

NEW SPECIES OF PHLEPSIUS WITH NOTES
ON OTHERS

(Homoptera Cicadellidæ)

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One hundred species of North American Phlepsids have been described to date. Of this number, eighty-two appear to be distinct and five or six are worthy of varietal rank. The writer has previously discussed the synonymy in the broader-headed groups, and in the present paper the forms with narrower heads are similarly treated.

Phlepsius (Iowanus) spatulatus V. D. is common and widely distributed in the Southwest, and is quite variable in the size and length of the spines that form the margin of the central notch of the female segment. *P. cinerosus* O. & L. from New Mexico appears to be a small example of this species with the spines almost wanting. The desert forms are usually smaller and paler than those from the mountains or plains. *P. sabinus* S. & DeL., on the other hand, is apparently the dark mountain form with the spines rather long and the notch reduced. The writer has found this the common form in Sabino Canyon.

Phlepsius (Texananus) neomexicanus Bak. is another common form in the Southwest, and is somewhat variable in its genital characters in both sexes. *P. incurvatus* O. & L., as shown on their Plate 33, seems to be the typical form of this species, while their figures of *neomexicanus* on the same plate are of an extreme variation, especially in the length of the male pygofer. In the same way their figure of *excultus* on page 339 is much more nearly typical than the one on Plate 23.

***Phlepsius (Texananus) oregonus* Ball, n. sp.**

Resembling *superbus*, slightly narrower, paler, with a pointed vertex and male pygofer covered by the plates. Length 6-7 mm.

Vertex longer and more definitely pointed than in *superbus* or *mexicanus*, nearly twice as long on middle as against the eye. Anterior margin thick, but not rounding over to the front. Front straight in profile, relatively narrow for the group. Color brown, slightly paler than in *superbus*, with a darker face, but not as dark as in that species. The light areas of the elytra broken up in fine, milky

or ivory points that are conspicuously arranged in rows along the costa and claval suture and sometimes along the veins. Female segment half longer than the preceding, narrowing posteriorly, the margin broadly roundly excavated halfway to the base. Male valve short, obtusely rounding, one-half the width of the plates. Plates together as wide as the last segment, semicircular in outline, and clothed with stiff spines on the margin. Pygofers not visible or only as a small, dark point under the plates.

Holotype ♀, allotype ♂ and four paratypes, Medford, Oregon, August 14; one paratype, Wenatchee, Washington, August 18; one, Santa Margarita, California, August 6; four, Pasadena, California, in June; and two, Ti Juana, Mexico, in June, all collected by the writer.¹

Van Duzee described *superbus* from North Carolina and Arizona and correctly figured and described the deep, narrow emargination of the female segment, the pointed valve, subquadrangular plates, and long pygofers of the male which will at once distinguish it from the above species. The writer has collected *superbus* commonly in Florida and southeastern Arizona and has material from Mississippi and Texas, while all the material examined from California and the Northwest belongs to *oregonus*.

Phlepsius (Texananus) graphicus Ball is quite variable in the depth and width of the median excavation on the female segment and the size and shape of the adjoining projections. *P. marmor* S. & DeL. appears to be founded on a normal variation in the species.

Phlepsius annulatus O. & L. (Preoc), = *lathropi* Baker, is another species with a similar pattern which will need to be studied when more material is available. California examples are smaller than *graphicus* with a longer vertex and a bilobate marking on the commissure, but vary toward that species in genitalia.

Phlepsius (Texananus) cumulatus Ball is a similar but more definitely reddish species with a distinct but also variable female segment. *P. notatipes* O. & L. represents a common variation in the segment. Var. *arctostaphylæ* Ball a smaller, darker form that is probably a distinct species was omitted entirely by Osborn and Lathrop.

¹ Types of all species in the author's collection unless otherwise stated.

Phlepsius (Texananus) ovatus V. D. was limited by Osborn and Lathrop to the southern plains and Oregon. It is extremely common and widely distributed. Examples are at hand from North Dakota to Oregon and every state south to southern Mexico. *P. delicatus* O. & L. was founded on a California example.

***Phlepsius (Dixianus) denudatus carpolus* Ball, n. var.**

Resembling *denudatus* in form and structure. Vertex inclined to be shorter and wider. Length 4.5 to 5 mm. Vertex with four black dots in a row before the base, pronotum with irregular spots behind the eyes, scutellum with two large black spots in the angles and two dots on disk. Elytra with three equidistant oblique bands following the angle of the scutellar margin and emphasized by darkening of the reticulations and pale, tawny shading.

Holotype ♀, allotype ♂, and six paratypes taken by the writer at Sacaton, Arizona, May 6, 1931. This form is so highly ornamented that it would not ordinarily be recognized as the drab species of which it appears to be a variety.

Phlepsius (Dixianus) attractus Ball. Three years of steady collecting in Florida brought together sufficient material to establish the fact that *attractus* Ball and *floridanus* Ball were founded on extreme variations in head characters of a single variable species, which should be known as *attractus*. *P. graneticus* O. & L. from New Hampshire is another synonym of this protean form.

