

SOME ERYTHRONEURA OF THE MACULATA GROUP
FROM DECATUR, GEORGIA
(Homoptera, Cicadellidae)

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Descriptions of nine new species of *Erythroneura* of the Maculata Group are included here. Unless otherwise indicated all collections were made in the vicinity of Decatur, Georgia, by Dr. Mary Auten.¹

All specimens are deposited in the collection of the authors in Columbus, Ohio.

Erythroneura distincta n. sp.

(Fig. 1)

General ground color semihyaline to yellowish white, marked with orange. Vertex longer than width between eyes, an elongate median orange oval, heavy and touching base, encloses small pale area, thin lateral orange arms project from this oval at middle, extend to eyes, eyes narrowly margined to base of vertex with orange; apex of median oval of vertex joins median projection of pellucid orange face at apex of vertex, large lateral ovals of the ground color cover side margins of vertex and in their centers include small ocellus-like spots; pronotum about as long as wide, median triangular spot heavy at base, reaching front but not posterior margin, spots behind eyes heavy and deeper orange than other color markings; scutellum with tip orange and basal angles pale yellow; elytra shining, markings indistinct, clavi with basal anchor-shaped spot narrow at middle and spot before tip, coria with quadrate spot beside plaque and projections at anterior margin of plaque, another diagonal vitta from posterior margin of plaque to apex of clavus; outer crossveins tinged with red, dark spot at base of cell M_4 oval, small, distinct; apical cells faintly dusky; center pale yellowish white.

Genitalia: Pygofer hook single, very stout, short, not reaching tip of pygofer, tapering evenly on outer third to sharp point. Style with very large thin foot; heel projecting, less than a right angle; base almost straight; anterior point short, sharp, less than right angle, projecting latero-cephalad; posterior point long, thin, two-thirds length of foot, sharp-pointed and turning out, meeting base at more than right angle.

¹*Erythroneura* of the *Obliqua* Group from this area were discussed by the authors in *Ann. Ent. Soc. Amer.* 29: 61-65, 1936.

Oedagus from lateral view long, almost straight, with lateral projection starting behind base and equal in width to tube; from ventral view heavy to just before apex, where it broadens and two sharp lateral projections are formed, leaving apex of tube bare.

This species resembles *E. usitata* Beamer somewhat in inner male genitalia, but the posterior point of the foot is shorter and there are lateral projections on the oedagus.

Male (*holotype*), iv-25-34.

Erythroneura pallida n. sp.

(Fig. 2)

A pale, stout species with broad head; background white to semihyaline with pale yellow color markings. Vertex with mere suggestion of vittae, broad, impressed longitudinal median line of vertex distinct; eyes pale gray; pronotum, median Y-shaped vitta indistinct, stout, not touching margins, arms as long as base but not as broad, spot behind each eye; scutellum pale with orange tip; elytra shining, whitish semi- to subhyaline with markings obscure, yellowish, small round black spot at posterior margin of plaque, striking large round black spot at base of cell M_1 , outer crossveins and longitudinal veins washed with bright red, apices subhyaline.

Genitalia: Pygofer hook divided near base, stout, inner portion extending slightly beyond tip of pygofer, curved out decidedly on outer half, parallel-sided, tapering to sharp point at apex; outer portion half length of inner, tapering from base to sharp tip, curving in slightly. Foot of medium size with heel projecting a little; anterior point a right angle; practically no posterior point. Oedagus from lateral view thick, almost straight, curved slightly dorsad, of medium length, tip rounded; from ventral view of medium length, heavy, straight, tip rounded.

The inner male genitalia resemble those of *E. impar* Beamer but differ especially in that the inner portion of the pygofer hook curves out and the outer portion is straight.

Male (*holotype*), female (*allotype* and *paratype*), iv-24-34.

Erythroneura compressa n. sp.

(Fig. 3)

Ground color whitish semihyaline with yellowish tinge on anterior part, color markings orange. Vertex long and narrow, three elongate oval spots of ground color on disc enclosed by fairly heavy orange vittae, the median one twice the length of the outer ones, apex with two large lateral ovals of ground color containing ocellus-like spot near middle, separated by median projection from orange face which joins apex of median vitta of vertex; pronotum with elongate heavy central Y-shaped vitta, the base longer than the arms but not reaching hind margin, arms touching anterior margin, marks behind eyes extending along front margin almost to arms of Y; scutellum with base pellucid, apical angle with orange spot at tip; elytra whitish semihyaline, mark-

ings indistinct, clavi with fairly large basal anchor-shaped spot and elongate spot at apex; coria with irregular faint vitta around anterior part of plaque and blotch just below apex of clavi; crossveins reddish orange, round black spot of medium size at base of cell M_4 and smaller round spot in posterior end of costal plaque; veins of apices reddish orange and cells faintly fumose; venter yellowish white.

