

A NEW NEARCTIC *TABANUS* OF THE *FULVULUS* GROUP

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In the Cooperative Economic Insect Report of June 2, 1961 (Vol. 11, No. 22), page 463, Cancienne and Newsom report *Tabanus longiusculus* Hine from Louisiana. Since the writer has seen *longiusculus* only from North Carolina, South Carolina, Georgia, Florida and Tennessee, this was thought to be an interesting extension of range.

Through the cooperation of Mr. Bobby H. Wilson of Louisiana State University a series of specimens reported as *longiusculus* was made available for study. It was found that these specimens differed from *longiusculus* in having a broader abdomen, narrower front, dark hind femora, a linear median callus and less distinct thoracic stripes. The characters of these specimens related them to *Tabanus fulvulus* Wied. However, they appear to be distinct from *fulvulus* and apparently represent an undescribed species. Other specimens have since been located in the collections of Ohio State University, C. B. Philip and the writer.

A specimen from Arkansas in the writer's collection has been selected as the holotype since a male collected at the same time makes an appropriate allotype. It is a pleasure to dedicate this species to Mr. Wilson who not only supplied a series of the new form, but also located other specimens pertinent to this study as noted below.

Tabanus wilsoni, n. sp.

Holotype, female, 13.5 mm. Eye bare. Front narrow, about six times as high as width at base, slightly widened above; basal callus very dark brown, almost twice as high as wide, very narrowly separated from eyes; median callus linear, not reaching basal callus; front golden brown pollinose with black hairs; no ocellar tubercle. Subcallus and upper portion of genae golden brown pollinose, shading below on genae to white; genae black and yellow haired above, long white haired below. First and second antennal segments orange with black hairs; basal plate of third antennal segment orange, rather broad, about two-thirds as broad as high, with a distinct dorsal angle and moderate dorsal excision; annulate portion black, distinctly shorter than basal plate. Second palpal segment

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cream colored, rather stout near base but tapering to an acute point, mostly black haired with a few white hairs near base and below; first palpal segment long white haired.

Mesonotum dark brown, paler along lateral margins and on prescutal lobe; the usual three longitudinal stripes obsolete except center stripe which is fairly distinct but extremely narrow. Mesonotum with short white and black hairs; prescutal lobe with longer black hairs. Scutellum concolorous with mesonotum. Pleurae gray with white hairs. Wing, including costal cell, hyaline with a faint yellowish tinge; venation normal. Coxae and femora black; most of apical half of middle femora yellow brown; apex of fore and hind femora yellow brown; tibiae yellowish, fore tibiae becoming gradually darker on apical half giving an indistinctly bicolored appearance; hind tibial fringe predominantly black with a few pale hairs intermixed; tarsi dark brown, middle and hind metatarsi paler at base.

Abdomen dark brown with three rows of yellow brown spots on first six tergites; median row, from second segment on, composed of contiguous triangles which are pale haired; pale triangle on second tergite outlined anteriorly by a dark dash on each side; the sublateral rows are composed of roundish spots which on the first three segments occupy most of width of tergite. Venter yellowish with a faint dark central spot on first two tergites; mostly pale haired.

Arkansas River, Arkansas Co., Arkansas, 8 June 1956.

Allotype, male, 13.5 mm. Similar to female. Eye bare; large facets not much larger than small facets but area sharply differentiated and occupying about half of eye area. Antennae colored as in female but basal plate of third segment narrower. Second palpal segment cream colored, blunt, slightly more than twice as long as thick, black and yellow haired. Mesonotum dark brown with a median stripe vaguely indicated, black haired with a few pale hairs; scutellum dark brown; prescutal lobe reddish brown; pleurae gray with pale yellow hairs. Legs as in female. Abdominal markings much like female; median pale triangle on second tergite truncated above by a dark spot. Same data as holotype.

Paratypes: *Arkansas*: same data as holotype, 1 ♂. *Louisiana*: Mound, 29 June 1922 (W. G. Bradley), "feeding on horse," 1 ♀; Baton Rouge, 1922, 1 ♀; 4 June 1923 (W. G. Bradley), "feeding on horse," 1 ♀; St. Landry Parish, 20 May 1959, 2 ♀♀; 25 May 1959, 1 ♀; 27 May 1959, 11 ♀♀; 1 June 1959, 4 ♀♀; 22 June 1959,

1 ♀ (B. H. Wilson) ; Tensas Parish, 25 May 1959, 3 ♀♀; 23 June 1959, 1 ♀ (B. H. Wilson) ; New Roads, 14–18 July 1905, 5 ♀♀.

Holotype and allotype in writer's collection. Paratypes in collections of Louisiana State University, Ohio State University, Cornell University, U. S. National Museum and C. B. Philip.

The holotype, allotype and topotypic male paratype were collected by Dr. H. E. Evans as prey of the wasp *Bembix pruinosa* Fox. These three specimens were reported by Evans (1957, p. 159) as *Tabanus fulvulus*.

Variations: There is little variation in the series of paratypes studied except in size. The smallest specimens are 11 mm. and the largest is 14.5 mm. in length. Most specimens are somewhat smaller than the holotype. In some specimens the sides of the front are parallel. A male paratype collected at the same time as the allotype shows more yellow hairs on the pleurae than the allotype. Some specimens collected in 1905 are rather pale but this is believed due to age; the basal callus of some of these is dark yellow.

