

## NOTES ON SOME NORTH AMERICAN CORIXIDS FROM THE SOUTHWEST.

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It has been many years since there has been any study of the Corixidae from the southwestern portion of North America. Say, Uhler and Champion studied species from Central America, Mexico, and the southwestern United States, but since their time little attention has been given to these insects in this part of North America. Doctor Francis Huntington Snow, formerly Chancellor of the Kansas University, made several collecting trips into New Mexico and Arizona many years ago. He captured quite a number of Corixids that have reposed in our cabinets through these years without being determined. Other interesting species have come into my hand from time to time. Mrs. Grace Olive Wiley has collected a great many insects for me in Texas, Colorado and Utah. Some material has been found in the collections gathered together by Doctor Abbott and transmitted to me by Mr. J. R. de la Torre Bueno and still other specimens have been sent to me by other friends.

In this paper I shall report mainly upon the Corixidae taken by Doctor Snow, whose material has been neglected for so many years. This lot contains a new species which must be assigned to a new genus. A few new records and new species are added from the more recent collections in the southwest. In order to save space the report is made species by species although there has been a temptation to separate the Snow material from the others.

### *Arctocorixa laevigata* (Uhler).

In Doctor Snow's material are two lots—one bearing the label, "Douglas, Arizona, Aug., F. H. Snow," and the other, "San Bernardino Ranch, Cochise Co., Ariz., 9,750 ft., Aug., F. H. Snow." This is a new record for Arizona. Another new record of this species in my collection was made by Mrs. Grace Wiley in Colorado County, Texas, in 1922. She also sent me a very long series from Emery County, Utah. I can add Moscow, Idaho, as another new record in the distribution of this large Corixid.

### *Arctocorixa serrulata* (Uhler).

This unique and strikingly marked Corixid is found in Doctor Snow's collections bearing the following labels:



"Tucson, Ariz., F. H. Snow,"

"Baboquivaria Mts., Arizona, F. H. Snow,"

"Santa Rita Mts., Ariz. 5 to 8,000 ft., June, F. H. Snow,"

"Bill Wms. Fork, Ariz., Aug., F. H. Snow."

Uhler described this species from Arizona.

*Arctocorixa abdominalis* (Say).

Doctor Snow's insects of this species were collected in the Baboquivaria Mountains, Arizona. I have two recent collections of this species. One from Kane County, Utah, by Doctor R. C. Moore and the other from Superstition Mountains, Arizona, collected for me by P. A. Glick. There are two undescribed species that have been confused with *Arctocorixa abdominalis* (Say). Both were collected in California. The descriptions follow:

*Arctocorixa californica* sp. n.

*Size*: 10 mm. long; width across head about 3 mm. Size, therefore, large and about the same as that of *Arctocorixa abdominalis* (Say).

*Color*: Dark above, more or less yellow below, not pink as in *A. abdominalis* (Say). Pronotum, clavus and corium strongly rastrate, surface appearing rough. Pronotum crossed by about eighteen pale lines that are somewhat irregular and incomplete and about as wide as the intervening dark lines. Clavus and corium crossed by parallel, continuous, wavy lines; those at base of clavus broadest, those at middle of clavus somewhat broken. Membrane provided throughout with short, slender, undulate, pale lines. Basal half of embolium pale. Irregular sooty patch at embolial suture, most of margin checkered. Prosternum and coxae more or less dusky. Ventral side of abdomen yellow, sutural lines and margin dusky.

*Structural characters*: The so-called beak reduced. Face in both sexes with a large, dense patch of long, silvery hair. The head is usually yellow in color, but the area beneath this large mat of hair is usually dark. Eyes, frons and pronotum more strikingly defined in male than in female. Faint median longitudinal carina on pronotum, more distinct in anterior portion. Margin of tegmina broadly explanate and margin upturned. Front femur not triangularly expanded at base, but provided with tufts of long hairs. Pala long and slender, its base no broader than tibia to which it is attached and tapering to tip which is provided with a stout claw. Pala of male more slender than that of female and



provided on its inner face (which is exceedingly narrow) with a row of thirty-two pegs extending from base to tip. Middle and hind legs stout. Strigil of male quadrate, twelve striae. Genital capsule of male as shown in Fig. 10, Plate II.

