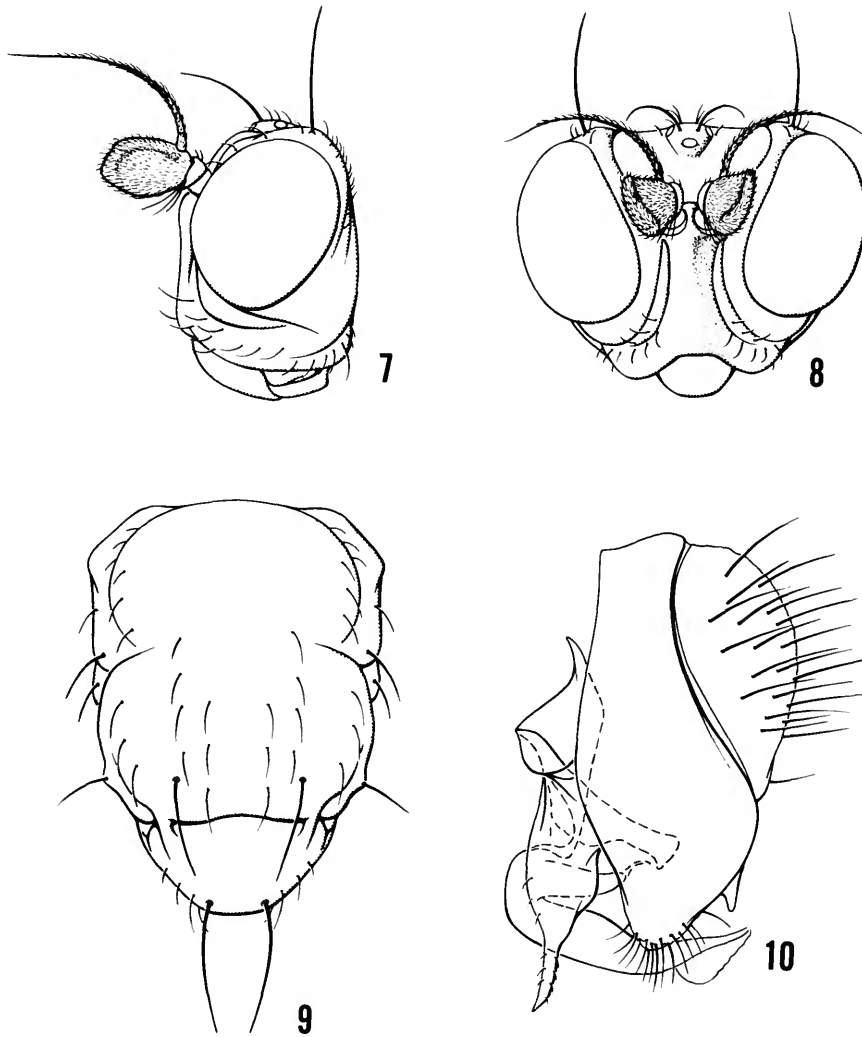
**REMARKS.**—Specimens of this species are similar to those of *P. pallipes* but may be distinguished by the following characters: face narrower, not much wider than length of 1st flagellomere; thoracic chaetotaxy better developed, especially dorsocentral bristles anterior of posteriormost bristle; anepimeron with 1 seta; knob of halter brown, contrasted with lighter colored stem; and conformation of the male terminalia, particularly the deeply emarginate, ventral epandrial margin.

## 2. *Pelinoides pallipes*, new species

FIGURES 7–11

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.85 to 2.30 mm.

**Head** (Figures 7, 8): Mesofrons less densely microtomentose than ocellartubercle, subshiny, with dark brown luster, vestiture and coloration similar to scutellar disc; parafrons dark brown posteriad to orangish brown anteriad, posterolaterally appearing velvety. First flagellomere yellowish basoventrally, tan to dark brown apico-dorsally. Face at narrowest point comparatively wide, conspicuously wider than length of 1st flagellomere; midface grayish to lightly bluish gray, especially dorsally; parafacies and gena sil-



Figures 7-10.—*Pelinoides pallipes*: 7, head, lateral aspect; 8, head, anterior aspect; 9, thorax, dorsal aspect; 10, male terminalia, lateral aspect.

very white. Eye-to-cheek ratio 0.37. Palpus yellowish to orange.

*Thorax* (Figure 9): Mesonotum moderately densely microtomentose, mostly uniformly grayish to golden brown but with darker brown stripes through acrostichal and dorsocentral tracks; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins not appearing velvety. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posterior-

most position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristles usually 2, both poorly developed, posterior one inserted at level higher than anterior bristle; no pleural bristles evident. Halter with knob yellowish, similar to stem color. Wing hyaline, very lightly infumose; costal vein ratio 0.55; M vein ratio 0.54.

*Abdomen*: Mostly dark brown, less densely microtomentose than thorax. Male abdomen and terminalia (Figure 10) as follows: 5th sternum V-shaped, deeply emarginate posteriorly, narrowly and weakly connected anteriorly, each arm moderately wide, more so sub-basally; epandrium with short but sharp, tooth-like, ventrally oriented projection posteroventrally, not extended below ventral epandrial margin, projection with little curvature; ventral epandrial margin narrowly rounded in lateral view, setulose apically; aedeagal apodeme 4 to 5 times higher than wide, narrowly but angularly triangular; aedeagus narrowly J-shaped, longer apical arm gradually tapered to point, slightly angulate at apical  $\frac{1}{3}$ ; gonite with posteroventral projection forming gonial arch, ventral portion leg-like, wide basally, narrowed at midlength rather abruptly to more or less parallel-sided, narrow, apical portion.

**TYPE MATERIAL**.—Holotype male is labeled "ECUADOR: Manabi Pr[ovince]. Arabia (12 km. W. Chone) 70 m. elev. 8 Jan 1978 WNMathis." The allotype female and 32 paratypes (11♂, 21♀; USNM) bear the same label data as the holotype. Other paratypes are as follows: ECUADOR. *Manabi Province*: Pedro Carbo (45 km NW), 11 Jan 1978, W.N. Mathis (1♂; USNM). *Chimborazo Province*: Chilicay, Jul 1955, J.R. Levi-Castillo (1♂, 1♀; USNM). The holotype is double mounted (glued to a paper point), is in good condition, and is

deposited in the Smithsonian Institution, USNM.

**OTHER SPECIMENS EXAMINED**.—GUATEMALA. Yepocapa, 1948-49, H.T. Dalmat (1♂; USNM). HONDURAS. Suyapa Morazan, 3 Nov 1965, N.L.H. Krauss (1♂; USNM). PANAMA. Gamboa, Rio Agua Salud, Jul 1967, W.W. Wirth (1♂; USNM).

**DISTRIBUTION** (Figure 11).—Ecuador north through Panama and Honduras to Guatemala, between 2° south latitude and 15° north latitude.

**NATURAL HISTORY**.—The topotypical type series inhabited the sandy, and in places, grassy shore of a small and slightly polluted stream that runs through the coastal plain of western Ecuador. The collecting site was near a small village, and the stream served as the all-purpose water hole and bathing area for the local inhabitants and their animals.

**ETYMOLOGY**.—The specific epithet, *pallipes*, is of Latin derivation and means pale feet, referring to the pale legs of this species.

**REMARKS**.—Specimens of this species are similar to those of *P. andinus*, but may be distinguished by the following characters: Face wider, conspicuously wider than length of 1st flagellomere; mesonotal chaetotaxy not as well developed; anepimeron lacking setae; knob of halter concolorous with stem, and conformation of the male terminalia (compare Figures 5 and 10).



FIGURE 11.—Distribution map of *Pelinoides pallipes*.

#### THE *cyclocerus* GROUP

**DIAGNOSIS**.—Specimens generally dark, brown to blackish brown, but with considerable whitish gray microtomentose vestiture.

*Head*: Antenna with 1st flagellomere black; dorsoapical and ventroapical angles similar, broadly rounded; arista lacking dorsally branching rays; eye height about twice genal height.

*Thorax*: Femora and tibiae unicolorous, blackish brown, but with considerable whitish gray microtomentum. Crossveins *rm* and *dm-cu* slightly clouded.

*Abdomen*: Fourth tergum as long as basal width, subequal to combined length of 2nd and 3rd

terga, sparsely microtomentose, subshiny to shiny, especially as compared to short, densely microtomentose 5th tergum. Epandrium of male terminalia more or less rectangular, lacking posteroventral, tooth-like projection.

**DISTRIBUTION.**—Chile, O'Higgins Province.

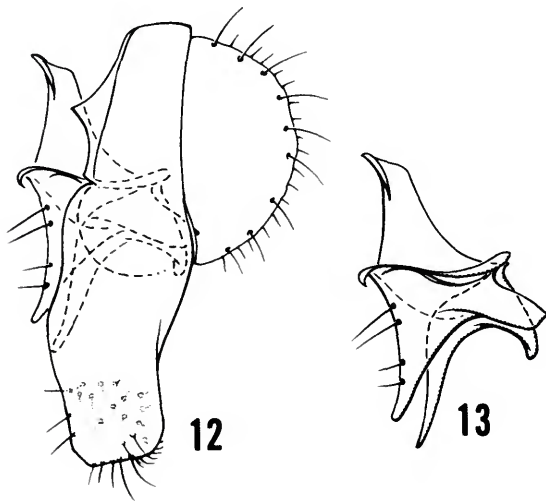
**DISCUSSION.**—Only one species is known of the *cyclocerus* group.

### 3. *Pelinoides cyclocerus*, new species

FIGURES 6, 12, 13

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small shore flies, length 1.50 to 1.65 mm.

**Head:** Mesofrons and ocellar tubercle generally densely microtomentose, brown, appearing dull, but with paired areas anterolaterad of ocellar tubercle sparsely microtomentose, subshiny to shiny; parafrons brown, densely microtomentose although not appearing velvety. Antenna black; 1st flagellomere with macrotomentum apically. Face at narrowest point comparatively wide, conspicuously wider than length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.40. Palpus black.



Figures 12, 13.—*Pelinoides cyclocerus*: 12, male terminalia, lateral aspect; 13, internal male terminalia, lateral aspect.

**Thorax:** Mesonotum generally sparsely microtomentose, mostly subshiny, with more densely microtomentose, grayish stripes anteriad on either side of acrostichal track; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins appearing slightly velvety. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristles usually 2, anterior one inserted at extreme anteroventral angle; no pleural bristles evident. Halter with knob whitish, lighter in color than slightly yellowish stem. Wing hyaline except for clouded areas immediately around crossveins r-m and dm-cu; costal vein ratio 0.68; M vein ratio 0.40.

**Abdomen:** Terga 1–3 generally microtomentose, but microtomentum becoming gradually thinner and the terga shinier from 1 posteriad; tergum 4 at most thinly microtomentose anteriorly and medially, posterolateral portions bare, shiny; tergum 5 densely microtomentose, appearing dull. Male abdomen and terminalia (Figures 12, 13) as follows: 5th tergum of male densely microtomentose, relatively short, sclerotized portion about  $\frac{1}{2}$  length of 4th tergum; 5th sternum of male divided into 2 parallel-sided, long, narrow sternites between which the hypandrium lies; epandrium, in lateral view, unevenly rectangular, swollen at midheight and ventral  $\frac{1}{3}$  angled slightly posteriorly; ventral epandrial margin truncate, setulose marginally and medially; aedeagal apodeme broadly triangular; aedeagus shaped like an inverted horn, broad basally, curved anteroventrally and narrowed to apical point; gonite broadly triangular but with angular basoposterior projection, anterior surface bearing small setulae.

**TYPE MATERIAL.**—Holotype male is labeled "CHILE: O'Higgins Pr[ovince] Rio Claro (5 km. N Rengo) 300 m. elev 23Jan1978 WNMathis." The allotype female and one male paratype bear the same label data as the holotype. The holotype is double mounted (minute nadel in plastic

block), is in excellent condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION** (Figure 6).—This species is known only from the type-locality in Chile.

**NATURAL HISTORY**.—The type series was collected by sweeping emergent vegetation along the rocky to sandy banks of the Rio Claro.

**ETYMOLOGY**.—The specific epithet, *cylocerus*, is of Greek derivation and means round horn, referring to the rounded first flagellomere of this species.

**REMARKS**.—As the only known species of this species group, the diagnosis of the latter will serve to distinguish this species from related congeners.

#### THE *sulcatus* GROUP

**DIAGNOSIS**.—Generally dark species, brown to blackish brown, but with considerable whitish gray microtomentose vestiture.

**Head**: Antenna with 1st flagellomere usually black (note exception); dorsoapical angle angulate, especially as compared to ventroapical angle; arista lacking dorsally branching rays; eye height about twice genal height.

**Thorax**: Femora and tibiae unicolorous, blackish brown, but with considerable whitish gray microtomentum. Crossveins not clouded.

**Abdomen**: Fourth tergum only slightly longer than 3rd, extent of microtomentose vestiture similar to that of 5th tergum. Epandrium of male terminalia lacking posterior or posteroventral, tooth-like projection.

**DISTRIBUTION**.—Temperate South America (Argentina and Chile, northward to Peru and Ecuador at higher elevations).

**DISCUSSION**.—This species group is the most diverse in the genus, with 13 included species.

#### 4. *Pelinoidea sulcatus* Cresson

FIGURES 14–19

*Pelinoidea sulcata* Cresson, 1931:102.—Stuardo Ortiz, 1946:145 [catalog of Diptera of Chile].—Lizarralde de Grosso, 1981:95 [review, figures of male terminalia].

