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A Synopsis of the Genus *Eutropha* Loew, with a New African Species

(Diptera, Chloropidae)

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With 1 Figure

Generic limits in the chloropid subfamily Chloropinae are peculiarly difficult, especially when the rich tropical faunas are considered. Without attempting to solve problems of the proper position of certain species, I review here the species of the genus *Eutropha* Loew sens. str. as limited to a small group of species with characteristic habitus of very broad cheek, the arista obviously short (shorter than the antenna and little more than the length of the third antennal segment), apical scutellar bristles somewhat approximated, a large and conspicuous „sensory area" posterodorsally on the hind tibia, bristles pale yellow and inconspicuous, and hairs of body and head whitish or whitish yellow. The genus is confined to the Old World as far as known.

Loew (1866), who proposed the genus in a significant paper that revised the old and inclusive genus *Chlorops*, separated *Eutropha* as a small group of four species chiefly characterized, one might say, by not fitting the characterizations of the other genera that he established. He did mention the short compact body, third antennal segment with distinct upper corner, and predominantly black body color. He also called attention in his formal generic description to the short and poorly outlined frontal triangle, the broad cheeks, and the short appressed hairs and greatly reduced bristles.

Becker (1910), in monographing the Palearctic Chloropidae, recognized that *Eutropha* of Loew could not be well characterized, but by removing *ingrata* Loew to *Dicraeus*, *variegata* Loew to *Chlorops*, and *maculata* Loew to *Diplotoxa*, he confined *Eutropha* to *fulvifrons* (Haliday) (and synonyms) and recognized the genus as distinct.

Duda, however, in the latest monograph of the Palearctic Chloropidae (1933, in Lindner), relegated *Eutropha* to the rank of a subgenus of *Chlorops*, while emphasizing the character of exceedingly short arista. He returned *variegata* Loew to *Eutropha*, considered *maculata* Loew as a possible synonym of *E. albipilosa* (Becker), which had been described by Becker in the genus *Chlorops*, and referred *Chlorops extranea* Wiedemann (China) to *Eutropha*.

In 1934, Duda reviewed much of the Oriental Chloropidae and referred several species of *Chlorops* to *Eutropha* for the first time, as well as describing a new species from Formosa.

Sabrosky (1940) referred *Oscinis noctilux* Walker to *Eutropha*, recognizing that it was the wide-ranging Indo-Australian species long known as *E. nicobarensis* (Schiner) (synonym, *Chlorops fuscipennis* Thomson), for which Malloch (1938) had proposed a new genus *Pseudoformosina*.

Nartshuk (1970) published a partial key to the Palearctic species, as they occur in the European part of the Soviet Union, and recognized *fulvifrons*, *maculata*, and *variegata* as distinct species.

I believe it has not previously been noted that the African genus *Bathyparia* Lamb is undoubtedly closely related to *Eutropha*. It resembles *Eutropha* in such characters as the head higher than long, cheek very broad, arista comparatively short and almost bare, bristles short and inconspicuous, apical scutellar bristles approximated at bases, and hind tibia with large „sensory area". It differs from *Eutropha* notably in having the antennae inserted opposite the middle of the head, and the mesopleuron covered with hairs.

Eutropha lindneri new species

Head dark brown to black, shining, the body and legs likewise, but knees and tarsi chiefly yellowish.

Male, female. — Predominantly dark brown to black, shining; head chiefly dark brown, back of head black; antenna varying from chiefly reddish, especially in male, to reddish with third segment in particular considerably infuscated dorsally and apically; arista with black base, the rest whitish; palpus apparently typically reddish yellow in males, slightly infuscated distally in females; proboscis and median plate of clypeus polished black. Thorax and abdomen black to pitch black, in paler and probably immature specimens the pleuron chiefly reddish brown except for black spots in the usual areas on meso-, sterno-, ptero- and hypopleuron; notopleuron likewise dark reddish brown to black, in paler specimens a notopleural spot reddish yellow but still inconspicuous and never approaching the conspicuous yellow spot of *E. noctilux*. Wing clear, veins brown, calypteres whitish, halter knob cream white, the stalk brownish. Legs predominantly black to black-brown, the knees, base of hind tibia, bases and apices of fore and mid tibiae, and basal segment or more of all tarsi conspicuously yellowish. All bristles and hairs whitish yellow.

