

## THE GENUS ÆCLIDIUS VAN DUZEE (Homoptera-Fulgoridæ)

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The members of this genus are all very small delicate forms resembling the species of *Æcleus* in the long narrow trough-like vertex, but in this case the trough narrows apically while in that genus the reverse is true. Like that genus the hind tibiæ are unarmed but the nervures are not dotted while in that genus they are. Types in the collection of the author.

Van Duzee established the genus for his *O. nanus* from southern California. Later he described *fraternus* from Mexico and referred his *Brixia fulgida* and *fuscus* from Jamaica here. Fowler in the Biologia described *Æcleus tenellus* from Guerrero which undoubtedly belongs to this genus. *O. fraternus* has recently been taken in Arizona and Utah. Four new species belonging to the genus have been taken in Arizona and are here described. The six species belonging to our fauna are easily separated by the following key.

- A. Three definite carinæ on the mesonotum.
  - B. Small (less than 3.5 mm.) pale tawny, no spot on stigma.
    - C. Four apical cells, including nodal, in a row along costa.
      - .....1. *nanus* Van D.
    - CC. Three apical cells, including nodal, in a row along costa.
      - .....2. *brickellus* Ball
    - BB. Large (over 3.5 mm.) with a dark spot on stigma.....
      - .....3. *fraternus* Van D.
  - AA. Only one carina on mesonotum.
    - D. A transverse black band across the anteapicals.....
      - .....4. *transversus* Ball
    - DD. Bands reduced to a spot on stigma.
      - E. Five anteapicals, the inner two reduced.....5. *carolus* Ball
      - EE. Three anteapicals.....6. *nimbus* Ball

*Æclidius brickellus* Ball, n. sp.

Resembling *nanus* Van D. but with only three apical cells in a row with the nodal instead of four. Length 3-3.5 mm.

Vertex very slightly wider than in *nanus*, the face in profile more inflated with a definite angle between vertex and front instead of rounding over above and sloping uniformly throughout. Pronotum longer than in *nanus*. The mesonotum definitely tricarinate as in *fraternus* and *nanus*, elytra as in *nanus*, the apical

nervure from the outer anteapical cells only forking once and thus forming two cells behind the nodal, instead of forking twice and thus forming four cells in a row including the nodal. Male plates broad at the base then narrowed and twisted like a crooked finger instead of narrow at base then gradually widening to an abrupt oval tip as in *nanus*. The lateral projections from the anal ring large and foliaceous instead of blunt or slightly hooked.

Color: pale tawny, the carinæ and margins lighter, often brown shading appears along the margins of the carinæ. Elytra hyaline, nervures and especially the cross nervures and apical portions tawny.

Holotype, female, allotype, male, and two paratypes, Tucson, April 12, 1930; twelve paratypes Tucson March 22, 1931, May 5, 1929; Patagonia Sept. 7, 1929 and Payson Aug. 3, 1929, all collected from the mountains of Arizona by the author.

The writer has collected the above species from Logan and Soldier Summit, Utah, south through southeastern Nevada and northern Arizona to the Mexican border in Arizona, while *nanus* has been taken at many points in southern California to the border. *O. fraternus* Van D., described from the Gulf of California, has been taken at St. George, Utah, by E. W. Davis, from the Santa Cruz River, the Baboquivari Mountains and Yuma, Arizona, and Altar, Mexico, by the writer. It is much larger and of a darker shade.

*Ceclidius transversus* Ball, n. sp.

Resembling *tenellus* but smaller and more definitely marked. Black with the carinæ light, the claval areas smoky, corium hyaline with a broad band across the anteapicals. Length ♂ 4 mm.

Vertex broader than in *nanus*, almost parallel margined to the middle then narrower to the apex, rather than narrowing all the way as in that species. Margins of front more foliaceous but ending abruptly on the clypeal margin; the head in profile much deeper and more nearly truncate in consequence. Venation of the pattern of *nanus* but with less forking of the apical nervures, forming only six, relatively large, apical cells. Male plates (ivory white) finger-like bent upward at a right angle, slightly divergent and almost reaching the anal collar.

Color: Body dark smoky brown, the carinæ of vertex and front broadly white; a broad black band across the side of the head below the ocelli. A narrow black band just above the lower white band on front is continued across the genæ, the outer part of the pronotum and the alulets. Median and circular carinæ of pro-

notum white, the median carina and the oblique margins of the mesonotum ivory. Elytra hyaline, the claval areas brown; a broad smoky brown band covers the nodal cells and extends across the anteapicals to the apex of clavus. There is an ivory spot in the anterior angle of the nodel and a hyaline one inside this. The two attingent anal veins darkened.

Holotype, male, and two paratype males, taken by the writer at the High Tanks, "Tinajas Altas", Arizona, May 17, 1932.

*Ceclidius carolus* Ball, n. sp.

Resembling *transversus*, less heavily marked, with the two inner anteapical cells very small, and eight apicals. Length 4 mm.

Vertex much broader at the base than in *transversus* resembling *nanus*, the carinate margins of vertex and front, especially the latter, not so foliaceous. Head as seen from side acutely angled, with the apex rounding instead of almost vertical as in *transversus*. Venation resembling *nanus* except that the two inner anteapicals are reduced and shifted anteriorly, the apical nervures forked, forming eight apicals. Male plates broader and shorter than in *transversus* the anal collar much reduced and distinct.

Color: Body black, the carinae of vertex and the front white except for the broad transverse band below ocelli; the genae alternately banded in black and white. Median carina and lateral margins of pronotum and scutellum ivory. Elytra hyaline, nervures brown, scutellar margin narrowly ivory, sutural margin alternating ivory and smoky; a triangular black spot in nodal cell omitting the ivory nervure and one oval hyaline spot in front, the transverse nervures heavily embrowned and usually a brown cloud on the basal portion of clavus.

Holotype, female, allotype, male, and one female paratype taken by the writer at Coolidge Dam, Arizona, May 18, 1930, and one male paratype taken at Wickenburg, Arizona, Aug. 21, 1929. Strikingly distinct by the venation alone.

*Ceclidius nimbus* Ball, n. sp.

Resembling *carolus* but less definitely marked, with a longer vertex and only three anteapicals. Length 3.5-4 mm.

Vertex even wider at base than in *carolus* and much longer, produced in front of eyes and meeting front in almost a right angle. Face as seen from side retreating, the lower portion of the foliaceous carinae auricularly expanded. Venation reduced, only three anteapicals, the two inner ones wanting, the outer one egg-shaped, acute posteriorly; apical nervures forking, forming nine apical cells.

Color: Black above and below, the elytra hyaline, carinae on vertex and pronotum narrowly light, face and genae black. Folia-ceous carinae of front with three pairs of light spots about equally spaced, the largest below. Mesonotum black with the median carina and the outer part of the oblique margins orange. Elytra hyaline, the margins pale, the sutural margin with three black dashes. Nervures pale brown, the transverse ones darker. Anterior half of the nodal cell black; two thirds of the anterior marginal nervure ivory, just inside of which there is a small triangular hyaline area within the black area.

Holotype, female, allotype, male, and four paratypes, May 15, 1933, and eight paratypes June 21, 1930, all taken at Tucson, Arizona, by the writer. Strikingly distinct by the three instead of the usual five anteapicals.

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