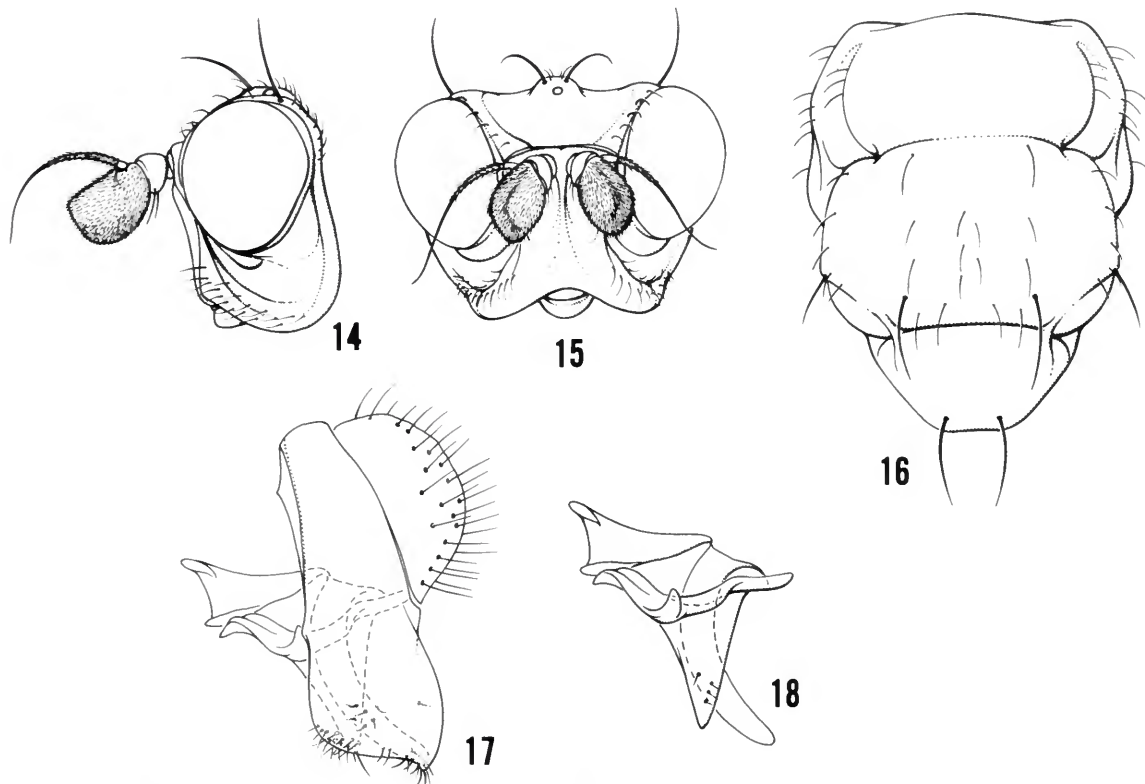
*Pelinoidea sulcatus*.—Wirth, 1968:19 [neotropical catalog].

**DESCRIPTION**.—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.90 to 2.20 mm.

**Head** (Figures 14, 15): Mesofrons sparsely microtomentose to bare, subshiny to shiny, with blackish brown to black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons blackish brown, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.57. Palpus black.

**Thorax** (Figure 16): Mesonotum blackish brown to mostly black, sparsely microtomentose, mostly subshiny, with more densely microtomentose, grayish stripes anteriad on either side of acrostichal track, lacking whitish, densely microtomentose areas except on postpronotum and immediately posteriad of notopleuron; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins densely microtomentose, appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, only moderately well developed, but with an anterior setula at anteroventral angle; no pleural bristles evident. Anepisternum and anepimeron mostly brown; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi yellowish brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.50; M vein ratio 0.48.

**Abdomen**: Terga generally more densely microtomentose than mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 2–5 whitish. Male abdomen



Figures 14–18.—*Pelinoides sulcatus*: 14, head, lateral aspect; 15, head, anterior aspect; 16, thorax, dorsal aspect; 17, male terminalia, lateral aspect; 18, internal male terminalia, lateral aspect.

and terminalia (Figures 17, 18) as follows: 5th sternum of male V-shaped, vertex anteriorad, deeply emarginate posteriorly; epandrium, in lateral view, becoming gradually wider ventrally, posteroventral area slightly produced ventrally, pointed; ventral epandrial margin nearly flat, plane angled slightly anterodorsally, anteroventral angle broadly rounded; aedeagal apodeme narrowly triangular, twice as high as wide; aedeagus a simple, slightly curved tube, very gradually tapered toward apex, rounded apically; gonite subtriangular.

**TYPE MATERIAL.**—Holotype female is labeled "Castro. 20–22.xi.1926.[20–22 Nov 1926]/S. Chile: Chiloe I. F.& M.Edwards. B.M 1927-63./Holo-TYPE *Pelinoides SULCATA* E. T. Cresson Jr [red; species name handwritten]." The

holotype is double mounted (minute nadel in celluloid rectangle), is in good condition, and is deposited in the British Museum (Natural History).

**OTHER SPECIMENS EXAMINED.**—**ARGENTINA.** *Jujuy Province*: Cangrejillos (S La Quiaca), 3500 m, 28 Oct 1968, L.E. Peña (5♂, 2♀; CNC); *Cerriillos*, 3600 m, 31 Oct 1968, L.E. Peña (2♂, 7♀; CNC); *Cieneguillas*, 3650 m, 28 Oct 1968, L.E. Peña (1♂, 1♀; CNC); *La Quiaca*, 9 Feb 1960, R. Golbach (6♂, 5♀; IML). *Rio Negro Province*: Bariloche, Nov 1926, R. and E. Shannon (1♂; USNM). *Santa Cruz Province*: Lago Argentino, 26 Feb 1953, A. Willink (1♂; IML). *Tucumán Province*: El Banado, 1700 m, 5 Oct 1968, L.E. Peña (1♂; CNC). **CHILE.** *Antofagasto Province*: Talabre, 3600 m, 10–12 Nov 1968, L.E. Peña (1♂,

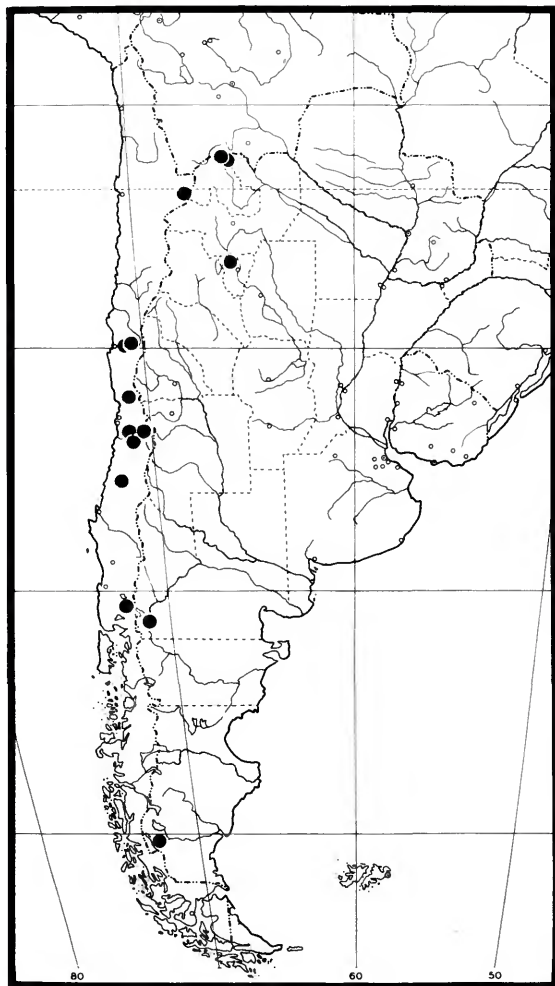


FIGURE 19.—Distribution map of *Pelinoides sulcatus*.

3♀; CNC). *Coquimbo Province*: El Naranjo, Timala, Oct 1967, L.E. Peña (2♂, 5♀; USNM); Incagausi, 30 Sep 1952, P.G. Kuschel (5♂, 6♀; USNM); Portres Cruces (Vicuna), 1900 m, 30–31 Oct 1957, L.E. Peña (2♂, 4♀; CNC). *O'Higgins Province*: Rio Claro (5 km N Rengo), 300 m, 23 Jan 1978, W.N. Mathis (2♂, 4♀; USNM). *Osorno Province*: Lago Puyehue (W shore), Entre Lagos, 14 Feb 1978, W.N. Mathis (2♂, 1♀; USNM); Lago Puyehue (SE shore), 6 Feb 1978, W.N. Mathis (1♂, 1♀; USNM); Pucatrihue, 27–30 Jan 1978, W.N. Mathis (1♂, 2♀; USNM). *Santiago Province*:

El Alfalfal, 1320 m, 22 Jan 1978, W.N. Mathis (7♂, 7♀; USNM); Rio Maipo (7 km E), 1065 m, 22 Jan 1978, W.N. Mathis (1♀; USNM). *Talca Province*: Rio Lircay (11 km N Talca), 85 m, 23 Jan 1978, W.N. Mathis (1♂, 2♀; USNM). *Valparaiso Province*: Rio Marga Marga, Los Perales, 330 m, 13 Oct 1966, M. Irwin, E.I. Schlinger (1♂; UCB).

**DISTRIBUTION** (Figure 19).—Argentina (Jujuy, Rio Negro, Santa Cruz, and Tucumán provinces) and Chile (Antofagasto, Coquimbo, O'Higgins, Osorno, Santiago, Talca, and Valparaiso provinces), between 22° and 51° south latitude and 65° and 74° west longitude.

**REMARKS**.—Externally this species is very similar to *P. chiloensis*, and thus far only characters of the male terminalia have been discovered that consistently and accurately distinguish between the two species. From other congeners the velvety black basolateral angles of the scutellum and other characters outlined in the key will distinguish this species.

Although the holotype is a female, which I cannot identify accurately, I have followed the precedent of Lizarralde de Grosso (1981) in assigning the name, *P. sulcatus*, to this species. This precedent is reasonable for two reasons: first, the distribution of this species includes the area where the holotype was collected; and second, specimens of this species are the commonest in collections from that area, thus it is quite likely that the female holotype is indeed a representative of this species.

### 5. *Pelinoides pullus*, new species

FIGURES 20–21

**DESCRIPTION**.—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.95 to 2.25 mm.

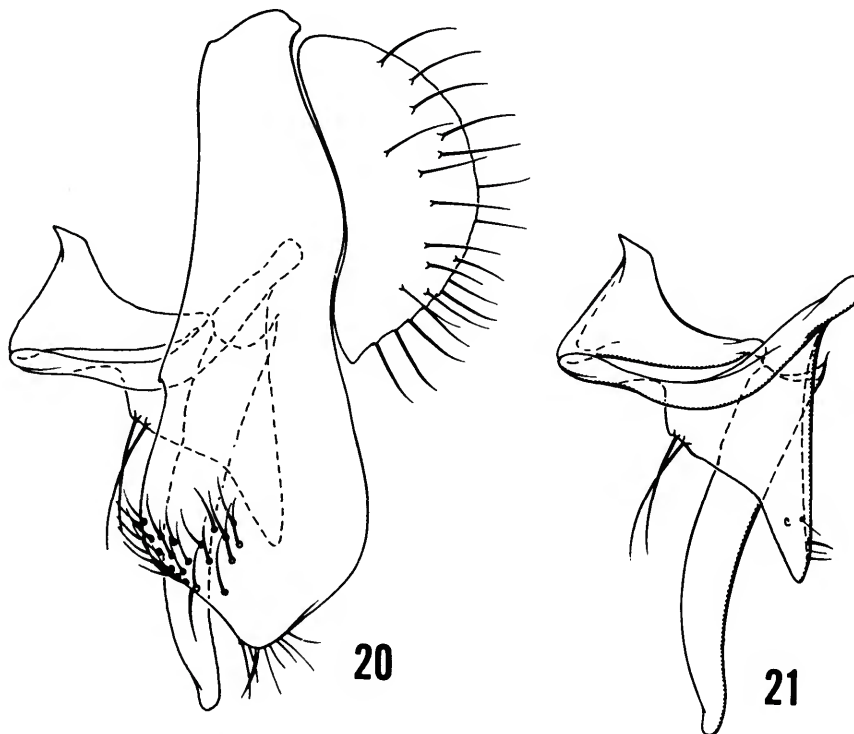
**Head**: Mesofrons sparsely microtomentose to bare, subshiny to shiny, with blackish brown to black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons blackish

brown, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose, more evident apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.60. Palpus black.

*Thorax:* Mesonotum densely microtomentose, brown to mostly black, except for 4 moderately wide stripes, these bare, shiny, black; lacking grayish stripes anteriorly on either side of acrostichal track; whitish, densely microtomentose areas confined to postpronotum and small area immediately posteriorly of notopleuron; scutellar disc more sparsely microtomentose than scutum, subshiny; basolateral scutellar margins densely microtomentose, appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posterior-

most position, none presutural; presutural bristle inconspicuous; supra-alax region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, moderately well developed, but also with an anterior setula at anteroventral angle; no pleural bristles evident. Anepisternum and anepimeron mostly brown, anepisternum with small grayish area anteriorly at basal  $\frac{1}{3}$ ; katepisternum mostly grayish, dorsal margin brownish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi blackish brown, slightly yellowish ventrally. Wing hyaline; costal vein ratio 0.46; M vein ratio 0.50.

*Abdomen:* Terga less densely microtomentose



Figures 20, 21.—*Pelinoides pullus*: 20, male terminalia, lateral aspect; 21, internal male terminalia, lateral aspect.



than mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 2–5 whitish. Male abdomen and terminalia (Figures 20, 21) as follows: 5th sternum of male V-shaped, vertex anteriorly, deeply emarginate posteriorly; epandrium, in lateral view, becoming gradually wider ventrally until ventral  $\frac{1}{4}$ , thereafter narrowing to ventromedian point, point and anteroventral portions setulose; aedeagal apodeme narrowly triangular, twice as high as wide; aedeagus a simple, shallowly curved tube, very gradually tapered toward apex, rounded apically; gonite subtriangular, bearing 2 large setae posterobasally.

**TYPE MATERIAL.**—Holotype male is labeled "ARG[ENTINA]. Jujuy. 3650 m. Abrolaite, 85 km. S. Abra Pampa 29.X.68.[29 Oct 1968] L. Peña." The female allotype and three other paratypes (1♂, 2♀; CNC, USNM) bear the same label data as the holotype. The holotype is glued to the side of a pin, is in good condition (the terminalia have been removed, dissected, and are in an attached microvial), and is deposited in the Canadian National Collection, Ottawa.

**DISTRIBUTION.**—This species is known only from the type-locality in Argentina.

**ETYMOLOGY.**—The specific epithet, *pullus*, is a Latin adjective meaning dark-colored or dusky. Its use here is in allusion to the dusky coloration of this species.

**REMARKS.**—Externally this species is most similar to *P. sulcatus* and *P. amblys*, and I have been able to distinguish it from the latter two by the more densely microtomentose mesonotum, which also bears four distinct stripes, and by characters of the male terminalia. From other congeners the velvety black basolateral angles of the scutellum and other characters outlined in the key will distinguish this species.

