

# ON APHIDS FROM THE NETHERLANDS WITH DESCRIPTIONS OF NEW SPECIES (APHIDIDAE, HOMOPTERA)

BY

D. HILLE RIS LAMBERS

*Bladluisonderzoek T.N.O., Bennekom*

## 1. *Cryptaphis poae* Hardy and *Holcaphis holci* H.R.L.

HARDY (1850) refers on p. 531 to an *Aphis holci* and on p. 788—789 he gives an article on "the Aphides of corn and grasses". The paper is very rare and evidently no authority on aphid literature after 1900 has succeeded in consulting it. Through the kind help of Dr J. P. DONCASTER I obtained a copy. It appears that *Aphis holci*, mentioned on p. 531, also according to HARDY (p. 788) was never described and that *Aphis stellariae* Hardy, now known as *Brachycolus stellariae* Hardy, is introduced as a more appropriate name, with a very good description. But this description covers three species, viz., 1. *Brachycolus stellariae* Hardy, 1850, from *Stellaria holostea*, 2. *Br. cerastii* Kltb., from *Cerastium triviale* (and *arvense*) and 3. *Holcaphis holci*, which I described as *H. holci* Hardy, but which, as *holci* Hardy is a nomen nudum, should be quoted as *H. holci* H.R.L., 1947.

*Aphis poae* Hardy, 1850 undoubtedly is the species described by me as *Cryptaphis setiger* spec. nov. in 1947 and which now should be called *Cryptaphis poae* Hardy, 1850.

## 2. *Macrosiphoniella ptarmicae* spec. nov.

Apterous viviparous female.

Morphological characters. Body spindle-shaped, about 2.63—3.19 mm long. Head and pronotum more or less brownish sclerotic, the abdomen with usually faint sclerites at the bases of the dorsal hairs, of which the spinal sclerites are rather larger than the others; antesiphuncular sclerites not very distinct. Dorsal hairs long, the spinal ones on IIIrd abd. tergite about  $2\frac{1}{3}$ — $2\frac{2}{3}$  times as long as basal diameter of IIIrd ant. segment, with acute or nearly acute apices; number of hairs normal, spinal hairs irregularly duplicated; VIIIth abd. tergite with 4—6 hairs. Frontal tubercles strongly diverging, frontal furrow rather evenly concave. Antennae completely jet black, or with at most segments I, II and a small basal part of segment III somewhat brownish; length about  $\frac{19}{20}$ — $\frac{11}{5}$  times that of the body; IIIrd segment on basal  $\frac{1}{2}$ — $\frac{5}{8}$  with 8—32 small to very small strongly bulging rhinaria on a slightly incrassate part; processus terminalis on an average as long as IIIrd segment, 3—4 times base of VIth segment. Longest hairs on IIIrd ant. segment  $\frac{11}{9}$ — $\frac{12}{3}$  times basal diameter of the segment. Rostrum reaching to past the middle coxae; apical segment about  $\frac{4}{5}$  of 2nd joint of hind



tarsi, slender but not conspicuously stiletto-shaped, with 3 pairs of hairs on distal half, and with 3—4 much longer lateral ones and 2 shorter ventral hairs on basal half. Siphunculi blackish, sometimes with pale base; slightly tapering, often with distal one-third part cylindrical, imbricated with distal  $\frac{4}{9}$ — $\frac{1}{2}$  reticulated, with small flange, only about  $\frac{1}{10}$ — $\frac{2}{15}$  length of body. Cauda about as dark as the bases of the siphunculi, very elongated, about  $1\frac{1}{4}$ — $1\frac{1}{2}$  times as long as the siphunculi, with about 24—32 hairs. Subgenital plate on anterior half with 2 long hairs and sometimes 2—4 additional, shorter hairs. Legs always with the bases of the femora pale, in young specimens with the apical part of the femora blackish, the middle dorsally and ventrally dark brown with the enclosed part yellowish to brown, the tibiae with black basal and apical part and an area between them pale to brown; in older specimens the legs black, often with the exception of a more transparent portion on distal half of the tibiae; hairs on the outer side of the hind tibiae stiff, rather spreading, nearly acute, always with at least some  $1\frac{1}{2}$ —2 times as long as maximum diameter of the tibiae; first tarsal joints with 3 hairs.