Genitalia: Pygofer hook short and stout, straight, thicker at middle third with spines on inner edge, tip narrowed and slightly incurved. Style with large narrow foot; heel prominent, less than right angle; base straight; anterior point short, sharp, turned up; posterior point very thin, one-third length of foot, forming about a right angle with base. Oedagus from side view broad at base, curved distinctly dorsad, suddenly narrowed to small up-turned tip; from ventral view heavy, basal half equilaterally triangular, tube swollen slightly at apex.

The genitalia resemble those of *E. uncinata* Beamer, differing chiefly in the shape of the pygofer hook.

Male (*holotype*) and female (*allotype*), v-5-34.

***Erythroneura delongi* n. sp.**

(Fig. 4)

General ground color creamy white with extensive bright red color markings. Vertex about as long as width between eyes, five rounded spots of ground color separated by narrow vittae, the median one elongate; eyes black; pronotum, median Y reaching both margins, base and arms of about equal length, base heavy, triangular spot behind each eye; scutellum with basal angles and tip red at their apices; elytra extensively marked, clavi with median anchor-shaped spot starting below humeral margin and with prominent hook which does not reach suture, a diagonal extension of this starts just below anterior part and extends to outer edge, a spot near but not attaining apex of clavus, a large rectangular spot on adjacent coria between anchor and apical spots of clavi has a diagonal extension out, bordering plaque on anterior margin and spreading as it reaches outer edge; plaque with yellowish tinge and black elongate blotch along posterior margin, region before bright red crossveins more or less mottled with red, longitudinal veins reddish, apices fumose, especially near tips, black spot at base of cell M_4 round and of medium size; below pellucid orange, apical margin of vertex pale with pale narrow extension down center of face.

Genitalia: Pygofer hook long, reaching beyond end of pygofer, thicker beyond middle, with S-curve, the upper part a much wider curve, heavily pigmented on outer half, apex sharp-pointed and slightly incurved. Style with short foot; base curved; heel small, not projecting; anterior point short, sharp, less than a right angle, projecting up; posterior point almost lacking, a right angle. Oedagus from side view thick, rather long, straight, parallel-sided, tip rounded and a little swollen; from ventral view a straight tube of medium length and thickness.

The genitalia resemble those of *E. propria* Beamer from which they differ chiefly in the shape of the pygofer hook.

We take pleasure in naming this outstanding species for Professor Dwight M. DeLong.

Male (*holotype*), female (*allotype*), iv-17-34, on *Japonica*, Campus Agnes Scott College, male and female (*paratypes*), iv-6-34, on *Japonica*, iv-14-34 and v-3-34.

***Erythroneura simplex* n. sp.**

(Fig. 5)

General ground color whitish, creamy white on anterior part, color markings orange. Vertex with vittae indistinct, pellucid yellow, more or less surrounding five roundish spots, about as long as width between eyes; eyes light gray; pronotum, median Y-shaped vitta not touching either margin, base heavy and bright orange, arms indistinct and paler, spot behind either eye; scutellum, basal angles yellowish, apex orange; elytra milky white with narrow orange markings, clavi with anchor-shaped spot narrow at middle and spot before tip, coria with diagonal dash below humeral angle, another broken vitta extending from just about tip of clavus to anterior margin of costal plaque, and a third extending from below apex of clavus to posterior margin of plaque, small black dot at posterior end of plaque, a large round one in base of cell M_4 , outer crossveins bright red, apices fumose; venter milky white becoming creamy white on head.

Genitalia: Pygofer hook single, large, heavy and long, curving in gradually. Foot large; heel a right angle, scarcely projecting; base straight, curving a little at outer part; anterior point a right angle; posterior point a little longer than foot, tapering gently from base, curving so sharp tip is about even with tip of heel. Oedagus from lateral view stout at base, narrower on outer half which is turned slightly ventrad; from ventral view of medium length, stout, straight, slightly swollen on basal half.

The oedagus resembles that of *E. adunca* Beamer and the foot of the style that of *E. gemina* McAtee.