### 6. *Pelinoides amblys*, new species

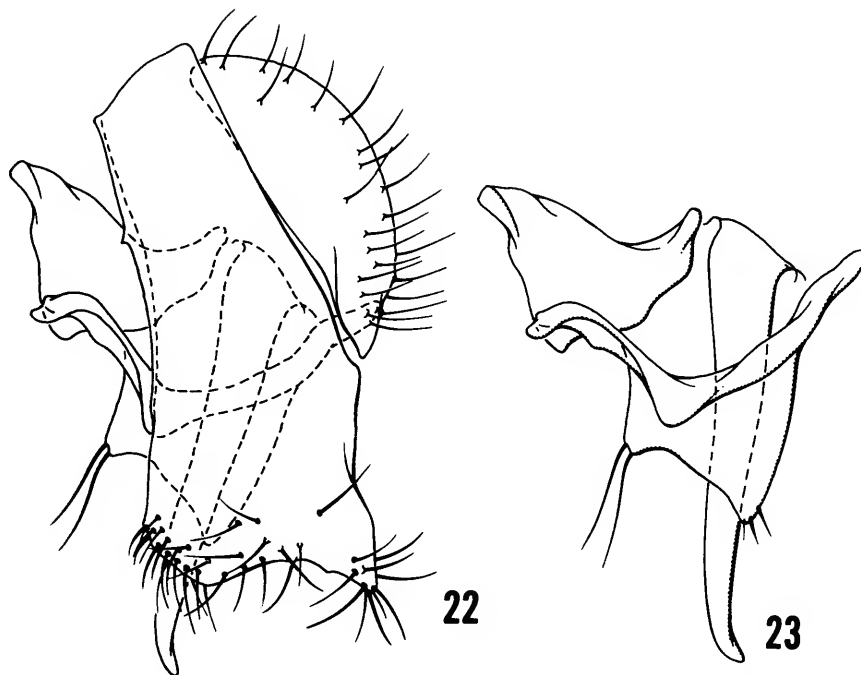
FIGURES 22–23

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.10 mm.

**Head:** Mesofrons uniformly sparsely microtomentose, subshiny to shiny, with blackish brown to black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons blackish brown, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.65. Palpus black.

**Thorax:** Mesonotum blackish brown to mostly black, uniformly and sparsely microtomentose, mostly subshiny, lacking whitish, densely microtomentose areas except on postpronotum and immediately posteriorly of notopleuron; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins densely microtomentose, appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, poorly developed, but with an anterior setula at anteroventral angle; no pleural bristles evident. Anepisternum and anepimeron mostly grayish brown; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi yellowish brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.45; M vein ratio 0.48.

**Abdomen:** Terga generally more densely microtomentose than mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 2–5 whitish. Male abdomen and terminalia (Figures 22, 23) as follows: 5th sternum of male V-shaped, vertex anteriorly, narrowly lyre-like; epandrium, in lateral view, becoming gradually wider ventrally on dorsal half, ventral roughly parallel sided; posteroventral area very slightly produced ventrally, pointed;



Figures 22, 23.—*Pelinoides amblys*: 22, male terminalia, lateral aspect; 23, internal male terminalia, lateral aspect.

ventral epandrial margin mostly shallowly concave, anteroventral angle broadly rounded; aedeagal apodeme moderately narrow and irregularly triangular, slightly higher than wide; aedeagus a simple, slightly curved tube, gradually tapered toward apex, rounded apically; gonite with 2 distal projections, the posterior one better developed, triangular, the anterior projection smaller and bearing 2 prominent setae.

**TYPE MATERIAL.**—Holotype male is labeled "Parral [handwritten] Linares, CHILE. 7. XII. 1959 [day and month handwritten, 7 Dec 1959] L.E. Peña." The holotype is glued to the side of a pin, is in good condition (the abdomen has been removed, dissected, and is in an attached microvial), and is deposited in the Canadian National Collection, Ottawa.

**DISTRIBUTION.**—This species is known only from the type-locality in Chile.

**ETYMOLOGY.**—The specific epithet, *amblys*, is a Greek adjective in allusion to the dimly shiny mesofrons and mesonotum of this species.

**REMARKS.**—At present this species is represented only by the unique holotype, which makes any assessment of variability a moot question. Externally this species is most similar to *P. sulcatus* and is distinguished only by subtle characters that are difficult to define, such as the slightly more microtomentose mesofrons and mesonotum. Thus far I have relied only on characters of the male terminalia to consistently and accurately distinguish between the two species. From other congeners the velvety black basolateral angles of the scutellum and other characters outlined in the key will distinguish this species.

#### 7. *Pelinoides chiloensis*, new species

FIGURES 24, 25

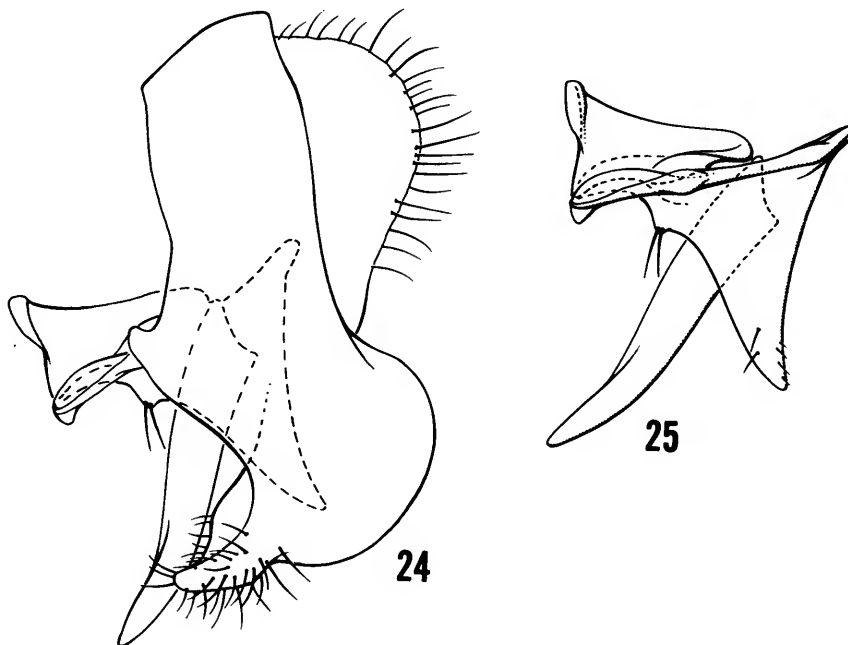
**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.60 to 2.15 mm.

**Head:** Mesofrons sparsely microtomentose to bare, subshiny to shiny, with blackish brown to black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons velvety black, densely microtomentose. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.65. Palpus black.

**Thorax:** Mesonotum blackish brown to mostly black, generally sparsely microtomentose, mostly subshiny, with more densely microtomentose, grayish stripes anteriorly on either side of acrostichal track, lacking whitish, densely microtomentose areas except on postpronotum and immediately posteriorly of notopleuron; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins densely microtomentose, appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorso-central bristles 1, in posteriormost position, none

presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, moderately poorly developed, but with an anterior setula at anteroventral angle; no pleural bristles evident. Anepisternum and anepimeron mostly brown; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi yellowish brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.39; M vein ratio 0.49.

**Abdomen:** Terga generally more densely microtomentose than mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 2-5 usually whitish, especially on more posterior terga. Male abdomen and terminalia (Figures 24, 25) as follows: 5th sternum of male broadly U-shaped with short,



Figures 24, 25.—*Pelinoides chiloensis*: 24, male terminalia, lateral aspect; 25, internal male terminalia, lateral aspect.

wide arms extended posteriorly; hypandrium attached broadly with 5th tergum; epandrium, in lateral view, with posteroventral margin broadly produced into a broadly rounded posterior projection; ventral epandrial margin shallowly rounded before anteroventral angle, which is narrowly produced into an anteriorly projected, setulose, tooth-like projection, making the anteroventral surface emarginate; aedeagal apodeme narrowly triangular, twice as high as wide; aedeagus a simple, nearly straight tube except for slightly deflexed apical  $\frac{1}{3}$ , very gradually tapered toward apex, rounded apically; gonite subtriangular.

**TYPE MATERIAL.**—Holotype male is labeled "Chepu, I. Chiloe[,] Chile IV.[Apr] 1968 L. E. Peña col. [black border]." Allotype female and 32 paratypes (8♂, 24♀; MZSP, USNM) bear similar label data as the holotype. The holotype is double mounted (glued to a paper point), is in good condition, and is deposited in the Museu de Zoologia, Universidade de São Paulo, Brazil.

**DISTRIBUTION.**—This species is known only from the type-locality in Chile.

**ETYMOLOGY.**—The specific epithet, *chiloensis*, refers to Chiloe Island, Chile, where this species was collected by Señor Luis E. Peña G.

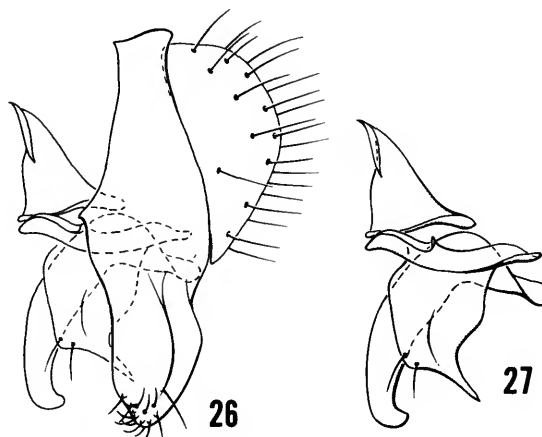
**REMARKS.**—This species and *P. australis* are very similar, and to distinguish between the two I have only found characters of the male terminalia to be useful. From other congeners, the velvety black, basolateral, scutellar area and other characters outlined in the key will distinguish this species.

### 8. *Pelinoides nigrihalteratus*, new species

FIGURES 26, 27

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.55 to 2.20 mm.

**Head:** Mesofrons sparsely microtomentose to bare, subshiny to shiny, with blackish brown to black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons velvety



Figures 26, 27.—*Pelinoides nigrihalteratus*: 26, male terminalia, lateral aspect; 27, internal male terminalia, lateral aspect.

black, densely microtomentose. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.54. Palpus black.

**Thorax:** Mesonotum blackish brown to mostly black, generally sparsely microtomentose, mostly subshiny, with more densely microtomentose, brownish stripe through acrostichal track and on lateral margins; lacking whitish, densely microtomentose areas except on postpronotum, immediately posteriad of notopleuron, and at scutellar apex; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins densely microtomentose, but not appearing velvety from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, moderately poorly developed, but with an anterior setula at anteroventral angle; no pleural bristles evident. Anepisternum and anepimeron almost entirely dark brown; katapisternum grayish. Halter with knob blackish brown, contrasted with yellowish stem. Legs with femora and tibiae

black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi yellowish brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.69; M vein ratio 0.50.

**Abdomen:** Terga generally more densely microtomentose than mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 3–5 usually whitish, especially on more posterior terga. Male abdomen and terminalia (Figures 26, 27) as follows: 5th sternum of male a shallowly curved band, slightly tapered, narrowed laterally; epandrium, in lateral view, with posteroventral margin sinuate, lacking projection; ventral epandrial margin moderately and narrowly rounded, setulose; aedeagal apodeme broadly triangular, wider than high; aedeagus mostly a simple, shallowly curved tube except wide base and upcurved, bluntly rounded apex; gonite subrectangular, posteroventral portion narrowed into sharply pointed process.

**TYPE MATERIAL.**—The holotype male is labeled "CHILE: Osorno Prov.[,] Aguas Calientes (1km SE)[,] 530 m. elev. 7–8 Feb. 1978 W.N.Mathis." The allotype female and two male paratypes bear the same label data as the holotype. Other paratypes are as follows: CHILE. *Osorno Province:* Anticura (1 km W), 430–432 m, 1–6 Feb 1978, W.N. Mathis (2♂, 7♀; USNM); Lago Puyehue (W shore), Entre Lagos, 14 Feb 1978, W.N. Mathis (2♂, 1♀; USNM); Pucatrihue, 27–30 Jan 1978, W.N. Mathis (1♂; USNM). The holotype is double mounted (minute nadel in plastic block), is in excellent condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION.**—Chile, Osorno Province.

**ETYMOLOGY.**—The specific epithet, *nigrihalteratus*, is of Latin derivation and means black halter, in allusion to the blackish brown knob of the halter.

**REMARKS.**—This mostly dark colored species is easily distinguished by the dark halter knob, sparsely microtomentose mesonotum, and distinctive characters of the male terminalia.

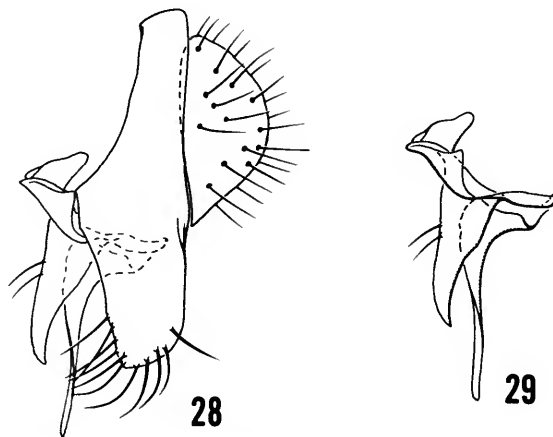
### 9. *Pelinoidea phaeopleurus*, new species

FIGURES 28–30

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small shore flies, length 1.65 to 1.95 mm.

**Head:** Mesofrons very sparsely microtomentose, subshiny to almost shiny, with blackish luster; ocellar tubercle more densely microtomentose, appearing dull brown; parafrons velvety black, densely microtomentose. Antenna black; 1st flagellomere with macrotomentum apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.56. Palpus black.

**Thorax:** Mesonotum blackish brown to mostly black, generally sparsely microtomentose, mostly subshiny, with more densely microtomentose, brownish stripe through acrostichal track and on lateral margins; lacking whitish, densely microtomentose areas except on postpronotum, immediately posteriad of notopleuron, and at scutellar apex; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar margins densely microtomentose, but not appearing velvety or but slightly so from posteroblique angle. Acrostichal setulae small, inconspicuous; dorso-central bristles 1, in posteriormost position, none



Figures 28, 29.—*Pelinoidea phaeopleurus*: 28, male terminalia, lateral aspect; 29, internal male terminalia, lateral aspect.

presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, moderately well developed. Anepisternum and anepimeron almost entirely dark brown; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly bare, shiny, invested with whitish gray microtomentum apically and basally, forefemur with more microtomentum dorsally; tarsi yellowish brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.66; M vein ratio 0.40.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 3–5 usually whitish, especially on more posterior terga. Male abdomen and terminalia (Figures 28, 29) as follows: 5th sternum of male shield-like, broadly triangular, posterior margin concave, this surface attached to hypandrium; epandrium, in lateral view, narrow on dorsal half, wider ventrally, simple, lacking projections or emarginations; ventral epandrial margin moderately narrowly rounded, setulose; aedeagal apodeme triangular; aedeagus abruptly narrowed to form a straight, slender, and simple tube; gonite narrowly triangular, much longer than wide, blade-like.

