

The Hawaiian species of the genus *Lispocephala* Pokorny
(Diptera, Anthomyidae)

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The insects dealt with in this paper consist in part of those listed under the genus *Coenosia* Meigen by P. H. Grimshaw in "Fauna Hawaiiensis." The genus *Lispocephala* is distinguished from *Coenosia* by the bristling of the hind tibia, the species of the latter having one anterodorsal and one anteroventral bristle, while those of *Lispocephala* have in addition to these bristles at least one near middle on the posterodorsal surface, and the more typical species have two anterodorsal and two posterodorsal bristles on the hind tibia. The Hawaiian species now before me differ from the more typical form of *Lispocephala* in several characters, but not so strikingly that I can consider them, or any section of them, as entitled to generic segregation. One or two of the more outstanding groups may be separated from the others as subgenera.

While this genus is apparently the most prolific in species, insofar as this family is concerned, in Hawaii, the segregates are not confined to the islands, as I have seen similar forms from Formosa, the Philippines, and other parts of the Orient.

I have been unable to examine the type specimens of Grimshaw's species, which are in the British Museum in London, but Mr. F. W. Edwards of that institution has endeavored to place them in my key, a copy of which I sent to him for that purpose. In this key I have used many characters not included by Grimshaw in his species descriptions, but nevertheless of primary importance in the classification of the species of this genus. I am convinced that there are yet many species to be discovered in these islands, and when sufficient material is available a careful comparison of the hypopygia of the males should be undertaken as the final criterion of specific identities.

The types of most of the species described herein will be returned to Mr. E. H. Bryan, Jr., for deposition in the Bernice P. Bishop Museum.

One Fijian species is included in the paper for comparison.

KEY TO THE SPECIES

1. Scutellum with one very long and two very short pairs of bristles, the latter mere hairs; thorax with one anterior short pair and two posterior long pairs of postsutural dorsocentral bristles; fore tibia with a median posterior bristle; mid tibia with one median anterodorsal and two posterodorsal bristles; longest hairs on basal half of arista distinctly longer than width of third antennal segment; lower calypter much larger than upper.....*pallida* sp. n.
 Scutellum with four long bristles, or if but two long bristles, the lower calypter very small; anterior pair of the postsutural dorsocentral bristles not much shorter than the two posterior pairs.....2
2. Fore and mid tibia each with a distinct posterior median bristle, the mid pair without a median anterodorsal bristle; head at least as high as wide when viewed from in front, generally higher.....3
 Fore tibia with a median posterior bristle; mid tibia with one anterodorsal and two posterior bristles near middle; head wider than high....13
 Fore tibia without a median posterior bristle; mid tibia with a median posterior bristle; head wider than high.....14
 Fore and mid tibiae both lacking posterior median bristles; head wider than high.....*inconstans* sp. n.
3. Palpi and legs black, at most the bases of tibiae narrowly yellowish.....4
 Palpi yellow, more than the bases of tibiae yellowish.....5
4. Antennae deep black in both sexes; both pairs of postsutural intra-alar bristles present, the anterior pair moderately long.....*ingens* Grimshaw
 Antennae brownish in female, in male with the third segment orange yellow; only the posterior pair of postsutural intra-alar bristles well developed.....*pallidibasis* sp. n.
5. Fore tarsus partly flattened and broader than fore tibia (males only)....6
 Fore tarsus slender and normal in both sexes, not broader at any part than tibia.....7
6. All femora entirely yellow.....*latimana* Grimshaw
 All femora blackened at apices.....*dilatata* sp. n.
7. Hind tibia with a long curved ventral bristle beyond middle which extends to, or almost to, apex of tibia.....8
 Hind tibia with a short straight bristle on anteroventral surface which falls much short of attaining apex of tibia.....11
8. Femora almost entirely black, only their extreme bases and apices yellowish; one pair of very long strong bristles on third visible abdominal tergite, the other tergal bristles very inconspicuous; abdomen densely grey dusted, distinctly shining only on the large black dorsal marks*bispina* sp. n.

- Femora largely or entirely yellow.....9
9. Thorax and abdomen densely yellow pollinose and without distinct markings; median posterior bristle on fore tibia extending to apex of tibia in both sexes.....*pollinosa* sp. n.
 Thorax densely pollinose; abdominal tergites 3-5 with paired black spots; wings clouded on apical halves; femora not darkened at apices.....*biseta* Grimshaw
 Thorax more or less distinctly vittate, at least in female except in *valida*; abdomen with two or three of the tergites on apical part largely black; posterior median bristle on fore tibia not extending to apex in male.....10
10. Wing distinctly infuscated on apical half; mid and hind femora, sometimes all femora, very distinctly blackened on apical third or fourth.....*longipes* Grimshaw
 Wing not at all blackened apically; femora entirely yellow in male, with a slight infuscation at apices in female, rarely in male.....*dexioides* Grimshaw
 Wings slightly darkened on apical halves; thorax not vittate.....*valida* Grimshaw
11. Male with dense fine black hairs on basal half of ventral surface of hind femora, longest on posteroventral side, and without any posteroventral bristles; hairs on mid and hind tibiae longer than usual in same sex, the ventral bristle on hind tibia short and hair-like.....*hirtifemur* sp. n.
 Hind femur in male with sparser hairs and some outstanding posteroventral bristles.....12
12. Upper half of frontal orbits glossy black, lower half densely yellowish grey dusted.....*seminitida* sp. n.
 Frontal orbits entirely densely greyish dusted.....*orbitalis* sp. n.
13. Antennae black, abdomen and legs almost so; hairs on basal half of arista not as long as width of third antennal segment.....*xenina* sp. n.
 Antennae and legs yellow, abdomen largely so.....13a
- 13a. Arista rather sparsely haired, longest hairs distinctly longer than width of third antennal segment.....*plumiseta* sp. n.
 Arista more closely haired, longest hairs distinctly shorter than width of third antennal segment.....*seminigra* Grimshaw?
14. Hind tibia with three distinct anteroventral bristles; both pairs of intra-alar bristles present, anterior pair weak.....15
 Hind tibia with at most two anteroventral bristles.....16
15. Palpi and femora fulvous, apices of mid and hind femora usually blackened, the hind pair conspicuously and broadly so; third antennal segment quite conspicuously reddish at base on inner side.....*confluens* sp. n.
 Palpi fuscous, paler basally; all femora black; antennae entirely black.....*fuscobrunnea* sp. n.