*Comparative notes:* This species is very much like *A. abdominalis* (Say). The palae in both sexes are more slender, however, and the surface of pronotum and tegmina more rastrate. Strigil present and well developed in male, whereas in *A. abdominalis* (Say) it is absent. Described from 18 specimens from California. Holotype and allotype in Kansas University collection. Paratypes in Stanford University, United States National Museum and the private collection of J. R. de la Torre Bueno.

### **Arctocorixa uhleri** sp. n.

*Size:* 8.5 to 9 mm. long.

*Color:* General color light above due to the broad pale yellow lines especially pronounced on pronotum. Clavus and corium sometimes clouded, or suffused with black. Head and legs pale. Sternal sclerites, coxae, trochanters and base of femora black. Ventral part of abdomen yellow in female, black in male. Yellow bands of pronotum twice as broad as the black which are slender, somewhat furcate and uneven. Yellow bands on base of clavus broad. Clavus and corium crossed by continuous wavy bands. Membrane covered throughout by irregular zig-zag yellow lines.

*Structural characters:* So-called beak reduced as in *A. californica*. Face provided with large dense patch of long silvery hair. Pala slender, shaped as in *A. californica*, but provided with 25 or 26 pegs only. Strigil large, circular. Rows of striae very irregular. Genital capsule as in drawing.

*Comparative note:* This species is smaller than *A. californica* sp. n., and considerably lighter in color; rastrations on tegmina less marked; strigil of male relatively larger and claspers of different shape as shown in drawing. Fig. 9, Plate II.

Described from four specimens from the Uhler collection at Washington. They bear the label "San Bernardino, Calif." Holotype and allotype in the United States National Museum at Washington, D. C.

### **Neocorixa** genus nov.

In Doctor Snow's collection is a series of insects labeled "Santa Rita Mts., Ariz. 5 to 8,000 ft. June, F. H. Snow." These belong to a unique species having rastrated pronotum and tegmina and



the male strigil situated on the left side. This species is so unrelated to *Trichocorixa* (= *Corixa* of former American authors) that it is necessary to propose the new genus name **Neocorixa** and designate the species described below as the genotype.

**Neocorixa snowi** sp. n.

*Size*: Length 7.5 mm.; width of head about 2.4 mm.

*Color*: General color dark, both dorsum and venter. Head and legs yellow. Pale patches on the sides of each thoracic segment. Tegmina roughened by irregular rastrations. Pronotum crossed by 16 or more, more or less broken and coalescing pale lines which are about as wide as the intermediate dark stripes. Except at the base of the clavus the pale, finely zig-zag lines are narrower than the dark ones and the sculpturing of the tegmina is such that they appear as elevated cross ridges. The slender, pale lines of membrane are more or less broken, but nevertheless give a cross bar effect. In many specimens the pattern of both clavus and corium is obscured by dark brown. Suture of embolium covered by large sooty blotch.

*Structural characters*: The so-called beak reduced. Frontal depressions of male oval, not reaching the eyes. Eyes in both sexes prominent. Lower margin of basal half of front femor of male provided with row of strong spines.<sup>1</sup> Front tarsus long, slender, tapering to a single stout claw in both sexes. The male pala provided with about 32 pegs arranged in a row along the lower margin. Strigil of male on left side consisting of a curious patch of short hook-like projections not arranged conspicuously in rows. The projections along the anterior and mesal margin are long and spine-like and directed mesally. Genital capsule as shown in drawing on Plate II, Fig. 8.

