A NEW SPECIES OF MAN-BITING *CULICOIDES* FROM THE HIGH ANDES OF COLOMBIA (DIPTERA: CERATOPOGONIDAE)

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ABSTRACT

Culicoides suarezi Rodriguez and Wirth, NEW SPECIES, is described from 3230 m elevation on Monserrate near Bogota, Colombia, where it was collected while biting man. A key is presented to distinguish the 4 described species of the *andicola* group of the subgenus *Avaritia*, to which the new species belongs. All are anthropophilic and confined to the paramo regions of the Colombian Andes.

RESUMEN

Se describe una nueva especie, *Culicoides suarezi* Rodríguez y Wirth, colectada cuando picaba al hombre a una altura de 3230 m en Monserrate cerca de Bogotá, Colombia. Se presenta una clave para separar las 4 especies descritas del grupo de *andicola* del subgénero *Avaritia* al cual pertenece la nueva especie. Todas son antropolíficas y limitadas a las regiones de paramo de los Andes colombianos.

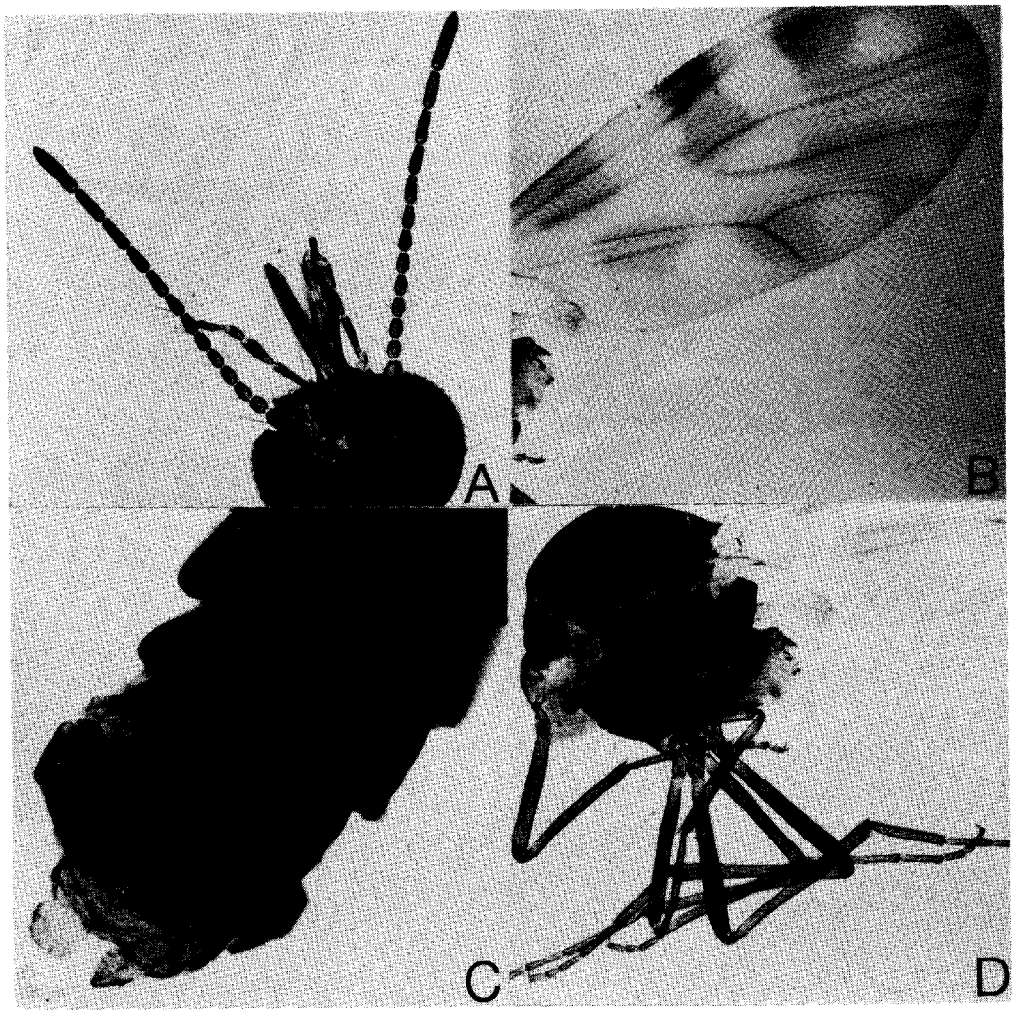
Very little has been published on the *Culicoides* biting midges of Colombia, although extensive collections have been made by V. H. Lee and P. Barreto of the Universidad de Valle on the Río Raposo, Dpto. Valle; J. E. Browne and M. A. Tidwell of Tulane University and the Universidad de Valle in the vicinity of Cali, Depto. Valle; and G. R. Defoliart and associates of the University of Wisconsin on the Río Anorí near Providencia, Dpto. Antioquia. The principal publications were descriptions of 6 new species from near Cali by Browne (1980), 8 new species from the Río Raposo by Wirth and Barreto (1978), and 1 new species from Florencia by Messersmith (1972). Wirth and Blanton (1973) reported 18 species from the Colombian Amazon and Wirth (1974) listed Colombian records of 17 additional species.

