

NEW SPECIES OF LEPTOGLOSSUS FROM NORTH AMERICA.

[Hemiptera; Coreidæ.]

(Plates VII and VIII.)

BY OTTO HEIDEMANN.

Leptoglossus might be called a cosmopolitan genus. Species have been found in all the faunal regions. But the real home of the genus is evidently tropical America, from whence species have spread to North America and to other countries. The majority of species is recorded from the Western Hemisphere, being mostly found in South and Central America. The genus comprises about thirty-six species, of which no more than three occur in the Old World. From North America comparatively few species have hitherto been known, as *Leptoglossus phyllopus* Linn., *L. oppositus* Say, *L. cornutus* Say, *L. zonatus* Dall., and *L. ashmeadi* Heidem., the latter one recently described from Florida.

Two other neotropical species may be recorded now, *Leptoglossus gonager* Fabr., found in Southern Florida, and *Leptoglossus stigma* var. *minor* Dall., which occurs also in New Mexico and Arizona and Southern California.

In addition to this the writer is fortunate to contribute some new species of the genus *Leptoglossus* to the North American fauna, described from material of the U. S. National Museum and from specimens of his own collection.

***Leptoglossus magnoliæ*, new species.**

Body oblong, elongate-oval, clothed with golden pubescence, more densely on the anterior part of the thorax; color, a rich dark brown, the underside paler. Head about one-fifth shorter than the thorax, gradually narrowing towards tip and extending nearly to half the length of the first antennal joint. The postocular portion of head shows a short, longitudinal, ochraceous line behind the inner margin of the eyes, and in fresh specimens a V-shaped black mark is visible that connects the two ocelli; tylus much compressed at the sides, a little longer than the lateral lobes. Rostrum yellowish-brown, tip blackish; the length of the rostrum varies in both sexes; in some specimens it extends to the third, fourth, or even to the fifth segment of abdomen; first joint reaches the base of head and is equal in length to the second, third short, and fourth the longest. Antennæ as long as the body measured from the base of scutellum to the tip of membrane; the first three antennal joints reddish brown, the last one pale or sometimes infuscated; basal joint thickened and gently curved, in length subequal to the third; second and fourth joints nearly equal. Thorax one-third broader than long, abruptly declining towards front; lateral margins

sinuated anteriorly and sparingly toothed, posteriorly rectangular, somewhat reflexed and slightly pointed at the lateral angles, posterior margin feebly rounded, with a few tubercles on the outer sides; the anterior margin narrowly rimmed, not broader than the neck; the callosities not prominent, bordered by a narrow, sunken line; surface of thorax feebly rounded at the disk, very rugose, roughly irregular punctured and with numerous deep sunken pits, the larger ones grouped more on the sides and in front of thorax; at the submarginal part of the posterior margin a transverse faint ridge and at each end of it a short impression. Scutellum triangular, as long as broad, unevenly wrinkled.