Comparative Notes: Both sexes of *T. wilsoni* may be separated from *T. fulvulus* by the generally brownish color in contrast to the yellow appearance of *fulvulus*. In detail, the black haired palpi and black hind tibial fringe of *wilsoni*, with the lack of yellow hairs on the mesonotum and pleurae and less distinctly bicolored fore tibiae makes differentiation from *fulvulus* relatively easy. Northern females of *fulvulus* sometimes have many black hairs on the palpi and northern males may have mostly black hind tibial fringes but the orange thoracic pilosity readily distinguishes these from *wilsoni*.

Specimens of *wilsoni* and *fulvulus* placed in a moist chamber to restore eye color indicate the eye pattern of *wilsoni* to be three purple bands on a blue green background; the specimens of *fulvulus* showed three similar bands on a bright green background.

Philip (1936) described *pallidescens* as a variety of *fulvulus*. The writer believes the characters given by Philip are sufficient to separate *pallidescens* at the specific level since they are consistent in the rather adequate series studied. A series of *fulvulus* and *pallidescens* collected by A. and H. Dietrich at Marianna, Florida on June 5 and 6, 1961 show an additional character supporting the distinctness of the two forms. In *fulvulus*, the eye in life is bright green with three purple stripes; in *pallidescens* the eye is bronzy green with one purple stripe. This difference has been confirmed by placing specimens from various localities in a moist chamber. It is interesting to note in this connection that the three eye stripes of *T. fulvulus* restore easily, whereas the single stripe of *pallidescens*

requires a longer period of moistening to appear and in some specimens no stripe could be restored.

The range of *fulvulus* and *pallidescens* is similar; *fulvulus* has been collected further north than *pallidescens*, and *pallidescens* apparently ranges a little further toward the southwest.

T. wilsoni is separated from *pallidescens* by the dark annulate portion of the third antennal segment, dark femora and generally darker color.

Hine (1907, p. 49) reports *T. fulvulus* from Baton Rouge, New Roads, Keachie and Crowley, Louisiana. Later (1914, p. 227), Hine discussed *fulvulus* under four different forms. Forms 1 and 2 seem to be within the variation associated with *fulvulus*; Hine reports none of these from Louisiana. Form 3 is listed only from New Roads, Louisiana. Form 4 he records from Louisiana and Georgia.

Through the kindness of Prof. J. N. Knull of Ohio State University, the writer was able to study a series of Hine's *fulvulus* collected at New Roads, Louisiana, 14–18 July 1905; all of these are *T. wilsoni*. All other Louisiana specimens in the Hine collection seen by the writer are *T. pallidescens*.

Jones and Bradley (1923) reported *T. longiusculus* from Mound, Louisiana on a basis of a determination by Dr. J. M. Aldrich. They also report the presence of *T. fulvulus* in May and record the collection and rearing to adult of a *T. fulvulus* larva collected in a well rotted log near Baton Rouge. The same workers (1924) again list *T. longiusculus* from Louisiana and report *T. fulvulus* as present during May, June and July with the period of greatest abundance in May.

Mr. Wilson was able to locate in the Louisiana State University collection a single specimen collected by Bradley at Mound, Louisiana, 29 June 1922, and determined by Aldrich as *T. longiusculus*. This specimen is *T. wilsoni*. A second specimen collected by Bradley on 4 June 1923 at Baton Rouge also is *wilsoni*; both specimens are noted as "feeding on horse." Mr. Wilson also sent me a series of six specimens determined as *fulvulus* and collected by Jones and Bradley. All are from Magnolia, Louisiana, 16 May 1922 and 11 June and 12 July 1923, and are noted as "feeding on mule." All six specimens are *T. pallidescens* Philip.

From the above it seems apparent that Hine's *fulvulus* from Louisiana is composed of both *T. wilsoni* (Form 3) and *T. pallidescens* (Form 4). *T. longiusculus* of Jones and Bradley is *T. wilsoni* and their *fulvulus* is *pallidescens*.

T. fulvulus has not been seen by the writer from Louisiana except

for a series collected by B. H. Wilson, St. Helena Parish, 30 May 1962. In addition, *fulvulus* has been seen during this study from New York (Long Island), New Jersey, Pennsylvania, Ohio, Illinois, Kentucky, Tennessee, Missouri, Arkansas, Maryland, D.C., Delaware, Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama. *T. pallidescens* has been seen from Maryland, Tennessee, Missouri, Arkansas, North Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana.

KEY TO TABANUS RELATED TO FULVULUS

1. Third antennal segment entirely orange; legs pale; eye of female in life with a single purple band. Large eye facets of male considerably larger than small facets and occupying about $\frac{2}{3}$ of eye area *pallidescens* Philip
Annulate portion of third antennal segment black; femora mostly dark; eye in life with three purple bands. Large eye facets of male not much larger than small facets and occupying about half of eye area 2
2. Mesonotum orange or yellow haired; hind tibial fringe usually mostly orange; palpi usually mostly pale haired; pleurae with orange hair *fulvulus* Wied.
Mesonotum white and black haired; hind tibial fringe mostly black; palpi mostly black haired; pleurae with pale hair
wilsoni, n. sp.

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