STRIDULATION IN *ACANTHOPHRYNUS CORONATUS* (BUTLER) (AMBLYPYGI, TARANTULIDAE)

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In April, 1965, during a visit to the vicinity of San Blas, Nayarit, Mexico, I collected a living specimen of *Acanthophrynus coronatus* (Butler), the largest known species of the amblypigid family Tarantulidae. The specimen lived in captivity for over a year, despite several escapes, and fed voraciously on moths and other soft-bodied insects. The usual predatory sequence consisted of repeated light taps on the prey with the whip-like first legs, the left and right legs acting alternately, followed by a sudden lunge, too quick for the eye to follow in detail, with pedipalps spread wide. The prey was caught and impaled on the spines of the pedipalps, and torn to bits by alternating movements of the chelicerae. During these cheliceral movements, a faint sound could be heard.

When prodded into its defensive posture, the specimen raised its body high off the substrate, spread its palps wide, rocked up and down, and rubbed its chelicerae together with reciprocating circular movements. A loud, rattling hiss resulted, sounding very much like the warning of a small rattlesnake.

In May, 1966, the specimen molted for the first time in captivity, and failed to survive. Upon examination, the newly molted corpse proved to be that of a mature male. Recently, I examined the specimen in detail. The inner surface of each chelicera (Figs. 1, 2) bears a stridulating lyre consisting of a row of short, apically expanded spines (Fig. 4) and a plectrum of even heavier spines (Fig. 3). There are some differences in the arrangement and number of these spines between the right (Fig. 1) and left (Fig. 2) chelicerae of the specimen.

I examined three other males of *Acanthophrynus coronatus* in the collection of the Museum of Comparative Zoology. All had the stridulating apparatus, though there were differences in specimens from different localities. Figure 5 shows the apparatus of a specimen from San Marcos, Jalisco, Mexico, and Fig. 6 that of a specimen

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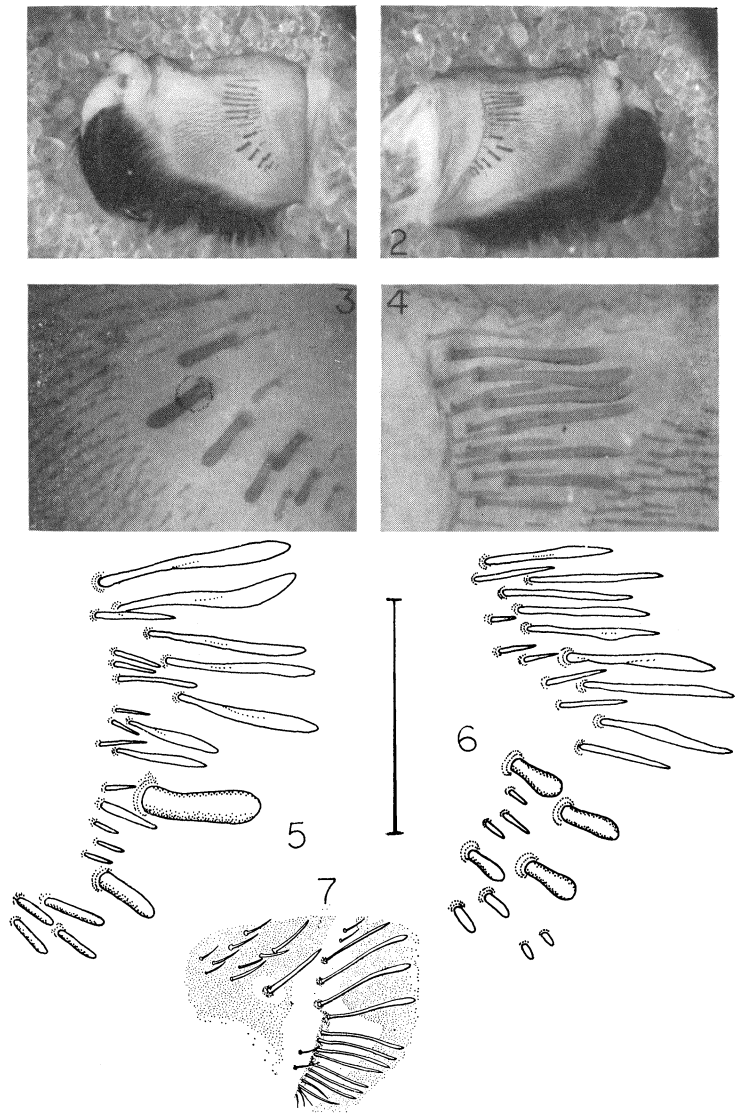
Manuscript received by the editor July 15, 1970.



Figs. 1-6. *Acanthophrynus coronatus*. Figs. 1-4. Specimen from San Blas, Nayarit. Fig. 1. Inner face of right chelicera. Fig. 2. Inner face of left chelicera. Fig. 3. Plectrum of right chelicera. Fig. 4. Lyre of left chelicera. Fig. 5. Specimen from San Marcos, Jalisco, stridulating apparatus of left chelicera. Fig. 6. Specimen from Mazatlan, Sinaloa, stridulating apparatus of left chelicera. Fig. 7. *Musicodamon atlanteus,* stridulating apparatus of left chelicera (after Fage, 1939), same orientation as Figs. 5 and 6. Scale line = 5 mm for Figs. 1 and 2, 2.1 mm for Figs. 3-6. Fig. 7 not to scale.

from Mazatlan, Sinaloa, Mexico. Differences between the left and right chelicerae of these specimens were similar to those illustrated for the San Blas specimen (Figs. 1, 2). Two females from Apatzingan, Michoacan, and a single female from Mazatlan (American Museum of Natural History) were also examined, and found to have the stridulating apparatus essentially as described for the males. The Michoacan females more closely resembled the male from San Marcos, Jalisco, than the Mazatlan specimens.

Fage (1939) described *Musicodamon atlanteus* from Morocco, which has a similar stridulatory apparatus, though the spines are arranged quite differently (Fig. 7). Some mygalomorph spiders stridulate, using spines on the inner faces of the chelicerae (Millot, p. 610).

The stridulating apparatus is absent or replaced by a group of much weaker spines in the following species that were readily available for examination: *Phrynus operculatus* Pocock, *Tarantula palmata barbadensis* Pocock, *T. fuscimana* (C. L. Koch), *T. marginemaculata* (C. L. Koch), *Phrynichus bacillifer* (Gerstaecker) and *Hemiphrynus raptor* Pocock. I also examined a few specimens of undetermined species from India, Ceylon, Africa, South America and Indonesia, and failed to find any anatomical evidence for stridulating abilities. Fage (1939) stated that he examined material of all species in the very complete collection of the Paris Museum and was unable to find evidence of a stridulating apparatus on any species except *M. atlanteus*. Thus it appears that *Acanthophrynus coronatus* is the second example to be discovered of a stridulating whip-scorpion.

Literature Cited

Fage, L.
1939. Sur une phryne du sud Marocain porvue d'un appareil stridulant, *Musicodamon atlanteus,* n. gen., n. sp. Bull. Soc. Zool. France **64**: 100-114.

Millot, J.
1949. Ordre des Aranéides *in* P. Grassé, Ed., *Traite de Zoologie,* vol. 6.