

Distribution: Scattered through the Ethiopian (south, east and north Africa), Palaearctic (Mediterranean, Ukrainian steppes, Crimea), Middle East, and the east Oriental region (India, Burma, China). In Europe it is reported from Portugal, Spain, France, Italy, former Yugoslavia, Greece, Hungary, Bulgaria, and Ukraine.

Medical importance: In South Africa, Sindbis virus and WNV were isolated from wild populations (McIntosh 1975). *Cx. theileri* is known to be a carrier of Rift Valley Fever virus and canine *Dirofilaria* in North Africa and Portugal (Smith 1973; Ribeiro et al. 1983, 1988).

10.3.3 Subgenus *Maillotia* Theobald

The palps of the females are much shorter than the proboscis. The head has mixed white and dark to golden scales. The scutum and pleurites have many whitish and dark, somewhat narrow scales, sometimes in more distinct patterns. Prealar scales and usually postspiracular scales are present. A white knee spot is present, and the tarsi are uniformly dark scaled. The abdomen may or may not have pale basal bands or lateral patches. The wing veins are covered with long, narrow dark scales. Mohrig (1969) mentioned an important wing characteristic, which separates species of the subgenus *Maillotia* from those of the subgenera *Culex* and *Neoculex*. In *Maillotia*, the ending of the subcosta (Sc) into the costa (C) corresponds roughly with the branching of veins R_{2+3} . The palps of the males are longer than the proboscis. The gonocoxite has a mesally displaced subapical lobe bearing broad, heavy spines and a flat apical distention which reaches beyond the joint of the gonocoxite and gonostylus. The latter is bent and broad with several setae and one apical spine. The aedeagus is insignificant, the paraproct is broad and crowned with denticles and stout spines. The head of the larvae is usually broader than long. Seta 3-P is nearly as long as setae 1-P and 2-P. The comb scales are arranged in an irregular patch, each individual scale is usually elongated and fringed with numerous thin spines. The siphon is very long and slender. The pecten has widely spaced teeth, and the siphonal tufts (1-S) are arranged in a more or less regular ventral row covering at least 2/3 of the siphonal length, and some distal tufts are laterally displaced. The cratal setae (4-X) are situated close to the anal papillae.

The small subgenus consists of about ten species only. The majority of this is distributed in the Ethiopian region including Madagascar or in westernmost Asia. One species, namely *Cx. hortensis*, is regularly found in the European region with a distribution in the Mediterranean area and central Europe. Another species of *Maillotia*, *Cx. deserticola*, which was transferred from subgenus *Neoculex* (Harbach 1985), has a very limited distribution in Europe. There is one doubtful record from Corsica (Schaffner 1998) and one confirmed record from the Zaragosa Province in Spain (Ramos et al. 1998). The species was found in an area well known as a faunistic refuge regarding other taxa of insects (Eritja et al. 2000). Because of its isolated occurrence in only one location, *Cx. deserticola* is not included in the keys, and no detailed morphological description is given.

Culex (Maillotia) hortensis Ficalbi 1889

Female: The general appearance of the female is similar to *Cx. territans* with greyish unspotted wings but usually paler scaling on the scutum and thorax. The relative broad pale apical bands on the abdominal terga and their distinct median widening at least on some terga differentiate the females from the *Cx. territans* and other *Culex* species in Europe. The proboscis is usually entirely dark scaled, sometimes with scattered pale scales on the ventral surface. The scaling of the palps is variable, often with pale scales at the apex forming a ring on the palpomere V, but sometimes entirely dark scaled. The occiput has light scales, the eyes are bordered with whitish scales, and the vertex is whitish with some dark scales. The scutum has dark setae and is mostly brownish scaled, very often whitish, narrow scales form lateral stripes, and the scutellum always has whitish narrow scales. The mesepisternum and mesepimeron have a few pale scale patches. The coxae have white scales on the ventral surface, and the femora are white scaled, the hind femur has dark scales dorsally. White knee spots are present, and the tibiae and tarsomeres are dark with a few white scales on the ventral surface. The apex of the hind tibia has a white spot which is sometimes difficult to detect. The wing veins are entirely dark scaled, except for the basal 1/5 of the costa which has pale scales. The end of Sc is nearly aligned with the furcations of R_{2+3} and M (Fig. 6.56a). Terga I–III have broad pale apical bands