Colour. Head dark bluish grey, the rest of the body tender green, around the siphunculi and between them olive-green, the dorsum with whitish grey wax-dust which does not cover very fine lines between the tergites, transversely spindle-shaped, sometimes coalescing intersegmental spots along the spine and narrower, similar pleural spots. Ventrally faintly powdered. Eyes bright red to dark red. Antennae black. Siphunculi black or with green, transparent base, the cauda rather like the base of the siphunculi. Legs either almost completely black or with the middle part of the tibiae and the basal half of the femora paler and more or less transparent.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Rhin. on III	Ant. segments			VI
						III	IV	V	
1	3.19	3.48	0.33	0.47	28 & 31	0.88	0.77	0.57	(0.24 + 0.77)
2	2.81	2.89	0.29	0.42	13 & 15	0.71	0.55	0.47	(0.20 + 0.75)
3	3.14	3.10	0.30	0.43	25 & 30	0.78	0.64	0.51	(0.21 + 0.71)
4	3.17	3.55	0.44	0.52	13 & 14	0.87	0.79	0.60	(0.21 + 0.83)
5	2.71	3.21	0.34	0.48	19 & 19	0.83	0.67	0.57	(0.20 + 0.71)
6	2.63	3.13	0.33	0.47	17 & 19	0.81	0.65	0.53	(0.21 + 0.70)
7	2.85	3.06	0.35	0.55	15 & 20	0.83	0.62	0.49	(0.22 + 0.66)
8	2.21	2.51	0.27	0.38	8 & 10	0.62	0.48	0.42	(0.17 + 0.63)

(1—3, Bennekom, 29.IX.52; 4—6, Bennekom, 1.IX.53; 7, Scotland, Gleneagles, Perthshire, 7.VII.53, leg. STROYAN; 8, Sweden, Nacka-Erstavik, 28.VII.53, leg. OSSIANNILSSON).

Alate viviparous female.

Morphological characters. As in apterous viviparous female, but head and thorax dark sclerotic, abdomen with small, more or less distinctly pigmented marginal and antesiphuncular sclerites. Antennae almost wholly black; IIIrd ant. segment with about 45—65 bulging, not tuberculate rhinaria scattered over its whole length. Siphunculi black with the very base brownish like the cauda, more cylindrical



than in apterae. Legs black with the exception of the very bases of the femora.

Colour. As in apterous viviparous female, but head and thorax blackish grey.

Measurements of one specimen: Length of body: 3.23 mm; ant.: 3.56 mm; siph.: 0.34 mm; cau.: 0.46 mm. Ant. segments:  $\frac{0.88}{III}$ ,  $\frac{0.70}{IV}$ ,  $\frac{0.64}{V}$ ,  $\frac{(0.23 + 0.86)}{VI}$  mm. Rhin. on IIIrd ant. segment: 54 and 56. (Bennekom, 22.VI.54, leg. DONCASTER & H.R.L.).

Oviparous female.

Morphological characters. Like apterous viviparous female, but cauda very much thicker; VIIIth abd. tergite with 6—10 hairs; subgenital plate with more hairs on posterior half and about 7—12 hairs in addition to the 2 long hairs on anterior half; hind tibiae swollen, with many pseudo-sensoria, pigmented like the other tibiae.

Colour. Somewhat reddish brown, where the apterae viviparae are greenish, otherwise similar.

Measurements of one specimen: Length of body: 2.64 mm; ant.: 2.94 mm; siph.: 0.29 mm; cau.: 0.41 mm. Ant. segments:  $\frac{0.75}{III}$ ,  $\frac{0.56}{IV}$ ,  $\frac{0.48}{V}$ ,  $\frac{(0.20 + 0.72)}{VI}$  mm. Rhin. on IIIrd ant. segment: 15 and 17.

