

the diameter. Anterior eyes in a slightly procurved line, smaller than the lateral, separated from each other by about half the diameter from the lateral by a radius of the latter.

Sternum and labium dark, endites gray. Hind coxae separated by less than the diameter. Chelicerae short and stout, dusky yellowish. Legs and palpi brownish yellow.

Abdomen with a large strongly chitinized dorsal sclerite which is reddish brown, finely punctate and sparsely clothed with short, stiff, appressed hairs. Ventral sclerites not in good condition for study.

Femur of palpus nearly straight, cylindrical; patella short, wider distally. Ratio of length of femur to patella, 11 to 7. Tibia short with the dorsal apophysis strongly compressed laterally. This process viewed from above appears narrow and pointed but from the side it is broad, rounded above over the end, with a nearly square corner below; on the middle of the outer margin there is a large quadrate tooth or branch (fig. 6). The paracymbium small, thin and strongly curved. The genital bulb is of the same type as in *floricornis* but the bezel is not produced into such a long point ventrally. The course of the embolus is similar to that species but the first outward curve is not so prominent. (fig. 5).

Holotype, male.

Florida: Palm Beach, March 1919. 1 ♂ (Thomas Barbour)
Stomach of *Bufo quercicus* Holbrook.

CONCERNING SOME TINGITIDAE FROM THE GULF STATES (HETEROPTERA)

By CARL J. DRAKE, Ames, Iowa.

Corythucha associata Osborn & Drake.

Common on wild or rum cherry, *Prunus serotina* Ehrh., at Starkville, Miss., July-August, 1921, collected by Mr. M. R. Smith and the writer.

Corythucha pallida Osborn & Drake.

Belmont, Miss., July 5, 1921, taken on wild mulberry by the writer. The Mississippi specimens agree with the type series and other specimens from the north in size, structure and color.

Corythucha celtidis mississippiensis, n. var.

Differs from typical form, *C. celtidis* O. & D., by the larger hood, more arched median carina and darker markings. The

posterior portion of the hood is considerably larger, and more inflated posteriorly. The color markings are much broader, darker and more prominent. The other characters are quite similar to the typical form. Length, 4 mm.; width, 2.2 mm.

This variety feeds on the southern hackberry, *Celtis mississippiensis* Bosc. The type series, adults, nymphs and eggs, were taken by the writer at Columbus, Miss., June 22-24, 1921. *Holotype* (male) and *allotype* (female) are in the writer's collection; *paratypes* in collections of Mississippi Agriculture College, Iowa State College and writer. Other specimens are at hand from Georgia, South Carolina and Tennessee.

C. celtidis Osborn & Drake feeds on the sugarberry hackberry, *Celtis occidentalis* L., and is widely distributed in eastern United States. It may be easily separated from the new variety by its smaller size, lighter color and the hood and median carina.

Gargaphia amorphae Walsh.

Common on False Indigo, *Amorpha fruticosa* L. Aberdeen, June 26, 1921; Columbus, July 23-25, 1921; Prairie, July 27, 1921; Leland, Miss., Sept. 21, 1921, by the writer. *Gelchossa oblonga* Say was also taken in rather large numbers on the same food plant.

Gargaphia binotata Parshley.

Dunedin, Florida, Oct. 25, 1914, collected by Mr. W. S. Blatchley.

Stephanitis blatchleyi, n. sp.

Separated from *S. (Leptobyrsa) rhododendri* Horvath by its much smaller size much less inflated but longer hood, and narrower costal area of the elytra. It may be distinguished from *S. pyroides* Scott by the longer lateral carinae, the more strongly raised median carina, and the much smaller and less inflated hood. Length 3.2 mm.; width 1.7 mm.

