

This species is distributed over a large range of the country from the Ohio River southward. It is called the big bedbug in some localities on account of its habit of secreting itself in beds and attacking people who may occupy them. Its bite is very severe, the beak being so strong that it may be thrust through ordinary clothing, and its length

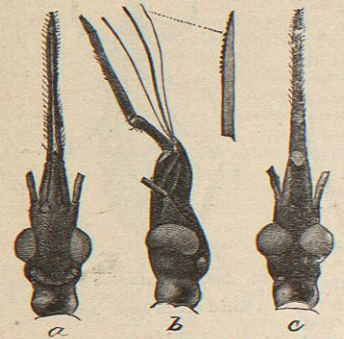


FIG. 2885.—*Conorhinus sanguisugus*. a, Showing beak; b, from side with setae withdrawn and tip enlarged; c, head from below. All enlarged. (After Howard, United States Bull. Dep. Ag.)

ing, and its length sufficient (5 mm.) to reach well into the skin. Its puncture produces violent inflammation and swelling, and is likely to fester and discharge pus for several days.

Closely related species with similar habits occur to the southwestward to the Pacific coast: *C. variegatus* Drury in the South; *C. gerstackeri* Stal. Texas and Western states; and *C. protractus* Uhl. in Utah and California.

Prionidus cristatus Linn., "wheel bug."

A common species southward, recognized by the elevated toothed crest on the prothorax. While it does not enter houses, it inflicts a very painful bite which causes inflammation and may render the hand and arm useless for a number of days.

Many species in this family occur in tropical America and frequently prove troublesome, among them a species related to the "wheel-bug," which occurs in Chili and is called the "winhuka" or "rhinhuka." It is said to be greatly feared, and, if numerous, to drive people for a time from their dwellings.

Nabidae.—These are small insects with considerable affinity to the preceding family, but slender and gener-

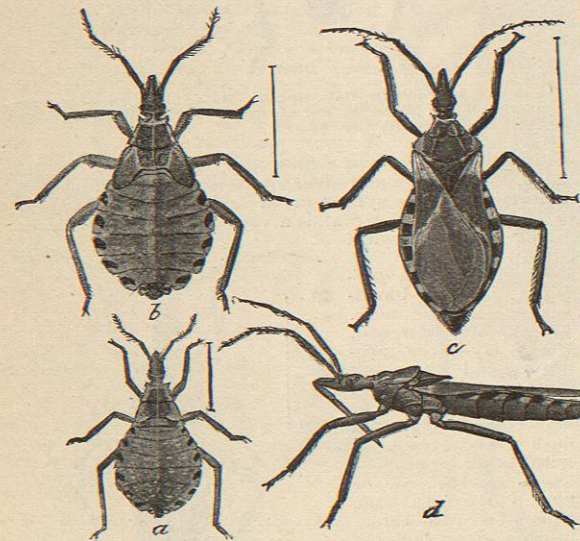


FIG. 2886.—*Conorhinus sanguisugus*. a, First pupal stage; b, second pupal stage; c, adult; d, adult lateral view. (After Marlatt, Bull. United States Dep. Ag.)

ally of dull gray or brownish color. The beak is long, rather slender, and strongly curved.

Coriscus subcoleoptratus Kby. Black or dark brown

with pale legs, the body tapering anteriorly. This species is capable of inflicting a quite severe bite, and as the species is given to hiding around outhouses in wait for

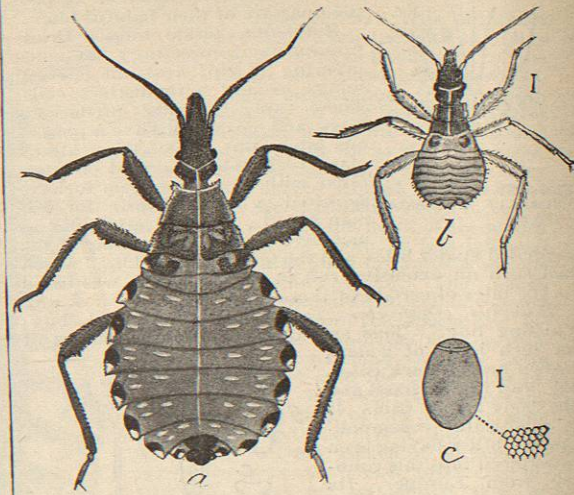


FIG. 2887.—*Conorhinus sanguisugus*. a, Larva second stage; b, newly hatched larva; c, egg with sculpturing at side. All enlarged. (After Marlatt, United States Dep. Ag. Bull.)

insect prey, and has been recorded as biting persons in privies, where there would be a rather favorable opportunity for it to introduce septic matter, its presence should be counted objectionable.