Described from eight specimens (4 males and 4 females) bearing the label: "Santa Rita Mts., Ariz. 5 to 8,000 ft., June, F. H. Snow." Holotype, allotype, and paratypes in Kansas University Entomological Collections.

*Notes*: This species is much like Champion's *A. unguiculata*, but has the asymmetry of the male on opposite side.

In this connection I may say, I have examined Kirkaldy's type of *Arctocorixa melanogaster*, a male from Costa Rica and compared it with a Champion type of *A. unguiculata*. The two are

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<sup>1</sup> Often broken off.



identical. In Kirkaldy's type both front claws are gone from the palae. Since Kirkaldy failed to mention a prominent claw on the pala of his species Dr. Champion concluded that his own *C. unguiculata* with its prominent claw must be different. *A. unguiculata* (Champion) 1901 is, therefore, a synonym of *A. melanogaster* Kirkaldy, 1899. Another synonymic note I desire to mention here concerns *Corixa femorata* Guér. This species was placed with some doubt by Dr. Champion as a synonym of *Corixa abdominalis* Say. Kirkaldy and Bueno in their "Catalogue of American Aquatic and Semi-aquatic Hemiptera" omitted this species altogether. While Guérin's description is short, I am very sure his *C. femorata* is quite unrelated to *A. abdominalis* (Say). I have a species that comes from Mexico that is much smaller than *A. abdominalis* (Say). It has huge femora that are triangularly produced at base and which I am convinced is the true *Corixa femorata*<sup>2</sup> of Guérin. Failure to recognize this species, I believe, has been due to the fact that the insects themselves never came before the eyes of other workers. The structures on the front legs and beak of the male are so prominent and their operation so obvious that drawings are submitted for the benefit of those interested in the subject of stridulation among insects. On Plate I is shown a face view of the male. Note the strongly chitinized margin at the base of the beak (strong black line) and the rows of stout pegs on the femur.

Another new species quite near *A. melanogaster* Kirk., yet distinct from it in color pattern and structure, is represented by a male specimen taken by W. J. Gerhard which bears the label, "Gilla River, N. M., VII: 9."

***Arctocorixa gerhardi* sp. n.**

*Size:* Nearly 8 mm. long.

*Shape:* Very much as in *A. melanogaster* Kirk.

*Color:* Dark. The yellow lines relatively narrower than in *A. melanogaster* Kirk. Pale lines slightly narrower than dark ones on pronotum. Elsewhere they are plainly narrower except on base of clavus. Pronotum crossed by 8 or 9 yellow bands. On tegmina the undulate pale cross bands are more or less broken and on corium half as wide as the dark ones. The pale lines of membrane much broken. Head, limbs and venter yellow.

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<sup>2</sup> [= *Arctocorixa femorata* (Guérin)].



*Structure:* Frontal depression of male shallow. Pala of male narrow, equipped with row of about 25 pegs. Femur expanded and angulate at base. Strigil of male minute and at the tip of a strongly chitinized process which is bulbous at base. Genital capsule as shown in drawing on Plate II, Fig. 1.

*Notes:* Compared with *A. melanogaster*, the pale bands are narrower, the vertex of head in male more pronounced and the metaxyphus not so long and narrow.

Two very interesting species were collected for me by Mrs. Grace Wiley, one in Texas and the other in Utah.

#### ***Arctocorixa compacta* sp. n.**

*Size:* 7 mm. long; 2.3 mm. across eyes; 3 mm. greatest body width. Males slightly narrower than above measurements.

*Shape:* Very compact, relatively broad species. Quite readily distinguished by this characteristic.

*Color:* Pattern as a whole indistinct. The markings on tegmina often faint. The pronotum crossed by 7 or 8 dark brown bands which are sometimes somewhat broken. The yellow bands slightly wider than the brown. On the tegmina the pale bands are twice as broad as the dark ones, both of which are frequently nearly obliterated, leaving an almost hyaline corium. Head, limbs and venter yellow. The latter sometimes dark.