Hood long, moderately large, extending a little in front of the head, the length nearly two and a half times its width. Head, except eyes and lateral margins, concealed by the hood, the spines very short. Rostrum stout, long, extending slightly beyond the rostral channel. Rostral laminae considerably raised, gradually widening posteriorly on the meso—and metasternum. Median carina distinctly arched in front of the middle (arch nearly as high as the hood), subequal to the hood in length, and connected to the median nervure of hood near the base, about the middle of the posterior portion. Lateral carina long, uniseriate, slightly sinuate. Paranota moderately expanded, mostly biseriate, elytra gradually expanded posteriorly, the tips rather widely separated and rounded; tumid elevation

high and narrow, occupying almost all of subcostal and discoidal areas; costal area broad, with two rows of areolae at the base and with five at its widest part. Nervures sparsely clothed with a few, fine, long hairs; lateral margins of paranota and elytra finely and rather regularly serrate (two rows). Antennae rather long, moderately slender; first segment a little thicker and nearly twice as long as the second; third segment nearly two and a half times as long as the fourth. Bucculae contiguous in front.

General color yellowish brown with brown or fuscous markings. Tarsi and fourth antennal segment, except small basal portion fuscous. Median nervure of hood, a spot on median carina, three narrow, transverse streaks (mostly nervures) on costal area and a couple small marks on tumid elevation brown or fuscous. Body beneath brownish.

Type (male), Dunedin, Fla., Jan. 17, 1919, Mr. W. S. Blatchley collector, in writer's collection. *Paratypes* in collection of Blatchley. This species is very distinct and not easily confused with the North and South American species of *Stephanitis* and *Leptobyrsa*.

The generic characters of *Stephanitis* and *Leptobyrsa* need to be studied carefully. The hood, lateral carinae and length of elytra vary in different species. One North American species of *Leptobyrsa* has no lateral carina; in some species the hood is present and in others it is wanting.

***Leptodictya tabida* Herrich-Schaffer.**

Brownsville, Texas, Dec. 19, 1910. This is the first record of the sugar-cane tingitid in United States. It is a fairly common species in Mexico and the West Indies and at times is of considerable economic importance.

***Leptodictya plana* Heidemann.**

Columbus, Miss., June 24, 1921, and Starkville, Miss., Aug. 1921, collected by the writer. The specimens were swept from grasses but I was not able to locate the food plant.

***Leptoypha costata* Parshley.**

This species was taken in large numbers on an ash tree, *Fraxinus* sp., at Aberdeen, Miss., June 26, 1921, by H. L. Dozier and the writer.

***Leptoypha mcatella* Drake.**

Dunedin, Fla., April 8, 1921, W. S. Blatchely collector. This species feeds on wild olive, *Osmanthus americanus*, and the types were taken at Gainesville, Fla.

***Teleonemia cylindricornis* Champion.**

Caledonia, Miss., June 25, 1921, M. R. Smith collector. Palaski,

Ill., June 28, 1909, taken in an old cypress swamp. This is the first record of this lace bug in the United States. The specimens agree with Champion's description and figure, and with my specimens from Mexico, except that the subcostal area is slightly wider and contains two and a partial third row of areolae. This difference is not very marked and does not seem to warrant a varietal name.

Athaes angustroriparius Heidemann.

Taken in company with *A. mimeticus* Heid. and *A. insignis* Heid. at Tupelo, July 1, Belmont, July 5, Leland, Aug. 15, and Columbus, Miss., June 24, 1921, on *Desmodium* sp. Recorded heretofore from Florida and Texas.

THE CAMPHOR THIRPS IN FORMOSA

Ever since the Camphor Thrips (*Liothrips floridensis* (Wats.)) was discovered in 1912 there has been more or less speculation as to its origin. A survey of the state during the following two years showed that it was widely but not universally distributed wherever camphor was grown. It has never been taken on the Lower East Coast and camphor in that section, south of Cocoa, shows no injury. It also seemed to be absent from many localities in other parts of the state. Nevertheless its wide distribution indicated that it had been long in the state. Its spotted distribution and the severe injury it inflicted suggested an introduced insect (Annual Rep. Fla. Agric. Exp. Sta., 1913, p. lxiv.). For some time it was confused with the Bay Thrips (*Liothrips perseae* (Mason)), which led to the conclusion that it was a native insect.

The writer has recently received three adults from Prof. R. Takahashi of the Agricultural Research Institute at Taihoku, Formosa, Japan. Altho these specimens have somewhat larger and darker bristles than Florida specimens, there can be no doubt of their specific identity.

It would thus seem that the camphor thrips was introduced into Florida from Formosa with the camphor tree itself. Prof. Takahashi states that the insect is scarce in Formosa and the damage it does is consequently of little importance.

J. R. WATSON.