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## **A revision of the Nearctic species of *Brachygluta* Thomson, 1859 (Coleoptera: Staphylinidae: Pselaphinae)**

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## Abstract

The North American species of *Brachygluta* Thomson, 1859 are revised, treating a total of 29 species. Six names are placed as junior synonyms: *Bryaxis perpunctata* Brendel, 1890 (= *B. luniger* LeConte, 1849), *B. labyrinthea* Casey, 1894 (= *B. intermedia* Brendel, 1866), *B. loripes* Casey, 1894 and *B. jacobina* Casey, 1908 (= *B. foveata* LeConte, 1851), *B. arizonae* Casey, 1887 (= *B. texana* Casey, 1886), and *B. intricata* Casey, 1894 (= *B. terebrata* Casey, 1894). Twelve new *Brachygluta* species are described: *B. chisos* Sabella (USA), *B. cochimi* Bückle (Mexico), *B. eldredgei* Chandler (USA), *B. kiowa* Sabella (USA), *B. klamath* Bückle (USA), *B. lareaui* Chandler (USA), *B. mayo* Sabella (Mexico), *B. miccosukee* Bückle (USA), *B. seri* Chandler (Mexico), *B. shawnee* Chandler (USA), *B. tamaulipeca* Sabella (Mexico and USA), and *B. wickhami* Bückle (USA). Problems with the identities of the following three species based on missing types are discussed: *Bryaxis abdominalis* Aubé, 1833; *Bryaxis curvicera* Motschulsky, 1854; and *Pselaphus dentatus* Say, 1824, with a Neotype being designated for *P. dentatus*. *Nisa* Casey, 1886 is removed from synonymy of *Brachygluta* and reinstated as a subgenus. A key to the males is provided, nine species-groups are formed and defined, all species are characterized, distributions are detailed, and habitat/collecting data are summarized.

Lectotypes are designated for *Bryaxis arguta* Casey, *Bryaxis belfragei* LeConte, *Bryaxis foveata* LeConte, *Bryaxis infinita* Casey, *Brachygluta jacobina* Casey, and *Brachygluta mormon* Bowman.

**Key words:** distribution, key to species, species groups, systematics, taxonomy

## Introduction

The Holarctic genus *Brachygluta* Thomson currently consists of 116 named species and subspecies, with 93 of these taxa restricted to the Palaearctic Region (Löbl & Besuchet 2004, Bückle & Brachet 2008), and 23 to the Nearctic Region. Two additional species are known from the transition zone of the Palaearctic Region to the Afrotropical Region: *B. foveiventris* (Raffray) from Eritrea (Raffray 1882) and Djibouti (Secq 1987, as *B. excavativentris* Pic [synonymy in Besuchet 1999]), and *B. precaria* Castellini from Sierra Leone (Castellini 1997). This genus has been well-known to collectors of small beetles due to the wide range of distinctive modifications of the male abdomen found in many species. In the Palaearctic Region Sabella *et al.* (2004) revised the 76 Palaearctic species and subspecies that had abdominal modifications, leaving the 26 species without these modifications for a future treatment. Since nearly all of the described species from the Nearctic Region were known to have conspicuous male abdominal modifications, it was a logical step to revise the Nearctic fauna to continue the treatment of the genus, with this revision being badly needed. The Nearctic fauna had grown to 23 species through small additions to the fauna via species descriptions in seventeen papers. Only two original keys have been published: the first by LeConte (1880), and the second by Brendel & Wickham (1890). The only genuine revision of the genus (Brendel & Wickham 1890) was included as part of their treatment of the North American Pselaphidae, and presented the first comprehensive set of habitus illustrations of the species. While their revision was a welcome addition to the pselaphine literature, only the 14 species known at the time were treated, and several problems in nomenclature were not addressed. The treatment of the North American pselaphine fauna by Bowman (1934) included a key to the groups and species of *Brachygluta*, but his descriptions were basically copies of the descriptions written by earlier authors (Bowman 1934: ii, Foreword), particularly for the species described by Casey (1894). Two of Bowman's three species-groups are followed here: the *texana* species-group (proposed by Casey 1887) and the *cavicornis* species-group (or subgenus *Nisa*), with the remainder of the species placed in seven new species groups.

Based on the older species names, the perception has been that the Nearctic fauna is clearly most diverse in eastern North America. However, collections of the past forty years, particularly from the southwestern and western United States and northern Mexico, have produced a number of undescribed species that have provided a pattern of a more balanced North American fauna between the East (17 species) and the West (12 species). These discoveries, plus the knowledge of several unpublished synonymies, the fact that there has not been a modern treatment of the New World fauna, together with the impetus and enthusiasm derived from participation by two of the authors of the revision of the Palaearctic fauna, led to the collaboration that produced this work.

Both Nearctic and Palaearctic faunas share a similar history in terms of taxonomic placements. Initially species were placed in the genus *Bryaxis*, which was confusing because this name was first proposed by Kugelann (1794) and then by Leach (1817) for different groups of Pselaphinae (for an extensive treatment of this problem see



**FIGURE 45.** Female of *Brachygluta abdominalis* from Salisbury beach, Massachusetts (Tom Murray photographer).

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