**TYPE MATERIAL.**—The holotype male is labeled "Alto de Vilches[,] Cord. Talca XII. 1969 L. E. Peña col." Allotype female bears the same label data as the holotype. The holotype is double mounted (glued to a paper point), is in poor condition (the abdomen has been removed, dissected, and the parts are stored in an attached microvial), and is deposited in the Museu de Zoologia, Universidade de São Paulo, Brazil.

**OTHER SPECIMENS EXAMINED.**—CHILE. *Osorno Province:* Pucatrihue, 27–30 Jan 1978, W.N. Mathis (1♀; USNM). *Llanquihue Province:* Frutillar, 22 Jan 1953, P.G. Kuschel (5♀; USNM). *Sud Chile:* Vina[?], could be any one of several "Vina" localities in southern Chile], 12 Oct 1940, G.H. Schwabe (2♀; USNM).

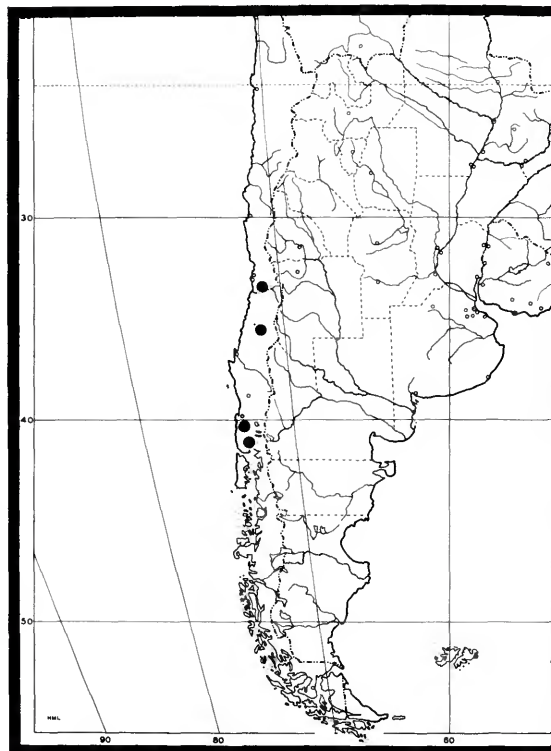


FIGURE 30.—Distribution map of *Pelinoides phaeopleurus*.

**DISTRIBUTION** (Figure 30).—Chile, provinces of Llanquihue, Osorno, and Talca, between 33° and 42° south latitude.

**ETYMOLOGY.**—The specific epithet, *phaeopleurus*, is of Greek derivation and means dark or dusky colored side, referring to the dark brown anepisternum and anepimeron of specimens of this species.

**REMARKS.**—Externally, except for the larger, posterior, notopleural bristle, this species is very similar to *P. australis*. From other congeners the characters outlined in the key will distinguish this species.

#### 10. *Pelinoides australis*, new species

FIGURES 31–33

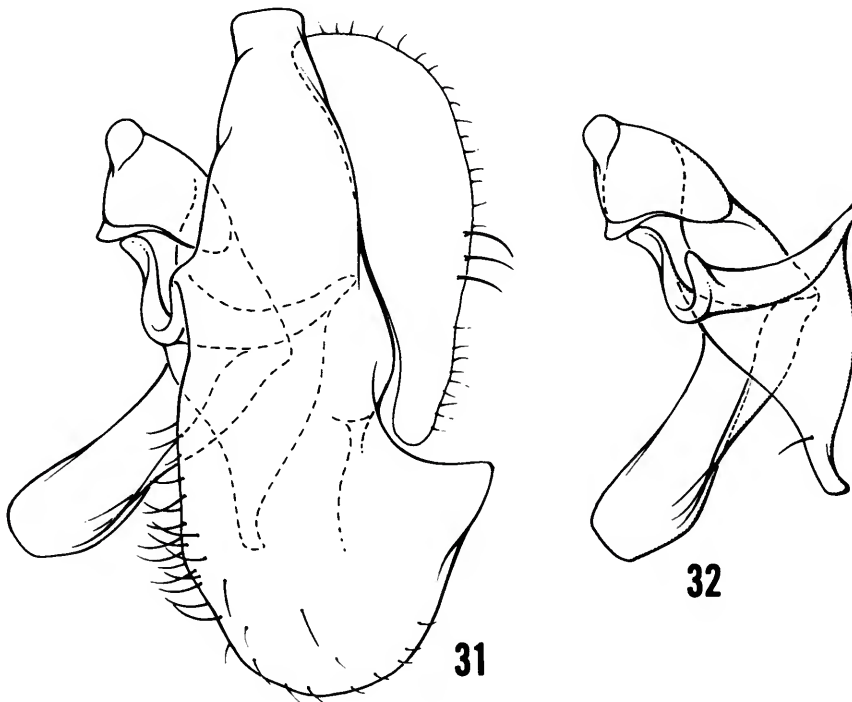
**DESCRIPTION.**—As in generic and species group descriptions with the following details.

Small to moderately small shore flies, length 1.75 to 2.40 mm.

*Head:* Mesofrons very sparsely microtomentose, subshiny to almost shiny, with blackish luster; ocellar tubercle more densely microtomentose, appearing dull brown; parafrons velvety black, densely microtomentose. Antenna black; 1st flagellomere with macrotomentum apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.50. Palpus black.

*Thorax:* Mesonotum blackish brown to mostly black, generally sparsely microtomentose, mostly subshiny, with more densely microtomentose, brownish stripe through acrostichal track and on lateral margins, with whitish, densely microtomentose areas on postpronotum, immediately posterior of notopleuron, at scutal-scutellar suture and at scutellar apex; scutellar disc sparsely

microtomentose, subshiny; basolateral scutellar margins densely microtomentose, but not appearing velvety, or but slightly so, from poster-oblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posterior-most position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, moderately well developed. Anepisternum mostly dark brown except for anteroventral quarter; anepimeron mostly dark brown except for midportion; katepisternum grayish. Halter with knob yellowish to slightly brownish, concolorous with stem. Legs with femora and tibiae black, femora mostly grayish, microtomentose, venters and hindfemur with posterior surface mostly bare, tibiae mostly bare, shiny, invested with whitish gray microtomentum apically and basally; tarsi yellowish



Figures 31, 32.—*Pelinoides australis*: 31, male terminalia, lateral aspect; 32, internal male terminalia, lateral aspect.

brown to black, apical 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.55; M vein ratio 0.49.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, appearing dull, mostly blackish brown to black, but with posterior margins of terga 3–5 usually whitish, especially on more posterior terga. Male abdomen and terminalia (Figures 31, 32) as follows: 5th sternum of male shield-like, broadly triangular, posterior margin concave, this surface attached

to hypandrium; epandrium, in lateral view, narrower dorsally, becoming abruptly wider immediately below cerci with posteriorly oriented projection; ventral epandrial margin very broadly rounded; aedeagal apodeme triangular; aedeagus comparatively large, straight, digitiform, apex bluntly rounded; gonite triangular, about as long as basal width, apex slightly recurved.

**TYPE MATERIAL.**—Holotype male is labeled "CHILE: Santiago Pr[ovince]. El Alfalfal 1320 m. elev. 22 Jan 1978 W.N. Mathis." Other paratypes are as follows: ARGENTINA. *Rio Negro Province:* Bariloche, Nov 1926, R. and E. Shannon (1♂; USNM). CHILE. *Coquimbo Province:* El Naranjo, Tilama, Oct 1967, L.E. Peña (10♂, 16♀; MZSP); Fray Jorge (5 km W Pachingo), 550 m, 30 Apr 1966, M.E. Irwin (1♂; UCB). *Malleco Province:* Angol, 29 Mar 1932, D.S. Bullock (2♂; USNM). *Osorno Province:* Aguas Calientes (1 km SE), 530 m, 7–8 Feb 1978, W.N. Mathis (1♀; USNM); Anticura (1 km W), 432 m, 1–3 Feb 1978, W.N. Mathis (1♂, 3♀; USNM); Lago Puyehue (W shore), Entre Lagos, 14 Feb 1978, W.N. Mathis (3♂, 1♀; USNM); Lago Puyehue (SE shore), 6 Feb 1978, W.N. Mathis (1♂; USNM); Villarrica, 25 Nov 1963, G.F. Edmunds (1♂; USNM). *Santiago Province:* El Alfalfal, 1320 m, 22 Jan 1978, W.N. Mathis (2♂, 3♀; USNM); Rio Clarillo, 27 Oct 1954, P.G. Kuschel (2♂, 1♀; USNM). *Valdivia Province:* Valdivia (25 km N), 26 Jan 1978, W.N. Mathis (1♀; USNM). *Valparaiso Province:* Las Cenizas, 27 Oct 1940, G.H. Schwabe (1♂; USNM). PERU. *Departamento de Cuzco:* Cuzco, 3300 ft, 5–12 Aug 1965, P. and B. Wygodzinsky (1♂; AMNH). The holotype is double mounted (minute nadel in a plastic elastomer block), is in excellent condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION** (Figure 33).—Argentina (Rio Negro Province), Chile (Coquimbo, Malleco, Osorno, Santiago, Valdivia, and Valparaiso provinces), and Peru (Departamento de Cuzco), between 13° and 42° south latitude.

**ETYMOLOGY.**—The specific epithet, *australis*, is a Latin adjective meaning southern and refers to the southern distribution of this species.

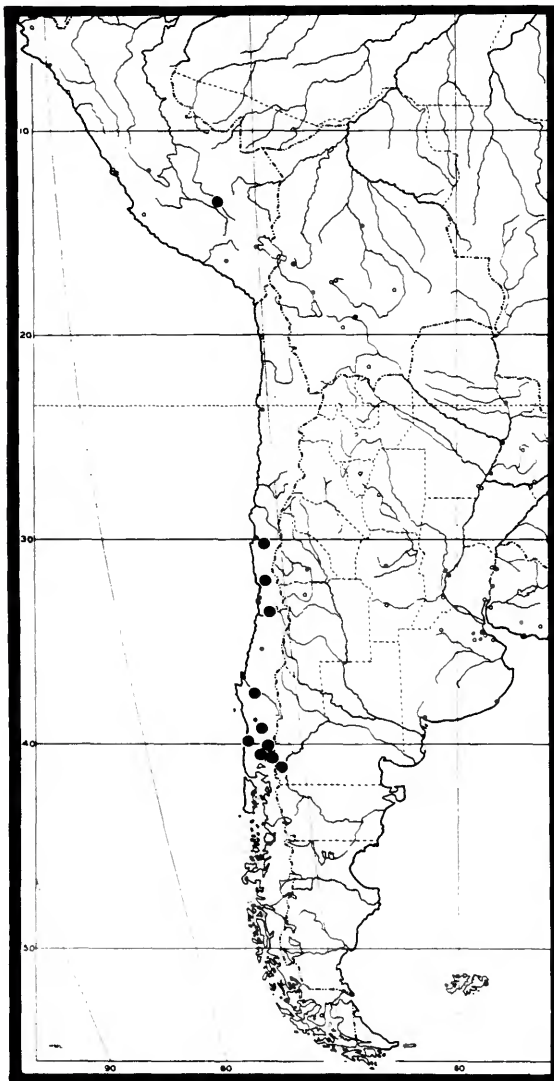


FIGURE 33.—Distribution map of *Pelinoides australis*.



REMARKS.—Externally this species is very similar to *P. phaeopleurus* and is distinguished from the latter by reduced or the lack of a posterior notopleural bristle and by the coloration pattern of the anepisternum and anepimeron. When doubtful as to the correct identification, reference to characters of the male terminalia may be necessary. From other congeners, the characters outlined in the key should suffice.

### 11. *Pelinoides chilensis*, new species

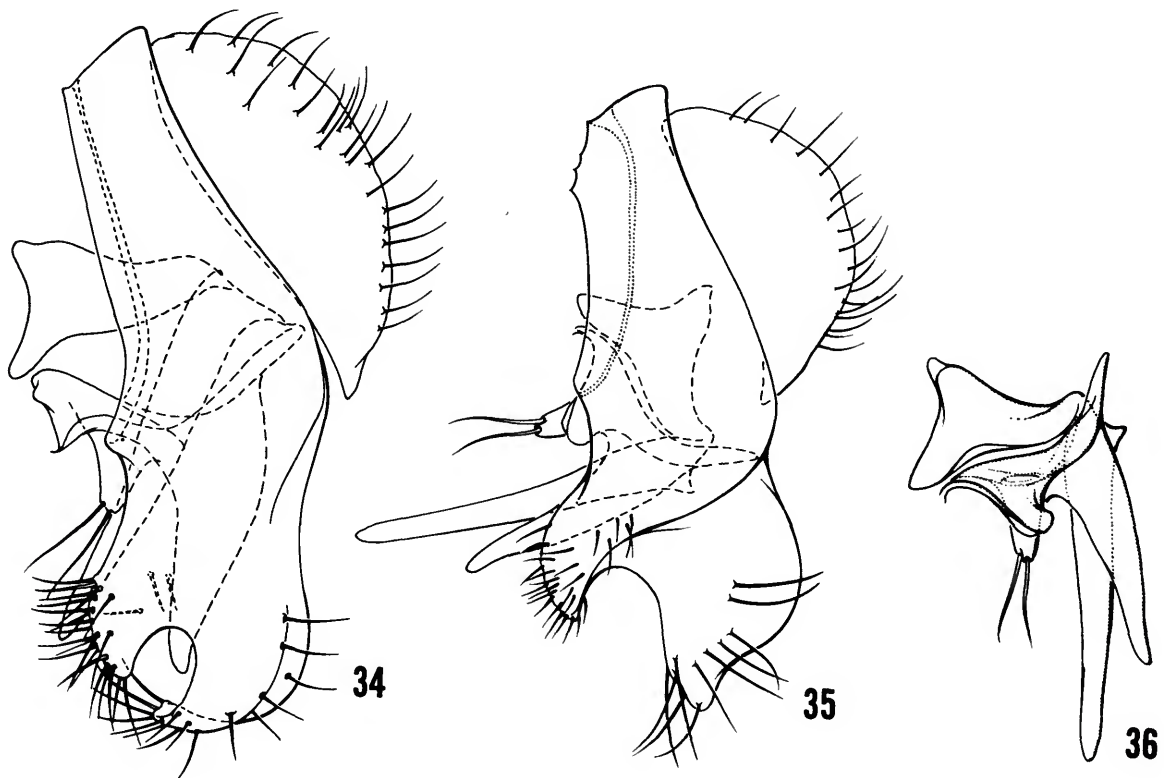
FIGURES 34–37

DESCRIPTION.—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.90 to 2.80 mm.