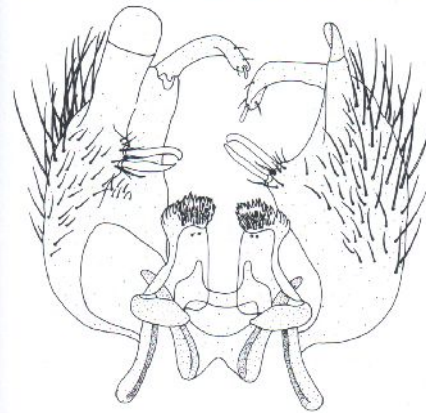


Fig. 10.109 Hypopygium of *Cx. hortensis*

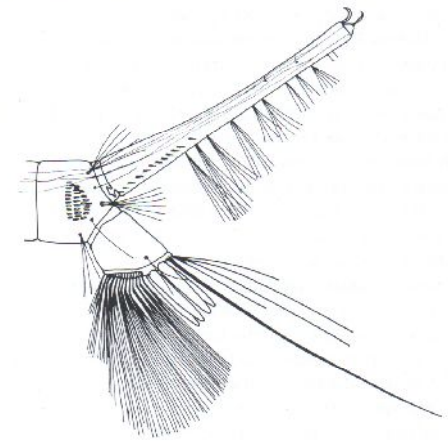


Fig. 10.110 Larva of *Cx. hortensis*

with a median widening, the rest of the terga have narrow pale apical bands.

Male: The palps are almost completely devoid of setae. The lobes of tergum IX are inconspicuous. This species is easily differentiated from all other European members of the genus *Culex* by a broad, flattened, sclerotized process at the apex of the gonocoxite (Fig. 10.109), which extends distinctly beyond the base of the gonostylus. The gonostylus is bent, and the aedeagus has a dorsal and ventral bridge. The paraproct has denticles and several rows of spines.

Larva: The head is wider than long, and the antennae are long and slender, apically with extremely long spines. The antennal seta (1-A) has about 10 branches, and the antennal shaft is covered with several short spicules around the insertion point of 1-A. The inner and median frontal setae (5-C and 6-C) have 2 branches, and the outer frontal seta (7-C) has at least 5 branches. The prothoracic seta 3-P is nearly as long as 1-P and 2-P (Fig. 8.66a). The comb scales are arranged in an irregular triangular spot, and each individual scale may be of two shapes, either long, narrow and pointed or shorter and rounded apically. The siphon is long and slender, and the siphonal index is between 6.5 and 8.0, with at least 4–5 pairs of long siphonal tufts (1-S) situated in a more or less ventral row (Fig. 10.110). The number of pecten teeth is 12, and they are widely spaced towards the middle of the

siphon. The ventral brush consists of 12–14 tufts of cratal setae (4-X).

Biology: Little is known about the phenology and general biology of *Cx. hortensis* as the species is rather uncommon and seems to occur in large numbers only sporadically. The larvae usually occur in clear water with a certain amount of algae and other vegetation, but also in rice fields, small ponds, unused wells, or garden pots. Hibernation takes place in the female stage; daytime resting sites are dark places, e.g. wooden stables. The females usually do not feed on humans.

Distribution: In Europe, *Cx. hortensis* is frequently found in the Mediterranean region. It occurs on the Canary Islands and is distributed through Spain, France, Italy, and Greece up to central Europe, where it is rarer. It can also be found in north Africa, Middle Asia, and India.

10.3.4 Subgenus *Neoculex* Dyar

Small to medium sized species, the vertex has erect and narrow scales. The palps are not longer than one quarter of the length of the proboscis, with few scales. The scutum has stout acrostichal and dorsocentral setae, and is covered with narrow uniform scales and bare areas in