Head similar to that of the type-species, *E. fulvifrons* (Haliday); front broad, at vertex slightly over twice the width of an eye and slightly over half the width of the head, projecting only slightly in advance of the eyes and barely as long as broad; frontal triangle not strongly demarcated but smooth and polished and thus distinct against the subshining, finely striated, more or less concolorous front, well separated from eyes at vertex, narrowing acuminately to a sharp apex about 2/3 way to anterior margin of front. Head in profile higher than long, the cheek broad, 2/5 the height of the head and 2/3 the height of an eye, shining but not polished, the surface finely striated, sharply divided by a vertical line or low ridge from the polished but rugose postgenal area; eye oval, long axis slightly diagonal; face concave, epistomal margin slightly warped forward; parafacial broad for a chloropid,

almost as broad as third antennal segment, the latter relatively small, with length and breadth subequal and dorsoapical corner slightly angulate; arista short, shorter than the antenna and barely longer than third antennal segment, appearing bare but microscopically pubescent under high magnification, the base enlarged. Bristles and hairs pale and appressed, very short and inconspicuous, apparently as described for *E. obscura*. Proboscis slightly elongate, geniculate, the haustellum and labella both slender, subequal, and almost as long as lower margin of head.

Thorax chiefly shining and non-tomentose, but with thin gray tomentum narrowly along inner margins of humeri, at ends of mesonotal suture, on the supra-alar and postalar walls, sides and venter of scutellum, squamopleuron and hypopleuron, and a narrow band in posterodorsal corner and along upper part of posterior margin of mesopleuron; mesonotum and scutellum thickly punctured but not rugulose; pleuron rather smooth and polished, with only traces of rugosity above on mesopleuron, the latter glabrous; disk of scutellum convex. Bristles short, pale and weak, not distinct, but 1 + 2 notopleural, 1 postalar, 1 posterior dorsocentral, and one apical scutellar pairs of bristles evident, the scutellars short, moderately approximated, decussate.

Abdomen highly shining, but under high magnification showing thin gray tomentum. Legs slender; hind tibia posterodorsally with elongate-oval, distinct „sensory area", 2/5 as long as the tibia.

Figure 1. Wing of *Eutropha lindneri*.

Wing (fig. 1) similar to that of *rufifrons*, *obscura*, etc., in general pattern though the proportions differ slightly; first vein (R_1) long and strong, ending nearly midway of wing; basal sector of costa broadened at and beyond humeral crossvein, the first sector of costa thus somewhat arched; second and third veins curving gently toward costa, third ending well before apex of wing, ultimate sector of fourth vein straight or weakly convex anteriorly, veins 3 and 4 widely divergent, though 4 ending nearer to apex of wing than 3; combined second and third sectors of costa shorter than first sector, the second slightly over 1.5 times length of third sector; fore crossvein well beyond middle of discal cell (slightly over 7/10); penultimate sector of fourth vein 2/5 the length of antepenultimate sector, 1 1/3 times the length of hind crossvein, and half the length of ultimate sector of fifth vein; vein 5 with strong flexure midway of the discal cell; ultimate sectors of veins 4 and 5 pale and weakly developed except for short stubs at bases next to hind crossvein.

Length of body and of wing: male, 2 mm.; female, 2.5—3 mm.

Holotype male and allotype, Cape Town, South Africa, January — April 1915 (J. C. Bridwell). Type no. 72114 in the U.S. National Museum of Natural History.

Washington, D. C. Paratypes: 6 ♂♂, 15 ♀♀, same data as type [USNM]; ♂, 2 ♀♀, Walvis Bay, South-West Africa, Feb. 1, 1970 (E. LINDNER); 4 ♀♀, Gobabeb, South-West Africa, Feb. 29, 1970 (E. LINDNER) [Stuttgarter Mus. f. Naturkunde].

The Cape Town series was reared and puparia are pinned with all but five specimens, but unfortunately the larval habitat is not recorded.

The species is named in honor of my esteemed friend, Professor Erwin LINDNER, who collected part of the type series and who has contributed so much to the study of the Diptera.

This species resembles *E. obscura* Sabrosky, especially in the black thorax, but *obscura* differs notably in the partly bright yellow head, short and fleshy labella, broad lateral stripes of gray tomentum on the mesonotum, rugose and entirely non-tomentose mesopleuron, and legs including tarsi blackish, with only the knees and base of fore tibia narrowly yellow. Only two examples of *obscura* have been seen, but these show distinct though small differences in wing venation from the consistent series of *lindneri*: In *obscura* the third vein curves forward more strongly than in *lindneri*, making the third and fourth veins more widely divergent, and there is a longer stub of vein at the base of the ultimate sector of vein 4.