Alate male.

Morphological characters. Much like alate female, but smaller and more slender. Siphunculi nearly cylindrical, about  $1/12$  length of body. Cauda much shorter, with only on distal  $2/5$  about 10—16 hairs. Antennae about  $11/2$ — $12/3$  times length of body; IIIrd segment with about 45—65 rhinaria, IVth with 8—18, Vth with 9—20 rhinaria, on the last two mentioned segments rather in a line. Genitalia normal, clasper rather acute.

Colour. As in alate female, but abdomen reddish instead of greenish.

Measurements of one specimen: Length of body: 2.02 mm; ant.: 3.31 mm; siph.: 0.17 mm; cau.: 0.19 mm. Ant. segments:  $\frac{0.78}{III}$ ,  $\frac{0.64}{IV}$ ,  $\frac{0.61}{V}$ ,  $\frac{(0.22 + 0.85)}{VI}$  mm. Rhin. on IIIrd ant. segment: 53 and 57; on IVth segment: 10 and 14; on Vth segment: 16 and 11.

Host plant: *Achillea ptarmica*.

Locality: Netherlands, Great Britain, Sweden.

Colonies of this species are in some years common in the valley of the Grebbe west of Bennekom, mainly in the inflorescences, but also on the undersides of both the higher and lower leaves. Sexuales were present from the last week of September. Oviposition was not yet observed.

*M. ptarmicae* spec. nov. is very variable and it upsets the division of *Macrosiphoniella* del Guercio used in the key in my revision of that genus (1938). The siphunculi in apterae vary from pale with the distal part gradually darker towards apex, to almost completely black, at least in mounted specimens. When the siphun-



culi are black, specimens key to *M. tanacetaria* (Kltb.), which also in life is very similar. But in *M. tanacetaria* the tibiae are quite black and the hairs on the IIIrd ant. segment and especially on the tibiae are very much shorter, usually even shorter than the maximum diameter of the tibiae. If the siphunculi are largely pale the specimens key to *M. oblonga* (Mordv.), but that is a totally different species without wax-excretion and with pale legs. In samples taken from the same plants in successive years this variation occurred, but Swedish specimens, received for examination from Dr F. OSSIANNILSSON of Uppsala are generally less pigmented than Dutch and Scottish specimens, though otherwise quite similar.

The species is probably as common in the rest of Europe as it is in the Netherlands, but it is easily overlooked. *M. millefolii* (de Geer) occurs on the same plants, but it can easily be recognized with a pocket-lens because of its pattern of blackish sclerites.

Cotypes in the author's collection.

### 3. *Hyperomyzella rhinanthi* (Schout., 1903).

BÖRNER (1952) replaces the specific name by *erratica* Koch, 1854. In *rhinanthi* alatae have completely black tibiae, but KOCH describes and figures the tibiae of his *Rhopalosiphum erraticum* as pale with dark apices. The siphunculi of *rhinanthi* are quite black and that hardly agrees with the yellow siphunculi mentioned by KOCH. KOCH's *Rhopalosiphum erraticum* very clearly is nothing but *Hyperomyzus lactucae* (L., 1758), as a synonym of which I listed it (1949).

### 4. *Hydaphias mosana* spec. nov.

Apterous viviparous female.

Morphological characters. Body oval. Head, lateral areas and a small area ventrally on mesothorax, an inconspicuous band on VIIIth abd. tergite, siphunculi, cauda, subanal plate, subgenital plate and stigmal plates sclerotic, from smoky to blackish pigmented, the rest of the body membraneous and colourless. Rather large semiglobular marginal tubercles present on prothorax and abd. segments I—V, but not on VIth and VIIth segment; these tubercles higher than the marginal hairs and with a diameter of about  $2\frac{1}{2}$  times the length of those hairs. Dorsal hairs rather thick, very blunt, on IIInd abd. tergite about  $\frac{1}{3}$  of diameter of IIIrd ant. segment in the middle; ventral hairs also often bluntish, on IIIrd abd. sternite about  $\frac{2}{3}$  of the mentioned diameter of IIIrd ant. segment. Front straight. Antennae about  $\frac{3}{5}$  length of body, completely imbricated, pigmented like the head with darker apex; IIIrd ant. segment mostly only on distal half with 2—8 rather large, flattish rhinaria usually in a single line; processus terminalis a little more than twice base of VIth segment, about as long as IIIrd segment. Hairs on IIIrd segment at most  $\frac{2}{5}$  of diameter of the segment near its middle. Rostrum reaching to just past the hind coxae; apical segment as long as 2nd joint of hind tarsi, with 4—7 hairs besides the 3 apical pairs. Siphunculi less than  $\frac{1}{10}$  length of body, of rather variable shape, curved inwards, tapering but ex-