*Structure:* Head very short and broad. Pronotum and clavus rastrate. Corium shiny. Frontal depression scarcely discernible in male. Front femur not much thickened at base. Pala as shown in drawing on Plate II, Figs. 2, 3 and 4. Strigil of male lacking (see Plate II, Fig. 6). Genital capsule of male as shown on Plate II, Fig. 5.

Described from 255 specimens from Eastland County, Texas, taken in May, 1921, by Mrs. Grace Olive Wiley.

Holotype, allotype, and many paratypes in University of Kansas collection. Paratypes sent to Mrs. Wiley, Mr. J. R. de la Torre Bueno, Mr. William E. Hoffman, Dr. H. M. Parshley, Dr. R. F. Hussey, and the United States National Museum.

#### ***Arctocorixa utahensis* sp. n.**

*Size:* 7.3 mm. long; 2.1 mm. across eyes; greatest body width 2.5 mm.

*Shape:* Rather slender.

*Color:* General color light. The pale straw yellow domi-



nant over the brown bands which are slender. The pronotum crossed by ten very thin dark lines. The slender brown lines of tegmina broken and furcate. The pattern of membrane continuous with that of corium. Base of clavus slightly paler in some than in others. Head, limbs and ventral side of body yellow. In some males the first three abdominal segments are black beneath.

*Structure*: Frontal depression of male oval, its sides touching the inner margins of the eyes. Vertex prominent. Pala of male broad, provided with an angulate row of about 25 pegs, the distal ones of which are long. Pala of female slender. The metaxyphus in both sexes reduced. Genital capsule of male as shown on Plate II, Fig. 7.

Described from 34 specimens taken by Grace Olive Wiley in Emery County, Utah, in July, Aug. and Sept., 1921. Holotype, allotype and some paratypes in Kansas University Collection. Paratypes also in United States National Museum and private collections of Mrs. Grace Wiley, Mr. J. R. de la Torre Bueno and Dr. R. F. Hussey.

*Note*: This species has the general facies of several other species from the southwest, but is readily distinguished by its structural characters.