*Head:* Mesofrons sparsely microtomentose,

subshiny, with bluish black luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons brown posteriorly, becoming gray anteriorly, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.43. Palpus black.

*Thorax:* Mesonotum densely microtomentose, mostly brown to grayish brown, with sparsely microtomentose, blackish stripes laterad of acrostichal and dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum, immediately posteriad of notopleuron, and at scutellar apex; scutellar disc sparsely microtomentose, subshiny; basolateral scutellar



Figures 34–36.—*Pelinoides chilensis*: 34, male terminalia, lateral aspect with ventral epandrial margin curved inward; 35, male terminalia, lateral aspect with ventral epandrial margin extended; 36, internal male terminalia, lateral aspect.

margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorso-central bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; notopleural bristle 1, at best poorly developed; no pleural bristles evident. Anepisternum half brown, half grayish, checkerboard; anepimeron grayish dorsally, brown ventrally; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs with femora and tibiae black, mostly densely microtomentose, gray; mid-dorsal surfaces of tibia bare, shiny; tarsi brown to black, apically 2 tarsomeres darker. Wing hyaline; costal vein ratio 0.48; M vein ratio 0.48.

*Abdomen:* Terga generally less densely micro-

tomentose than mesonotum, mostly blackish brown to black, but with posterolateral margins of terga 2–5 whitish. Male abdomen and terminalia (Figures 34–36) as follows: 5th sternum of male broadly and deeply U-shaped, vertex anterior, deeply emarginate posteriorly, hypandrium broadly attached; epandrium, in lateral view, with posteroventral portion slightly produced posteriorly, broadly rounded; ventral epandrial margin deeply emarginate, producing a long, wide, pointed posteroventral projection and a short, posteriorly curved, anteroventral projection; aedeagal apodeme narrowly triangular, height greater than basal width; aedeagus a simple tapered tube, moderately rounded apically; gonite with two ventral projections, the larger more posterior, narrowly triangular, much longer than basal width, the shorter anterior and bearing 1–3 apical setulae.

**TYPE MATERIAL.**—Holotype male is labeled "CHILE-Atacama[,] Copiopo [sic, should be Copiapo] 540m[,] Nantoco[,] 19IX52 [19 Sep 1952] /PGKuschel Collector." Other paratypes are as follows: *CHILE. Atacama Province:* Bahia Copiapo, 45 m., 5 Oct 1966, M.E. Irwin (2♂; UCB); Canto del Agua (3 km E), 6 Oct 1966, M.E. Irwin (1♀; UCB); Vegas de San Andres, 2250 m., 28 Sep 1952, P.G. Kuschel (1♂, 1♀; USNM). *Coquimbo Province:* El Naranjo, Tilama, Oct 1967, L.E. Peña (4♂, 5♀; MZSP, USNM). *Malleco Province:* Angol, 28 Nov 1926 (1♂; USNM). *Santiago Province:* Batuco, 12 Dec 1955, P.G. Kuschel (1♂; USNM). The holotype is double mounted (glued to a paper point), is in fair condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION** (Figure 37).—Chile (Atacama, Coquimbo, Malleco, and Santiago provinces), between 26° and 38° south latitude.

**NATURAL HISTORY.**—Some specimens, those collected along the coast of the province of Atacama, were associated with sand dunes.

**ETYMOLOGY.**—The specific epithet, *chilensis*, refers to the country where this species is known to occur.

**REMARKS.**—This species is distinguished from

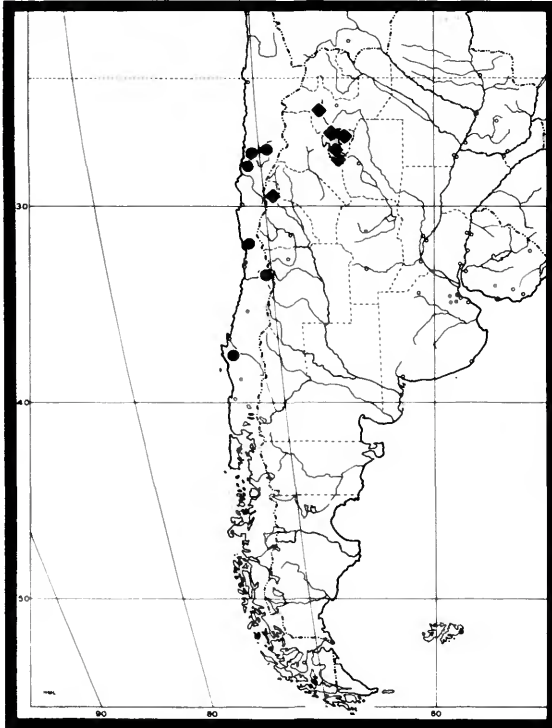


FIGURE 37.—Distribution map of *Pelinoides chilensis* (circles) and *P. colerus* (diamonds).

related congeners, especially *P. phaeonotus* and *P. flinti*, by the white mesonotal stripes on a densely microtomentose background, sparsely microtomentose mesofrons, white spot at the scutellar apex, and uniformly invested scutellum.

Two lateral views of the epandrium are provided to demonstrate how the shape of the ventral epandrial margin can be altered, curved inward in this case, either because the specimens are teneral or through the maceration process.

## 12. *Pelinoides colerus*, new species

FIGURES 38, 39

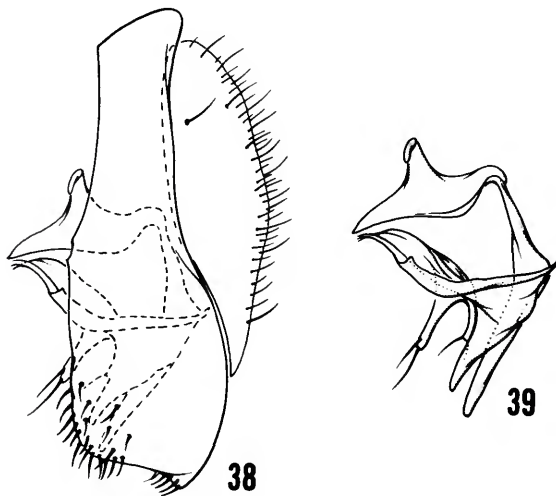
**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.80 to 2.05 mm.

**Head:** Mesofrons sparsely microtomentose to bare, subshiny to shiny, with black luster, especially areas immediately laterad of ocellar tubercle; ocellar tubercle more densely microtomentose, appearing dull; parafrons black posteriorly, becoming gray next to facial suture, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face

at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.67. Palpus black.

**Thorax:** Mesonotum densely microtomentose, mostly brown to grayish brown, with grayish microtomentose stripes laterad of acrostichal and dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum and immediately posteriad of notopleuron; scutum immediately anterior of scutellum with velvety black triangular area; scutellar disc slightly less microtomentose than scutum, faintly subshiny; basolateral scutellar margins densely microtomentose, appearing velvety black from postero-oblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posterior-most position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; at most with posterior notopleural bristle poorly developed; no pleural bristles evident. Pleural areas mostly grayish. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.60; M vein ratio 0.40.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly brown to blackish brown, but with broad posterolateral margins of terga 2–4 whitish. Male terminalia (Figures 38, 39) as follows: epandrium, in lateral view, with posteroventral portion slightly produced posteriorly to a shallow point; ventral epandrial margin nearly straight, slanted slightly anterodorsally, anteroventral portion broadly rounded; aedeagal apodeme irregularly triangular, slightly higher than basal width; aedeagus a simple, very gradually tapered tube, moderately rounded apically; gonite with 2 ventral projections, posterior one slightly longer, narrowly triangular, much longer than basal width, the



Figures 38, 39.—*Pelinoides colerus*: 38, male terminalia, lateral aspect; 39, internal male terminalia, lateral aspect.

shorter anterior and bearing 1–3 apical setulae.

**TYPE MATERIAL.**—The holotype male is labeled “R[epublica] A[rgentina]. Tucuman[,] Rio Colorado 21-X-1953 [21 Oct 1953] Coll: R. Golbach [handwritten, black border].” Allotype female and four paratypes (1♂, 3♀; IML, USNM) bear the same label data as the holotype except for dates, which are from 22 Feb–22 Oct 1953. Other paratypes are labeled as follows: ARGENTINA. *Salta Province*: Arroyo Quipon, Cachi, Sep 1975, M.L. Grosso (1♀; IML). *San Juan Province*: Rio del Potrero, 5 Apr 1981, M.L. Grosso (1♂; IML). *Tucumán Province*: El Banado, 1700 m, 5 Oct 1968, L.E. Peña (1♀; CNC); Monte Bello, 13 Mar 1947 (1♀; USNM); San Javier, 21 Nov 1950, R. Golbach (1♂, 1♀; IML, USNM). The holotype is double mounted (minute nadel in cork base), is in fair condition, and is deposited in the Fundación Miguel Lillo, Tucumán, Argentina.

**DISTRIBUTION** (Figure 37).—Argentina, provinces of Salta, San Juan, and Tucumán, between 26° and 30° south latitude.

**ETYMOLOGY.**—The specific epithet, *colerus*, is a Greek adjective meaning woolly and refers to the densely microtomentose, velvety black, triangular area immediately anterior of the scutellum.

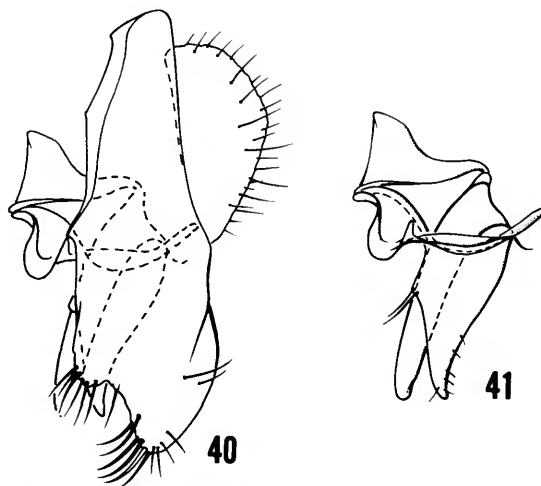
**REMARKS.**—The distinctive, velvety black, triangular area on the scutum, immediately anterior of the scutellum, and the shiny black mesofrons distinguish this species from all congeners.

### 13. *Pelinoides flavipalpus*, new species

FIGURES 40–42

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Small to moderately small shore flies, length 1.90 to 2.50 mm.

**Head:** Mesofrons moderately densely microtomentose, at most with slightly less microtomentum on areas immediately laterad of ocellar tubercle and with some, faint black luster; ocellar tubercle entirely, densely microtomentose, appearing dull; parafrons brown posteriorly, becoming gray next to facial suture, densely microtomentose, appearing velvety. Antenna with first



Figures 40, 41.—*Pelinoides flavipalpus*: 40, male terminalia, lateral aspect; 41, internal male terminalia, lateral aspect.

2 segments brown to dark brown; 1st flagellomere mostly yellowish to orangish. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena silvery and very faintly brownish white. Eye-to-cheek ratio 0.62. Palpus yellow.

**Thorax:** Mesonotum densely microtomentose, mostly brown to grayish brown, with grayish, microtomentose stripes laterad of acrostichal and dorsocentral tracks, stripes more evident anteriorly; whitish microtomentum of postpronotum continued posteriorly as a band along ventral margin of notopleuron to area immediately posterior of notopleuron, also at scutal-scutellar furrow; scutum immediately anterior of scutellum similar in color and vestiture to surrounding area; scutellar disc slightly less microtomentose than scutum, faintly subshiny; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural, but with 3–4 larger setae, anteriormost presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; pos-

terior notopleural bristle well developed, subequal to ocellar bristle; no pleural bristles evident. Pleural areas mostly grayish except for dorsal half of anepisternum and posteroventral angle of anepisternum and anteroventral angle of anepimeron. Halter with knob yellowish, concolorous with stem. Legs with femora mostly blackish, invested almost entirely with dense microtomentum, gray; tibiae and tarsi yellowish to orangish except for subapical, brown annulation on tibiae and apical 1–2 tarsomeres, which are dark brown to blackish brown. Wing hyaline; costal vein ratio 0.53; M vein ratio 0.50.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly brown, but with broad, wedge-shaped, whitish gray areas posterolaterally on terga 2–4. Male terminalia (Figures 40, 41) as follows: epandrium, in lateral

view, with posteroventral portion slightly produced posteriorly to form a shallow but broadly arched margin; ventral epandrial margin with a comparatively shallow and irregular emargination, forming a posterior and an anterior process, posterior process much longer, apex rounded, anterior process poorly developed, more as a rounded bump; aedeagal apodeme narrowly and irregularly triangular, conspicuously higher than basal width; aedeagus a simple, very gradually tapered tube, moderately rounded apically; gonite with a half trapezoidal ventral projection, the posterior angle longer, acutely pointed, and shallowly curved posteriorly, anterior angle obtuse and bearing 1–3 apical setulae.

**TYPE MATERIAL.**—Holotype male is labeled "Freirina, Coquimbo[, ] Chile X. 1969 L. E. Peña col." Allotype female is labeled "CHILE-Coquimbo Punta Teatinos 16 Sept 1952/PGKuschel Collector." Other paratypes are as follows: CHILE. *Atacama Province:* Canto del Agua (3 km E), 6 Oct 1966, M.E. Irwin (1♀; UCB?). *Coquimbo Province:* Fray Jorge (5 km W Pachingo), 550 m., 30 Apr 1966, M.E. Irwin (1♂; USNM). Coast Road (112 km S Ovalle), 13 Dec 1950, E.S. Ross, A.E. Michelbacher (1♂; CAS). The holotype is double mounted (glued to a paper point), is in fair condition, is deposited in the Museu de Zoologia, Universidade de São Paulo, Brazil.

