

A NEW CAVERNICOLOUS *APOCHTHONIUS* FROM CALIFORNIA (PSEUDOSCORPIONIDA, CHTHONIIDAE)

Recent collecting by several people in caves of Calaveras County, California, has revealed a relative wealth of cave-adapted forms of pseudoscorpions. One of these, an *Apochthonius*, is described below as a contribution to the better understanding of this widespread genus in the western states.

I am greatly indebted to A. G. Grubbs for sending the specimens and to C. H. Alteri for preparing the illustrations.

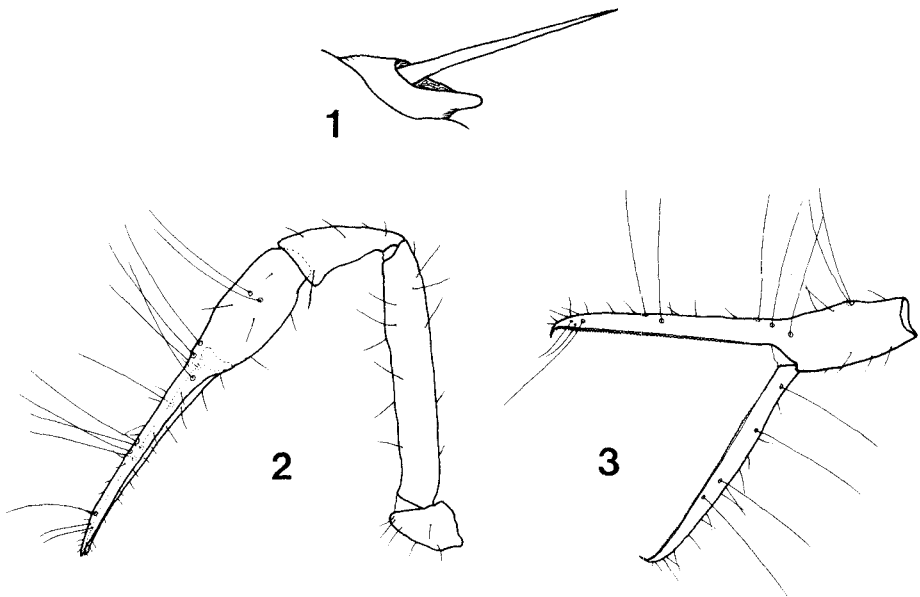
Apochthonius grubbsi, new species

Figs. 1-3

Material.—Holotype male (WM 4749.01001) and paratype female from Music Hall Cave, 4.5 miles SE of Angels Camp, Calaveras County, California, 18 May 1977 (Andrew G. Grubbs, et al.). The specimens are in the Florida State Collection of Arthropods, Gainesville.

Diagnosis.—At present, the only known troglobitic member of the genus in California; distinctly larger and more attenuated than the common epigeal forms, with palpal femur more than 0.7 mm long, about 5.5 times as long as broad; with only two eyes.

Description.—Male and female quite similar, but female larger. With the general features of the genus (see Muchmore and Benedict 1976). All sclerotized parts tan.



Figs. 1-3.—*Apochthonius grubbsi*, new species: 1, a coxal spine showing anterior projection of base; 2, dorsal view of right palp; 3, lateral view of left chela.

Carapace a little longer than broad, narrowed posteriorly; with small denticulate epistome; two corneate eyes; chaetotaxy 8-4-4-2-4=22. Abdomen typical; tergal chaetogenital opening in a single irregular row; anterior sternites of female 8:(3)8(3):(3)7(3):9:9:-. Coxal chaetotaxy 2-2-1:3-0-CS:2-2:2-3:2-3; each coxa I with three spinelike setae of the usual kind, all their bases having well developed anterior spurs (Fig. 1).

Chelicera about 0.85 as long as carapace; hand with seven setae; each finger with a few irregular teeth; spinneret a small elevation in both male and female; flagellum apparently of eight pinnate setae.

Palp slender (Fig. 2); femur 1.2 and chela 1.7 times as long as carapace; trochanter 1.95-2.1, femur 5.35-5.65; tibia 2.25, and chela 5.6-6.2 times as long as broad; hand 1.95-2.05 times as long as deep; movable finger 1.95-2.05 times as long as hand. Trichobothria in the usual positions (Fig. 3). Fixed chelal finger with 72-78 and movable finger with 62-63 contiguous marginal teeth; movable finger with a sensillum near the dental margin midway between *st* and *sb*.

Legs rather slender; leg IV with entire femur 2.8-3.0 and tibia 4.9-5.3 times as long as deep. Tactile setae of the usual kind on tibia and tarsi of leg IV.

Measurements (mm): Figures given first for male, followed in parentheses for those of female. Body length 1.73(2.03). Carapace length 0.58(0.64). Chelicera 0.47(0.58) by 0.245(0.30). Palpal trochanter 0.26(0.27) by 0.125(0.14); femur 0.71(0.75) by 0.125(0.14); tibia 0.34(0.385) by 0.15(0.17); chela 0.99(1.12) by 0.16(0.20); hand 0.33(0.385) by 0.16(0.20); movable finger 0.68(0.75) long. Leg IV; entire femur 0.60(0.695) by 0.215(0.23); tibia 0.45(0.51) by 0.095(0.095); metatarsus 0.215(0.245) by 0.07(0.075); telotarsus 0.40(0.43) by 0.045(0.05).

Etymology.—The new species is named for Andrew G. Grubbs who collected these and many other specimens in Californian caves.

Remarks.—This is the first cave-adapted *Apochthonius* to be found in California. Other troglobitic members of the genus are known from eastern and central United States (see Muchmore 1976) and two with troglobitic tendencies have been described from southeastern and central Oregon, *A. malheuri* Benedict and Malcolm (1973), and *A. forbesi* Benedict (1979). *A. grubbsi* is easily distinguished from the Oregon species by the possession of only 22 setae on the carapace. It seems most like the epigeal form, *A. maximus* Schuster (1966), in that the setae on each side of the male genital opening are modest in number (8-10) and lie in a single, though irregular, row.

Music Hall Cave, the type locality of this species, is also the type locality for new species of *Larca* and *Pseudogarypus* (Muchmore, in preparation). Other cave adapted pseudoscorpions have been found in nearby caves in Calaveras and Tuolumne Counties, including *Neochthonius troglodytes* Muchmore (1969a), *Microcreagris grahami* Muchmore (1969b) and a new species of *Aphrastochthonius* (Muchmore, in preparation). These caves obviously have been a good place for isolation and speciation, at least for pseudoscorpions.

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