When I described *obscura*, I speculated that the only previous record of *Eutropha* from the Ethiopian Region — *fulvifrons* from Walvis Bay by SÉGUY, 1933 — possibly referred to a small specimen of *obscura*. Now that I have seen material from that locality, it seems more probable that SÉGUY actually had a specimen of *lindneri*.

Eutropha obscura Sabrosky

Eutropha obscura Sabrosky, 1959, South African Animal Life, vol. 6, p. 415 (Dassen Island, 40 miles NNW of Cape Town).

Additional record: male, Bonza Bay, East London, South Africa, May 1947 (H. K. MUNRO) [Dept. Agriculture, Pretoria, South Africa].

This example is smaller than the holotype female, 2.5 mm. compared with 3.5, but that is to be expected from a small male. There are also slight differences in the wing venation. However, the brightly colored head, rugose and entirely non-tomentose mesopleuron, lateral stripes of tomentum on the mesonotum, brown tarsi, and strongly curving third vein associate it clearly with *obscura*.

In the holotype of *obscura*, the crossveins are farther apart so that the penultimate sector of vein 4 is twice the length of the hind crossvein, and the small crossvein is thus opposite 2/3 the length of the discal cell, whereas the Bonza Bay specimen has the discal cell shortened as in *lindneri*. Incidentally the original publication of *obscura* contains an error in the description of the wing venation: The penultimate sector of vein 4 is said to be 1.42 times „the length of antepenultimate section" whereas it should have read „times the length of the penultimate sector of the third vein".

List of the Species of *Eutropha*

(Synonymies of Palearctic species as listed in DUDA 1933 are not repeated)

albipilosa (Becker), 1908, Mitt. Zool. Mus. Berlin 4: 147 (*Chlorops*). Canary Islands (type), western Mediterranean Region. BECKER spelled the species name

albopilosa in his index, p. 173, and in subsequent papers sometimes used one spelling, sometimes the other. Apparently the first reviser was DUDA (1933: 155), who clearly chose the spelling *albipilosa* and synonymized *albopilosa*.

farinosa (Becker), 1911, Ann. Mus. Nat. Hungarici 9: 65 (*Chlorops*). Formosa (type). Referred to *Eutropha* by DUDA, 1934, Tijd. Ent. 77: 134.

flavofrontata (Becker), 1911, loc. cit. 9: 64 (*Chlorops*). Formosa (type). Referred to *Eutropha* by DUDA, 1934, Tijd. Ent. 77: 134.

flavomaculata (Duda), 1930, Stettiner Ent. Ztg. 91: 301 (*Chlorops*). Ceylon (type). **N. comb.**, from holotype in Deutsches Entomologisches Institut.

fulvifrons (Haliday), 1833, Ent. Mag. (London) 1: 173 (*Chlorops*). Downshire, Ireland (type). Europe, North Africa. Type-species, by designation of BECKER, 1910, Arch. Zool., Budapest 1: 59.

lindneri Sabrosky, n. sp. South-West Africa (type).

maculata Loew, 1866, Ztschr. f. Ent., Breslau 15: 29. Sarepta, Southern Russia (type), also Hungary. This has had a varied history (see introduction), but has recently been recognized as a distinct species of *Eutropha*.

noctilux (Walker), 1859, Jour. Linn. Soc. (Zool.) 3: 126 (*Oscinis*). Aru Islands, Malay Arch. (type), widespread in Pacific. Synonyms: *Chlorops nicobarensis* Schiner, 1868, and *Chlorops fuscipennis* Thomson, 1869. The combination *Eutropha noctilux* and the synonymy were published by SABROSKY, 1940, Ann. Mag. Nat. Hist. ser. 11, 6: 420.

obscura Sabrosky, 1959, South African Animal Life, vol. 6, p. 415. Dassen Island, South Africa (type).

oldenbergi Duda, 1934, Arb. morph. taxon. Ent. Berlin-Dahlem 1: 58. Formosa (type).

siphloidea (Duda), 1930, Stettiner Ent. Ztg. 91: 302 (*Chlorops*). Ceylon (type). Referred to *Eutropha* by DUDA, 1934, Tijd. Ent. 77: 134, 139.

variegata Loew, 1866, Ztschr. f. Ent., Breslau 15: 28. Upper Silesia, now Poland (type), Europe.