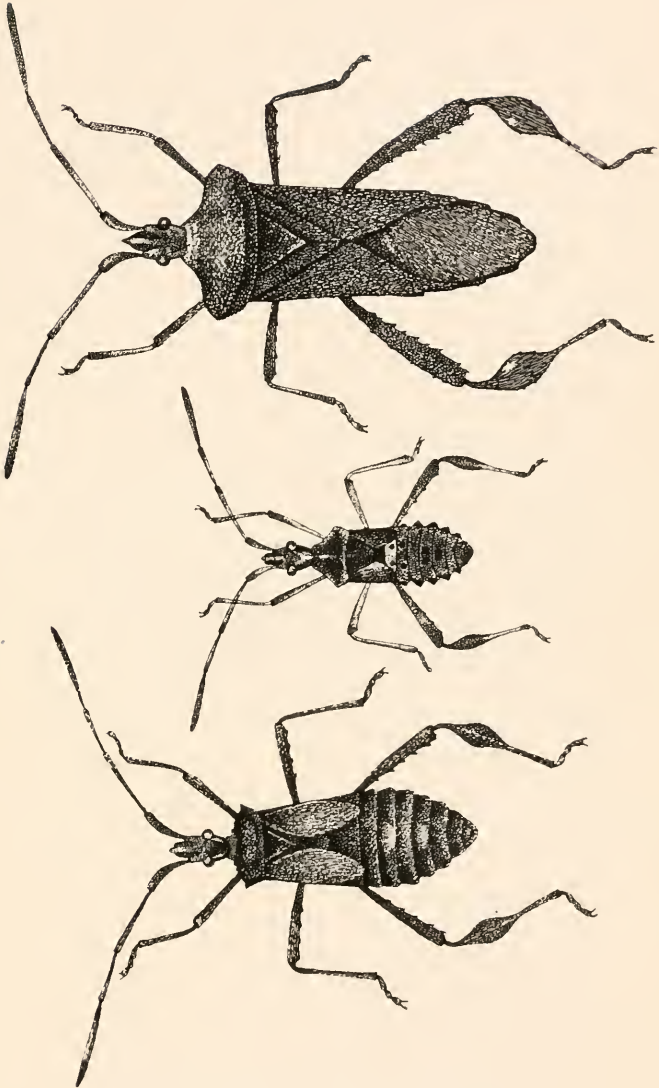
Hemilytra dense and confluent punctured, not roughly as on the thorax, no trace of a transverse light band or any zig-zag line; costal margins nearly straight; membrane dark bronze. Dorsal part of abdomen blackish, with a yellowish stripe down the middle. Wings smoky. Connexivum dark brown, a short, transverse, pale band at each incision. The underside of the body densely covered with short golden hairs and numerous black dots; a median, longitudinal impression extends down the venter to the fourth or fifth abdominal segment. Front and middle femora light brown, spined beneath; the tibiæ and tarsal joints yellowish; hind femora thickened towards apex in both sexes, dark reddish brown, paler at the base and covered with small black tubercles; the underside carries two rows of strongly curved, blackish spines. The hind tibiæ moderately expanded from near the base to about one-third of its length, dark brown, with a small transparent spot on the inner margin; the expansion rounded, narrowing to either end; the outer margin feebly sinuated twice, having two or three small acute spines; the inner margin a little less broadened than the outer margin, with a few short spines at the edge and some minute ones at the inner side of the simple apical part of tibiæ, which is, with the tarsal joints, yellowish-brown and very hairy.

Length 18 to 21 mm.; width across thorax 6 to 8 mm.

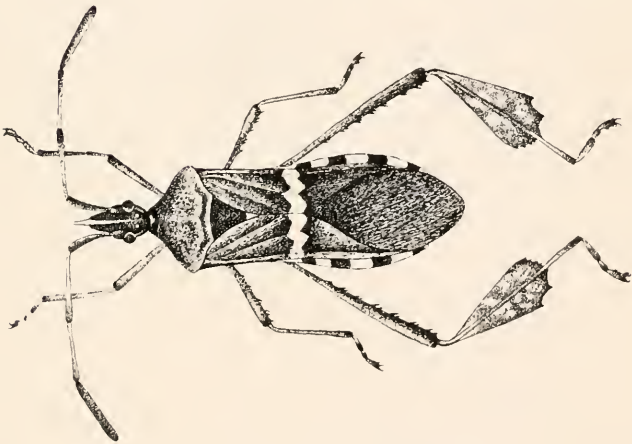
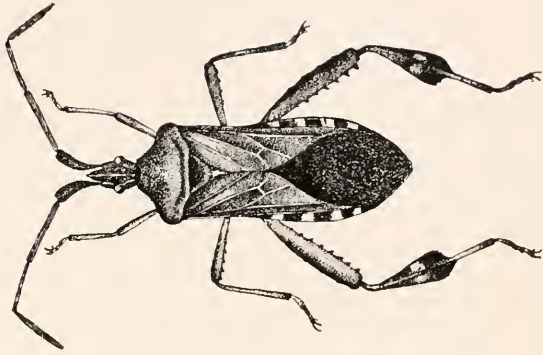
Described from two specimens, male and female, collected on a magnolia tree in the city of Washington, District of Columbia, September 20, 1889, September 19, 1905 (Heide-mann). In addition several other specimens have been examined, from Georgia, State College (Scott and Fisk); Florida (Ashmead); Chapel Hill, North Carolina, October 1, 1881 (G. F. Atkinson).

