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A NEW CAVERNICOLOUS PSEUDOSCORPION BELONGING TO THE GENUS *MICROCREAGRIS*

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This remarkable new form was found among collections in the Peabody Museum lent by Dr. C. L. Remington.

*Microcreagris grandis*, n. sp.


**Diagnosis:** Male. A very large species for the genus, modified for cavernicolous life by considerable attenuation of the appendages, but not by loss of pigment or reduction of eyes. Color of carapace and palps a dark reddish-brown, the abdomen and legs much lighter. Carapace about one-third longer than broad, rather narrow at the anterior margin and greatest in breadth near the posterior end; broad, smoothly rounded epistome pre-
sent; four well-developed eyes of nearly equal size present; sur-
face smooth anteriorly, becoming rather scaly posteriorly and
reticulated on the sides; carapacal setae 24 (4-5).

Abdomen elongate and typical of the genus; tergal chaeto-
taxy 5:9:7:11:8:10:9:9:12:9:?: mm; sternal chaeto-
taxy 28: (3-4) $\frac{13}{(5)21(4)}$: (4) 16 (5): 16: $\frac{2}{16}$ : $\frac{2}{13}$ : 12:
?: ?: ?: mm; pleural membrane typically granulate; genital
area typical. Chelicera of typical facies, about twice as long as
broad; six setae on palm; fixed finger with 19 or 20 irregularly
large and small teeth; movable finger with 20-21 such teeth;
galea bifid just distad of the middle with each branch termi-
nally divided into two short, pointed projections, reaching
about to the end of the finger; galeal seta not reaching the tip
of the galea; flagellum of 10 setae nearly all of which are
deply serrate on the anterior side; serrula interior with about
26 blades and serrula exterior with about 45 blades.

Palps very elongate for the genus; surfaces markedly granu-
late, except for the tibial pedicel, the pedicel and base of the
chelal hand, and the chelal fingers; setae long and acuminate.

Maxillae with 4 or 5 terminal setae. Proportions of the pod-
omeres as shown in figure 1. Tactile setae of chela as shown in
figure 2; fixed finger of chela with a marginal row of 127 low,
rounded or truncate teeth which are closely contiguous; mov-
able finger with 118 similar teeth.

Trochanter 2.5, femur 5.9, entire tibia 5.0, tibial pedicel
alone 5.2, chela 4.6, and hand 2.6 times as long as broad; mov-
able finger 1.14 times as long as hand.

Legs. Legs generally similar to but more elongate and slender
than those of other members of the genus. Each coxa of legs I
and II heavily sclerotic but not produced into a definite pro-
cess. Fourth leg with tactile setae on metatarsus 0.15 and on
telotarsus 0.59 the length of the segment from the proximal
end. Subterminal setae of all tarsi subequally bifurcated and
each ramus with several spinose processes. Each claw with a
small denticle on the dorsal side about one third the length of
the claw from the proximal end.

Measurements. Body length 5.49 (in mm); carapace 2.05
long, anterior breadth 1.20, greatest breadth 1.50; abdomen
Figure 1. Dorsal view of left palp. x 25.

Figure 2. Lateral view of right chela. The terminal tooth of the fixed finger has been broken off. x 25.
3.43 long, 2.08 broad. Chelicera 1.04 long by 0.53 broad, and with movable finger 0.70 long; galea about 0.075 long. Palpal trochanter 1.31 long by 0.53 broad; femur 2.92 by 0.50; tibia 2.87 by 0.58 including pedicel, which is 1.24 by 0.28; chela without pedicel 3.83 by 0.84; hand 1.93 by 0.75; movable finger 2.19 by 0.29. Leg I: basifemur 1.27 by 0.27; telofemur 0.91 by 0.24; tibia 1.27 by 0.18; metatarsus 0.58 by 0.13; telotarsus 0.85 by 0.12. Leg IV: entire femur 2.15 long; basifemur 0.99 long by 0.42 broad; telofemur 1.23 by 0.40; tibia 2.28 by 0.23; metatarsus 0.75 by 0.17; telotarsus 0.96 by 0.15.

**Female. Unknown.**

**Tritonymph**: Similar to the adult male except that the appendages are much less attenuated and all parts are lighter in color. Carapace only one-sixth longer than broad; epistome and eyes as in adult; carapacal setae 23 (4-6).

Chelicera as in adult; six setae on palm; flagellum of 9 setae; galea well developed as in adult, but trifid in the distal third, and without terminal subdivisions.

Palpal podomeres not so attenuated as in adult, especially the tibial pedicel which is only 2.6 times as long as its least breadth; other ratios are: trochanter 2.1, femur 4.4, entire tibia 3.5, chela 4.1 and hand 2.1 times as long as broad; movable finger 1.05 times as long as hand; fixed finger with seven, and movable finger with three, tactile setae; fixed finger with 95 and movable finger with 93 marginal teeth.

Legs as in adult but stouter. Fourth leg with tactile setae on metatarsus 0.19 and on telotarsus 0.49 the length of the segment from the proximal end.

**Measurements.** Body length 3.15 (in mm); carapace 1.32 long, anterior breadth 0.87, greatest breadth 1.15; abdomen 1.82 long by 1.28 broad. Chelicera 0.77 long by 0.39 broad, movable finger 0.51 long; galea 0.068 long. Palpal trochanter 0.78 long by 0.37 broad; femur 1.62 by 0.37; tibia 1.53 by 0.44 including pedicel, which is 0.57 by 0.25; chela without pedicel 2.46 by 0.61; hand 1.24 by 0.61; movable finger 1.31 by 0.22. Leg I: basifemur 0.72 long by 0.19 broad; telofemur 0.54 by 0.17; tibia 0.69 by 0.12; metatarsus 0.37 by 0.10;
telotarsus 0.43 by 0.10. Leg IV: entire femur 1.35 long; basifemur 0.63 long by 0.29 broad; telofemur 0.71 by 0.29; tibia 1.28 by 0.16; metatarsus 0.45 by 0.13; telotarsus 0.59 by 0.13.

Remarks. Although the eyes are not reduced and the derm is heavily sclerotized and pigmented, *M. grandis* is certainly specially modified for life in caves by its large size and great attenuation of the appendages. In support of this contention is the fact that the specimens were taken “on formations” and “on stalagmite” within the cave where they obviously were at home. In proportions of the body and appendages it is rather similar to *M. cavernicola* Vachon (from caves in Portugal) which is undoubtedly a true troglobite. While reduction of the eyes and pigment usually accompanies increase in body size and attenuation of the appendages in adaptation of a pseudoscorpion to cavernicolous life, there is no reason to believe that all these modifications must *necessarily* proceed together. It is reasonable to suppose that *M. grandis* is exclusively troglobitic in spite of the retention of eyes and pigmented derm, features which have not proved disadvantageous and which have not yet been lost by random mutation. Indeed, it is difficult to imagine that such a form as *M. grandis* could live successfully in the epigean environment of a typical *Microcreagris*, where its size and attenuation would put it at a definite disadvantage.

It is impossible to fit *M. grandis* into the key given by Chamberlin (1962, p. 333) inasmuch as it has four eyes and an extremely slender tibial pedicel, a combination of characters which is not provided for in couplet 1. There is no difficulty, however, in separating it from other American species on the basis of its size and proportions.

It seems appropriate to note here that *Obisium cavicola* Packard from New Market Cave, Virginia, which Beier (1932) and Hoff (1958) tentatively place in the genus *Microcreagris*, does not in fact belong here. As will be shown in another place, it is a member of the genus *Chitrella*.
REFERENCES