**DISTRIBUTION** (Figure 42).—Chile (Atacama and Coquimbo provinces), between 27° and 32° south latitude.

**ETYMOLOGY.**—The specific epithet, *flavipalpis*, is of Latin derivation and means yellow feeler, referring to the pale, mostly yellowish, maxillary palpus of this species.

**REMARKS.**—Because of the pale, mostly yellowish, first flagellomere, maxillary palpus, and tibiae, as well as other characters outlined in the key, this species should be easy to distinguish from congeners.

#### 14. *Pelinoides flinti*, new species

FIGURES 42–44

**DESCRIPTION.**—As in generic and species group descriptions with the following details.



FIGURE 42.—Distribution map of *Pelinoides flavipalpus* (circles), *Pelinoides flinti* (triangles), and *Pelinoides fuscus* (diamond).

Moderately small shore flies, length 2.15 to 2.65 mm.

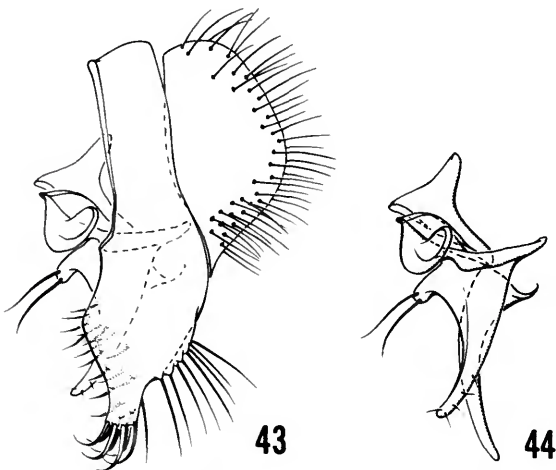
**Head:** Mesofrons densely microtomentose except for large, bare areas immediately laterad of ocellar tubercle, the latter shiny, with blackish luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons brown to black posteriorly, becoming brown next to facial suture, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.65. Palpus black.

**Thorax:** Mesonotum densely microtomentose, uniformly mostly brown, but with faintly grayish microtomentose stripes laterad of acrostichal and dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum, immediately posteriad of notopleuron, and a fairly wide stripe running entire length of scutellum, stripe more weakly developed medially; scutellar disc slightly less microtomentose than scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small,

inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; at most with posterior notopleural bristle poorly developed; no pleural bristles evident. Pleural areas mostly brown. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.43; M vein ratio 0.51.

**Abdomen:** Terga slightly less microtomentose than mesonotum, mostly blackish brown to black, but with narrow posterolateral margins of terga 3–4 whitish. Male abdomen and terminalia (Figures 43, 44) are as follows: 5th sternum broadly U-shaped, each arm well developed, wide, anterior connection between arms more weakly sclerotized; epandrium, in lateral view, with posterior-ventral margin densely setulose with length of setulae almost equal to width of epandrium; ventral epandrial margin narrowly produced, forming parallel sided, truncate projection that bears numerous, curved setulae apically; aedeagal apodeme narrowly triangular, wide basally but thereafter abruptly narrowed to form long, slender process; aedeagus a simple, gradually tapered, slender, shallowly curved tube; gonite with 2 apical processes, posterior one much longer, both bearing setulae, setulae of anterior, shorter process longer.

**TYPE MATERIAL**—Holotype male is labeled "CHILE, Magallanes Isla Navarino[, ] Puerto Williams[, ] Jan. 1959/G. Kuschel collector/near salty water [handwritten]." The allotype female is labeled "CHILE: Magall. Punta Arenas[, ] Rio de las Minas 18 April 1971 Flint & Hevel." Other paratypes are as follows: CHILE. *Magallanes*: Punta Arenas, Tres Brazos, 1–3 Nov 1960, L.E. Peña (3♀; CNC, USNM); Tierra del Fuego, Cameron, S. Bahía Inutil, 14–17 Nov 1960, L.E. Peña (1♀; CNC); Cerro Mina Rica, 13 Jan 1952, [I



Figures 43, 44.—*Pelinoides flinti*: 43, male terminalia, lateral aspect; 44, internal male terminalia, lateral aspect.

cannot decipher the name of the collector] (1♂; USNM). The holotype is double mounted (glued to a paper point), is in good condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION** (Figure 42).—Southern Chile, province of Magallanes. This is the southernmost species of the genus and among the southernmost of the family Ephydriidae.

**ETYMOLOGY**.—The specific epithet, *flinti*, is a Latinized patronym to honor Oliver S. Flint, Jr., one of the collectors of the allotype.

**REMARKS**.—The most distinctive external characters of this species are the moderately

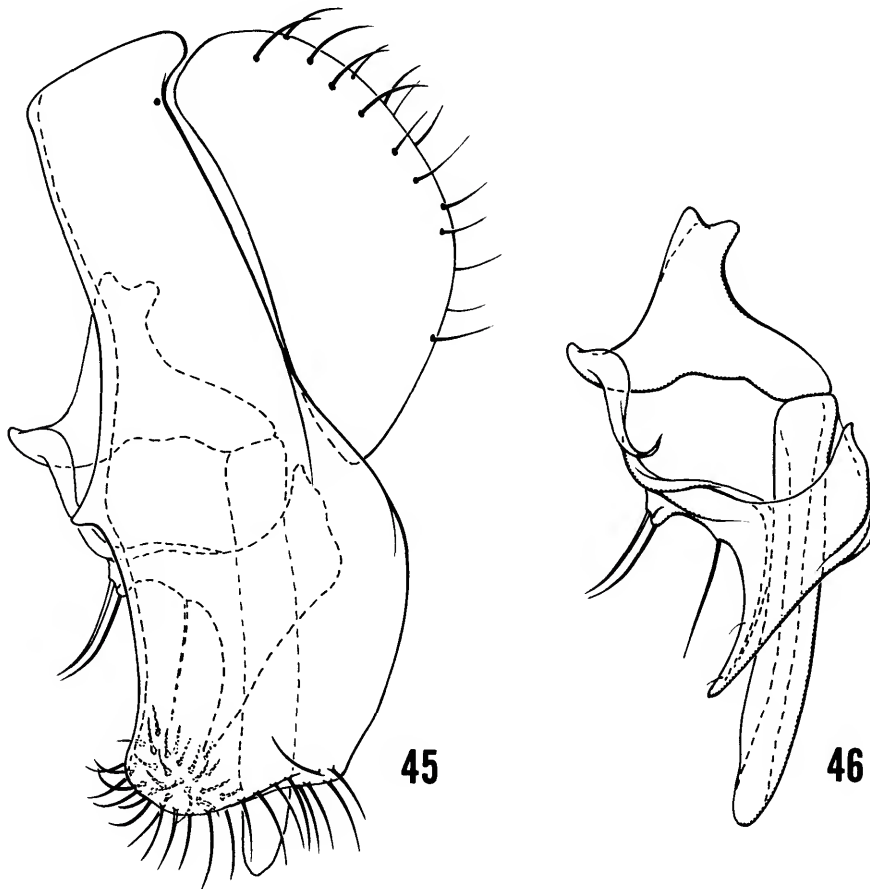
broad scutellar stripe and shiny areas of the mesofrons immediately laterad of the ocellar tubercle. These characters, along with the other characters outlined in the key, will distinguish this species from related congeners.

**15. *Pelinoides phaeonotus*, new species**

FIGURES 45, 46

**DESCRIPTION**.—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.30 to 2.50 mm.

*Head*: Mesofrons mostly sparsely microtomen-



Figures 45, 46.—*Pelinoides phaeonotus*: 45, male terminalia, lateral aspect; 46, internal male terminalia, lateral aspect.

tose, subshiny; ocellar tubercle more densely microtomentose, appearing dull; parafrons light to dark brown, becoming darker posteriorly, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere mostly macrotomentose, especially evident apically. Face at narrowest point comparatively wide, width nearly 3 times length of 1st flagellomere; face, parafacies, and gena shiny white to gray. Eye-to-cheek ratio 0.55. Palpus black.

**Thorax:** Mesonotum densely microtomentose, uniformly brown, conspicuous stripes lacking; lacking whitish, densely microtomentose areas except for faintly white postpronotum, a small area immediately posterior of notopleuron, and a small area just anterior to lateral base of scutellum; scutellar disc slightly less microtomentose than scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle; apex of scutellum with small, faint whitish spot. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supralar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; no notopleural or pleural bristles well developed. Pleural areas mostly gray; anepisternum with large, light brown area toward posterodorsal angle and a smaller area at posteroventral angle, the latter overlapping onto anteroventral angle of anepimeron. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.54; M vein ratio 0.45.

**Abdomen:** Terga less densely microtomentose than mesonotum, mostly brownish black to black, but with narrow posterolateral margins of terga 2–4 whitish. Male abdomen and terminalia (Figures 45, 46) are as follows: 5th sternum broadly U-shaped, each arm well developed, wide, anterior connection between arms more weakly scler-

rotized; epandrium, in lateral view, with basal half nearly twice width of dorsal half; posteroventral margin, especially anteroventral angle, densely setulose, length of setulae about  $\frac{1}{3}$  greatest epandrial width; ventral epandrial margin broadly produced, very shallowly sinuate; aedeagal apodeme irregularly triangular, about as wide as high; aedeagus a simple, nearly parallel-sided, straight, slender tube, broadly rounded apically; gonite with 2 apical processes, posterior one considerably longer and bearing short setulae, posterior process very short and bearing 2 prominent setae.

**TYPE MATERIAL.**—Holotype male is labeled "ARGENT[INA]. Jujuy[,] Rio Orosmayo[,] 43km. SW. Cienaga[,] 3.XI.68. [3 Nov 1968] L. Peña." A male (USNM) and female (CNC) paratype bear the same label data as the holotype. The holotype is glued to the side of a pin, is in fair condition (the head has been broken off and glued to the thorax, the left first flagellomere is missing, most setae are broken, and the wings are tattered), and is deposited in the Canadian National Collection, Ottawa.

**DISTRIBUTION.**—This species is known only from the type-locality in Argentina.

**ETYMOLOGY.**—The specific epithet, *phaeonotus*, is of Greek derivation and means a dark or dusky colored back, referring to the dusky mesonotum of this species.

**REMARKS.**—This species is similar to *P. flinti* and is distinguished from the latter by the lack of a white scutellar stripe, mostly grayish pleural area, and by characters of the male terminalia. These characters, along with the other characters outlined in the key, will distinguish this species from related congeners.

### 16. *Pelinoidea fuscus*, new species

FIGURES 42, 47, 48

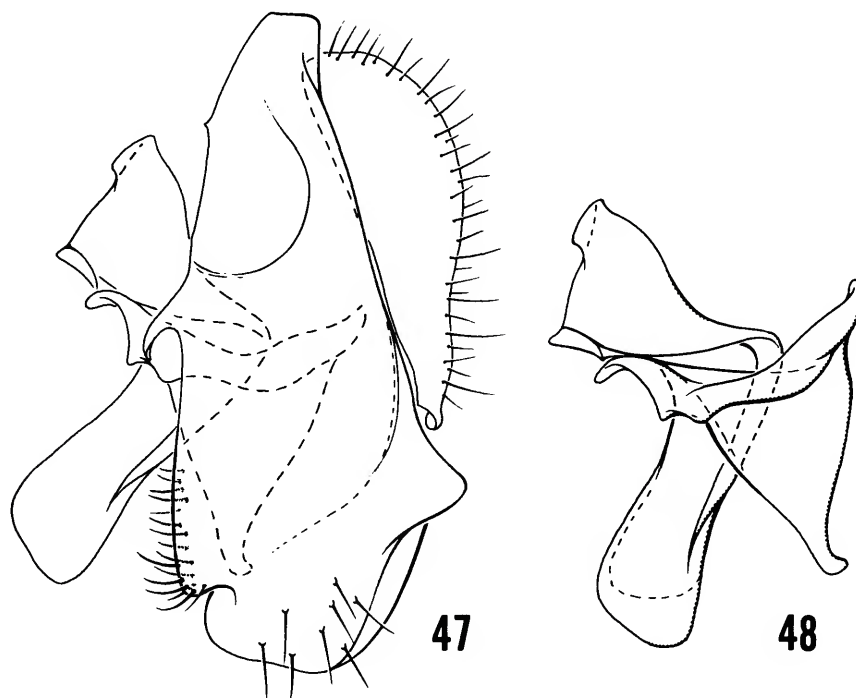
**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.45 to 2.60 mm.



**Head:** Mesofrons generally moderately densely microtomentose, very weakly subshiny, with blackish luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons black posteriorly, becoming brown next to facial suture, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.44. Palpus black.

**Thorax:** Mesonotum densely microtomentose, uniformly mostly brown, but with faintly grayish, less densely microtomentose stripes laterad of acrostichal and dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum, immediately posteriad of notopleuron, and at scutal-scutellar furrow; scutellum lacking white median stripe; scutellar disc slightly

less microtomentose than scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; at most with posterior notopleural bristle poorly developed; no pleural bristles evident. Anepisternum mostly brown except for anteroventral quarter and very narrow areas along posterior and dorsal margins; anepimeron mostly gray except for anteroventral brown area; katepisternum mostly gray. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to



Figures 47, 48.—*Pelinoides fuscus*: 47, male terminalia, lateral aspect; 48, internal male terminalia, lateral aspect.

blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.55; M vein ratio 0.43.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly brown to blackish black, but with narrow posterolateral margins of terga 3–4 whitish. Male abdomen and terminalia (Figures 47, 48) as follows: 5th sternum divided into 2 lateral, sclerotized, short, irregularly shaped bands between which the hypandrium sits; epandrium, in lateral view, with conspicuously protrudent, angulate posteroventral projection just ventrad of cerci; ventral epandrial margin truncate, but with anterior and posterior angles somewhat rounded, anteroventral portion with a subapical sulcus, thereafter dorsally straight, setose; aedeagal apodeme narrowly triangular, broad basally, narrowed rather abruptly after midheight; aedeagus comparatively large, stout, thick, bluntly rounded apically; gonite broadly triangular, apical  $\frac{1}{3}$  distinctly narrowed with apex slightly curved posteriorly.

**TYPE MATERIAL.**—The holotype male is labeled "V[illa]. Padre Monti (R[epublica]. A[rgentina] Tucumán - Burruyacu 17.I. - 7.II. [17 Jan-7 Feb] 1948 coll., R. Golbach." The holotype is double mounted (minute nadel in cork block), is in fair condition (the abdomen has been removed, dissected, and the parts stored in an attached microvial), and is deposited in the Fundación Miguel Lillo, Tucumán, Argentina.