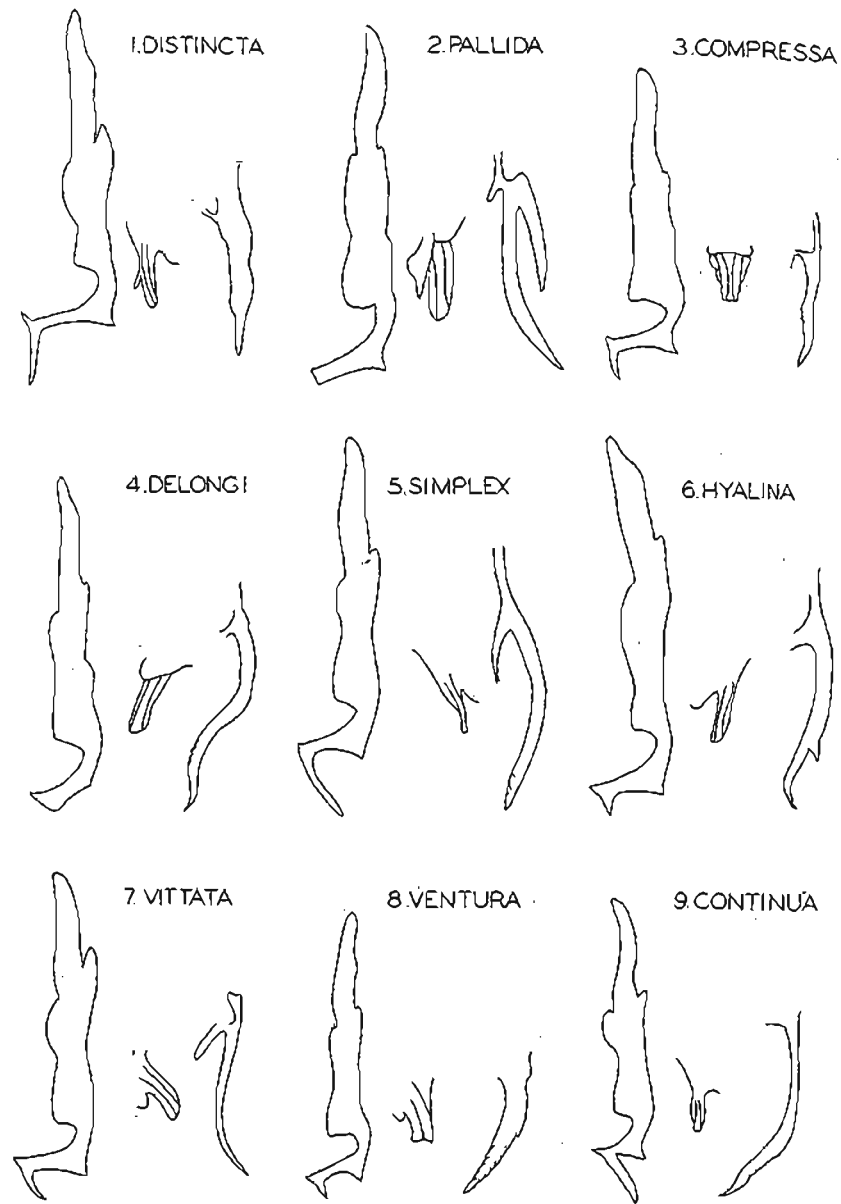
Male (*holotype*), iv-17-34.

***Erythroneura hyalina* n. sp.**

(Fig. 6)

A rather large species with creamy white ground color, semihyaline on elytra to hyaline on outer edge and tip; color markings orange. Vertex broader than long, disc with median clover-shaped area, lateral spots round, vittae narrow, pellucid orange; eyes dark gray; pronotum with narrow median Y-shaped vitta touching both margins, arms longer than base, spot behind each eye small; scutellum with yellow basal angles and orange apex; elytra with usual markings pale orange, rather indistinct and of medium size, a round black spot at posterior margin of granulate, hyaline plaque and slightly larger oval one in base of cell M_4 , outer crossveins red, apices very faintly dusky.

Genitalia: Pygofer hook stout, widening gradually from base to outer third where it divides; outer portion short, sharp and spine-like;



Figs. 1-9. Inner Male Genitalia of *Erythroneura*. Ventral view of style, side view of oedagus (ventral view in Fig. 3) and side view of pygofer hook; D. J. Knoll and Auteu.

inner portion long, stout, its sharp apex turning out as it reaches tip of pygofer; the outer and inner portions connected by a smoothly rounded area. Foot large; heel prominent, a right angle; base curved; anterior point projecting, a little less than a right angle; posterior point of same length and less than half the width of anterior point, rather spine-like. Oedagus from lateral and ventral view long, narrow, straight, slightly larger at base.

The inner male genitalia resemble those of *E. facota* Beamer and differ in shape of foot and pygofer hook.

Male (*holotype*), iv-17-34.

Erythroneura vittata n. sp.

