claspettes are absent. The larvae are large to very large with the head being wider than long. The comb scales are numerous and blunt ended, and the siphonal tuft (1-S) is always present, inserted near the base of the siphon, and the pecten is present. The anal segment is completely surrounded by the saddle (except in *Cs. longiareolata*), which is pierced by one or more tufts of precratal setae (4-X).

The larvae of the genus are generally found in semipermanent and permanent pools, rarely in other locations. As regards the feeding behaviour of the adult females, some species are known to feed exclusively on birds, but others, especially those of the subgenus *Culiseta*, readily attack humans and other mammals and are known to be severe biters.

The distribution of the genus *Culiseta* is almost world wide, but largely confined to the more temperate zones of the Holarctic region. It is a relatively small genus including approximately 40 valid species and subspecies, which are spread over seven subgenera. Throughout the European region, 10 species of three subgenera, *Allotheobaldia*, *Culicella*, and *Culiseta*, are recorded.

In the European members of the genus *Culiseta*, both adult and larval morphological characteristics can be found to distinguish the three subgenera. Such an extent of congruity in larval and adult subgeneric characteristics cannot be found in any other European genus of the Culicidae. Furthermore, the subgenera *Culiseta* and *Culicella* exhibit striking differences regarding their larval and adult behaviour, which will be described in more detail in the subgeneric sections.

10.4.1 Subgenus *Allotheobaldia* Broelemann

The females have a conspicuous colouration pattern on the scutum, and the palps of the males are shorter than the proboscis, and distinctly swollen at the apex. The gonocoxite is without an apical lobe, and tergum IX has two prominent lateral lobes. The head of the larva is small with mouthparts adapted to feed on the substrate. The antennae are short, with a weakly developed antennal seta (1-A). The siphon is short and not sclerotized at the base, and the saddle is weakly developed and plate shaped. The females deposit the eggs in boat-shaped rafts on the water surface, similar to the species of the genus *Culex*.

The subgenus *Allotheobaldia* is represented by only one species, *Cs. longiareolata*, which is distributed in the southern Palaearctic region.

Culiseta (Allotheobaldia) longiareolata (Macquart 1838)

Female: *Cs. longiareolata* can easily be distinguished from all other European species of the genus *Culiseta* by its distinct longitudinal pale stripes on the scutum, which resemble a lyre in shape and the femora and tibiae with pale scales aggregated into conspicuous spots or stripes. The proboscis is blackish brown, the palps are dark brown with pale scales, the latter predominating on the dorsal part. The tips of the palps are almost entirely pale. The antennae are blackish brown, and the pedicel and first two flagellomeres have white scales. The head has dense white scaling along the margins of the eyes, broad white scales also in the median line of the vertex and on the lateral parts of the occiput. The scutum has light brown, narrow scales. A narrow acrostichal stripe of pale scales extends from the anterior margin to the scutellum. In addition, there are narrow dorsocentral and lateral stripes, which are connected over the transverse suture. The scutellum and pleurae have patches of white scales except on the upper part of the postpronotum, where the scales are of a creamy yellowish colour. The legs are blackish brown with pale spots and longitudinal stripes on the femora, tibiae and tarsomeres I. All the tarsi have pale basal bands on tarsomeres I–III, and tarsomere V is usually entirely dark. The wing veins are covered with dark scales except the costa (C), which is covered with pale scales along its entire anterior surface. Dark scales are aggregated at the base of R_s, cross veins (r-m and m-cu) and the furcations of M and Cu giving an appearance of spots. The cross veins are well separated. The scales of the terga vary in colour, but usually form broad white basal bands. A mixture of yellowish creamy and brown scales is more frequently found on the last terga. Tergum VIII is usually entirely white scaled.