DIPTERA.—Insects with two wings, suctorial mouth parts, and complete transformations.

Culicidae, mosquitoes. Mouth parts produced into slender rostrum about half as long as entire insect, slightly thickened at tip. Antennae slender, simple in female, plumose in the male; the veins of the wings with fine scales. The larvae are aquatic, feeding on organic matter in the water, and rising to the surface with a jerky motion in order to secure fresh supplies of air. The pupae are also aquatic, but with respiratory tubes

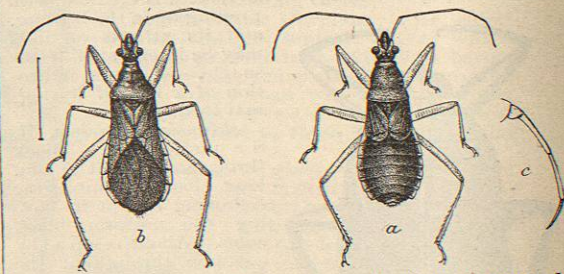


FIG. 2888.—*Coriscus subcoleoptratus*. a, Short-winged female; b, long-winged female; c, rostrum or beak. (After Howard, Bull. United States Dep. Ag.)

opening anteriorly instead of at end of body. The metamorphosis is complete, the pupa case splitting along the back and the insect emerging above water resting its feet on the surface; the wings expand rapidly, so that the insect takes flight very quickly after the bursting of the pupa case.

The males and females differ strikingly not only in the structure of the antennae and mouth parts, but also in habits; the latter being the ones to suck the blood of warm-blooded animals, while the former are restricted to

fluids more easily accessible, and may very likely not feed at all in adult stage. It is recorded that they sip sweets of flowers, and even such beverages as beer and wine. It is not thought essential that the females should secure blood in order to develop the eggs, but from their great efforts to secure one or more feasts of blood it would seem to be quite an advantage to them.

The secretion of a poison which is injected into the wound has been definitely proven. The poison gland is

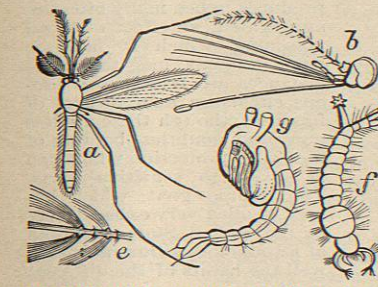


FIG. 2889.—*Culex pipiens*. a, Male; b, head of female; c, joints of male antennae; d, larva; e, pupa. All enlarged. (After Westwood.)

part of the salivary gland, the salivary gland of each side being divided into three lobes, the centre one of which is different from the others, being evenly granulated and staining differently; and in this one the poison is elaborated. The secretion is carried forward, and as it passes along the duct is diluted by the secretion of the salivary lobes, and the stream then passes to the reservoir at the base of the hypopharynx. The poison is injected during the process of blood-sucking, and its purpose has been thought to be for the acceleration of the blood flow or the prevention of coagulation. One suggestion is that the mosquito is primarily a plant feeder, and that the injection of this fluid serves to prevent coagulation of all proteids, and so promote suction.

The irritation varies greatly with different individuals, and some appear to acquire an immunity from the bites. Glycerin is recommended as giving speedy relief, and household ammonia applied as soon as possible after the bite is of service.

Culex pungens, illustrated herewith, is one of our most common species, and may be found in autumn and winter in hibernation in cellars and basements. Its rate of multiplication is extremely rapid during the summer months, the full life cycle being completed in the space of two weeks, so that numerous broods occur during a season.