Type: No. 13228, U. S. National Museum.

This species is very distinct from any other species known, by the peculiar rough surface of the thorax. It is related to *L. sigma* Herbst, but differs in having the hind tibiæ less expanded and showing no indication whatever of a pale band



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across the corium. It is also somewhat allied to *L. oppositus* Say, with which it has often been confused, although it can readily be distinguished by the extreme rugose surface of its thorax.

Years ago the writer took one single specimen from a linden tree in the grounds of the Department of Agriculture; later the same insect occurred on leaves of magnolia trees and was found feeding on the young fruit. At the same time Dr. F. H. Chittenden was observing this interesting new coreid on magnolia, and Mr. T. H. Pergande, of the Bureau of Entomology, Department of Agriculture, examined the young larval forms and made the following notes:*

Specimens of this bug have been observed during June on magnolias of different kinds on the grounds of the Department of Agriculture, sucking the fruit. The smaller fruit stung by them dropped gradually, while the larger though still growing fruit turned black and ceased growing at the side where it was stung, while the other side kept on growing, on account of which it became curved and crippled. On the underside of some of the leaves was found a long string of eggs and with them the young larvæ, which no doubt belong to this bug, since no other hemipteron could be found on the trees. Two of the larvæ, egg-shells, and one of the adults were preserved, marked 6296.

July 12, 1894.—While searching again for the larvæ of this species I found a colony on a magnolia on which I failed to find any eggs, which seems to indicate that the whole colony travels together from one tree to another. All were stationed upon one of the pods, some engaged in sucking. They are quick runners if disturbed, and will soon scatter to different parts of a branch. Their rostrum is now immensely long, reaching considerably beyond the end of the body.

The larvæ are red, the antennæ, a band between the eyes, a band across the metanotum; all spines, and legs black; terminal half of all tibiæ, except extreme tip, white. Rostrum blackish.

July 17, 1894.—Some have cast a skin, evidently the second. They are now yellowish gray; head and thorax dark gray; the abdomen marked with minute purplish spots; prothorax broadly bordered with red; there are two reddish streaks on the head, posterior to the eyes. Antennæ reddish-brown, the last joint yellowish white. Eyes dark brown; anterior and median femora dusky, darkest towards both ends; posterior femora black; basal third of anterior and median tibiæ and basal half of posterior tibiæ black, the rest yellowish white. Rostrum does not reach to the end of the body; it is yellowish white, with the basal joint and tip black. All tubercles black.

* Mr. T. H. Pergande kindly submitted these notes to the writer for publication.

July 23, 1894.—[Some have cast another skin and are now in the pupa state.] The abdomen is now dark gray, with a tinge of yellow speckled with purplish. Head, thorax, and wing-pads dark purplish brown; head with dark longitudinal streak and three more or less distinct yellowish lines posteriorly; median line of thorax and scutellum and a spot behind scutellum more or less yellow; lateral margin of abdomen yellow. Abdominal tubercles black, with a yellow spot at base in front of dorsal tubercles. Eyes brown; antennæ dark reddish, the basal joint purplish and the end of the last yellowish. Ventral side of body, from head to near end of body, creamy yellow with a faint bluish tinge, speckled with crimson. Coxæ and trochanters of a pale, transparent bluish green. Anterior and median femora, apex of all tibiæ, and the tarsi pale reddish; rest of anterior and median tibiæ, and the portion just beyond the flattened basal portion of posterior tibiæ whitish, with a slight yellowish or faintly bluish tinge. Posterior femora dark purplish; flattened portion of posterior tibiæ black, with a whitish spot about the middle near inner edge. The whole insect is covered with a whitish or faintly yellowish, glistening pile; hairs of antennæ black; pile of last joint pale. Placed one in alcohol with the others.

