

ON THE STATUS OF CASEY'S SPECIES OF PROCULUS (PASSALIDAE)

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Of the ten species of *Proculus* recognized by Hincks and Dibb (1935) three were described by the well known coleopterist T. J. Casey. These are *P. magister* Casey, 1897; *P. mandibularis* Casey, 1914 and *P. densipennis* Casey, 1914. *P. magister* and *P. mandibularis* were collected in Honduras and *P. densipennis* was taken in Guatemala. No new information on these species has been reported subsequent to their description. Because of this and because the original descriptions were rather brief and unaccompanied by figures it seemed desirable to examine Casey's types and attempt to clarify the status of his species. The results of this examination are reported herein.

Proculus densipennis Casey

Proculus densipennis Casey, 1914, Mem. Coleopt. V, p. 374.

In the original description Casey stated that his *P. densipennis* "differs [from *P. opacipennis*] in the narrower and more elongate elytra, sharper anteoocular processes and less spinose external tibial margins, as well as in many other features. From *beckeri* Zang, it differs in its much smaller size, narrower form and in the pubescence of the elytra."

Examination of the original description and figure (Thomson, 1857) of *P. opacipennis* and of a small series of this species in the U. S. N. M. revealed that the differences cited by Casey do not exist. The holotype (unique) of *P. densipennis* is a "typical" specimen of *P. opacipennis* and the former name should be considered a probable synonym pending publication of new information on Thomson's type. Judging from Zang's (1905) description, *P. beckeri* is distinct from *P. opacipennis* but the brevity of the description and lack of figures exclude any discussion of possible relationships.

Proculus magister Casey

Proculus magister Casey, 1897, Ann. New York Acad. Sci. IX, p. 641.

In the original description Casey compared his new species, *P. magister*, with a form which he identified as *Proculus mniszewski* Kaup. In 1914, however, Casey stated that the form identified as *mniszewski* in the

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earlier paper was not this species but was *Proculus mandibularis* n. sp. (see discussion of *mandibularis* given below). In the 1914 paper that author compared the three species *magister*, *mandibularis* and *mniszzechi* although he probably had before him no specimens which he regarded as belonging to the latter species. Examination of the original description and figure of *P. mniszzechi* Kaup, 1868 and study of five specimens of this species in the U.S.N.M. collection failed to reveal any differences between these and the holotype and paratype specimens of *P. magister*. Therefore *Proculus magister* Casey is here regarded as a probable synonym of *P. mniszzechi* Kaup pending publication of new information on Kaup's type.

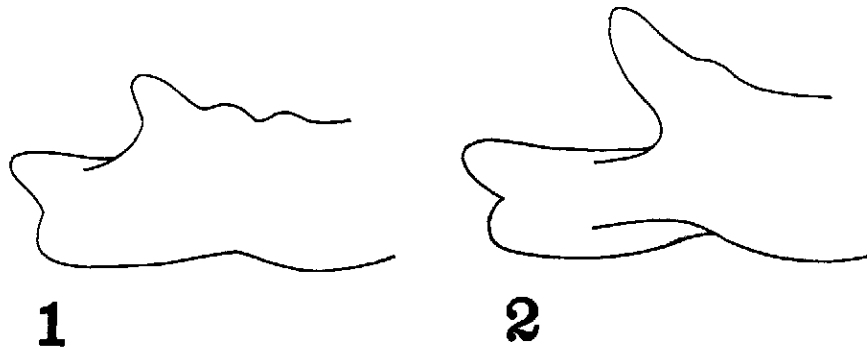
***Proculus mandibularis* Casey**

Proculus mandibularis Casey, 1914, Mem. Coleopt. V, p. 374.

Casey's (1897) misidentification of this species as *mniszzechi* (see above) is not surprising in view of the almost complete morphological identity of the two forms. Comparison of the small series of *P. mniszzechi* and the holotype and paratype of *P. mandibularis* (the only known specimens) revealed only one consistent difference, namely, the greater development of the dorsal mandibular tooth in *mandibularis* (the character on which Casey based the description of the species as new). This difference in the placement and degree of development of the dorsal mandibular tooth (illustrated in figures 1 and 2) is difficult to evaluate with the small number of specimens at hand. The difference in the mandibles might be considered a sexually dimorphic character but for Casey's statement (1897) that the specimens of *P. mandibularis* and *P. magister* (= *P. mniszzechi*) consisted of a male and a female in each case (as I was unable to dissect the specimens this point could not be verified). That the elongated tooth in the specimens of *mandibularis* is probably not simple allometry was seen by comparing body measurements of *mniszzechi* and *mandibularis*. Specimens of *mniszzechi* and *mandibularis* which were virtually identical as regards body size differed in the development of the mandibular teeth. That the dorsal tooth is not a geographic variate was seen from the collection data of the types of *mandibularis* and *magister* (= *mniszzechi*). Both were taken at San Pedro Sula, Honduras. A fourth possibility, that of balanced polymorphism, is impossible to evaluate at present. Until more specimens can be examined and more information on the biology of these beetles accumulates *P. mandibularis* should be tentatively regarded as distinct from *P. mniszzechi*.

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FIGURES 1 and 2. Lateral views of mandibles of *Proculus miszechi* (1) and *P. mandibularis* (2).