(Fig. 7)

Ground color yellowish white, semihyaline on elytra; color markings on anterior part pellucid yellow, on elytra reddish orange. Vertex as long as width between eyes, usual vittae pellucid, except apex of median oval which is orange; eyes light gray; pronotum with heavy median Y-shaped vitta almost touching margins, arms as long as base and half its width, spot behind either eye; scutellum, basal angles dirty yellow and tip faintly orange; elytra with bright vittae of the usual pattern but rather indistinct anteriorly, a round black spot at posterior end of plaque and a little larger one at base of cell M_4 , crossveins red, apices fumose; venter dirty yellowish, more or less pellucid.

Genitalia: Pygofer hook long, thin, curving gently out on outer third. Foot of medium size; prominent heel, about a right angle; base straight; anterior point projecting, slightly less than a right angle; posterior point a little less than half length of foot, narrow, sharp, curving in roundly. Oedagus from ventral view large, broad at base, tapering to below middle, tube slightly swollen at apex; from side, short, distinctly curved dorsad, fairly heavy, thicker at base.

Genitalia resembling those of *E. curta* Beamer, but with different oedagus and longer pygofer hook which turns out.

Male (*holotype*), iv-17-34; male (*paratype*), Rotten Wood Creek, x-1-33.

Erythroneura ventura n. sp.

(Fig. 8)

General ground color white, markings pale orange, rather indistinct especially anteriorly. Vertex about as long as width between eyes, vittae pellucid yellow, fairly thick, enclosing usual five rounded spots of ground color; eyes light gray; pronotum with median vitta V-shaped, not reaching either margin, pellucid orange, orange spot behind each eye; scutellum with basal angles and tip pale yellowish; elytra milky white basally, semihyaline toward apices, clavi with anchor-shaped spot almost divided at middle, spot before tip, coria with spots indistinct, a red dash at anterior border of plaque and a tiny round black dot at posterior margin, a dark oval spot at base of cell M_4 , outer crossveins bright red, apices faintly fumose.

Genitalia: Pygofer hook short, stout, not reaching tip of pygofer, tapering from middle to acute tip, curved in very slightly. Foot small; heel a right angle, scarcely projecting; base evenly, distinctly curved; anterior point less than a right angle, projecting laterad; posterior point a little longer than toe is wide, narrow, tapering to sharp tip and turned in a little. Oedagus from lateral view rather short, stout, rounded on ventral and straight on dorsal surface; from ventral view about square with rounded corners.

The genitalia resemble those of *E. misera* Beamer, but differ in shape of oedagus and pygofer hook.

Male (*holotype*), ix-24-33, female (*allotype*), same data and male specimen from holly.

***Erythroneura continua* n. sp.**

(Fig. 9)

Small, general ground color white; elytra shining, subhyaline, markings orange. Vertex as long as width between eyes, vittae pale, surrounding five roundish spots, the median one twice as long as the outer, median impressed longitudinal line distinct; eyes light gray; pronotum with median Y-shaped vitta touching both margins, the base three times length of arms and of about same width, spots behind eyes small; scutellum with pale basal angles, apex pale orange; elytra almost hyaline, vittae separated into small, indistinct spots, black spot at base of cell M_4 round, very small, none at posterior end of plaque, veins of apices bright red and apical cells somewhat suffused with red.

Genitalia: Pygofer hook long, narrow on basal half, widening just before middle to about twice basal width, then narrowing to sharp point; outer half slightly S-curved and turning in a little. Foot short, stout; heel projecting, less than a right angle; base sinuate; anterior point projecting laterad, less than right angle; posterior point longer than foot, straight, heavy, forming about 45° angle with base of foot, sharp pointed with inner side tapering and outer straight. Oedagus from lateral view of medium length, straight, constricted at tip; from ventral view small, narrowly heart-shaped.

Genitalia resemble those of *E. certa* Beamer, differing chiefly in shape of pygofer hook and oedagus.

Males (*holotype* and *paratype*), McCurdy's Pond, iv-14-34.

OMISSIONS AND ERRORS

Beginning with Volume 28 (1935), the Annals of the Entomological Society of America has been accepting corrections (omissions and errors) of articles which have appeared in its pages. These are collected and printed at the end of the annual volume (December issue). They are indicated in the annual table of contents and in the index.

Corrections will be limited to critical omissions and serious errors. Manuscript for such should be in the hands of the Editors by the twentieth of November to be included in that year's volume.

The Editors.

Dr. P. W. Oman called our attention to the fact that the name *Erythroneura simplex* Knull and Auten, Ann. Ent. Soc. Am. XXX: 575, 1937, is preoccupied by *Zygina simplex* described by Ferrari in 1882; *Zygina* was synonymized with *Erythroneura* by Van Duzee, Check List, 1916, p. 77. We propose in its place, therefore, *E. ordinaria* n. n.