Species previously referred to *Eutropha*

Chlorops extraneus Wiedemann, 1830, Außereurop. zweifl. Insekten, vol. 2, p. 596. China (type). DUDA (1933, Chloropidae, in LINDNER, p. 156) referred this species to *Eutropha*, although the species was unknown to him. I have seen type material in the Copenhagen and Vienna Museums, and it is not typical *Eutropha*.

Eutropha ingrata Loew, 1866, Ztschr. f. Ent., Breslau 15: 26. Germany (type). Now in *Dicraeus*, in the subfamily Oscinellinae.

Chlorops lenis Becker, 1924. Ent. Mitt. 13: 117. Formosa (type). I saw the type some years ago, and I do not regard it as typical *Eutropha*, although it was referred there by DUDA, 1934, Arb. morph. taxon. Ent. Berlin-Dahlem 1: 59. That might have been a slip on his part; later in the same year, in a more comprehensive paper, he referred it to *Oscinis* (DUDA, 1934, Tijd. Ent. 77: 140).

Chlorops rubra Meijere, 1910, Tijd. Ent. 53: 148. Java (type). Referred to *Eutropha* by DUDA, 1934, Tijd. Ent. 77: 133, but to *Pemphigonotus* by SABROSKY, 1940, Ann. Mag. Nat. Hist., ser. 11, 6: 422, from the holotype in Amsterdam. In *Pemphigonotus* the cheeks are comparatively narrow and the mesopleuron is haired.

Eutropha thalhammeri Strobl, 1893, Wien. Ent. Ztg. 12: 226. Hungary (type). Type-species of *Assuania* Becker, 1903.

Provisional key to the species of *Eutropha*

(The last 4 couplets are unsatisfactory because I do not have material before me, except for *variegata* and *fulvifrons*).

1. Wing heavily browned; body black with conspicuously yellow scutellum and large spot on each side of thorax, including the notopleuron and a narrow adjacent area on mesopleuron (widespread Pacific species) . . . *E. noctilux* (Walker)
— Wing clear . . . . . 2.
2 Head dark, reddish brown (*oldenbergi*) to brown-black (*lindneri*); scutellum black or predominantly so . . . . . 3.
— Head conspicuously yellow anteriorly, on front, face, and cheeks; scutellum yellow in most species . . . . . 4.
3. Third antennal segment small, the length and breadth subequal (South-West Africa) . . . . . *E. lindneri* Sabrosky
— Third antennal segment long oval, at least 1.5 times as long as broad (Formosa) . . . . . *E. oldenbergi* Duda
4. Scutellum black; mesonotum chiefly shining . . . . . 5.
— Scutellum yellow or partly yellowish . . . . . 6.
5. Mesopleuron rugose, entirely polished; disk of mesonotum rugulose; third vein strongly curving toward costa, ending far before apex of wing, veins 3 and 4 widely divergent (South Africa) . . . . . *E. obscura* Sabrosky
— Mesopleuron smooth, gray tomentose in posterodorsal angle; disk of mesonotum not rugulose; ultimate sector of third vein nearly straight, veins 3 and 4 not so widely divergent (Europe, North Africa) . . . . *E. fulvifrons* (Haliday)
6. Mesonotum chiefly shining, finely gray tomentose only at extreme edges . . 7.
— Mesonotum gray tomentose, at least in large part . . . . . 8.
7. Scutellum black at least basally; third antennal segment orbicular; legs predominantly black or black-brown, including all tarsi . *E. fulvifrons* (Haliday)
— Scutellum yellow; one or more other characters not as above
Three species key to this point, none known to me:
E. albipilosa (Becker), Canary Islands, western Mediterranean
E. maculata Loew, Southern Russia, Hungary
E. siphloidea (Duda), Ceylon
8. All tarsi brown to blackish . . . . . 9.
— Tarsi partly yellow, at least the basal tarsomeres . . . . . 10.
9. Third antennal segment conspicuously enlarged; its length half that of the front and its breadth much greater than the height of the cheek (Europe, Central Asia) . . . . . *E. variegata* Loew
— Third antennal segment 'rather large' (Formosa) . . *E. flavofrontata* (Becker)
10. Mesonotum and pleuron black, with conspicuous yellow spot on each notopleuron and narrow adjacent area of mesopleuron, as in *noctilux* (Ceylon) . . . . . *E. flavomaculata* (Duda)
— Thorax with dull gray-yellow ground color, the pleuron with 4 shining black spots (Formosa) . . . . . *E. farinosa* (Becker)

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