16. Lower calypter not projecting beyond upper; frontal triangle forming an almost uniformly wide grey central stripe or vitta; arista plumose, haired almost to apex.....*tripuncta* sp. n.
- Lower calypter projecting distinctly beyond upper; frontal triangle wide at upper extremity, gradually tapered to a sharp point anteriorly16a
- 16a. Anteroventral surface of fore femur with a series of short stout black spines which gradually become longer from apex towards middle but do not extend to extreme base of femur, a similar but less regular series on posteroventral surface of same femur and apical half or more of both these surfaces of mid femur; arista very short-haired on basal half; legs yellow, tarsi darkened apically; dorsum of thorax grey pruinose, almost without vittae in male, with five narrow brown vittae in female, the outer one on each side interrupted*brevispina* sp. n.
- Fore femur without short stout anteroventral spines as above, at most with setulose hairs which are longest and strongest at base of femur17
17. Hind tarsus in male with a fasciculus of four short black bristles at the apex of basal segment on its posteroventral side; antennae, palpi, and legs, yellow; anterior postsutural pair of dorsocentral bristles shorter than usual; both pairs of intra-alars present, posterior pair shortest.....*fasciculata* sp. n.
- Hind tarsus without a fasciculus of short black bristles at apex of basal segments as above in either sex.....18
18. Femora black, sometimes the bases of mid and hind pairs yellowish; antennae entirely black, or with only the base of third segment reddish19
- Femora yellow, sometimes the apices of mid and hind pairs brownish or fuscous20
19. Frons of female distinctly less than one-third of the head width at vertex and about twice as long as wide; face with dark brown dust and very slightly paler than frons; antennae entirely black; palpi fuscous; tibiae very little paler than femora.....*fuscofacies* sp. n.
- Frons of female over one-third of the head width at vertex and but little longer than wide, or the face is white dusted and much paler than central part of the frons.....19a
- 19a. Palpi black or fuscous.....19b
- Palpi yellow or testaceous.....19c
- 19b. Face pale brown dusted; frons fully one-third of the head width at vertex and not over 1.25 as long as wide; abdomen glossy black, with distinct white dusting narrowly at apices and bases of tergites*fuscobrunnea* sp. n.
- Face whitish grey dusted; frons less than one-third of the head width at vertex and fully 1.5 as long as wide; abdomen densely pale grey dusted and with a median brownish vitta and a pair of black spots on most or all of the tergites.....*atratispes* sp. n.

- 19c. Face and parafacials whitish grey dusted; fore coxae and all femora fuscous and densely grey dusted; apices and lateral portions of abdominal tergites densely whitish grey dusted; preapical dorsal bristle on hind tibia longer than basal segment of hind tarsus, and over one-third as long as tibia; base of third antennal segment reddish.....*rufibasis* sp. n.
 Face pale grey dusted, parafacials brown dusted; fore coxae and bases of mid and hind femora reddish or yellowish; no conspicuous pale dust on abdomen; preapical dorsal bristle on hind tibia not as long as basal segment of hind tarsus, and not over one-third as long as tibia.....*fusca* sp. n.
20. Mid femur with only one strong bristle at apex on posterior side; mid tibia with the posterior bristle distinctly basad of middle; hind tibia without median anteroventral bristle; small species, averaging about 3.5 mm. in length; thorax lead grey and without dorsal vittae.....*inconstans* sp. n.
 Mid femur with two or three apical posterior bristles; mid tibia with the posterior bristle usually at, or close to, middle; hind tibia with one or more anteroventral bristles.....21
21. Hind femur with one outstanding posterodorsal and posteroventral bristle close to apex; thorax with quite distinct dorsal vittae.....22
 Hind femur with two or three distinct posterodorsal bristles close to apex24
22. Hind tibia with only one long posterodorsal and one long anteroventral bristle, the short one on each of these surfaces basad of middle almost invariably absent, preapical dorsal bristle on hind tibia less than one-third of the length of tibia; fore tibia and tarsus slender, their combined lengths strikingly greater than that of head and thorax together; abdomen glossy on entire dorsum.....*striata* Grimshaw
 Hind tibia with the usual short bristles basad of the long pair well developed, preapical dorsal bristle on hind tibia about half as long as tibia; fore tibia and tarsus combined, not, or but little longer than head and thorax together; abdomen with a broad grey dusted stripe on dorsum, sometimes inconspicuous.....23
23. Antennae and arista fuscous, apex of second and base of third segment of former yellowish; humeri black; posterior bristle on mid tibia close to middle.....*fusciseta* sp. n.
 Antennae and base of arista yellow, third segment of former brownish at apex above; humeri partly yellowish below; posterior bristle on mid tibia about one-third from base of tibia..... *crassifemur* sp. n.
 Third antennal segment and arista all black; all femora blackened at apices.....*dispar* Grimshaw
24. Ultimate section of fourth wing vein twice as long as preceding section; antennae and base of arista fulvous yellow.....25
 Ultimate section of fourth wing vein about 1.5 as long as preceding section; arista and upper apical portion of third antennal segment brown26

25. Legs entirely testaceous yellow; abdomen without blackish paired dorsal spots.....*oahuae* sp. n.
 Legs yellow, tarsi and tips of hind femora darker; third and fourth abdominal tergites with paired blackish spots.....*flavobasalis* Grimshaw
26. Frons opaque blackish brown except along the outer edge of orbits, the latter and face densely yellowish dusted; both pairs of intra-alar bristles well developed; hind femora broadly blackened at apices*confluens* sp. n.
 Frontal orbits entirely yellowish or greyish dusted and paler than interfrontalia27
27. Head and thorax densely yellow dusted, the latter without dorsal vittae; humeri yellowish; legs entirely yellow; both pairs of intra-alar bristles distinct.....*paloloae* sp. n.
 Head yellowish grey dusted; thorax grey dusted, with fuscous dorsal vittae which are fused on disc; humeri fuscous; legs yellow, tarsi and apices of mid and hind femora blackened, bases of fore and mid tarsi in male paler; anterior intra-alar bristle lacking.....*subvittata* sp. n.

N. B. There are three of the species described by Grimshaw which are not included in the above key as they are unknown to me. Mr. F. W. Edwards has indicated to me their respective positions in the key but I am unable to definitely place them. He informs me that *rudis* Grimshaw runs to *striata* but has the posterior coxae dark, and the femora and tibiae entirely yellow. The other two species, *triangulifera* Grimshaw and *kauaiensis* Grimshaw, run to section 26, but none of the species therein included in my key appear to be either of these. The closest affinities appear to exist between *subvittata* and *triangulifera* but neither of the other two fit *kauaiensis* at all. For discussion of this matter see under *subvittata* in text.

***Lispocephala pallida* sp. n.**

Male and female.—Pale yellowish testaceous, slightly shining. Face, frons, and cheeks, almost white. Thorax usually with a dark central vitta which is poorly defined, narrow anteriorly, covering the acrostichal region, broader posteriorly, where it suffuses the intradorsocentral area; sides of scutellum and the metanotum darker than remainder of thorax. Abdomen either entirely pale (male) or with the dorsum of apical three tergites largely brown or fuscous. Legs entirely pale. Wings hyaline. Calyptrae and halteres pale yellow.

Frons about one-third of the head width in female, slightly narrower posteriorly in male; longest hairs on arista as long as width of third antennal segment. Prescutellar acrostichals two-rowed; anterior pair of post-sutural dorsocentrals very short and weak; apical and basal pairs of scutellar

bristles reduced to mere hairs. Abdomen subcylindrical in male, apical tergal bristles long, median series distinct on most of the tergites; processes of fifth sternite in male bare, obtuse at apices. Fore tibia without a median posterior bristle in male, with a long one in female; mid and hind tibia as indicated in key and as in *fasciculata*; hind tarsus simple. Venation normal. Lower calypter about twice as large as upper.

Length, 3 to 3.5 mm.

Type, male, Palolo Crater, Oahu, April 8, 1917 (Timberlake); allotype, Mt. Kaala, Oahu (Timberlake); paratypes, Kahuauli, Oahu, July 16, 1922 (E. H. Bryan Jr.); Punaluu, Oahu (O. H. Swezey). Five specimens.

An aberrant species which on the basis of the presence of but two long bristles on the scutellum might be considered as entitled to subgeneric distinction.

***Lispocephala ingens* (Grimshaw)**

Male and female.—This species is very similar to *pallidibasis* described below, being similar in size, habitus, and general color. The antennae in both sexes are deep black, the abdomen in the male is even more extensively testaceous, while that of the female is usually entirely black, except the narrow apices to tergites, and the anterior pair of intra-alar bristles is quite long and strong. In the male the median posterior bristle on fore tibia extends almost to apex of tibia.