Dorothy J. Knull.
Mary Auten.

List of papers to be added to bibliography on "Check-List of Odonata of Oceania," pp. 341-344.

- Bryan, Edwin H. 1926. Additional Notes on the Insects Occurring on Mauna Kea and Mauna Loa. Proc. Hawaiian Ent. Soc. 6: 280-282.
Navas, Longinos. 1914. Neuropteros de Oceania (tercera serie). Revista Real Acad. Ci. Exact. Fis. Nat. 13: 231-236, figs. 1-2. Odon. p. 231-232.
Swezey, O. H. (with E. H. Bryan). 1927. Notes on Some Forest Insects of Molokai. Proc. Hawaiian Ent. Soc. 6: 411-422. Odon. p. 422.
Swezey, O. H. 1929. Further Notes on the Forest Insects of Molokai. Proc. Hawaiian Ent. Soc. 7: 293-314. Odon. p. 305.
Woodford, C. M. 1895. The Gilbert Islands. Geogr. Journ. 6: 325-350. Odon. p. 349.

The following additions should be made to "Check-List of Odonata of Oceania:"

- p. 326. Under *Megalagrion Blackburni* add *Agrion blackburni*, Swezey-Bryan 1927, p. 422 (Kawela), 1929, p. 305 (Molokai).
p. 326. Under *Megalagrion amaurodytum amaurodytum* add *Agrion amaurodytum*, Swezey-Bryan, 1929, p. 305 (Molokai).
p. 326. Under *Megalagrion deceptor* add *Agrion deceptor*, Swezey-Bryan, 1929, p. 305 (Molokai).
p. 327. Under *Megalagrion molokaiense* add *Agrion molokaiense*, Swezey-Bryan, 1929, p. 305 (Molokai).
p. 329. Under *Anax guttatus* add *Anax guttata*, Woodford, 1895, p. 349 (Gilbert).
p. 330. Under *Anax junius* add Bryan, 1926, p. 282 (Mauna Loa).

NOMENCLATORIAL NOTES ON CICADELLIDAE

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The following new names are proposed:

Macropsis breakeiana n. n. for *M. breakeyi* Knull (Ann. Ent. Soc. Amer., 33 (2) : 371, 1940), not *M. breakeyi* Merino, (Phil. J. Sci., 61 (3), Nov. 1936.)

Erythroneura perplexa n. n. for *E. ordinaria* Knull and Auten (Ann. Ent. Soc. Amer., 31 (4) : 651, 1938), not *E. ordinaria* Ribaut (Faune de France 31, Homoptères Auchénorhynques 1, p. 47, 1937).

Erythroneura tithide var. *nudista* n. n. for *E. tithide* var. *nudata* Ribaut (*Ibid*, p. 61), not *E. nudata* McAtee (Trans. Amer. Ent. Soc., 46 : 316-317, Aug. 26, 1920).

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- A CHECK LIST OF THE CULICIDAE OF THE AUSTRALIAN REGION,
by FRANK H. TAYLOR. Publication No. 1, 24 pp., 1 map, 1934.
DENGUE. PART I. MEDICAL, by GEORGE F. LUMLEY. PART II. ENTOMOLOGICAL, by FRANK H. TAYLOR. Publication No. 3, 171 pp., 28 figs., 1943.
MOSQUITO INTERMEDIARY HOSTS OF DISEASES IN AUSTRALIA AND NEW GUINEA, by FRANK H. TAYLOR. Publication No. 4, 154 pp., 75 figs., 1943.

Service Publications (School of Public Health and Tropical Medicine),
Department of Health, Commonwealth of Australia. Printed by AUSTRALASIAN MEDICAL PUBLISHING COMPANY, LTD., Seamer St., Glebe, New South Wales. Paper bound, 6 x 9½ inches.

Publication No. 1 is a list of 220 species of the three subfamilies Dixinae, Chaoborinae, and Culicinae known to occur in the zoogeographical area called the Australian Region. It is based upon extensive studies for many years by Mr. Taylor. Pertinent references are given for each species.

Publication No. 3 is based mainly upon published literature. It should be of particular interest right now to medical and sanitary officers who see to the health of military personnel in those parts of the world where dengue occurs.

Publication No. 4 lists and describes the various species of mosquitoes in Australia and New Guinea known to be associated with the transmission of disease, and gives practical methods of control.

Publication No. 2 in this series, which this reviewer has not seen, deals with plumbism and chronic nephritis in young people in Queensland, and methods for the estimation of lead in biological materials.—CARL E. VENARD.