However, Wirth and Lee (1967) reported a very interesting *Culicoides* fauna from cool, wet situations at high altitudes in the central and western ranges of the Andes, describing 7 new species. Three of these species belong to a distinct group of the subgenus *Avaritia* that are endemic to the Paramo de Puracé between 3100 and 3320

m elevation. In addition they mentioned a 4th undescribed species of this group from similar elevations in Costa Rica. The purpose of the present contribution is to report and describe a 5th species of the *andicola* group from a paramo situation on Monserrate, 3230 m in Dpto. Cundinamarca near Bogotá. All the Colombian species of this group are avid feeders on human blood and 1 species, *A. puracensis* Wirth and Lee, is so abundant as to be an annoying pest on the Paramo de Puracé. A good description of the paramo habitats and an explanation of the morphological terminology used in our description can be found in the paper by Wirth and Lee (1967).

KEY TO COLOMBIAN SPECIES OF THE *CULICOIDES ANDICOLA* GROUP (FEMALES)

1. Pale wing markings extensive, poststigmatic pale spot in cell r5 covering distal ½ of 2nd radial cell, and broader than the dark area distal to it 2



EXPLANATION OF FIGURE

Fig 1. *Culicoides suarezi* female: A, head; B, wing; C, abdomen showing spermathecae; D, thorax including legs.

— Pale wing markings very restricted, poststigmatic pale spot in cell r5 covering less than distal ¼ of 2nd radial cell and narrower than the dark area distal to it .. 3

2. Third palpal segment slender, palpal ratio 3.4, sensory pit shallow; proboscis longer, P/H ratio 1.17 ..... *suarezi* n. sp.

— Third palpal segment swollen distally, palpal ratio 2.5-2.9, sensory pit depth; P/H ratio 1.00 ..... *andicola* Wirth and Lee

3. Larger species, wing length 1.52 mm; antennal segments 3, 11-15 with sensilla coeloconica; 3rd palpal segment with shallow sensory pit . *orjuelai* Wirth and Lee

— Smaller species, wing length 1.33 mm; antennal segments 3,13-15 with sensilla coeloconia; 3rd palpal segment with deep sensory pit . *puracensis* Wirth and Lee

Culicoides (Avaritia) suarezi Rodriguez and Wirth, NEW SPECIES

FEMALE HOLOTYPE: Wing length 1.39 mm; breadth 0.63 mm.

Head (Fig. 1A): Brown including antennae and palpi. Eyes hairy, contiguous for a distance equal to diameter of 2 facets. Antenna with lengths of flagellar segments in proportion of 25-20-20-21-21-20-23-26-31-31-40-42-65, antennal ratio (11-15/3-10) 1.18; sensilla coeloconica present on 3,11-15. Palpal segments with lengths in proportion of 10-45-45-21-30; 3rd segment slender with a shallow, round, distal sensory pit, palpal ratio 3.4. Proboscis long, P/H ratio 1.17; mandible with 17 teeth.

Thorax (Fig. 1D): Uniformly brown including legs. Wing (Fig. 1B) with distinct pattern of pale areas typical of the subgenus *Avaritia;* 2nd radial cell with distal ½ included in the poststigmatic pale spot; the pale markings intermediate in extent between those of *C. andicola* and those of *C. puracensis*. Costal ratio 0.61. Halter pale.

Abdomen (Fig. 1C): Brown. Spermathecae 2, oval with short slender necks; subequal, each measuring 0.048 by 0.039 mm; rudimentary 3rd spermatheca and sclerotized ring present.

HOLOTYPE: ♀ Colombia, Dpto. Cundinamarca, Bogotá D.E., Monserrate, 3230 m, biting human, 7.ix.1978, H. Strumm (deposited in National Museum of Natural History, Washington, D.C.).

DISCUSSION: This species is dedicated to Marco F. Suarez of the Servicio de Erradicación de Malaria in Bogotá in recognition of his long-standing interest in the *Culicoides* fauna of Colombia. Señor Suarez has worked since 1976 in assembling a collection and check list of Colombian *Culicoides* and first submitted the holotype of the new species to the junior author in 1978.

Culicoides suarezi can be distinguished from the 3 other described species of the *andicola* group by the characters given in the key. It is most similar to *C. andicola,* resembling it more than *orjuelai* and *puracensis* in its more prominent wing markings, the 5th palpal segment noticeably longer than the 4th, and the spermathecae with shorter, less tapering necks. *C. andicola,* however, has much more distinct wing markings than *suarezi,* and the 3rd palpal segment is stouter with deeper sensory pit.