Length, 7 to 8 mm.

Seventeen specimens, only one of which is a male, all from Oahu.

***Lispocephala pallidibasis* sp. n.**

Male.—Head black, frons opaque black, the triangle and orbits slightly brown dusted, the latter distinctly grey dusted at anterior extremities; face, cheeks, and occiput, densely grey dusted; basal two segments of antennae and arista except at base, fuscous, third antennal segment orange-yellow; palpi fuscous. Thorax black, quite densely grey dusted except on middle of mesonotum where it is distinctly shining and but slightly dusted, the vittae very faintly defined. Abdomen testaceous yellow, with grey dusting, blackened apically, a fuscous subtriangular mark on second tergite, and a broad black transverse mark on each of the next two tergites, the black markings shining. Legs black, bases of tibiae narrowly yellowish. Wings slightly smoky, most distinctly towards costa. Calyptres whitish. Halteres yellow.

Frons at vertex about one-sixth of the head width, a little narrowed to anterior margin; ocellar bristles about as long as postverticals; arista very short haired on about the basal third. Anterior pair of presutural dorso-centrals very small; anterior intra-alars minute or lacking. Abdomen cylindrical, apical bristles long on tergites 3 to 5; processes of fifth sternite broad, subtruncate at apices, their inner apical angle slightly rounded. Fore tibia with the posterior median bristle very short and weak, hardly distinguishable from the other hairs; mid tibia with a short median posterior bristle; hind femur with a few bristles on apical third of anteroventral and

posteroventral surfaces, longest and strongest on former, the ventral surface rather densely covered with short black hairs; hind tibia with the postero-dorsal bristles almost or quite indistinguishable, the two anterodorsal bristles very unequal in length, and the anteroventral one short and weak. Inner cross vein of wing about three-sevenths from apex of discal cell.

Female.—Differs from the male in having the third antennal segment brown or fuscous, the thoracic dorsum more extensively shining, only the sides of the basal two segments of abdomen testaceous, the median posterior bristle on fore tibia and the anteroventral one on hind tibia very long and strong, and almost the entire anteroventral and posteroventral surfaces of hind femur strongly bristled.

Length, 7 to 8.5 mm.

Type, male, and allotype, Punaluu, Oahu (O. H. Swezey). Paratypes, one male and 17 females, all from localities in Oahu.

***Lispocephala latimana* (Grimshaw)**

I have not seen this species. It ought to be possible to distinguish it from the next species, which it most resembles in the male sex, by the characters given in the key and those mentioned after the description of *dilatata*.

***Lispocephala dilatata* sp. n.**

Male—Head fuscous, densely yellowish grey dusted except on interfrontalia, antennae, basal two segments or arista, and the palpi, testaceous yellow. Thorax fuscous, densely brownish grey dusted, very slightly shining on dorsum, and almost without traces of vittae. Abdomen translucent yellowish on most or all of the basal two segments, largely blackened apically of these, densely yellowish dusted, with a small dark triangular spot on middle of hind margin of second tergite, a large black spot, which is slightly shining, on each of the next two tergites, and a smaller one on fifth; fifth sternite yellow. Legs yellow, coxae, fore femora except bases, and the apices of hind femora, blackened; hind tarsi fuscous. Wings yellowish hyaline, veins yellow basally, dark apically. Calyptrae yellowish. Halteres yellow.

Frons narrower than usual, not one-fifth of the head width at vertex and but little widened anteriorly; ocellar bristles rather long for this group, equal to the postverticals; each orbit with six or seven bristles; arista very short haired basally; hairs on palpi longer and finer than usual. Anterior presutural pair of dorsocentral bristles and anterior pair of postsutural intra-alars short but distinct; sternopleura with short fine hairs below the bristles. Third and fourth tergites each with a pair of short strong discal bristles in addition to the apical series; processes of fifth sternite broad, truncate at apices, their inner apical angles slightly rounded. Fore tibia with a long strong posterior bristle at middle from which to apex there extends a series of equally long but fine bristles, the ventral surfaces with long setulose black hairs; fore tarsus with basal two segments equal in length, the basal one gradually widened from base to apex and slightly lobate at apex on posterior side, the second segment as wide at base as first is at apex, and gradually narrowed to apex, the basal segment with moderately long setulose black hairs along the posterior side; mid femur attenuated apically,

with bristles on basal half on anteroventral and posteroventral surfaces; mid tibia with a long posterior bristle at middle, and rather dense erect black ventral hairs which are a little longer than tibial diameter; hind trochanters with rather numerous stiff short black hairs; hind femur with strong anteroventral bristles, and on apical third on posteroventral surface numerous long black hairs; hind tibia with the two posterodorsal bristles very short, the anterodorsal and anteroventral bristles long, and the ventral surface with short erect black hairs. Inner cross vein about three-sevenths from apex of discal cell.

Length, 8.5 mm.

Type, Pahala, Nov. 1918 (F. X. Williams).

This species differs from *latimana* Grimshaw in having the fore tibia much longer and stronger haired, the basal two segments of fore tarsus equal in length, and in several other characters.

***Lispocephala bispina* sp. n.**

Female.—Head fuscous, densely yellowish grey dusted; interfrontalia opaque fuscous; antennae dusky testaceous yellow, third segment fuscous except at base; arista fuscous, a little paler basally; palpi testaceous yellow. Thorax black, densely yellowish grey dusted, dorsum with three dark brown vittae. Abdomen concolorous with thorax, yellowish at base, a small dark mark at apex of first tergite, and a large one on disc of the next three which is more or less divided by a pale longitudinal central line. Legs fuscous, fore coxae, almost all of fore tibiae, and the bases of mid and hind tibiae, testaceous yellow. Wings greyish hyaline, a little brownish on costal half. Calyptrae and halteres yellowish.

Ocellar bristles of moderate length, equal to postverticals; arista short haired on basal half; frons slightly narrowed to vertex where it is not one-fifth of the head width. Thorax with the anterior presutural pair of dorso-centrals short but distinct, and the anterior intra-alars lacking. Only one pair of long strong bristles on abdomen, situated on middle of hind margin of third visible tergite. Fore tibia with the posterior median bristle long, strong, and curved; mid femur with a few posteroventral and anteroventral bristles on basal half, and two apical posterodorsal bristles; mid tibia with a short posterior median bristle; hind femur with quite strong anteroventral and posteroventral bristles; hind tibia with the posterodorsal pair of bristles inconspicuous, the anterodorsal pair and the anteroventral one long, the latter extending beyond apex of tibia. Wing as in last species.

Length, 8 mm.

Type, without locality (Fullaway).

***Lispocephala longipes* (Grimshaw)**

A very striking species, readily distinguished in the male sex by the conspicuously blackened apical halves of the wings. In the female the wings are not so conspicuously blackened but the mid and hind femora are blackened on a large part of their apical halves, and the tibiae are also more or less noticeably darkened, at least those of the mid and hind legs.

Length, 8 to 9 mm.

Localities, Haipuaena, Maui, 6.29.20 (C. N. Forbes); Kilauea, Hawaii, March 1892, and 2.24.19 (O. H. Swezey); Kahuku, Kau, Hawaii, 2.1.17 (W. M. Giffard); Mt. Olympus, Oahu, 9.8.18 (Timberlake).

Lispocephala biseta (Grimshaw)

I have not seen this species, but Mr. F. W. Edwards who has examined the type expresses the opinion that it may be the female of *latimana* Grimshaw. It is inserted in the key on the basis of characters gleaned from that examination.