**OTHER SPECIMENS EXAMINED.**—ARGENTINA. *Catamarca:* Capillitas, 3000 m, Feb 1970, L.E. Peña (1♀; USNM).

**DISTRIBUTION** (Figure 42).—Argentina, provinces of Catamarca and Tucumán.

**ETYMOLOGY.**—The specific epithet, *fuscus*, is a Latin adjective meaning brown or dusky colored, referring to the generally dark coloration of this species.

**REMARKS.**—Externally this species is very similar to *P. penai*, and except for characters of the male terminalia and possibly the darker coloration of the forebasotarsomere, I cannot distinguish between the two species. It is separable from other congeners by the other characters outlined in the key.

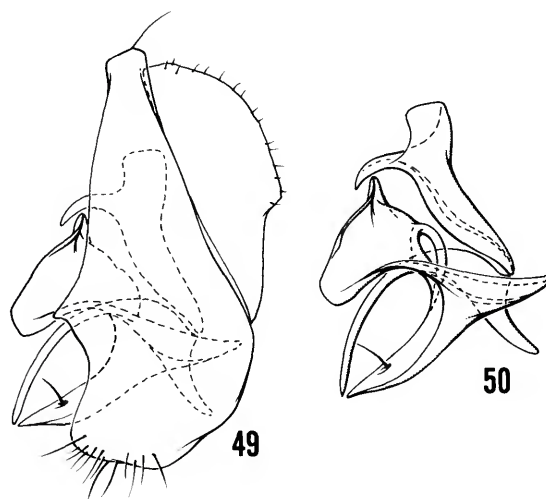
### 17. *Pelinoides obscurus*, new species

FIGURES 49, 50

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.05 to 2.60 mm.

**Head:** Mesofrons and ocellar tubercle brown, densely microtomentose, comparable with that of mesonotum; parafrons slightly darker, blackish brown, becoming brown next to facial suture, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.64. Palpus black.

**Thorax:** Mesonotum brown, very densely microtomentose, coloration and vestiture mostly uniform except for faintly grayish, less densely microtomentose stripes laterad of acrostichal and 2 linear spots laterad of dorsocentral tracks, pre- and postsutural; lacking whitish, densely microtomentose areas except immediately posteriad of notopleuron, and at scutal-scutellar furrow; scutellum lacking white median stripe; scutellar disc



Figures 49, 50.—*Pelinoides obscurus*: 49, male terminalia, lateral aspect; 50, internal male terminalia, lateral aspect.

slightly less microtomentose than scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posterior-most position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; no evidence of either notopleural bristle; no pleural bristles evident. Anepisternum mostly brown except for extreme anteroventral area; anepimeron mostly brown except for small grayish spot in middle; katepisternum mostly gray. Halter with knob brownish, distinctly contrasting with yellowish stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.44; M vein ratio 0.46.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly brown, but with posterolateral, narrow, wedge-like margins of terga 3–4 whitish. Male abdomen and terminalia (Figures 49, 50) as follows: 5th sternum very broadly U-shaped, apex of each arm enlarged, densely setulose, sclerotization well developed throughout; epandrium, in lateral view, much broader ventrally, posteroventral margin without conspicuous projection; ventral epandrial margin wide, broadly and somewhat irregularly rounded, anteroventral margin with small, anterior projection; aedeagal apodeme narrowly triangular, base broad, thereafter narrowly but stoutly formed; aedeagus a very slender, conspicuously curved tube, apex pointed; gonite with 2 ventral projections, posterior one longer, pointed, anterior projection thick, apex blunt.

**TYPE MATERIAL.**—Holotype male is labeled "ECUADOR: Cotopaxi Pr[ovince] Pujili (65.3 km. W) 3795 m. elev. 15 Jan 1978 WNMathis." Allotype female and 10 paratypes (6♂, 4♀; USNM) bear the same label data as the holotype. Other paratypes are as follows: PERU. Cuzco, 3300 m., 5–12 Aug 1965, P. and B. Wygodzinsky (1♂; AMNH). Puno: Pusi, 20 Oct 1965, J.C.

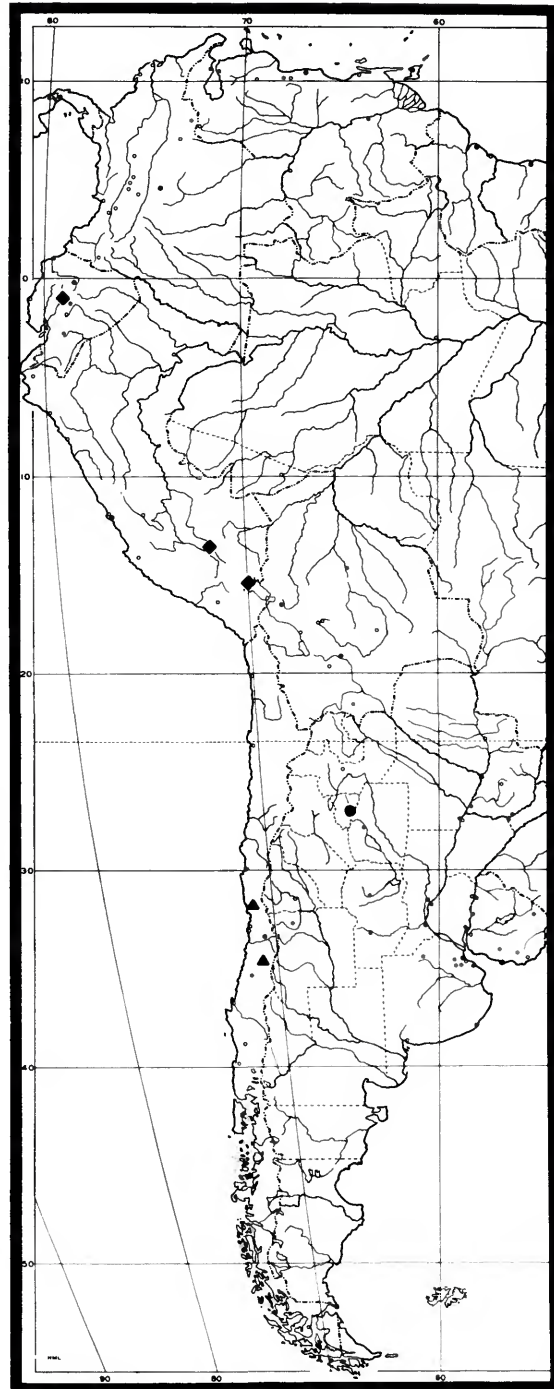


FIGURE 51.—Distribution map of *Pelinoides obscurus* (diamonds), *Pelinoides penai* (triangles), and *Pelinoides opacus* (circle).

Hitchcock, Jr. (1♀; USNM). The holotype is double mounted (minute nadel in plastic block), is in excellent condition, and is deposited in the Smithsonian Institution (USNM).

**DISTRIBUTION** (Figure 51).—Ecuador and Peru, between 1° and 17° south latitude, at high elevations in the Andes.

**NATURAL HISTORY**.—I collected the type series from a paramo habitat in the Andes Mountains of Ecuador. The specimens were swept from short sedges and other short and emergent foliage in and around a seepage area just a short distance from the road.

**ETYMOLOGY**.—The specific epithet, *obscurus*, is a Latin adjective meaning covered or dark, referring to the dense, microtomentose vestiture over most of the body, especially the mesofrons, giving a dull, obscure appearance.

**REMARKS**.—The densely microtomentose mesofrons and darkened knob of the halter distinguish this species from related congeners.

### 18. *Pelinoides opacus*, new species

FIGURES 51, 52

**DESCRIPTION**.—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.05 to 2.40 mm.

**Head**: Mesofrons moderately microtomentose, but with areas immediately laterad of ocellar triangle more sparsely microtomentose, partially subshiny, with some blackish luster; ocellar tubercle brown, densely microtomentose, comparable with that of mesonotum; parafrons slightly darker, blackish brown, becoming brown next to facial suture, densely microtomentose, appearing velvety. Antenna mostly black; 1st flagellomere mostly black but with extreme basoventral area pale, orangish brown, bearing macroto mentum apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.47. Palpus yellowish brown.

**Thorax**: Mesonotum olivaceous to brown, mod-

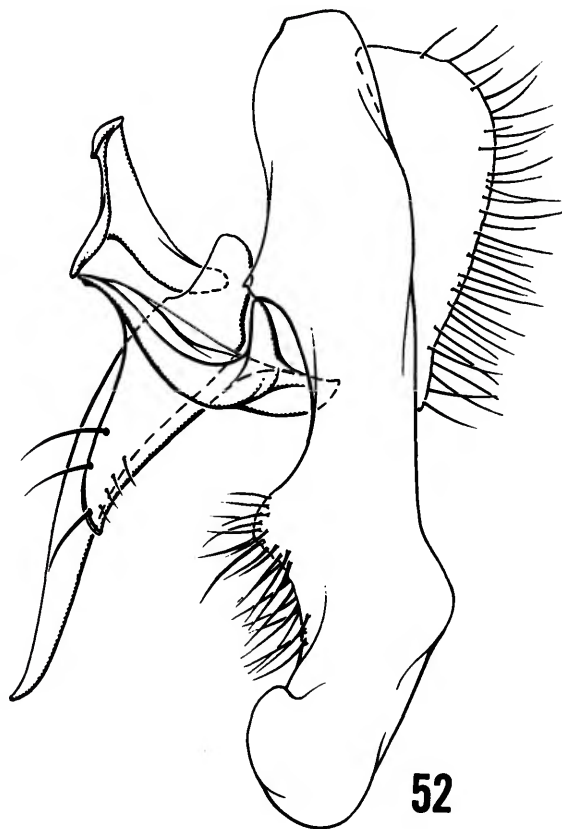


FIGURE 52.—*Pelinoides opacus*: male terminalia, lateral aspect.

erately densely microtomentose, coloration more distinctly brown through acrostichal and dorso-central tracks and basally, otherwise more olivaceous to olivaceous brown; whitish, densely microtomentose areas at postpronotum, immediately posteriad of notopleuron, just posterolaterad of posteriormost position dorsocentral bristle, between posteriormost dorsocentral and postalar bristles, and at scutellar apex; scutellum lacking white median stripe; density of scutellar disc microto mentum subequal to that on scutum; basolateral scutellar margins densely microto mentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking

well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; no evidence of either notopleural bristle; no pleural bristles evident. Anepisternum and anepimeron with dorsal  $\frac{1}{3}$  to  $\frac{1}{2}$  brown, ventral portions whitish gray, concolorous with katepisternum. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny brownish black; tarsi yellowish brown to blackish brown, apical 2-3 tarsomeres darker. Wing hyaline; costal vein ratio 0.45; M vein ratio 0.43.

**Abdomen.** Terga generally about as densely microtomentose as mesonotum, mostly brown, but with narrow posterior margins of terga 2-4 and with extreme ventrolateral margins of terga 2-5 whitish gray. Male abdomen and terminalia (Figure 52) as follows: 5th tergum comparatively large, elongate, length subequal to combined length of terga 2-4; 5th sternum transversely linear, well sclerotized, wider medially; epandrium, in lateral view, comparatively large, narrow, and long, anterior and posterior margins irregular, posteroventral area, below cerci, with broadly angulate posterior projection; ventral epandrial margin broadly rounded, mostly bare, with knob-like anterior process, anterior margin densely setulose, especially around anterior, small, rounded projection; aedeagal apodeme narrowly triangular, broad basally, narrowed rather abruptly thereafter; aedeagus comparatively long, gradually tapered, shallowly curved, apical  $\frac{1}{4}$  very slightly recurved, apex narrowly pointed; gonite broadly triangular, anterior margin rounded apically.

**TYPE MATERIAL.**—The holotype male is labeled "R[epublica] A[rgentina]. Tucumán[,] Tacanas 20-28 Nov 1947 Coll: R. Golbach [handwritten, black border]/♂." Allotype female and 14 paratypes (4♂, 10♀; IML, USNM) bear the same label data as the holotype. The holotype is double mounted (minute nadel in cork base), is in good condition, and is deposited in the Fundación Miguel Lillo, Tucumán, Argentina.

**DISTRIBUTION** (Figure 51).—This species is

known only from the type-locality in the province of Tucumán, Argentina.

**ETYMOLOGY.**—The specific epithet, *opacus*, is a Latin adjective meaning shaded or dull, referring to the generally densely microtomentose vestiture over most of the body, giving a dull appearance.

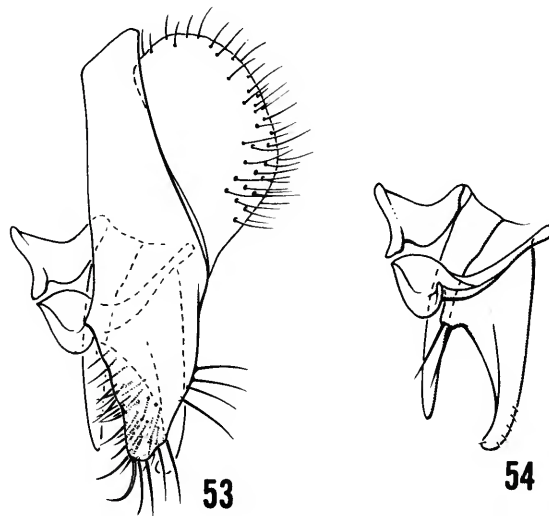
**REMARKS.**—The external coloration, especially the whitish gray thoracic and abdominal areas, in addition to the other characters outlined in the key, distinguishes this species. The size and shape of the male terminalia are also very distinctive.

### 19. *Pelinoides penai*, new species

FIGURES 51, 53, 54

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.05 to 2.20 mm.

**Head:** Mesofrons generally moderately densely microtomentose, very weakly subshiny, with blackish luster; ocellar tubercle more densely microtomentose, appearing dull; parafrons brown posteriorly, densely microtomentose, appearing velvety. Antenna black; 1st flagellomere



Figures 53, 54.—*Pelinoides penai*: 53, male terminalia, lateral aspect; 54, internal male terminalia, lateral aspect.

macrotomentose apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.57. Palpus black.