***Phlepsius (Dixianus) nevadus* Ball, n. sp.**

Resembling *loculatus* and *Aligia amœna* Van D. (which belongs in this group) but larger, with broader vertex and longer elytra. Pale with a pair of spider-like marks on vertex and an elongate "saddle." Length 4.2 mm.

Vertex broadly rounding, scarcely longer on middle than against the eye; shorter than in *loculatus*; the margin rounding over to the front. Pronotum one-third longer than the vertex, two-thirds of its length within the curve of the eyes. Elytra long and slender. The venation and inscribed areas similar to *loculatus*.

Color: white, inscribed with fuscous and black. Vertex with four small dots on the anterior margin, two large irregular black spots behind these as in *stellaris*, these spots with about five crooked radiating lines each, two pairs extending to dots on the lateral margins and another pair sometimes reaching two larger basal dashes. Pronotum irregularly inscribed omitting a broad lateral margin, the

markings arranged in irregular dots along the anterior margin. Scutellum creamy with black triangles inside the basal angles and a small orange shield on the disk. Elytra milky, the corium washed with tawny. The nervures and a series of irregularly distributed vermiculate lines fuscous. These lines in the more sparsely distributed areas mainly at right angles to the nervures. Face pale, an irregular dark band below the eyes, above this heavily inscribed; below creamy with few spots. Legs white with large black spots, below pale.

Holotype ♀ and allotype ♂, Mesquite, Nevada, October 25, 1930.

Phlepsius (Dixianus) lycioides Ball, n. sp.

Resembling *loculatus* in form, but with a broader, shorter head. Head, creamy to orange red, almost unmarked. Pronotum dark. Length 3 mm.

Vertex broader and shorter than in *condalianus*, front broader than in that species and more inclined, giving the apex of the vertex a slightly conical appearance. Elytra as in *loculatus*, venation similar with even less reticulations.

Color: pale ivory faintly inscribed, with a red head and a dark brown pronotum in sharp contrast. Vertex and face creamy with the apical portion of head orange-red, unmarked except in the darkest examples where there is a little brown on the anterior disk and a pair of lines running back to the basal dark dashes. Pronotum heavily inscribed or even washed with dark brown. Scutellum creamy, the basal angles black. Elytra ivory, sparsely but fairly uniformly inscribed with dark. Legs and below dark, the genitalia often light.

Holotype ♀, Tucson, Arizona, July 24, 1930. Allotype ♂, June 2, 1930, and twelve paratypes taken by the writer from the same location as the types from March 3-29 to September 20, 1930.

The red head and dark pronotum render this a striking little species.

Var. mohavensis Ball, n. var.

Size and form of *lycioides* or slightly larger. Color: female with the elytra creamy white and the black markings on pronotum reduced in width and intensity; vertex creamy, an ivory spot bearing two brown dots on apex, this spot set off by a brown semicircle; black spots on base of vertex and scutellum large. Male with traces of reticulations on elytra and the semicircle on vertex larger.

Holotype ♀, allotype ♂, and six paratypes taken by the writer on the Mojave Desert, July 1, 1931.

Phlepsius (Dixianus) condalianus Ball, n. sp.

Resembling *nevadus* but shorter and darker, with a broad white band back of the scutellum. Length 3.5 to 4 mm.

Vertex shorter and broader than in *loculatus*, slightly more angled than in *nevadus*, not as long as its basal width, rounding over to the retreating front. Front relatively broader and shorter than in *utahanus* or *nevadus*, convex in profile. Elytra shorter than in *nevadus*, about like those in *loculatus* with similar venation.

Color: dark with a broad white sub-basal band on elytra; vertex dark brown or black with a narrow ivory margin surrounding the quadrangular dark area; two dots on each lateral margin often attached to the dark area by a line, the apex bearing an ivory semi-circle with two dark dots; base with two black dashes; pronotum heavily irrorate with fuscous; scutellum ivory with black spots on the basal angles; two dots on disk and two dashes at the apex; elytra heavily dotted and inscribed with fuscous, omitting a broad band back of the scutellum, and a pale area on the costal margin halfway to the apex; face creamy with an inscribed band below the eyes, a few irregular lines on the front above, and six or seven spots on the face below; legs heavily marked with dark.

Holotype ♀, allotype ♂, Tucson, Arizona, May 10, 1930, and ten paratypes from Tucson, all taken by the writer from late in March to July.

Var. ursinus Ball, n. var.

Size and form of *condalianus* nearly but uniformly dark without trace of the white band or costal area. The vertex is less heavily irrorate, but the white margin has almost disappeared. The face is heavily inscribed above.

Holotype ♀, Santa Catalina Mountains, Arizona, July 17, 1930. Allotype ♂ from the same place September 19, 1930, and two paratypes, Tucson, Arizona, March 22, 1931. All taken by the writer. This variety superficially resembles *utahanus*, but is much smaller with a broader, rounding head.

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