Lispocephala pollinosa sp. n.

Male.—Head fuscous, densely yellow pollinose, the interfrontalia fuscous, rugous centrally, entire orbits dusted; antennae and palpi yellow; arista fuscous, yellow at base. Thorax fuscous, ground color obscured by dense yellow dust, the mesonotum not shining nor vittate. Abdomen testaceous yellow, translucent and shining basally on sides, elsewhere densely yellow pollinose and without distinct markings. Legs dull testaceous yellow, tarsi of fore and mid pairs darker, fore coxae whitish dusted. Wings yellowish hyaline. Calyptrae yellowish. Halteres yellow.

Frons at vertex about one-third of the head width, widened anteriorly; ocellar bristles shorter than postverticals; arista short haired basally. Anterior presutural dorsocentrals very small; anterior intra-alars lacking. All abdominal tergites with strong latero-median bristles, third, fourth and fifth each with a pair of strong median discal and a series of apical bristles; fifth sternite with the processes short, broad, and truncate. Fore tibia with the posterior median bristle extending to apex of tibia; mid femur not exceptionally attenuated at apex, and with two apical posterodorsal bristles; mid tibia with a rather short posterior median bristle; hind femur with sparse long anteroventral and posteroventral bristles; hind tibia with the posterodorsal bristles short but distinct, the anterodorsal bristles unequal, but the shorter one longer than the posterodorsal pair, and the anteroventral bristle extending almost to apex of tibia. Inner cross vein a little beyond middle of discal cell.

Female.—Differs from the male in having the abdomen less strongly bristled, the fourth tergite lacking the median discal pair of bristles and having the apical bristles weak. In other respects similar to male.

Length, 8 to 9 mm.

Type, male, and allotype, Wailua, Maui, 7.2.20 (E. H. Bryan, Jr.); paratype female, Honomanu, Maui, 6.23.20 (E. H. Bryan, Jr.).

Lispocephala dexioides (Grimshaw)

This species is apparently one of the commonest of the genus. It has much the same appearance as *dilatata*, but the male is readily distinguished by the simple fore tarsi, and the other characters listed in the foregoing key. The frons in both sexes is about one-fifth of the head width at

vertex, the arista is haired almost to the middle, with the longest hairs about as long as width of third antennal segment, the processes of fifth abdominal sternite of male are truncate at apices, the hind femur in same sex is more noticeably haired at base ventrally than is usual, the antennae of the male are pale yellow, and those of the female have the third segment largely browned apically.

Length, 6 to 7 mm.

Localities, Oloa, Hawaii, 2,500 feet (W. H. Ashmead, U. S. Nat. Mus.), and July 1922 (W. M. Giffard); Honokaa, Hawaii, 2,500 feet, 5.28.1922 (F. X. Williams); S. Kona, Hawaii, 8.11.1919 (O. H. Swezey); Hamakua, Hawaii, 4.15.1906 (O. H. Swezey); Kilauea, Hawaii, June 1905 (Terry); Hualalai, Hawaii, 7.20.1922 (W. H. Meinecke); and Honolulu, Oahu, (E. A. Back).

***Lispocephala valida* (Grimshaw)**

This species is unknown to me. It is inserted in the key on basis of an examination of the type made by Mr. F. W. Edwards.

***Lispocephala hirtifemur* sp. n.**

Male—Occiput, cheeks posteriorly, frontal orbits except at anterior extremities, and ocellar triangle, fuscous, interfrontalia brown, paler anteriorly; face rufous; antennae and palpi yellow, arista fuscous, yellow at base. Thorax fuscous, densely grey dusted, greasy in the type, but apparently vittate on dorsum. Abdomen with the basal two segments, and sides of third, translucent yellow, apical segments fuscous, hypopygium yellowish, basal two tergites each with a dark dorsocentral mark which is widened behind, central portion of tergites 2 and 3 darkest, the sides grey dusted. Legs honey-yellow, slightly darker at apices of hind femora. Wings greyish hyaline, darkest along costa. Calyptae and halteres yellow.

Frons almost parallel-sided; ocellar bristles of moderate length and very fine; arista short haired on basal half. Anterior pair of presutural dorsocentrals very short; anterior intra-alar pair lacking. Processes of fifth sternite broad, subtruncate at apices, inner apical angle slightly rounded. Fore tibia with a rather short posterior median bristle and inconspicuous ventral hairs; mid femur with some fine posteroventral and anteroventral bristles on basal half and two posterior bristles at apex; mid tibia with rather evident ventral hairs, and a posterior median bristle; hind femur with quite dense black hairs on basal half of ventral surfaces, the hairs longest apically, but not as long as the femoral diameter, a series of long bristles on apical half of anteroventral surface; hind tibia with fine hairs about as long as tibial diameter, anterodorsal surface with two long submedian bristles, the anteroventral bristle short and fine, and the postero-dorsal bristles almost indistinguishable from the fine hairs; hairs on dorsal surface of hind tarsus longer than usual. Outer cross vein at three-sevenths from apex of discal cell.

Length, 6.5 mm.

Type, Kaholuamano, Kauai, April 1920 (J. A. Kusche).

Lispocephala seminitida sp. n.

Male.—General color and habitus as in *dexioides* Grimshaw. Differs from most other species in having the upper halves of the frontal orbits, from the strong anterior backwardly curved bristles, almost wholly glossy black and sharply differentiated from the anterior grey dusted portions; antennae entirely pale yellow; arista fuscous, pale at base; palpi yellow. Thorax fuscous, grey dusted, least densely so on disc of mesonotum where it is slightly shining and has three faint narrow dark vittae. Abdomen testaceous yellow, the dorsum with a large black mark on each segment which gives it the appearance of being wholly black from apex of first tergite, only a narrow fascia of grey dust present at base of third and another at base of fourth tergite, the extreme hind margins and rather broad lateral margins of these tergites testaceous yellow; fifth sternite testaceous yellow. Legs yellow, fore coxae white dusted, apices of mid and hind femora, and all of hind tarsi, darkened. Wings greyish hyaline, slightly browned costally beyond apex of first vein. Calyptres whitish. Halteres yellow.

Frons at vertex about one-sixth of the head width, slightly widened anteriorly; ocellar bristles barely as long as the postverticals; arista with short hairs basally. Anterior pair of presutural dorsocentrals very short; anterior pair of intra-alars not developed; sternopleura with some fine hairs in addition to the bristles. Lateromedian bristles on abdominal tergites 2 and 3 strong, apical bristles present only on middle of third tergite, an entire series on fourth, the fifth with two median and two apical bristles; processes of fifth sternites broad and short, truncate at apices. Fore and mid tibiae each with a short median posterior bristle; mid femur attenuated at apex, with two apical posterior bristles; hind femur with sparse long anteroventral and posteroventral bristles, and some rather long black hairs on basal portion of ventral surface; hind tibia without distinct posterodorsal bristles, the anteroventral bristle short and fine, and the antero-dorsal pair very unequal in length. Inner cross vein at about three-sevenths from apex of discal cell.

Length, 6.5 mm.

Type, Wailupe Ridge, Oahu, 5.6.17 (J. C. Bridwell).

Lispocephala orbitalis sp. n.

Male.—This species is similar to the preceding one in all features except that the frons is wider, with the entire orbits densely pale grey dusted, the first visible tergite of abdomen has a narrow black dorsocentral mark and the second has one a little wider, and is not so largely black. Structurally the two species are very similar, but the legs of *orbitalis* are longer and more slender than those of *seminitida*.