#### PLATE I.

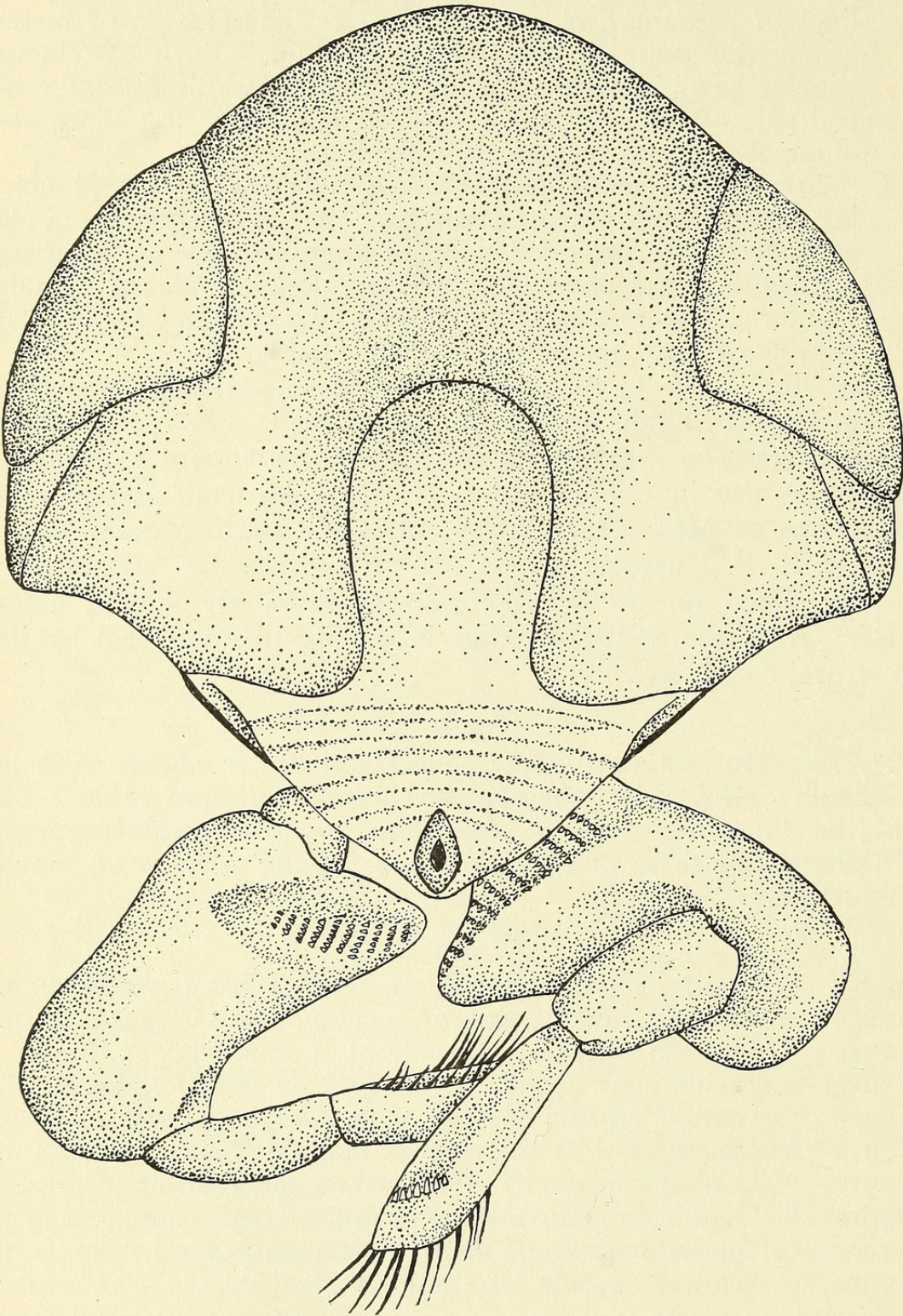
*Arctocorixa femorata* (Guérin). Head and front legs of male (cephalic view). Note the heavily chitinized margin of the beak and the thickened femora with their rows of stridular pegs. Without doubt these modifications are for the purpose of sound production.

#### PLATE II.

- Figure 1. Genital capsule of male of *Arctocorixa gerhardi* sp. n.
- Figure 2. Outside view of pala of female of *A. compacta* sp. n.
- Figure 3. Outside view of pala male of *A. compacta* sp. n.
- Figure 4. Inside view of pala of male of *A. compacta* sp. n.
- Figure 5. Genital capsule of male of *A. compacta* sp. n.
- Figure 6. Dorsal view of abdomen of male of *A. compacta* sp. n.
- Figure 7. Genital capsule of *Arctocorixa utahensis* sp. n.
- Figure 8. Genital capsule of male of *Neocorixa snowi* sp. n.
- Figure 9. Genital capsule of male of *Arctocorixa uhleri* sp. n.
- Figure 10. Genital capsule of male of *Arctocorixa californica* sp. n.