**Thorax:** Mesonotum densely microtomentose, uniformly mostly brown, but with very faintly grayish, slightly less densely microtomentose stripes laterad of acrostichal and dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum and immediately posteriad of notopleuron, although possibly also at scutellar apex (specimens in too poor a condition); scutellum lacking white median stripe; scutellar disc slightly less microtomentose than scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; at most with posterior notopleural bristle poorly developed; no pleural bristles evident. Anepisternum mostly brown except for anteroventral quarter and very narrow areas along posterior and dorsal margins; anepimeron mostly gray except for anteroventral brown area; katepisternum mostly gray. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny black; tarsi yellowish brown to blackish brown, apical 2–3 tarsomeres darker. Wing hyaline; costal vein ratio 0.43; M vein ratio 0.44.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly brown to blackish brown, but with narrow posterolateral margins of terga 3–4 whitish. Male abdomen and terminalia (Figures 53, 54) as follows: 5th sternum divided into 2 lateral, sclerotized, short, irregularly shaped bands between which the hypandrium sits; epandrium, in lateral view, irregularly elliptical, comparatively narrow, lacking posteroventral projection ventrad of cerci; ven-

tral epandrial margin narrowly rounded, setulose, nearly symmetrical; aedeagal apodeme irregularly triangular, broad basally, narrowed gradually, and angulate; aedeagus a comparatively simple, gradually tapered, shallowly curved tube; gonite with 2 ventral processes, the posterior one much longer, minutely setulose apically, anterior one barely evident except for 1–3 long setulae.

**TYPE MATERIAL.**—The holotype male is labeled "El Naranjo, Tilama[,] Coquimbo, Chile X[Oct]. 1967 L. E. Peña col." The holotype is double mounted (glued to a paper point), is in poor condition (the abdomen has been removed, dissected, and the parts are stored in an attached microvial), and is deposited in the Museu de Zoologia, Universidade de São Paulo, Brazil.

**OTHER SPECIMENS EXAMINED.**—CHILE. *Curico Province:* Cajon de Rio Claro, SE Los Quenes, 1100 m, 8 Oct 1966, E.I. Schlinger (Malaise trap) (1♀; UCB).

**DISTRIBUTION** (Figure 51).—Chile, provinces of Coquimbo and Curico, between 31° and 35° south latitude.

**ETYMOLOGY.**—The specific epithet, *penai*, is a Latinized patronym to honor Señor Luis E. Peña G., the collector of the holotype.

**REMARKS.**—This species is very similar to *P. fuscus*, and except for the characters of the male terminalia and possibly for the lighter-colored forebasotarsomere, I cannot distinguish between the two species. Discovery of distinguishing characters between the two species is hampered, in part, by the poor condition of available specimens.

## 20. *Pelinoides unctus* Cresson

FIGURES 55–57

*Pelinoides uncta* Cresson, 1934:210.

*Pelinoides unctus*.—Wirth, 1968:19 [neotropical catalog].—Lizarralde de Grosso, 1981:95 [review, figures of male terminalia].

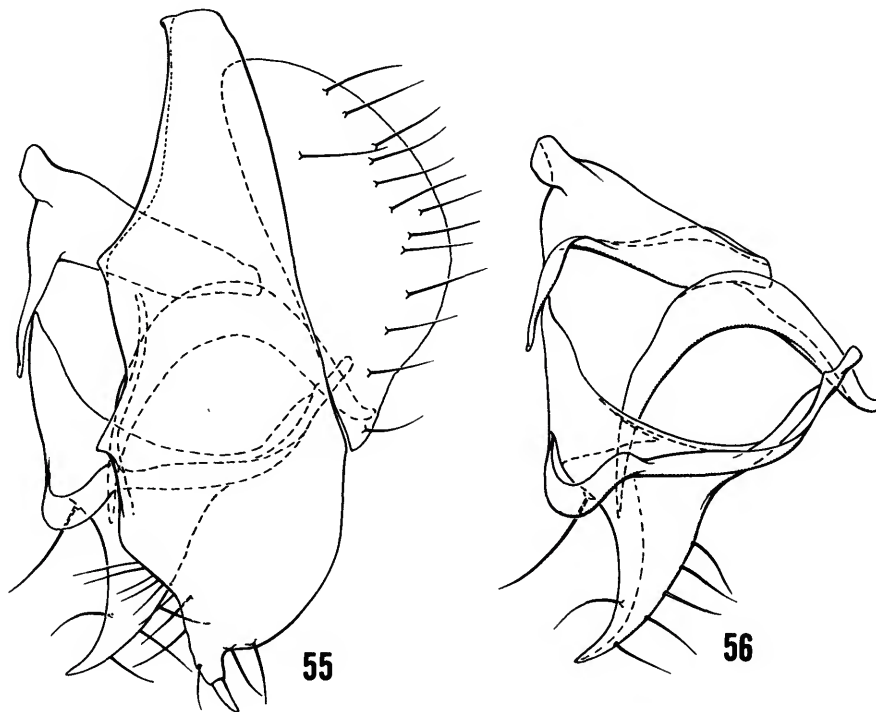
**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.35 mm.

**Head:** Mesofrons densely microtomentose

throughout, grayish brown; ocellar tubercle concolorous; parafrons slightly darker posteriorly, blackish brown, becoming whitish gray next to facial suture, densely microtomentose, but not appearing velvety. Antenna mostly black; 1st flagellomere mostly black but with extreme basoventral area pale, orangish brown, bearing macrotomentum apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.55. Palpus yellowish brown.

**Thorax:** Mesonotum densely microtomentose, mostly brown with grayish microtomentose stripes laterad of acrostichal and partial stripes laterad of dorsocentral tracks; lacking whitish, densely microtomentose areas except on postpronotum, immediately posterior of notopleuron, and a fairly wide stripe running entire length of scutellum, scutellar stripe well developed over

entire length; density of scutellar disc microtomentum subequal to that on scutum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblique angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; only posterior notopleural bristle evident, weakly developed; no pleural bristles evident. Anepisternum with 2 dorsal brown spots, occupying dorsal  $\frac{1}{4}$  to  $\frac{1}{3}$ , also with posteroventral brown spot, otherwise whitish gray; anepimeron with some brown coloration in irregular shape dorsally and with smaller brown area in anteroventral corner, otherwise whitish gray. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray;



Figures 55, 56.—*Pelinoides unctus*: 55, male terminalia, lateral aspect; 56, internal male terminalia, lateral aspect.



FIGURE 57.—Distribution map of *Pelinoides unctus*.

posterior surface of hindfemora and hindtibia in part bare, shiny brownish black; tarsi yellowish brown basally, apical 3 tarsomeres dark brown. Wing hyaline; costal vein ratio 0.30; M vein ratio 0.46.

**Abdomen:** Terga generally about as densely microtomentose as mesonotum, mostly dark brown, but with narrow posterior margins of terga 2, 4, 5 and with extreme ventrolateral margins of tergum 3 whitish gray. Male abdomen and terminalia (Figures 55, 56) as follows: epandrium, in lateral view, becoming wider ventrally, evenly so on posterior margin, with 2 small points on anterior margin; ventral epandrial margin bearing a conspicuous, tooth-like projection; aedeagal apodeme narrowly triangular to rectangular, much higher than basal width; aedeagus crescent-shaped; gonite more or less triangular.

**TYPE MATERIAL.**—Holotype male is labeled "Holo-type [disc with red margin]/Uruguay: Montevideo. 17.x.1926. F.&M.Edwards. B.M.1927-63./TYPE No. *Pelinoides UNCTA* E T Cresson, Jr. [pale red; species name handwritten]." The holotype is double mounted (minute nadel in celuloid rectangle), is in good condition,

and is deposited in the British Museum (Natural History).

**OTHER SPECIMENS EXAMINED.**—ARGENTINA. *Buenos Aires Province:* Sauce Grande, 13 Nov 1970, M.L. de Grosso (1♂; IML). *San Luis Province:* Rio Volcan, 9 Oct 1981, M.L. de Grosso (1♀; IML).

**DISTRIBUTION** (Figure 57).—Argentina (Buenos Aires Province) and Uruguay (Montevideo Department), between 31° and 36° south latitude and 55° and 69° west longitude.

**REMARKS.**—Externally, this species is characterized by the median scutellar stripe, uniformly dense microtomentose mesofrons, and coloration pattern of the pleural areas. These characters, along with the other characters outlined in the key, will distinguish this species from related congeners.

## 21. *Pelinoides pruinosus*, new species

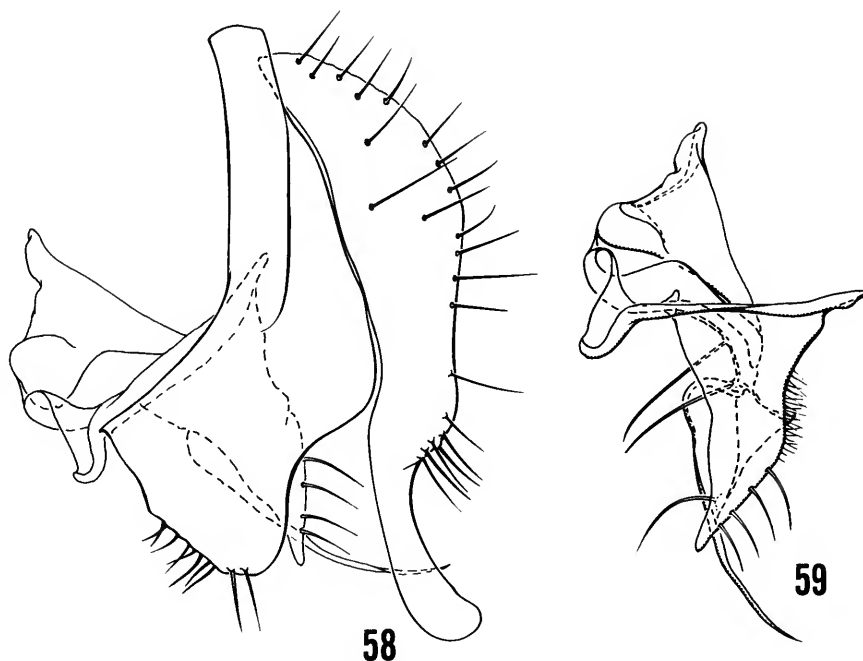
FIGURES 58, 59

**DESCRIPTION.**—As in generic and species group descriptions with the following details. Moderately small shore flies, length 2.15 mm.

**Head:** Mesofrons densely microtomentose throughout, grayish brown; ocellar tubercle concolorous; parafrons slightly darker, blackish brown, becoming whitish gray next to facial suture, densely microtomentose, but not appearing velvety. Antenna mostly black; 1st flagellomere narrow, mostly black and bearing macroto mentum apically. Face at narrowest point comparatively wide, width nearly twice length of 1st flagellomere; face, parafacies, and gena white to silvery white. Eye-to-cheek ratio 0.57. Palpus yellowish brown.

**Thorax:** Mesonotum densely microtomentose, mostly brown with grayish microtomentose stripes laterad of acrostichal and partial stripes laterad of dorsocentral tracks; lacking whitish, densely microtomentose areas except immediately posteriad of notopleuron and at apex of scutellum; postpronotum slightly lighter brown than remainder of mesonotum; density of scutellar disc microtomentum subequal to that on scu-





Figures 58, 59.—*Pelinoides pruinosus*: 58, male terminalia, lateral aspect; 59 internal male terminalia, lateral aspect.

tum; basolateral scutellar margins densely microtomentose, but not appearing velvety black from posteroblisque angle. Acrostichal setulae small, inconspicuous; dorsocentral bristles 1, in posteriormost position, none presutural; presutural bristle inconspicuous; supra-alar region lacking well-developed setulae; only apical scutellar bristles well developed, although with smaller setulae laterally; only posterior notopleural bristle evident, weakly developed; no pleural bristles evident. Anepisternum mostly brown except for grayish horizontal stripe through center and anteroventral angle; anepimeron mostly brown except for small central area; katepisternum grayish. Halter with knob yellowish, concolorous with stem. Legs, except for tarsi, almost entirely densely microtomentose, gray; posterior surface of hindfemora and hindtibia in part bare, shiny brownish black; tarsi yellowish brown basally, apical 3 tarsomeres dark brown. Wing hyaline; costal vein ratio 0.44; M vein ratio 0.44.

*Abdomen*: Terga generally less densely micro-

tomentose than mesonotum, mostly dark brown, but with narrow posterior margins of terga 2–4 whitish gray. Male abdomen and terminalia (Figures 58, 59) as follows: 5th sternum broadly U-shaped, each arm broadly sclerotized and bearing a ventral process; epandrium, in lateral view, narrow dorsally, becoming much wider ventrally to ventral  $\frac{1}{3}$ , thereafter posteroventral margin with moderately deep concavity; ventral epandrial margin narrowly rounded and bearing a few setulae along anteroventral surface; anteroventral surface produced anteriorly to form a distinctly angulate though shallow process; cerci, in lateral view, with long, narrow, slightly curved and clavate, ventral process; aedeagal apodeme narrowly triangular, higher than wide; aedeagus with basal  $\frac{1}{2}$  narrowly triangular, about twice as long as basal width, apical  $\frac{1}{2}$  continued as a very slender process; gonite irregularly and narrowly triangular, longer than wide.

*TYPE MATERIAL*.—Holotype male is labeled "ARGENT[INA]. Salta. Escoipe. 58km. SW.

Salta. 1900m. 8.X.68. [8 Oct 1968] L. Peña." The holotype is glued to the side of a pin, is in good condition (the terminalia have been removed, dissected, and are stored in an attached microvial), and is in the Canadian National Collection, Ottawa.

**DISTRIBUTION.**—This species is known only from the type-locality in Argentina.

**ETYMOLOGY.**—The specific epithet, *pruinus*, is a Latin adjective describing the dust-like covering on a plum and refers to the dense micro-

to mentum over much of the surface of this species.

**REMARKS.**—This species is very similar to *P. obscurus* and *P. unctus*, and externally it is distinguished by the coloration pattern of the anepisternum and unique characters of the male terminalia, especially the shape of the cerci. These characters, along with the other characters outlined in the key, will distinguish this species from related congeners.

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**Taxonomic keys** in natural history papers should use the aligned-couplet form for zoology and may use the multi-level indent form for botany. If cross referencing is required between key and text, do not include page references within the key, but number the keyed-out taxa, using the same numbers with their corresponding heads in the text.

**Synonymy** in zoology must use the short form (taxon, author, year:page), with full reference at the end of the paper under "Literature Cited." For botany, the long form (taxon, author, abbreviated journal or book title, volume, page, year, with no reference in "Literature Cited") is optional.

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brief title, page) with the full citation in the bibliography.

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