Length, 7-7.5 mm.

Type, Glenwood, Hawaii, 3.2.1919 (O. H. Swezey); paratypes, Kilauea, Hawaii, July 1919 (O. H. Swezey); and 1901, at 4,000 feet level (W. H. Ashmead, U. S. Nat. Mus.).

Lispocephala xenina sp. n.

Female.—Head black, occiput greyish dusted, frons dark brown dusted, shining round bases of bristles; face whitish dusted; antennae black; palpi

brownish yellow. Thorax black, shining, disc with slight brown dusting, lateral margins and pleura grey dusted. Abdomen black, almost glossy, the hind margins of tergites each with a narrow pale line. Legs black, tibiae hardly paler. Calyptrae grey, margins brown. Halteres yellow.

Frons as in *pallida*, but the ocellar bristles are long and strong; arista with short hairs on basal half. Anterior postsutural dorsocentrals shorter than the other two postsutural pairs, but not conspicuously so; scutellar bristles subequal. Median and apical bristles present on most of the abdominal tergites. Fore tibia with a long median posterior bristle; mid tibia with an anterodorsal and one long and one short posterodorsal bristle; hind tibia bristled as in *pallida*, but the bristles longer and stronger. Penultimate section of fourth vein about two thirds as long as ultimate section.

Length, 4-5 mm.

Type, S. Kona, Hawaii, August 16, 1919 (O. H. Swezey).

***Lispocephala plumiseta* sp. n.**

Male and female.—Head fuscous, frontal orbits, triangle, and occiput, densely yellowish grey dusted; interfrontalia rufous; face and cheeks yellowish, yellow dusted; antennae orange, darker at base; palpi yellow. Thorax densely yellowish grey dusted, not distinctly shining, and not vittate. Abdomen yellow on basal two segments, first with a small dorsal brown triangle, second with a large triangular black mark, next two tergites black, grey dusted at bases, apex of third narrowly yellow. Legs yellow, tarsi darkened apically.

Differs from *xenina* in having the longest hairs on arista as long as width of third antennal segment; the hind tibia with two anteroventral bristles in both sexes.

Type, male, and allotype, Glenwood, Hawaii, 3.2.1919 (O. H. Swezey).

***Lispocephala seminigra* (Grimshaw)**

I have identified this species on the basis of information supplied by Mr. F. W. Edwards of the British Museum from an examination of the type specimen. The specimens before me are females.

Localities: Kaiwiki, Hawaii, 9.22.1918 (O. H. Swezey); Opaepala, Oahu, 3.30.1913 (O. H. Swezey).

***Lispocephala confluens* sp. n.**

Female.—Frons opaque blackish brown, outer edge of orbits yellow dusted, triangle but little paler than remainder of frons; face and cheeks densely yellowish dusted; antennae black, base of third antennal segment on inner side reddish; arista black; palpi yellow. Thorax black, densely yellowish grey dusted; dorsum with the dark vittae fused so that all of mesonotum except the lateral margins is blackish brown. Abdomen more or less yellow at base, tergites grey dusted on sides, with a large shining black

mark covering all of discal part of each tergite, leaving only a narrow pale hind marginal band on each. Legs yellow, hind femora blackened on apical third, mid pair slightly darkened, tarsi black, basal segment of fore and mid pairs largely yellowish, that of hind pair indistinctly so. Wings greyish hyaline. Halteres yellow.

Frons at vertex about one third of the head width, widened anteriorly, hardly longer than its anterior width; arista with fine short hairs to near middle. Anterior presutural dorsocentral bristles fully half as long as posterior pair; both pairs of intra-alars present, not strong. Fore tibia without a posterior median bristle; mid tibia with a posterior median bristle; hind tibia with three anteroventral, two posterodorsal, and two anterodorsal bristles in addition to the apical bristles. Ultimate section of fourth vein not 1.5 as long as penultimate.

Length, 7 mm.

Type and one paratype, Maui, July 9, 1919 (Timberlake).

***Lispocephala fuscobrunnea* sp. n.**

Female.—Head black, densely brown dusted, the dust darkest on frons, the inter-frontalia black each side of the triangle; antennae and arista black; palpi fuscous, yellowish basally. Thorax black, very slightly shining, dorsum quite densely dark brown dusted, the submedian vittae evident only in front and when the thorax is seen from the side and in front; pleura brown dusted above and centrally, whitish dusted below and in front. Abdomen noticeably shining, black, apices of tergites narrowly testaceous and, like the bases, whitish dusted, the dorsum with a pair of poorly defined black subtriangular spots on each tergite, the remainder of surface brownish dusted when seen from behind, fourth visible tergite with a dark central spot at base. Legs fuscous, fore coxae and all tibiae yellowish brown. Wings slightly and evenly smoky. Calyptres brown. Halteres yellow.

Frons over one third of the head width, and barely longer than its anterior width, triangle extending almost to anterior margin of frons; orbital bristles (4) alternately long and short; outer vertical bristles about half as long as inner; arista short haired on basal half. Anterior pair of presutural dorsocentrals about half as long as posterior pair; anterior pair of intra-alars weaker than posterior pair. Third and fourth visible tergites with median and apical bristles. Fore tibia without a median posterior bristle; fore tarsus distinctly longer than tibia; mid tibia with a median posterior bristle; mid and hind femur each with three apical posterior bristles; hind tibia with two anterodorsal, two posterodorsal, and three anteroventral bristles. Inner cross vein at middle of discal cell; ultimate section of fourth vein not 1.5 as long as penultimate.

Length, 7 mm.

Type, Pahala, Hawaii, April 1918 (F. X. Williams).

***Lispocephala tripuncta* sp. n.**

Female.—Head fuscous, densely grey dusted, interfrontalia reddish in front; antennae brownish, base of third segment testaceous; arista brown; palpi testaceous. Thorax black, densely grey dusted, with traces of three or five brown vittae on dorsum. Abdomen testaceous yellow, sometimes

more or less infuscated, and greyish dusted, first visible tergite with three faint dark marks, second and third each with three dark spots, the lateral spots darkest, fourth with two large black subtriangular spots, and a small blackish central mark on anterior margin. Legs testaceous yellow, apical tarsal segment darker. Wings hyaline. Calyptae and halteres yellow.

Frons at vertex about one fourth of the head width, widened anteriorly, triangle narrow, about as wide as either orbit on most of its length, extending to anterior margin of frons; arista haired on entire length, longest hairs at least as long as width of third antennal segment. Anterior presutural pair of dorsocentral bristles very short; anterior pair of postsutural dorsocentrals of moderate length; both pairs of intra-alars rather short; anterior pair of scutellar bristles not half as long as apical pair, no hairs between the latter. Abdominal bristles short and fine. Fore tibia without a median posterior bristle; mid femur with short closely placed black bristles on apical halves of anteroventral and posteroventral surfaces, most marked on latter, and with one preapical posterior bristle; mid tibia with a median posterior bristle; hind femur with one preapical posterodorsal bristle; hind tibia with one anteroventral, two posterodorsal, and two anterodorsal bristles. Lower calypter rudimentary, much smaller than the upper one. Inner cross vein at middle of discal cell; ultimate section of fourth vein about twice as long as penultimate.

Length, 3.75 mm.

Type, Nadi, Fiji, 6.10.1913 (J. F. Illingworth).

