

# PTEROCHLORUS ROSAE, AN UNCOMMON APHID ON ROSES

BY W. ROEPKE

In the autumn of 1951 my old friend Mr L. VAN GIERBERGEN drew my attention to what he called a „black aphid” occurring on a climbing rose in his garden at Wageningen. The species proved to be *Pterochlorus rosae* CHOL., the only Lachnine having *Rosa* as a food plant. The literature about this insect is scanty and its bionomics are not yet fully known, so that a short account of it may be given here.

1899. The Russian entomologist CHOLODKOVSKY (Zool. Anz. 22: 471) was the first to describe this aphid from rather numerous specimens he had found some years previously in Esthonia. He had observed viviparous females only, which he placed in the genus *Lachnus* BURM.

1912. VAN DER GOOT (Tijds. Ent. 55: 89) independently described the oviparous female of the same insect, as *Lachnus rosarum* n. sp., found in October 1907 on old branches of roses at Wageningen. He described the manner of egg laying and figured the antenna of the oviparous female. In the same year (Mitt. Naturh. Mus. Hamburg 29: 279) he recorded the occurrence of the insect in Germany. In his well known handbook (Beitr. Kennt. Holl. Blattl., 1915: 408) he referred the species correctly to *L. rosae* CHOL., and without adding new details he said that he found it only above the ground.

1917. The species was recorded from North America on wild rose near Orono by Miss E. PATCH (J. Ec. Ent. 10: 418). Apterous and alate females were observed; they were described as „glistening bronze” and thickly hairy; they were accompanied by ants.

1920. GAUMONT (Bull. Soc. Ent. de France: 26) discovered the aphid in the Haute Alsace, France, and in several localities in Central France, where it was living on *Rosa canina*. This author described the alate female and both sexuales, indicating the coloration as green or reddish. Furthermore, he established the new genus *Maculilachnus* for this species.

1922. OESTLUND (19th Rep. State Entomol.: 120) mentioned the occurrence of the insect in Minnesota with the few words: “Founds on the stalks of the rose, usually close to the ground or even partly under the ground”. No further particulars were given.

1923. WILSON (Connect. State Geol. & Nat. Hist. Survey, Bull. 34: 258) recorded the aphid as occurring from Maine to Colorado, on the stems of native roses. Both apterae and alatae were stated to have numerous, large, quadrangulate sensoria on the antennae. Wilson placed the insect in the genus *Nippolachnus* MATS.

1925. LAING (Entom. 58: 19) recorded the aphid for the first time from England: it was found on the roots of a rose bush at Weybridge, Surrey. He considered *Maculilachnus* GAUM. invalid and placed the insect in *Pterochlorus* ROND.

1929. KNOWLTON (Pan-Pac. Entom. 6: 33) wrote „Very abundant upon *Rosa fendleri* on the Utah Agricultural College campus”, in May-June. In July the colonies became scarce and soon disappeared entirely. They were attended by large numbers of the common ant, *Formica rufa*. He described and figured some morphological structures.

1929. THEOBALD (Plant Lice or Aphids of Gr. Brit. 3: 114) repeated the statements of LAING (1925) and expressed the opinion that the insect was probably an introduced species.

1932. BÖRNER (in SORAUER, Handb. Pflanzenkr. 5: 572) stated that *Lachnus rosae* occurs in Europe and North America on wild and cultivated roses, mostly at the base of the stems or on the higher roots, rarely on the branches. It was said to be numerous on roses on stony slopes in Central Germany.

So much for the literature we have been able to consult. It follows from this that *Pterochlorus rosae* has a wide geographical range, occurring in North America as well as in Europe. In Europe, it has been recorded from Esthonia, Germany, Holland, France and England, but it will certainly be found also in other countries. There is no reason, we think, to assume that its occurrence in England may be due to introduction.

We observed the insect in October and November 1951 at Wageningen. There were several localized colonies on rather thick, but still green rose twigs, at about a mans height. No colonies were seen near the ground or below it. The insects were eagerly attended by the black ant *Lasius fuliginosus* LATR. which had its nest a considerable distance away. The colonies consisted, in the beginning of apterous females only; soon the oviparae and much smaller, apterous males appeared. The first eggs were observed on 20 October, near the bases of the thorns. Egg laying took place during the last ten days of October and the beginning of November, and several egg batches, each consisting of numerous eggs, were produced. The eggs were rather large and greenish or yellowish when freshly laid, but they became black within a few days. In the second and third ten-day periods of November the colonies, under the influence of bad weather, decreased rapidly and finally disappeared.

Material for microscopic examination was collected in the beginning and towards the end of the observation period. When alive the aphids had a dull, dark brown or bronze coloration. Macerated specimens were colourless, with the exception of the head, antennae, legs, cornicles and cauda, which remained dark brown. The body was densely covered with short hairs. On each side of the abdomen there were two rows of small, dorsal sclerites, already indicated by GAUMONT in his figure, l.c. Furthermore, the wingless females showed on the first abdominal segments a median double row of very small, elongated sclerites. The short hairs seemed to be implanted on very small basal sclerites which were slightly more distinct in the ovipara. The latter did not differ much from the common wingless female, even the hind tibiae being not dilated and bearing no sensoria. The rhinaria of the antennae were restricted in number, both in the ovipara and in the wingless viviparous female; they were small, but somewhat protruding. Joint 4 of the antenna was obviously short.

In the colony examined at the end of the season, the males were found to have disappeared already, so that no description can be given. Unfortunately the rose hedge was cut down by a new proprietor in the second ten-day period of March. The aphids had not yet hatched then. Mr VAN GIERBERGEN succeeded in securing a piece of a branch containing an egg batch. This was fastened to a climbing rose in another garden. It was found, however, that, with few exceptions, the numerous eggs did not develop, but dried and shrivelled. It is therefore not possible to describe the fundatrix, which remains still unknown.

*Pterochlorus rosae* CHOL. is of hardly any economic importance. If control of the aphid were to become desirable, the colonies could certainly be destroyed by a parathion spray, or the egg batches could be killed by a local application of a 6 % tar wash (carbolineum).