



Two new species of blind, forest litter-inhabiting ground beetles from the subtribe Anillina (Carabidae: Trechinae: Bembidiini) from eastern U.S.A.

IGOR M. SOKOLOV¹ & CHRISTOPHER E. CARLTON²

Louisiana State Arthropod Museum, Department of Entomology, LSU Agricultural Center Baton Rouge, Louisiana, 70803, USA. E-mail: ¹isokolov@agcenter.lsu.edu; ²CCarlton@agcenter.lsu.edu

Abstract

Two new species of anilline ground beetles are described from the Appalachian Mountains of eastern United States. The description of *Serranillus septentrionis* n. sp. is based on specimens collected in montane areas of western Virginia (37°25.33'N, 79°45.43'W). This species extends the range of the genus approximately 200 km north of its closest known congeners, *S. dunavani* (Jeannel) and *S. jeanneli* Barr, and differs from them mainly in characters of the male genitalia. A key is provided that will allow separation of these three species without dissection. The description of *Anillinus cherokee* n. sp. is based on specimens collected in Great Smoky Mountains National Park and nearby areas of Nantahala National Forest, western North Carolina (35°21.33'N, 83°56.05'W). The species is externally similar to *A. loweae* Sokolov and Carlton and *A. steevesi* Barr, and differs from those species in characters of the male genitalia.

Key words: Coleoptera, Adephaga, Carabidae, *Anillinus*, *Serranillus*, Appalachian Mountains, new species, identification key

Introduction

Intensive sampling of the litter fauna in the Great Smoky Mountains National Park (GSMNP), and adjacent areas in the eastern United States from 2000 to 2006 has resulted in the discovery of numerous new species of beetles (Gusarov 2002; Konstantinov & Tishechkin 2004; Gimmel & Ślipiński 2007; Tishechkin 2007), mostly from the subtribe Anillina (Sokolov *et al.* 2004, 2007). In addition to these, two distinctive new species of forest litter anillines belonging to two genera, *Serranillus* Barr and *Anillinus* Casey are described herein. *Serranillus*, until the present paper, has included two species, *S. jeanneli* Barr and *S. dunavani* (Jeannel) with ranges occupying southern counties of North Carolina, south-eastern counties of Tennessee and northern counties of Georgia and South Carolina. The discovery of a new species of *Serranillus* far northwards is a significant range extension of the genus. The new species of *Anillinus* described herein is unique among the known species of the genus in Southern Appalachians based on the distinctive form of the aedeagal median lobe. In addition to these descriptions, we provide a determination key for all known species of *Serranillus*.

Material and methods

Specimens were collected by sifting litter and using Berlese funnels. All specimens were measured electronically using a Leica Z16 APO microscope equipped with a Syncroscopy AutoMontage photomicroscopy system (SYNCROSCOPY, Synoptics Ltd.). Measurements for various body parts are encoded as follows: ABL =