This species differs from all of those from the Hawaiian Islands in having the lower calypter very small and from all except *pallida* in having the scutellar bristles very unequal in length. It might be justifiably considered as entitled to subgeneric distinction but a fuller knowledge of the genus is a desideratum to a clear interpretation of subgeneric relations and such is not possible at this time because of lack of material from different localities.

***Lispocephala brevispina* sp. n.**

Female.—Head testaceous, densely greyish or yellowish dusted; occiput fuscous except on lower margin, obscured by grey dusting; interfrontalia partly brown; third antennal segment except at base, and the arista, dark brown; palpi testaceous. Thorax fuscous, subopaque, densely grey dusted, propleura and lower portion of humeri testaceous, dorsum with five narrow brown vittae, the outer one on each side least distinct. Abdomen fuscous, grey dusted and slightly shining, base of first, and the narrow apices of all tergites testaceous yellow, second to fourth visible tergites each with a pair of dark spots, those on fourth at apex, small, and connected with a central dark vitta. Legs entirely testaceous yellow. Wings greyish hyaline. Calyptae and halteres yellow.

Frons about one third of the head width, parallel-sided; ocellar bristles longer than postverticals; each orbit with four bristles and a few lateral hairs; arista with short hairs basally. Anterior pair of presutural dorso-

central bristles short; anterior postsutural intra-alars lacking, the short surface hairs usually sparse, only two on disc of scutellum, the margin with four long and two short bristles; sternopleura without fine hairs. Third and fourth visible tergites each with discal and apical bristles. Fore femur with a series of quite strong short black bristles on entire anteroventral surface, the basal three or four weakest and longest, the posteroventral surface with a few short setulae or bristles between the longer bristles and mesad of them a more complete series of similar short bristles; fore tibia without a median posterior bristle; mid femur almost as fore femur, the anteroventral series of short bristles not so pronounced; mid tibia with a median posterior bristle; hind femur with long sparse anteroventral and posteroventral bristles, and some short black setulae apically on anteroventral surface; mid and hind femora each with two preapical posterodorsal bristles; hind tibia with the two posterodorsal bristles well developed, the pair of anterodorsal bristles unequal in length, and the anteroventral one short. Inner cross vein close to middle of discal cell.

Length, 6 mm.

Type, Mt. Kaala, Oahu, 1917 (Timberlake); paratype, a headless female, ex nest of *Hylocrabro tumidoventris*, S. E. Koolau Mts., Oahu, February 9, 1919 (J. C. Bridwell).

The only Hawaiian species with this type of femoral armature.

***Lispocephala fasciculata* sp. n.**

Male.—Head testaceous, occiput and frons fuscous, the former grey dusted, the latter brownish yellow dusted; antennae and palpi yellow; arista brown, yellow at base. Thorax fuscous, densely grey dusted, not vittate. Abdomen testaceous yellow, a brown triangular mark on first visible tergite, and a larger one on second which covers entire dorsum posteriorly, third and fourth tergites nearly all dark; hypopygial claspers yellow. Legs yellow, tarsi hardly darker. Wings slightly brownish. Calypterae and halteres yellow.

Frons one third of the head width, anterior reclinate orbital bristle nearer to anterior than to vertical bristle; arista short haired on basal half; eye from side over 1.5 as high as long. Anterior presutural pair of dorsocentral bristles much shorter than posterior pair; anterior pair of postsutural dorsocentrals also short; apical scutellar bristles lacking in type, but probably shorter than other pair. Abdomen cylindrical, processes of fifth sternite largely glossy, their apices forming a short finger-like process. Fore tibia with a very fine weak median posterior bristle; basal segment of fore tarsus half as long as tibia; mid femur with two preapical posterior bristles; mid tibia missing in type; hind femur with a few long sparse anteroventral and one or two shorter posteroventral bristles; hind tibia with a long anterodorsal and posterodorsal bristle at middle, and basad of these a weak setula on each surface, the anteroventral surface with two weak bristles; apex of basal segment of hind tarsus with a fasciculus of four short black bristles on its posteroventral side. Inner cross vein at middle of discal cell; ultimate section of fourth vein twice as long as penultimate. Lower calypter twice as large as upper.

Length, 3.5 mm.

Type, Kilauea, Hawaii, 4,000 feet (W. H. Ashmead, U. S. National Museum).

This is the only species in which the male has a fasciculus at apex of basal segment of hind tarsus so far as I am aware. This fasciculus is very probably not present in the female of the species.

***Lispocephala fuscofacies* sp. n.**

Female.—Head entirely opaque black, the face and anterior portions of frontal orbits brownish fuscous dusted; antennae, arista, and palpi, black. Thorax black, with dark brown dust, and not distinctly vittate. Abdomen concolorous with thorax, but more shining because of less dense dusting on dorsum. Legs black, tibiae brownish. Wings slightly and evenly brownish hyaline. Calyptrae brown. Halteres brown-yellow.

Frons at vertex a little less than one third of the head width, almost parallel-sided, and about 1.5 as long as wide; arista pubescent basally. Anterior presutural pair of dorsocentrals about one third as long as posterior pair; both pairs of intra-alar bristles well developed; sternopleura with one or two hairs between the bristles. Apical and discal bristles present on third and fourth tergites, those at apex of fourth long. Fore tibia without a median posterior bristle; mid femur with a short bristle near base and an unusually long one near middle on posteroventral surface, and two pre-apical posterior bristles; mid tibia with a median posterior bristle; hind femur with a few of the anteroventral bristles beyond middle quite long, and one or two preapical posterodorsal bristles; hind tibia with the lower antero-dorsal bristle fully half the length of tibia, the anteroventral bristle of moderate length. Inner cross vein at middle of discal cell; ultimate section of fourth vein about 1.5 as long as penultimate section.

Length, 5.5 mm.

Type, Waianae Mts., Oahu, (J. F. Illingworth).

***Lispocephala atratipes* sp. n.**

Male.—Head black, grey dusted except on interfrontalia when seen from behind, the frontal triangle brownish behind; antennae black, second segment with some whitish dust; arista black; palpi fuscous or brownish. Thorax and abdomen black, densely pale grey dusted, disc of mesonotum and scutellum broadly fuscous, the former rather distinctly vittate; abdomen slightly testaceous on lateral posterior margins of basal two or three tergites, and less so on lateral incurved portions, each tergite with a pair of large black spots on disc, the central space between these filled in with a broad fuscous vitta. Legs black, bases of tibiae narrowly testaceous. Wings greyish hyaline. Calyptrae white. Halteres yellow.

Frons at vertex fully one fourth of head width, a little widened anteriorly; ocellar bristles quite long, exceeding postverticals in length; arista very short haired on basal half. Thorax with the anterior pair of presutural dorsocentrals about half as long as posterior pair; both pairs of intra-alar developed. All tergites of abdomen with apical bristles, strongest on sides; fifth sternite with a short blunt protuberance on apical inner angle of each

process. Fore tibia without a median posterior bristle; mid femur with a few posteroventral bristles on basal half; mid tibia with a median posterior bristle; hind femur with sparse long bristles on anteroventral and basal half of posteroventral surface; hind tibia with two anterodorsal, and two postero-dorsal bristles, the one nearest middle on both surfaces much the longest, anteroventral bristle rather short. Inner cross vein a little beyond middle of discal cell.

Female.—Similar to the male, but with the disc of thorax less suffused and more distinctly vittate, and the abdomen pointed.

In both sexes the sternopleura is either furnished with only three long bristles or it has but one weak additional hair near center.

Length, 5-5.5 mm.

