

Bemisia callunae n. sp.

A new Swedish white fly (*Hom. Aleurodidae*).

By

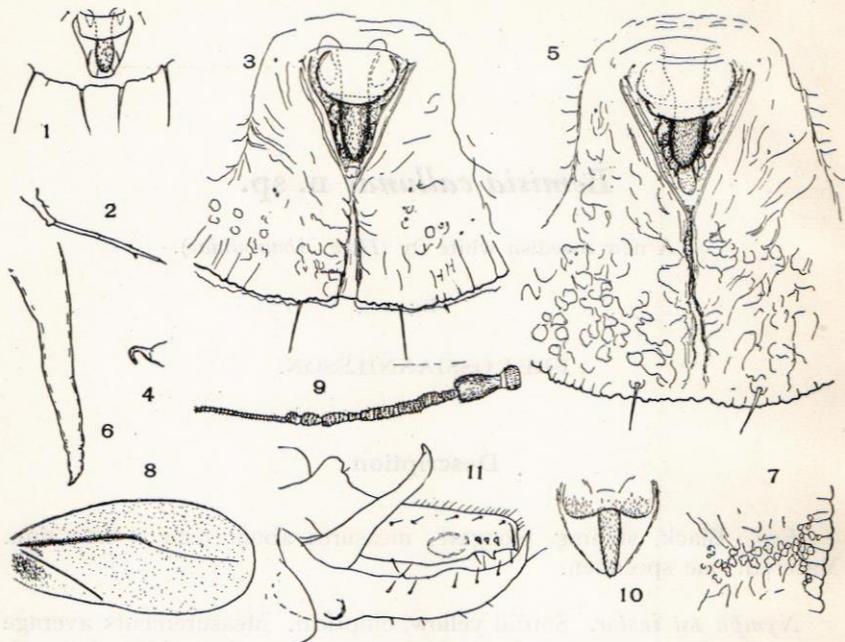
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Description.

Egg. Black, shining, elongate, measures about 0.24×0.13 mm. Material: one specimen.

Nymph 1st instar. Sordid yellow, elliptical. Measurements average 0.31×0.21 mm. 18 pairs of marginal spines, the spines of the sixteenth pair being longest, those of the eighteenth next longest. Dorsal spines one pair, vasiform, minute; ventral spines four pairs: rostral, mesocoxal, metacoxal and vasiformal. Eyes entire. Antennae about 0.08 mm., terminal antennal segment ending in a spine (fig. 2). Legs functional. Vasiform orifice pyriform (fig. 1), measurements 0.04×0.03 mm. Operculum transverse, almost rectangular, 0.03×0.015 mm., hind margin hairy. Lingula slender, spiny and hairy, rounded at the tip, length 0.03 mm. A narrow waxy fringe is developed. Material: two specimens.

Nymph 3rd instar. Sordid yellow or almost olive coloured, elliptical, more or less convex. Average measurements 0.71×0.43 mm. Marginal spines three pairs, the anals short but distinct, the others minute. Dorsal spines 1-0 pairs, minute, ventral spines absent. Eyes entire, legs degenerate, antennae (fig. 4) directed inwards, ending in a hook. Vasiform orifice (fig. 3) triangular, average measurements 0.084×0.066 mm. Operculum nearly semicircular with a latero-posterior notch at the caudal margin, this margin spinose; average measurements 0.03×0.045 mm. Lingula long and stout, slightly stouter in the caudal half, spinose, half exposed, average length 0.06 mm. From the distal end of the vasiform orifice a distinct furrow extending to the caudal margin of the body. A waxy fringe is developed. Material: four specimens.



Figs. 1—11. *Bemisia callunae*, n. sp., 1, anal margin and vasiform orifice of 1st instar nymph; 2, antenna of 1st instar nymph; 3, anal margin and vasiform orifice of 3rd instar nymph; 4, antenna of 3rd instar nymph; 5, anal margin and vasiform orifice of pupa; 6, antenna of pupa; 7, thoracic tracheal fold of pupa; 8, fore wing of adult; 9, antenna of male; 10, vasiform orifice of male; 11, parameres and aedeagus of male, dorsolateral view.

Pupa. Oval, tectiform, convex, colour olive or brownish. Average measurements 0.98×0.60 mm. Margin dentate, waxy fringe inconspicuous, more distinct at the extremities of the tracheal folds. Segmentation marked by transverse furrows. Two pairs of marginal spines, the anals distinct. Dorsal spines one pair, minute. Ventral spines one or two pairs, the vasiform pair well developed. Eyes entire; antennae (fig. 6) slender, directed backwards and outwards, ending apically in a claw-like process. Legs degenerate. Tracheal folds three, two thoracic (fig. 7) and one anal. Vasiform orifice (fig. 5) triangular, average measurements 0.09×0.075 mm.; its caudal end continued in a distinct but narrow caudal furrow. Length of the caudal furrow (average) 0.12 mm. Operculum transverse, almost semicircular, hind margin with one or two pairs of notches; average measurements 0.036×0.056 mm. Hind margin of operculum spinose. Lingula long and stout, spatulate, spinose, average length 0.07 mm., about half of it exposed. Material: 5 specimens.

Adult male. Yellow; head, antennae, thorax, legs, abdominal terga and genital segment brown. Length about 1.3 mm. Wings (fig. 8) light grey, veins darker. Antennae hairy, seven-segmented, length about 0.37 mm., the flagelliform segment VII being the longest, IV the shortest (fig. 9). Operculum sub-rectangular, caudal margin arched, hairy, lingula slender and hairy (fig. 10). Parameres (fig. 11) dorsally at the base with a broad, triangular lobe; the inner margin is distally provided with some prominent teeth. Material: two specimens.

Adult female. Colour as in the male. Length about 1.4 mm. Antennal segment III longer than VII. Vasiform orifice transversely oval, genitalia as usual. Material: two specimens.

Taxonomic position.

I describe this insect as a species of *Bemisia* mainly on account of the shape of the vasiform orifice and the presence of a distinct caudal furrow in the pupa. The species differs from typical species of this genus by the presence of comparatively distinct thoracic folds in the pupal stage and by the structure of the antennae in the adults.

Types.

The type material of this species is preserved in my collection.

Habitat, biological observations etc.

I first found the adults of this new species on *Calluna vulgaris* at Nacka, Erstavik (Södermanland) 24.VI. 1945. I collected some specimens and brought them with me in a glass tube with some twigs of the host plant. Eggs were laid singly on the leaves of *Calluna* during the night and the following day. The hatching commenced 12.VII. The nymphs of the third instar were observed 3.X, but as the *Calluna* twigs were now dead, the specimens were killed. I collected the pupae on *Calluna* in Solna, Råsunda (Upland) 21.X. 1945 and at Erstavik 27.X. 1946. They were found on the abaxial surface of the leaves.