DICYRTOMA (PTENOTHRIX) CASTANEa, NEW SPECIES FROM THE SAVANNAH RIVER PLANT (COLLEMBOLA: DICYRTOMINAE)

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ABSTRACT

A new species, Dicyrtoama (Ptenothrix) castanea Snider, is described from South Carolina. It shares morphological characteristics with Dicyrtoama (Ptenothrix) vittata (Folsom) and Dicyrtoama (Ptenothrix) renateae n.sp. (Snider 1985). Separation of D. castanea from those species is accomplished by color pattern and presence of clavate subapical filaments on the unguiculi. The type locality is Aiken County, South Carolina, litter in low, mixed hardwood forest.

RESUMEN

Se describe una nueva especie, Dicyrtoama (Ptenothrix) castanea Snider, de Carolina del Sur. La misma comparte características morfológicas con Dicyrtoama (Ptenothrix) vittata (Folsom) y Dicyrtoama (Ptenothrix) renateae n.sp. (Snider 1985). D. castanea puede separarse de las especies anteriores mediante su patrón de coloración y la presencia de filamentos subapicales en forma de clave en la unguicula. La localidad tipo es el condado de Aiken en Carolina del Sur, donde se encuentran en la hajerasca de bosques bajos y mixtos de madera dura.

This paper is another in a series describing Collembola from the Savannah River Plant, Aiken, South Carolina. Since 1980 I have examined collections taken at the SRP for new distribution records. Many range extensions have been discovered and will be reported elsewhere. Here my purpose is to describe a new species of Dicyrtoama.

Dicyrtoama (Ptenothrix) castanea, NEW SPECIES

COLOR AND PATTERN (♀): Background creamy white with purple, tan and olive polygons of pigment. Head from between bases of antennae to vertex with light bluish, broken line; frons with black double macula between bases of antennae, polygons of olive-purple below antennal bases, lower frons with light dusting of olive; gena with light bluish dusting, becoming intense posteriorly. Body thoracic area with light dusting of bluish-purple, dorsum light purple, irregular, becoming light tan posteriorly; abdomen with lateral polygons of light tan, 3 broad areas lacking pigment; abdominal segment VI light tan-yellow bordered with purple; papilla of bothriothrix A dark purple; legs with light dusting of olive-purple; furcula colorless (Fig. 1 & 2).
Fig. 1-2. *Dicrytoma (Plenothrix) castanea* n. sp. 1. Habitus, lateral view; 2. Habitus, dorsal view.

**HEAD:** Eyes 8 + 8 with dark pigment; ocellus D ½ diameter of C, ocelli ABCE subequal, FGH smaller and subequal (Fig. 3). Mean antennal ratio 1:3.5:4:5:1; ANT IV without subsegmentation, having a single file of 5-6 setulae (Fig. 4); ANT III with 1 dorsal and 4 ventral cup sensilla (Fig. 5); ANT II not distinctly subsegmented, with 3 dorsal and 1 ventral cup sensilla (Fig. 6); ANT I with 4 dorsal and 1 ventral setae (Fig. 7). Dorsal cephalic octac short, spine-like, 5 unpaired facial setae (Fig. 8), 1 + 1 oval organs on lower frons. **FORELEG:** Coxae with 1 seta (Fig. 9); trochanter with 3 anterior and 1 posterior setae (Fig. 10); femur with basal posterior and distal anterior oval organs, with 1 cup sensillum on outer margin (Fig. 11); tibiotarsus with 4 cup sensilla and 3 oval organs on anterior surface (Fig. 12), 1 oval organ on posterior surface (Fig. 13), and tenent hairs acuminate; pretarsus with anterior and posterior setulae; unguis lacks tinea with small lateral teeth and weak inner tooth (sometimes 2); unguiculus with serrate outer margin, apical filament reaching beyond tip of unguis, clavate (Fig. 14). **MESOLEG:** Coxae with 3 anterior setae and 1 hair sensillum (Fig. 15); trochanter with 4 anterior and 1 posterior setae (Fig. 16); femur with anterior and posterior oval organs, cup sensillum on outer margin (Fig. 17); tibiotarsus with 5 cup sensilla and 3 oval organs on anterior surface (Fig. 18), 1 oval organ on posterior surface (Fig. 19); pretarsus with anterior and posterior setulae; unguis lacks tinea, with small lateral teeth and weak inner tooth (sometimes 2); unguiculus with serrate outer margin, apical filament reaching beyond tip of unguis, clavate (Fig. 20). **METALEG:** Coxae with 4 anterior setae and oval organ (Fig. 21); trochanter with 5 anterior and 1 posterior setae (Fig. 22); femur with anterior and posterior oval organs, cup sensillum on outer margin (Fig. 23); tibiotarsus with 5 cup sensilla and 3 oval organs on anterior surface (Fig. 24), posterior surface with 1 oval organ, differentiated setae strongly serrate (Fig. 25); pretarsus with anterior and posterior setulae; unguis lacks tinea, with small lateral tooth and 1 small inner tooth; unguiculus with serrate outer margin, apical filament reaching beyond tip of unguis, clavate (Fig. 26). **GREAT ABDOMEN:** Colophore with 1 + 1 subapical and 1 + 1 lateral setae, sacs warty (Fig. 27). Corpus of tenaculum with 4 setulae, ramus with 3 teeth and horn (Fig. 28). Manubrium with 9 + 9 dorsal setae (Fig. 29). Dens with 3-2-1-1 Ve setae (Fig. 30), dorsal setae consistent with genus (Fig. 31), E setae ratio E1/E2 = 1.30 and E3/E2 = 2.07 (Fig. 32). Mucro with inner and outer teeth, 25-34 outer and 31-33 inner (Fig. 33). Circumanal setae M, M* and N spine-like and smooth, seta sa normal; other setae follow pattern MNTHG Ao sa, Ao, A1, 3² ± ± ± ± -
A2, A3 and H serrate (Fig. 34). Female subanal appendage long, acuminate and curved (Fig. 35). Body setae short, dagger-like (Fig. 36). Bothriothrix D present. Length up to 1 mm.