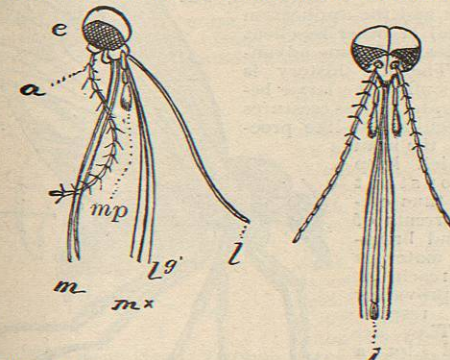


FIG. 2890.—Mouth Parts of Female Mosquito: Front and Side View. a, antennae; mx, maxillae; mp, maxillary palpi; m, mandible; l, labrum; c, eyes. (After Packard.)

The eggs are placed in large, boat-shaped masses and the larvae develop rapidly. Their characteristic position in getting air at the surface is shown, and may be contrasted with that of the larva of *Anopheles*.

Other species of *Culex* which are common in the United States are *tenellus*, *teniorhynchus*, *consobrinus*, *stimulans*,

excitans, *impiger*, etc., at least fourteen of this genus being credited to our fauna.

Anopheles maculipennis Meig. This species has more slender body and longer legs than *Culex pungens*; the

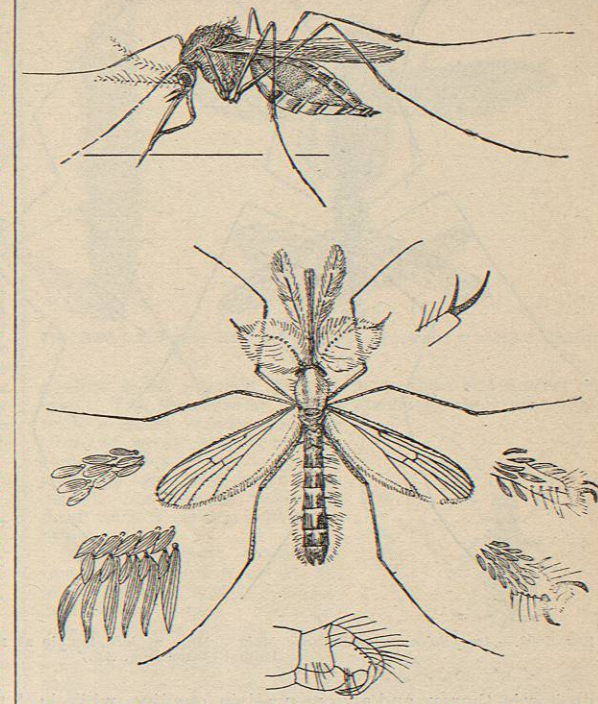


FIG. 2891.—*Culex pungens*. Female above, male below. Enlarged. (After Howard, Bull. United States Dep. Ag.)

wings are marked with dusky patches; the scales of the last vein are black and the palpi entirely black. The eggs in this form, instead of being deposited in boat-shaped masses, are laid singly and float on the surface of

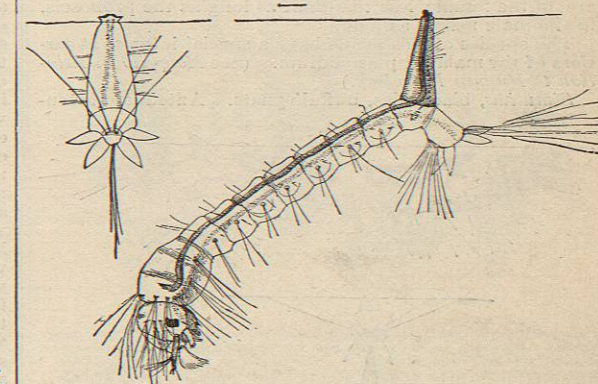


FIG. 2892.—*Culex pungens*. Larva in breathing position at surface of water. (After Howard, Bull. United States Dep. Ag.)

water till hatching. The larvae have a much shorter respiratory tube, and when taking air rest with the head held close to the surface as shown in the figure.

The adult mosquitoes of *Anopheles* assume, when resting on wall or ceiling, positions different from those as-

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