July 27, 1894.—One of the specimens changed to the imago state. It is a female. The seed-pod exhibits many black spots caused by the sucking of the insects.

July 30, 1894.—The remaining two pupæ died. Placed them with the others in alcohol in the cabinet. Pinned the imago, marked 6296.

July 22, 1895.—Received two specimens from Ch. L. Snyder, Oakton, Virginia, with the statement that they puncture and suck the fruit of his Russian apricots.

The eggs found on the underside of the leaves are usually fastened along the main rib; they are laid in a long string, closely joined together and number sometimes over 30 eggs. The single egg is 1.33 mm. long and 1 mm. broad and high, and of a light-brown metallic color; it is slightly rounded, the sides somewhat flattened. The opening, covered by the lid, is on the upper side behind the middle, comparatively large and rounded.

In regard to the geographical distribution of this species, judging from the localities where specimens have been found, it appears that this species is more confined to the Southern States. However, magnolias grow along the coast from Louisiana as far north as Massachusetts, and, while the magnolia is evidently the natural food-plant of this *Leptoglossus* species, a similar wide range of distribution may be expected. This seems to be approved, as the writer recently had the oppor-

tunity to examine a single female which was sent by Dr. H. T. Fernald for identification. The specimen was found on magnolia, October 7, 1901, at the Hatch Experiment Station, Massachusetts. A close examination proved that the bug was identical with the new species described above.

***Leptoglossus clypealis*, new species.**

Body oblong, yellowish brown, covered with short golden hairs. Head as long as the thorax, narrowing towards front, the upper part with two parallel black stripes and a short one behind each eye; clypeus not rounded at tip, but conspicuously projecting as a stout spine to nearly the apex of first antennal joint; rostrum comparatively short, extending to behind the middle coxæ or to the first abdominal segment. Antennæ reddish brown, about as long as the distance from head to the middle of body; basal joint with a black line exteriorly, equal in length to the third; second and terminal joints subequal. Thorax gradually sloping towards front, finely wrinkled and confluent punctured; lateral margins slightly sinuate anteriorly; the humeral angles bluntly rounded, the edge a little upturned and blackish; the callosities shining black, feebly elevated, separated by a light-brown somewhat raised line, continuing faintly backward; the disk of thorax moderately convex, with a few scattered black dots; submarginal part of posterior margin deeply depressed, and in front of it a transverse sharp ridge. Scutellum black, the tip yellowish, strongly wrinkled. Hemilytra very finely confluent punctured and with a yellowish-white zig-zag band across the corium. Membrane transparent, pale brown, darker at base. Dorsal part of abdomen more or less blackish, the inner sides orange; underside of body pale brown, and dotted black. Legs reddish brown; hind femora sulcate beneath, armed with a double row of stout black spines; upperside mostly blackish streaked, beset with hardly any tubercles. The membranous expansion of hind tibiæ spatulate-shaped, extending towards apex about two-thirds, being broadest near that point; the inner side of expansion not much narrower than the other side, edged apically with a few spines, finer ones on the single part of the hind leg; the outer expansion feebly sinuated twice, carrying two spines, the surface of the membranous expansion dark brown, wrinkled, and finely golden pubescent, covered with numerous small yellow spots and a larger transparent one on the inner side. Venter with a shallow sulcation.

Length 16 to 20 mm; width across thorax 4 to 5 mm.

Described from two specimens, male and female; Platte Cañon, Colorado, May 20, 1901 (Dyar and Caudell); Salt Lake City, Utah, July 17, 1900 (C. P. Close). Besides, others have been examined from Las Vegas, New Mexico, October,

1900 (Cockerell); Pecos, New Mexico, July; Los Angeles County, California (Coquillett); Monzana, California, May 1, 1901 (O. L. Livery); San Bernardino County, California; Colorado Springs, Colorado; Fort Collins (Uhler's collection), July 17, 1900; Oregon.

Typè: No. 13229, U. S. National Museum.