END NOTE

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DESCRIPTIONS OF NEW SPECIES OF *CHEUMATOPSYCHE* (TRICHOPTERA: HYDROPSYCHIDAE) AND THE PRESUMED FEMALE OF *C. HELMA* ROSS FROM ALABAMA

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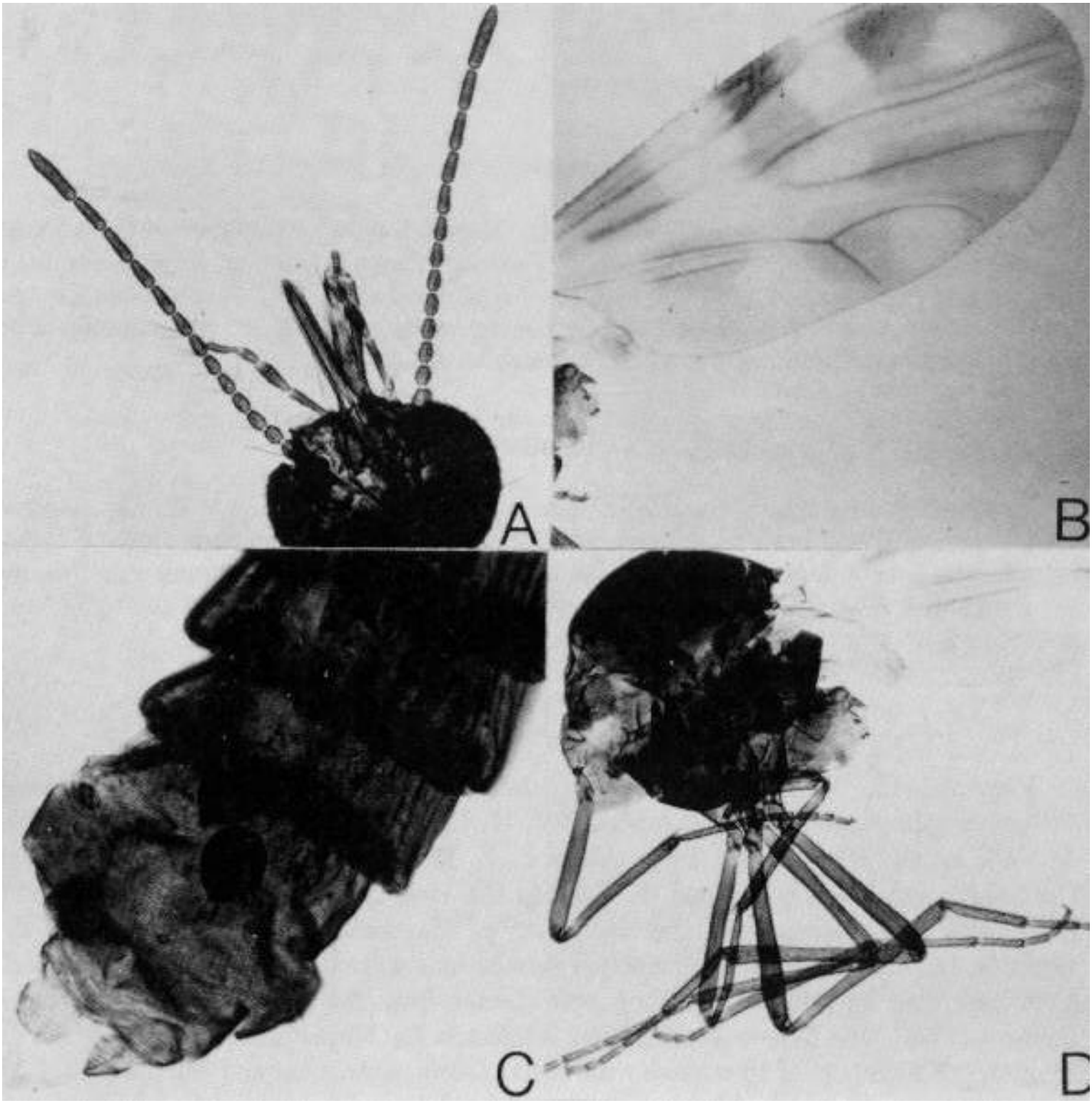
ABSTRACT

The presumed female of *Cheumatopsyche helma* Ross and 3 new species, *C. bibbensis*, *C. cahaba* and *C. kinlockensis*, are described and illustrated. Each is compared to the most similar congeners.

RESUMEN

Se describen e ilustra la supuesta hembra de *Cheumatopsyche helma* Ross y 3 especies nuevas, *C. bibbensis*, *C. cahaba* y *C. kinlockensis*. Cada una se compara con las congéneres más similares.

A recent survey of the caddisfly fauna of northern Alabama revealed the presence of 3 undescribed species of *Cheumatopsyche*. In collections from 2 localities in this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