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Systematics and zoogeography of the genus *Lophoglossus* Leconte
(Coleoptera Carabidae Pterostichini)

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Abstract. A phylogenetic hypothesis for the genus *Lophoglossus* LeConte is developed based on the results of a cladistic analysis using 21 characters from adult morphology of the six species in the genus. The *substrenuus* group (*L. substrenuus* + *L. vernix*), *scrutator* group (*L. scrutator*) and *tartaricus* group (*L. tartaricus* (*L. haldemanni* + *L. gravis*)) are designated as species groups and cladistic diagnoses and descriptive notes are presented for each. A key to species and notes on biology, distribution and phenology are provided. A zoogeographical scenario involving glacial cycles and vicariance of population east and west of the Appalachian Mountain barrier explains the present distributions of species given their cladistic relationships.

Key words: Carabidae, *Lophoglossus*, morphology, cladistic analysis, species key.

INTRODUCTION

LeConte (1852: 248-49) circumscribed *Lophoglossus* LeConte to include three species, *L. haldemanni* LeConte, *L. tartaricus* (Say) and, *L. scrutator* LeConte. He distinguished these taxa from other *Pterostichus* by the form of the ligula, though he was doubtful of the distinctiveness of the genus. LeConte (1873: 316-317) later expanded the genus to include *L. gravis* LeConte and *L. tartaricus* (Say), and developed a key to species. Casey (1913) described three additional forms and devised a key for the genus (excluding *gravis*). Casey’s subsequent publication (Casey, 1918) included *Lophoglossus* in a key to genera of Pterostichini, and therein he designated *Feronia tartarica* Say as the type for the genus. Others authors, such as Chaudoir (1868: 331), Csiki (1930: 627), Lindroth (1968: 497), and Horn & LeConte (1883: 32) considered *Lophoglossus* as a weak subgeneric group within *Pterostichus* s.l. Bousquet & Larochelle (1993) recognized *Lophoglossus* as a distinct genus including the six species treated here. I concur with Bousquet and Larochelle’s recognition of generic status for *Lophoglossus*, which is substantiated by generically distinct autapomorphic characteristics of adults as discussed below and characteristics of larvae (Bousquet, 1985). Whether the large Holarctic genus *Pterostichus* is made paraphyletic by recognizing *Lophoglossus* as a distinct genus is beyond the scope of this paper. Species within the genus are recognized by the criteria established by Nixon & Wheeler (1990).