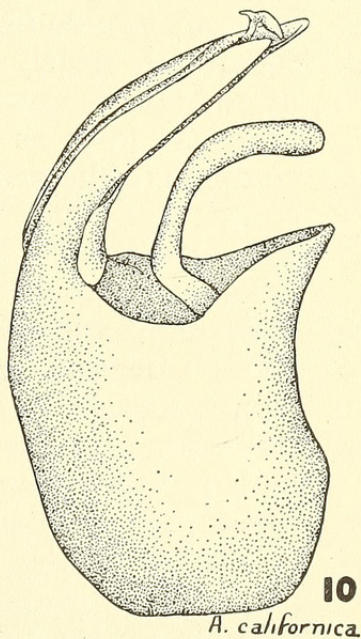
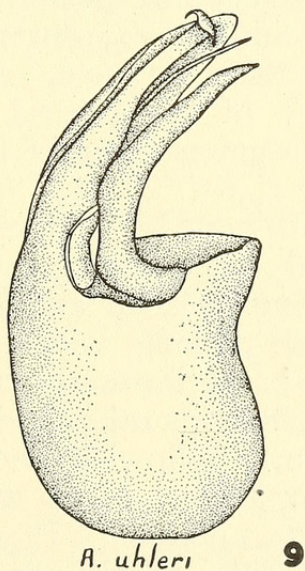
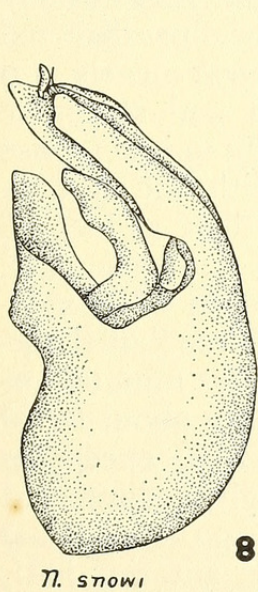
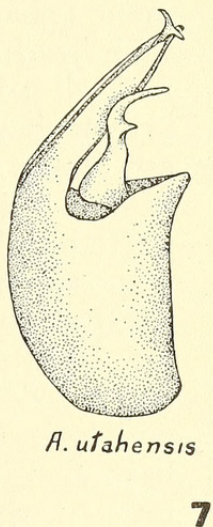
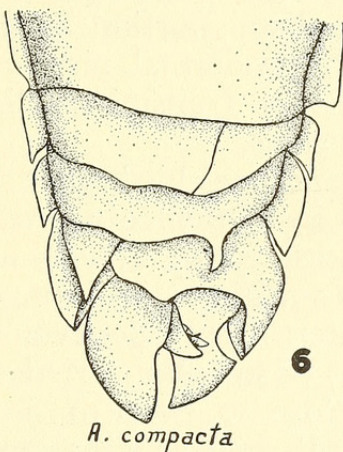
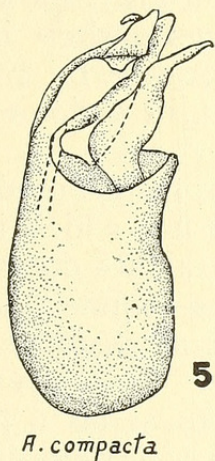
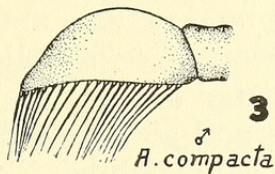
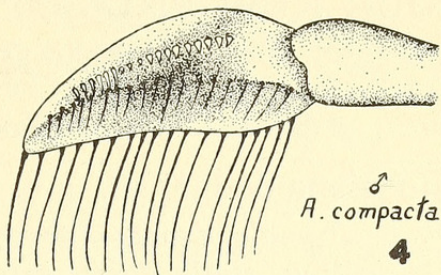
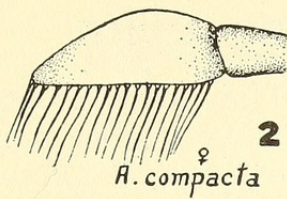
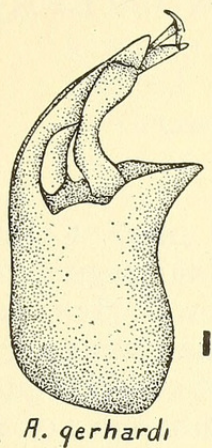
In the above drawings of the male genital capsules note the differences in the right claspers. Note also that *Neocorixa snowi* sp. n. has a capsule that is just the reverse of the others.





Kathleen Doering del.





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Hungerford, Herbert B. 1925. "Notes on some North American Corixids from the Southwest." *Bulletin of the Brooklyn Entomological Society* 20, 17-25.

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