Type, male, and two paratypes, Kilauea, Hawaii, 8.1.1919 (O. H. Swezey); allotype and one male paratype, same locality and collector, 6.27.1917; paratypes, two females, Pahala, Hawaii, April 1918 (F. X. Williams); one male and one female, Kamoku, Molokai, 7.15.1910 (D. T. Fullaway).

This species appears to me to be that listed by Grimshaw as *Coenosia* sp. (14), on page 41 of "Fauna Hawaiiensis." His only specimen was a female from Kilauea.

***Lispocephala rufibasis* sp. n.**

Female.—Head fuscous, densely pale grey dusted; cheeks and lower part of face appearing yellowish through the dust; frons brownish dusted except on the outer edge or orbits; antennae black, extreme apex of second segment, and base of third, reddish; palpi testaceous. Thorax black, densely grey dusted, dorsum with three or five brown vittae which may be more or less confluent on part of disc. Abdomen similar to that of *atratiipes*, the paired dorsal spots black and not sharply defined, none on fourth visible tergite. Legs black, trochanters, extreme tips of femora, and all of the tibiae testaceous yellow. Wings greyish hyaline. Calyptres white. Halteres yellow.

Frons at vertex a little less than one third of the head width, widened to anterior margin, and not 1.5 as long as its anterior width, triangle extending to anterior margin of frons, the ocellar bristles of moderate length; arista almost bare. Anterior presutural pair of dorsocentral bristles over half as long as posterior pair; both pairs of intra-alar bristles well developed. Abdomen with the apical bristles on third tergite longer than those on other tergites, but not conspicuous. Fore tibia without a median posterior bristle; mid tibia with a median posterior bristle; hind tibia with the bristles as in *atratiipes*, the preapical dorsal bristle about half as long as tibia. Inner cross vein at middle of discal cell; ultimate section of fourth vein about 1.25 as long as penultimate.

Length, 7 mm.

Type, Kamoku, Molokai, 7.15.1910 (D. T. Fullaway); paratype, Kilauea, Hawaii, 4,000 feet, (W. H. Ashmead, U. S. Nat. Mus.).

Lispocephala fusca sp. n.

Male and female.—Head black, lower part of face and the cheeks appearing yellowish under the dusting; frons fuscous, the orbits and triangle with dark brown dust, and but little paler than the interfrontalia; face with dense white dust; parafacials brown dusted; cheeks with whitish dust; occiput dusted with grey below, with brown above; antennae and arista entirely black; palpi testaceous yellow. Thorax fuscous, dorsum with dark brown dust and almost without dark vittae, humeri and pleura grey dusted, the latter more brownish above. Abdomen fuscous, brownish dusted, the tergites more greyish on anterior, posterior, and lateral margins in male, but without any well defined markings. Legs fuscous, fore coxae, bases of fore tibia, and of mid and hind femora, reddish. Wings slightly smoky. Calyptrae brown. Halteres yellow.

Frons at vertex fully one third of the head width, slightly widened anteriorly, and about 1.25 as long as its anterior width, triangle extending to about middle of frons; arista pubescent on basal half. Thorax similar to that of *rufibasis*. Process of fifth sternite in male broadly rounded at apices. Legs bristled as in last species, but the preapical dorsal bristle of hind tibia is not over one third the length of tibia.

Length, 6 mm.

Type, male, allotype, and one male paratype, Waianae Mts., Oahu, (J. F. Illingworth).

Lispocephala inconstans sp. n.

Male and female.—Head fuscous, anterior margin of interfrontalia rufous, face and cheeks testaceous, covered with dense white dust, the occiput and frons grey dusted; antennae in male entirely orange-yellow, in female with the third segment more or less browned apically; arista fuscous, yellow at base; palpi orange-yellow. Thorax fuscous, densely lead-grey dusted, dorsum with faint traces of dark vittae. Abdomen of male with the basal two visible tergites, and hind and lateral margins of third, testaceous yellow, remainder fuscous and grey-dusted, second tergite sometimes with a faint brownish central mark, third and fourth each with two inconspicuous dark spots; abdomen of female with only the basal visible tergite testaceous yellow, the others fuscous, with lead grey dusting, and each with a pair of dark spots. Legs, including coxae, testaceous yellow. Wings hyaline, veins brown, yellow at bases. Calyptrae and halteres yellow.

Frons at vertex a little less than one third of the head width, widened anteriorly, and about 1.5 as long as its anterior width, ocellar bristles quite long; arista pubescent basally. Anterior pair of presutural dorsocentral bristles minute; both pairs of intra-alars distinct. Abdomen of male cylindrical; processes of fifth sternite in same sex narrower than in the *dexioides* group, not glossy, their apices narrowly rounded. Fore tibia without a median posterior bristle; mid tibia with a quite strong posterior bristle about one third from base (absent in two males); mid femur with one preapical posterior bristle; hind tibia with two anterodorsal and two posterodorsal bristles, no anteroventral bristle in either sex; hind femur with or without a fine preapical posterodorsal bristle. Inner cross vein a

little beyond middle of discal cell; ultimate section of fourth vein about twice as long as penultimate section.

Length, 3.5-4 mm.

Type and allotype, Lanihuli, Oahu, 2.9.1919 (J. C. Bridwell); paratypes, female, same locality as type, 5.25.1919 (O. H. Swezey); two females and one male, Palolo, Oahu (O. H. Swezey); one female, Olympus, Oahu, (O. H. Swezey); three females, Konahuanui, Oahu, (O. H. Swezey); and one male, same locality, July 23, 1916 (Timberlake).

The type male is the only one of that sex with a posterior mid tibial bristle.

***Lispocephala striata* (Grimshaw)**

Frons brownish fuscous, with the orbits a little more greyish, antennae either similarly colored or the third segment yellowish brown, with base of that segment always yellowish; palpi testaceous yellow. Thorax fuscous, with anterior and posterior parts and sutures of pleura yellowish; dorsum grey dusted and with five brown vittae which are most distinct in female. Abdomen of male more or less broadly yellow at base, dorsum of second tergite and most of the surfaces of other tergites fuscous, shining, the abdomen of female is more extensively blackish, with only the apices of tergites yellowish. Legs yellow, tarsi fuscous.

Frons about one third of the head width, almost parallel-sided, and about 1.5 as long as wide; arista very short haired on basal half; third antennal segment fully three times as long as second. Both pairs of intra-alars distinct.

Length, 4-5 mm.

Localities, Waiawa, Oahu, 8.13.1916 (O. H. Swezey); Kaala Mts., Oahu, (O. H. Swezey, Timberlake, J. C. Bridwell); Lanihuli, Oahu, (E. H. Bryan, Jr.) About a dozen specimens in all.

The location of this species in key was indicated by Mr. F. W. Edwards from examination of the type specimen.

***Lispocephala fusciseta* sp. n.**

Female.—Very similar to the preceding species, but the pleura, like the dorsum of thorax, is entirely fuscous and densely lead-grey dusted, the mesonotum having five fuscous vittae; the abdomen not entirely glossy, the tergites being grey dusted except on the paired black spots, and their apices are narrowly testaceous. Legs testaceous, tarsi but slightly darker. The outstanding structural differences between this species and *striata* lie in the form and armature of the legs. In *striata* the legs are more slender, and the fore tarsus is distinctly longer than the thorax, while in *fusciseta* the legs are quite stout and the fore tarsus is not as long as the thorax; the hind tibia in *fusciseta* has one anteroventral, two posterodorsal, and two anterodor-

sal bristles, all quite strong, while in *striata* the short basal bristle on antero-dorsal and posterodorsal surfaces is usually absent or very weak.

Length, 5 mm.

