

SOME NEW SPECIES OF EUGNATHODUS.
(HOMOPTERA CICADELLIDAE).

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Eugnathodus Baker.

The genus *Eugnathodus* was erected in 1903 by Baker at which time *E. abdominalis* V. D. was cited as the type. From the description of the genus it is apparent Baker had in hand specimens of the species which we have since identified as *E. abdominalis* but which is given the name of *E. neglecta* in this paper. An examination of the type specimens of *E. abdominalis* has revealed the fact that they are specimens of *Balclutha* and it is apparent Baker cited this type in error. The type of *Eugnathodus* as described by Baker is therefore designated as *neglecta* Del & Dav.

This genus differs from *Balclutha* in having the vertex broadly rounded, almost parallel, margined, only slightly produced before the anterior margins of the eyes, and head broader than pronotum.

A forthcoming paper will deal with the species of this genus and *Balclutha* but in order that other workers may use these names in citing these species in other papers, the following descriptions are presented at this time.

Eugnathodus neglecta n. sp.

Usually pale or dark brownish in color with blunt head and distinct genitalia. Length, 3.5 mm.

Vertex almost four times as wide as long, broadly rounded, almost parallel margined. Pronotum three times as long as vertex.

Color pale to dark brown, often with rather conspicuous markings on vertex pronotum and scutellum. Elytra smoky to white.

Genitalia: Female last ventral segment with posterior margin slightly emarginate either side of a central slightly produced median tooth which is inconspicuous. Posterior margin narrowly embrowned. Male valve rounded posteriorly, plates triangular, about half as wide at base as long. Pygofer exceeding plates. Oedagus in lateral view rather heavy at base, anterior process extending dorsally, arising not far from the point of union with the connective. Body of oedagus extending caudally, tapered and extending dorsally and slightly posteriorly. Terminal portion about twice the length of the anterior process.

The species has been designated for many years as *Eugnathodus abdominalis* V. D., but examination of the type specimens have shown this to be a *Balclutha* and the species previously identified as *B. impicta* V. D. Also the species previously identified as *B. impicta* are pale specimen of *B. punctata*.

This species is very common and wide spread and occurs in many areas.

Described from a large series of specimens from several widely separated localities. Specimens have been examined and male genital characters checked for the following localities: Alturas Lake and Stanley Basin, Idaho; Glacier Park, Montana; Springer, Mesilla Park and Raton, N. Mex.; Tempe and Tuscon, Arizona; Tower City, N. D.; San Antonio, Paris and Brownville, Texas; Lincoln, Nebraska; Decatur, Ga.; Orlanda, Fla.; Rocky Ford and Mt. Manitou, Colorado.

Male holotype, Mt. Manitou, Colorado. Female allotype from same locality and male and female paratypes in author's collection. Paratypes in collection of U. S. National Museum and personal collections of Herbert Osborn and E. D. Ball.

***Eugnathodus neglecta* variety *pallida* n. var.**

Form and general appearance of *neglecta*, but pale green or white in color. Length, 3 to 3.5 mm.

Structural and genital characters as in *neglecta*.

Color pale green or yellow, often appearing milk white. Disc of pronotum sometimes slightly darker. Dorsal portion of abdomen black or dark brown. Elytra whitish subhyaline unmarked.

Described from a series of specimens from Clarksville, Tennessee, collected during July and August, 1915, by the senior author.

This may be a separate species but cannot be distinguished on the basis of structural characters.

***Eugnathodus floridana*, n. sp.**

Resembling *neglecta* in general appearance; pale green and with distinct genitalia. Length, 3 mm.

Vertex three times as wide as long and one-third as long as pronotum. Elytra produced one-third their length beyond apex of abdomen.

Color: Pale green marked with yellow. Elytra whitish subhyaline, veins white, claval area yellowish.

Genitalia: Female last ventral segment long, posterior margin roundedly produced, appearing to be notched at middle. Male genital

pieces with styles in ventral view broad at base, strongly narrowed to finger-like pointed apices which are divergent. Outer margin of style heavily chitinized on central portion and curved downward. Connective of oedagus more deeply notched at base than other species. Oedagus in lateral view thick at base with anterior portion extended, slightly forward, upward and then directed posteriorly. Body of oedagus extending dorsally and curving anteriorly into preceding segment.