This peculiar species can be distinguished from all other species of *Leptoglossus* known at the present time by the stout spine conspicuously projecting from the tip of the head. Its geographical distribution extends from Colorado west to the Pacific Slope. The species may become of economic importance, as it is already recorded to be injurious to plum trees and almonds, puncturing the young fruit.

***Leptoglossus occidentalis*, new species.**

Body oblong, reddish brown, densely pubescent; head nearly as long as the thorax, with two black longitudinal stripes above, the outer one continuing along the exterior part of basal antennal joint, also a short, blackish streak at the gula; tylus rounded in front, a little knobbed at tip; rostrum reaching to the third and fourth abdominal segment; antennæ usually pale brown; the terminal joint darker and stout, nearly equal in length to the third joint; the second longer than the first. Thorax less depressed towards front, deeply punctured and irregularly wrinkled; lateral margins near the middle sinuated, the humeral angles broadly rounded and a little reflexed, a transverse sunken line before and behind the callosities; disk more or less convexly rounded and with a few scattered black dots. Scutellum blackish at base, tip pale, and a transverse depression on the middle. Hemilytra with a medium pale zig-zag line across the corium, formed by the color of the nerves, sometimes nearly indistinct; before and behind this pale line the surface is of a darker brown, appearing somewhat velvety in fresh specimens; the membrane dark bronze. Abdomen dorsally orange with transverse black patches; connexivum sometimes narrowly edged black and the base of incisures yellowish. Underside of body pale reddish brown, sprinkled with large and smaller black spots and a shallow impression down the ventral part. Legs pilose, pale reddish brown, the spines of the femures black only at the tip; upper side of femora blackish streaked with pale interruptions; membranous expansion of the hind tibiæ shaped as in the preceding species, but less broadened; the inner and outer sides of expansion equally wide, reddish brown, with an irregular transparent spot in the middle and dotted black before and at the apex; the expanded inner side armed with a few small double spines, while the outer side has only two single minute ones.

Length 16 to 18 mm.; width across thorax 4 to 6 mm.

Described from two specimens, male and female, Placer County, California (E. C. Van Dyke); Utah (Uhler). Other

additional species have been examined from Fort Collins, Colorado, October 11, 1910; Forbestown, California, November 27, 1880 (Maggie Dowell); Livingstone, Vancouver, October 1, 1896; California (Behrens); Boulder, Colorado, February 24, 1910 (S. A. Rohwer).

Type: No. 13230, U. S. National Museum.

This species has frequently been determined as *Leptoglossus corculus* Say on account of its most striking resemblance, but by close observation the differently shaped expansion of the hind tibiæ will distinguish it at once. In Say's species the expansion reaches with its outer side almost to the apex of the tibiæ, while in this new species the expansion on either side extends but two-thirds of the length of the tibiæ.

The species belongs evidently to the Western fauna, and is widely distributed from Colorado to California and north to Vancouver.

COQUILLET'S "THE TYPE-SPECIES OF THE NORTH AMERICAN GENERA OF DIPTERA."*

BY FREDERICK KNAB.

This work purports to be simply an indication of the type species of the genera that have been used in connection with North American Diptera. It will, however, be most valuable for reference, supplementing the Aldrich Catalogue, from which all generic references and synonymy have been omitted. With the unusual, and perhaps unexcelled, library facilities at Washington, and Mr. Coquillett's industry, it may be expected that the list of genera is fairly complete. That absolute perfection in this respect cannot be reached is shown by the series of corrections which have already been indicated.†

Reliability as to the types indicated implies that every work dealing with the genera in question has been gone over. In the determination of the type species two processes are involved: First, to determine if, in those genera which were founded with several species originally included, a type species was not indicated by the author of the genus or by some subsequent author; second, when no type species has been found indicated, to designate the type. In the latter case there is always a

*Proc. U. S. Nat. Mus. No. 1719 (vol. 37), pp. 499-647. Published August 4, 1910.

†Coquillett, D. W. Corrections to my paper on the type-species of the North American genera of Diptera. Canad. Ent., vol. 42, pp. 375-378 (November, 1910).