Type, Kahuauli, Oahu, 7.16.1922 (E. H. Bryan, Jr.).

***Lispocephala crassifemur* sp. n.**

Female.—Very similar to the two preceding species, but the frons is paler, with densely yellow dusted orbits and triangle, the latter extending to anterior margin of frons, the antennae are shorter and orange-yellow with a portion of upper margin of third segment brownish; the lower margin of humerus is yellowish; and though the abdomen is colored as is that of *fusciseta* the surface is more noticeably shining, and the apices of tergites more broadly testaceous. Legs testaceous.

In structure this species is most like *fusciseta*, the legs being quite stout and the fore tarsus not as long as thorax, but the mid tibia has the posterior bristle not close to middle but at about one-third from base, and the apical section of fourth vein is nearly twice as long as preapical section.

Length, 5 mm.

Type, Kaala Mts., Oahu (O. H. Swezey).

***Lispocephala dispar* (Grimshaw)**

I have not seen this species, using Mr. Edwards suggestion as to its insertion in key from his examination of the type specimen.

***Lispocephala oahuae* sp. n.**

Male.—Head fuscous, anterior margin of frons yellowish, all parts quite densely dusted, the interfrontalia blackish when seen from the side, but the entire frons silvery white dusted when seen from the front; face and cheeks white dusted, occiput greyish; antennae, palpi, and base of arista, yellow. Thorax fuscous, propleura and pleural sutures yellowish, the whole rather densely grey dusted, the dorsum darkest, slightly shining, and faintly vitate. Abdomen testaceous yellow, a large triangular mark on middle of second visible tergite, and remainder of tergites of apical half, except apex and lateral margins of third, black, and the whole surface shining and but faintly dusted. Legs testaceous yellow. Wings hyaline, veins yellow at bases. Calyptrae and halteres yellow.

Frons at vertex about one-third of the head width, a little narrowed at anterior margin, and about 1.5 as long as wide, triangle extending narrowly almost to anterior margin of frons; arista haired to middle, the longest hairs fully half as long as width of third antennal segment; eye facets quite noticeably enlarged in front. Anterior pair of presutural acrostichal bristles fully as long as anterior pair of presutural dorsocentrals and similarly situated; anterior pair of postsutural dorsocentrals not over one-third as long as second pair; both pairs of intra-alar bristles present; apical pair of scutellar bristles distinctly shorter than basal pair, and cruciate. Abdomen cylindrical; processes of fifth sternite chitinous, glossy, and broad, their apices rounded below, the fused central apical forceps of hypopygium curved backward apically, their upper or inner surface with some stiff black hairs. Fore

tibia without a median posterior bristle; mid femur with a long bristle near middle of posteroventral surface; mid tibia with a median posterior bristle; hind tibia with two posterodorsal, two anterodorsal, and two anteroventral, bristles, the lower anterodorsal and the preapical dorsal bristles each about half as long as tibia. Ultimate section of fourth vein twice as long as penultimate.

Length, 3.75 mm.

Type, Opaaula, Oahu, 3.30.1913 (O. H. Swezey).

The excessive reduction of the anterior pair of postsutural dorsocentrals, coupled with the noticeable reduction of the apical bristles, readily distinguishes this species from its allies.

***Lispocephala flavobasalis* (Grimshaw)**

I have not seen this species, which is included in the key on data supplied by Mr. F. W. Edwards from an examination of the type specimen.

***Lispocephala paloloae* sp. n.**

Male and female.—Head largely testaceous, densely brassy yellow dusted, the interfrontalia reddish in front, but almost obscured by dust in the male; antennae testaceous, third segment browned above in part; arista brownish; palpi testaceous. Thorax brownish or fuscous, but so densely yellowish dusted that it is impossible to distinguish the exact ground color, the humeri, propleura, and pleural sutures yellowish. Abdomen testaceous yellow, sometimes slightly darkened on part of dorsum, most of the tergites with a pair of round blackish spots, and between these anteriorly a paler central spot. Legs testaceous yellow. Wings greyish hyaline. Calyptrae and halteres yellow.

Frons at vertex a little less than one third of the head width, widened anteriorly, and nearly 1.5 as long as wide; ocellar bristles rather short; arista short haired to beyond middle, the longest hairs a little shorter than width of third antennal segment. Anterior presutural pair of dorsocentral bristles about half as long as posterior pair; both pairs of intra-alar bristles present. Abdomen of male subcylindrical, fifth sternite with blunt processes, superior fused forceps of hypopygium not recurved at apex, discal and apical bristles on tergites of apical half quite long and strong. Bristles of tibiae as in last preceding species. Ultimate section of fourth vein not 1.5 as long as penultimate.

Length, 4-4.5 mm.

Type, male, and allotype, Palolo, Oahu (E. H. Bryan, Jr.; J. C. Bridwell).

***Lispocephala subvittata* sp. n.**

Male and female.—Head yellowish; frons fuscous, reddish in front; orbits, face, cheeks, and frontal triangle, yellowish grey dusted; occiput fuscous except on lower margin, grey dusted; antennae brownish yellow, third segment except base black; arista fuscous, brownish basally; palpi yellow;

proboscis black. Thorax black, densely grey dusted, dorsum with three fuscous vittae, which are not sharply outlined, and are fused in part on disc. Abdomen of male translucent yellow on basal two visible tergites, the other tergites fuscous, with dense grey dust except on lateral margins and the apical margin of third, which are yellow, first and second tergites each with a dorsal blackish triangle, largest on second, the next two tergites each with a pair of discal black spots which are almost fused; female with similar but larger black markings. Legs, yellow, female with all tarsi and almost the apical third of mid and hind femora blackened, male differing in having the bases of fore and mid tarsi yellowish, and the apices of mid femora less noticeably blackened. Wings hyaline.

Frons at vertex about one third of the head width, widened anteriorly, triangle extending to anterior margin; third antennal segment three times as long as second; arista haired to middle, longest hairs distinctly shorter than width of third antennal segment. Anterior presutural pair of dorso-centrals fully one third as long as the posterior pair; anterior pair of intralabials lacking or microscopic, posterior pair short; no fine hairs on sternopleura. Abdomen of male slightly compressed apically, tergites 3 and 4 each with apical and discal bristles in both sexes; processes of fifth sternite in male truncate at apices. Fore tibia without a median posterior bristle, the apical half of anterodorsal surface with rather distinct setulae; fore tarsus slender and normal in male; mid femur with three preapical posterior bristles; mid tibia with a median posterior bristle; hind femur with about 3 preapical posterior and one posteroventral bristles; hind tibia with two posterodorsal and anterodorsal bristles, the pair at middle longest, two short anteroventral bristles, and the preapical dorsal bristle about half as long as tibia. Ultimate section of fourth vein not over 1.5 as long as penultimate.

Length, 5 mm.

Type, male, allotype, and one female paratype, Glenwood, Hawaii, 3.2.1919 (O. H. Swezey).

This species appears to be very similar to *kauaiensis* (Grimshaw), but in the latter the arista is stated to be subplumose almost to tip, there is no mention of thoracic vittae in the description, and there is a mention of a large triangular shining blackish-brown spot on each anterior angle of first abdominal segment which is not present in the above species. From *triangulifera* (Grimshaw), which appears to be more closely similar in thoracic characters, the new species differs slightly in the color of abdomen, and more so in not having an incomplete blackish apical ring on hind femora. The hypopygial characters should provide evidence of specific distinctness here. It appears to me that the female described as that of *triangulifera* by Grimshaw is not that species.