Described from two female and one male specimens collected at La Belle, Florida, April 20 and 21, 1921 by the senior author. Holotype male La Belle, Florida, April 21, 1921. Allotype female and female paratype in collection of senior author.

***Eugnathodus abbreviata* n. sp.**

Short and robust, pale yellow in color and with distinct genitalia. Length, 2.5 mm.

Vertex broadly rounded more than three times as wide as long. Produced two-thirds its length before anterior margins of the eyes. Pronotum three times as long as vertex.

Color: Pale yellow or white washed with bright yellow. Eyes usually dark brown. Elytra whitish subhyaline, claval area washed with yellow.

Genitalia: Female last ventral segment slightly produced and sinuate either side of a slightly produced median tooth-like portion. Male valve short and rather broad. Plates about one and one-half times as long as broad, apices blunt. Styles in ventral view rather long, wide at base, triangular, rather abruptly narrowed to divergent finger-like tips. Oedagus in lateral view with a long thick finger-like portion at base extending dorsally. Body of oedagus long and curved extending dorsally and with apex directed anteriorly.

The pale yellow color of this species and the distinct genital character of the male will easily distinguish it from the other species of the genus.

Described from a series of some seventy specimens, mostly females, collected at Belle Glade, Florida, during the summer of 1929 by Mr. Hugh Clifton. Holotype male, allotype female, and male and female paratypes in collection of senior author. Female paratypes in U. S. National Museum collection.

***Eugnathodus calcara* n. sp.**

Resembling *neglecta* in form, size and appearance, but distinguished by the male genital characters and a large spine on the pygofers. Length, 3.5 mm.

Vertex broadly rounded three and one-half times as wide as long, produced about one-half its length before anterior margins of eyes.

Color: White to dull gray, vertex, anterior portion of pronotum and basal angles of scutellum ferruginous to yellow. Elytra white, venation white.

Genitalia: Male styles broad at base, concave inwardly on basal margin, tapered toward apex. Conspicuously, abruptly notched toward base on outer margin forming a thick finger-like apical process which curves outwardly from inner margin. Connective broad at base and broadly shallowly notched. Oedagus in lateral view thick at base with anterior basal process directed dorsally and anteriorly. Posterior portion extending into a long whip-like process which is gradually narrowed and directed dorsally and anteriorly at apex. Pygofer of male with a heavily chitinized spur arising at the ventral caudal portion and curving upwardly and inwardly into the genital chamber.

Described from two male specimens collected at Miami, Florida, April 14, 1921, by the senior author. Holotype male and paratype male, Miami, Florida, April 14, 1921, in collection of senior author.

The species can easily be distinguished from all others of the genus by the heavy spur on the pygofer.

Eugnathodus bifurcata n. sp.

In general appearance resembling *neglecta*, but with distinct male genitalia and a bifurcate spine on the pygofer. Length, 3.5 mm.

Vertex three and one-half times as wide as long, less than one-third as long as pronotum.

Color: Gray to dull green tinted with yellow, without definite color markings. Eyes usually dark.

Genitalia: Female last ventral segment with posterior margin almost truncate, slightly indented either side of middle. A dark brown color marking on middle of posterior portion causes the segment to appear deeply notched either side of a median broad rounded tooth. The male genital pieces are unique. Style concave inwardly at base, constricted about middle then enlarged to form a pair of finger-like processes by being deeply notched on outer margin. The basal one is heavy and short, the apical one is long and strongly curving outwardly. Oedagus in lateral view rather thick on basal half, without anterior process, terminal half curved and directed anteriorly from erect position of basal portion. Pygofer with a heavily chitinized spine extending into the genital chamber. A short chitinized spur also extends downward from the lower end of the large spine.

Described from a series of three female and four male specimens. The female and three male specimens were collected at Miami, Florida, April 13, and 14, 1921 and one male specimen at Paradise Key, Florida, April 5, 1921, all by the senior author. Holotype male, allotype female, and male and female paratypes in collection of senior author.