# NOTES ON THE STRIDULATION AND HABITS OF RANATRA FUSCA, PAL. B.

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Little is known regarding the sounds produced by the Rhynchota, and that little refers almost exclusively to the Cryptocerata, of which Corixa has had the most attention; and some few observations have been made on Nepa, Sigara and Notonecta. It seems to me, therefore, that it would be well to put on record the observations and notes made by me on the stridulation of *Ranatra*, together with a few other remarks on this insect.

*Ranatra fusca*, Pal. B., supposed to be the common form in the north-eastern portion of America, on being removed from its natural element, gives forth a peculiar note. Recently I have had the opportunity to study this at close range, in a specimen at present living in my aquarium. On taking the Hemipteron out of the water, the stridulation can be plainly felt by the fingers, even though, as is at times the case, no sound is audible. The vibrations, when heard, produce a rasping, creaky chirp. Careful examination shows that the sound-producing apparatus of *Ranatra* departs somewhat from the more commonly met devices, while being similar to that in other insects in regard to the general method of producing tonal vibrations by the friction of suitably roughened surfaces in contact. The stridulatory areas in this insect are situated in the deep and elongated coxal cavities of the first pair of legs. This, as far as I have been able to learn, is an unusual position, which is not mentioned by Packard in his "Text-book of Entomology"; nor have I been able to find any reference to the production of sounds by *Ranatra* in the literature on the subject that I have been able to consult.

For the proper comprehension of the *modus operandi*, a brief and necessarily superficial description of that portion of the thorax in which the coxæ are set is not out of place. The narrow, elongated prothorax of *Ranatra* is not of sufficient width to receive both coxæ with any space between them. In order, therefore, to provide for this, the segment in question expands cephalad, and is provided with two deep slits extending to the anterior margin, one on each side, for the reception of the coxæ. Due to the extreme shortness and transverseness of the head, the lateral processes of the cavities have the appearance of cheeks, and resemble somewhat the cheek-pieces of a Greek helmet. The coxæ rub against the inner surface of the exterior walls of the cavities. Doubtless this surface