Male (Fig. 10.117): The main characteristic that distiguishes *Cs. longiareolata* from all other European members of *Culiseta* is the conspicuous tergum IX, which is expanded laterally into two long and slender, sclerotized lobes bearing tiny spine-like setae at their

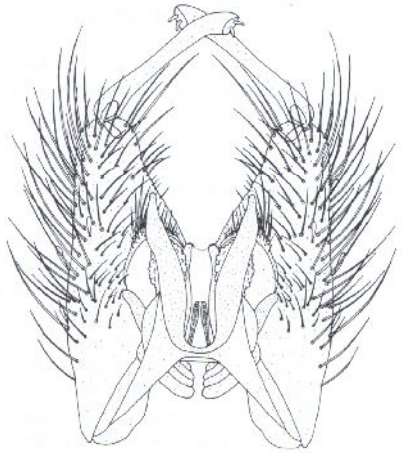

Fig. 10.117 Hypopygium of *Cs. longiareolata*

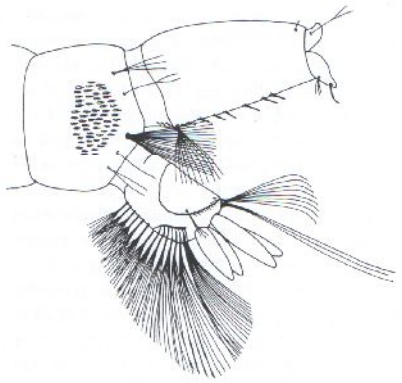

Fig. 10.118 Larva of *Cs. longiareolata*

apices (Fig. 7.69a). The gonostylus is broadened apically, bluntly ending with two short, pointed subapical spines. The aedeagus is thick and strongly sclerotized.

Larva: The antennae are short, and the antennal seta (1-A) is articulated in the apical third of the antenna, is short and usually 2-branched, rarely with 1 or 3 branches. The head has single inner and median frontal setae (5-C and 6-C), rarely 2-branched, and outer frontal setae (7-C) with 3–4 branches (Fig. 8.79a). The number of comb scales shows great variation (40–75), and seta 3-VIII is strongly developed with multiple branches (Fig. 10.118). The siphon is more or less conical in shape, with an index between 1.5 and 2.0. The pecten has 7–13 short teeth arranged in an irregular row and occupying up to 80% of the length of the siphon. The basalmost teeth are smaller and inserted in the unsclerotized basal part of the siphon. The siphonal tuft (1-S) is shorter than seta 3-VIII, with 10–15 branches arising close to the margin of the sclerotized part of the siphon. The anal segment has a plate shaped saddle extending along about half of its lateral sides. The saddle has dense short spines at its posterior margin, the saddle seta (1-X) is short, not more than half the length of the saddle. The length of the anal papillae varies according to the salinity of the breeding water, but is 0.5–1.5 times as long as the anal segment.

Biology: The larvae can be found in rock holes and in any kind of artificial container, *e.g.* wooden and metal barrels, or tanks built of concrete, and wells. Rarely do they occur in natural water bodies like pools, ditches, and drain canals. The larvae are able to tolerate a slight salinity and a high degree of pollution and are often likely to be found together with those of *Cx. p. pipiens* and *Cx. mimeticus*. At temperatures of 20–25°C the larval development lasts about 20–22 days. The larvae spend most of their time at the surface of the breeding site and rarely descend to the bottom. The pupae of *Cs. longiareolata* are able to lie passively on the bottom of their breeding sites for a length of time (Peus 1954). Hibernation takes place in the larval stage. In the temperate climatic zones adults can be found from February to November. The females of *Cs. longiareolata* do not enter dwellings and rarely bite humans outside but are regarded as vectors of blood parasites in birds. In populations from Turkmenia, autogenous egg deposition has been observed (Rioux et al. 1975).

Distribution: In Europe, *Cs. longiareolata* is widely distributed in the Mediterranean region from Spain and Portugal in the west to the European part of Turkey in the east, in France as far north as Paris, and in Switzerland and southern England. It has also been recorded from the Canary Islands, Madeira, and the Azores. This species can be found in southern Ukraine and the lower Volga area as far as the northern slopes of Caucasus. Outside Europe the distribution stretches from middle and southwest Asia, to India and Pakistan and middle Africa.