**Diagnosis:** *Dicyrtoma (Ptenothrix) castanea* Snider keys out closest to *Dicyrtoma (Ptenothrix) vittata* (Folsom) in Christiansen and Bellinger (1981). This is the second species described from the Savannah River Plant that appears to be an exception to the subgenus with respect to facial setae. *Dicyrtoma (Ptenothrix) renateae* n. sp. (Snider, 1985) also exhibits more than 2 unpaired facial setae. *D. castanea* differs from *D. renateae* n. sp. and *D. vittata* by having clavate apical filaments on the unguiculi. Like *D. renateae*, *D. castanea* has circumanal seta G present. Color pattern alone will separate the species. However, *D. castanea* is close to *D. vittata* with respect to serrate circumanal setae, differentiated tibiotarsal setae, and antennal subsegmentation. Besides color pattern, *D. castanea* may be separated from *D. vittata* using the following morphological characteristics:

**D. castanea**
- Circumanal seta G present
- Female subanal appendage smooth
- Unguis with 5-6 small lateral teeth
- $E_1/E_2 = 1.30$, $E_2/E_2 = 2.07$

**D. vittata**
- Absent
- Ciliate
- 2 lateral teeth
- $E_1/E_2 = 1.00$, $E_2/E_2 = 2.30$

**Types:** Holotype (♂) and 1 paratype mounted on slides in CMCP-9; 6 subadult paratypes in alcohol. Holotype and paratypes deposited in the Entomology Museum, Michigan State University. Collection data: South Carolina, Aiken County, near rail bridge on Road F, Savannah River Plant, litter in low, mixed hardwoods, “October 27, 1983,” W. Hargrove, collector.

Special thanks are extended to the Savannah River Ecology Laboratory of the University of Georgia for support provided by contract EY-76-C-09-0819, NERP Program of the U.S. Department of Energy. This manuscript was reviewed by Dr. Kenneth A. Christiansen of Grinnell College, Dr. Peter F. Bellinger of California State University, Northridge and Dr. D. L. Wray of the Pesticide and Plant Protection Div., North Carolina Dept. of Agriculture. Their comments are very much appreciated.
REFERENCES CITED


A NEW SPECIES OF PARATETRACNEMOIDEA
GIRAULT, 1915, FOUND IN NORTH AMERICA, WITH A DISCUSSION OF GENERIC PLACEMENT (HYMENOPTERA: ENCYRTIDAE)

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ABSTRACT

Paratetracnemoidea americana New Species (North America) is described and compared with P. malenotti (Mercet) (Europe) and P. breviventris Girault (Australia). The genus presently holds three described species, but undetermined specimens have been reported from South Africa and Australia. The taxonomic history of the genus and its better known junior synonym, Rhinocyrtus, is reviewed and reasons for its placement in the Copidosomatini are given. Unusual morphological features including a peculiar protuberance on the head and rudimentary venation at the base of the forewing are illustrated and discussed.

RESUMEN

Paratetracnemoidea americana, una especie nueva en norteamérica, se describe y se compara con P. breviventris Girault (Australia) y P. malenotti (Mercet). El género tiene actualmente tres especies descritas, pero especímenes no-determinados se han reportado del África del Sur y Australia. La historia taxonómica del género y su mejor conocido sinónimo junior se discute y las razones por su colocación en el Copidosomatini se explican. Las características morfológicas diferentes, incluyendo una protuberancia peculiar en la cabeza y una nervadura rudimentaria en la base del ala anterior, se ilustran y se discuten.

INTRODUCTION

Material submitted for identification by Mr. T. D. Miller of Boise, Idaho is conspecific with other material of an undescribed species of Paratetracnemoidea taken from several localities in North America. Previously the genus was known under its junior synonym, Rhinocyrtus Mercet, but no species name was available for North American material. This paper provides a name for Mr. Miller's work and considers the placement of Paratetracnemoidea among 500 genera of Encyrtidae currently recognized.