panding near the quite flangeless apex, pigmented like the middle portion of the tibiae, slightly wrinkled. Cauda a little longer than the siphunculi, thick, about  $1\frac{1}{3}$  times as long as its basal width, blunt, dark, with about 15—22 hairs. Legs as in the other species variably pigmented, from dusky to brown with the apices of the tibiae darker, in correlation with the pigmentation of the siphunculi; hairs short; first tarsal joints with 2 hairs.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Rhin. on III	Ant. segments			VI
						III	IV	V	
1	1.56	0.91	0.14	0.16	2 & ?	0.23	0.12	0.12	(0.10 + 0.21)
2	1.68	0.94	0.13	0.16	3 & 4	0.24	0.13	0.11	(0.10 + 0.24)
3	1.66	0.95	0.14	0.16	3 & 6	0.24	0.14	0.13	(0.10 + 0.26)

Oviparous female.

Morphological characters. Very much like the preceding form, but cauda much thicker, bluntly triangular, hardly longer than wide at base. Hind tibiae not darker than the other tibiae, not or very little swollen, with about 1—20 rather large, bulging pseudosensoria over whole length.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Rhin. on III	Ant. segments			VI
						III	IV	V	
1	1.43	0.92	0.13	0.15	4 & ?	24	0.13	0.11	(0.10 + 0.21)
2	1.45	0.94	0.13	0.16	4 & 5	23	0.12	0.12	(0.11 + 0.24)

Apterous male.

Morphological characters. Head and thorax black sclerotic, the thorax very nearly a normal pterothorax, often with stumps of forewings; abdomen with small marginal sclerites on segments I—IV and with a narrow sclerotic transverse band across VIIth and VIIIth tergite. Marginal tubercles very conspicuous, larger than in the other forms. Very irregularly also spinal tubercles present, e.g., on pronotum and abd. tergites IV—VII, rarely in complete pairs on some segment. Antennae blackish, about  $\frac{3}{4}$ — $\frac{4}{5}$  length of body; IIIrd segment over whole length with about 14—23 rather small, scattered rhinaria; IVth with 6—11 rhinaria; Vth with 3—7 secondary rhinaria; processus terminalis up to nearly 3 times base of VIth segment, longer than IIIrd segment. Siphunculi short, strongly curved inwards, dark. Cauda wider at base than long, triangular, dark. Genitalia well-developed. Legs darker than in the other forms, with rather imbricated hind femora. Other characters about as in apterae viviparae.

Measurements in mm.

♂	Length	Ant.	Siph.	Cau.	Rhin.	on segment			Ant. segments			
Z	body				III	IV	V		III	IV	V	VI
1	1.15	0.94	0.08	0.08	16 & 17	8 & 9	7 & 5	0.22	0.13	0.13	(0.09 + 0.26)	
2	1.32	0.98	0.08	0.08	16 & 20	10 & 8	6 & 3	0.23	0.14	0.13	(0.10 + 0.27)	

Hostplant: *Galium mollugo*.

Locality: Lith, province of North Brabant, the Netherlands.

One sample of this species was taken in September 1929 on subterranean parts



of the host plant, where the aphids were attended by ants. The colour-notes were lost during the war. All apterous females show at least on one leg some pseudosensoria and nearly all also hypertrophy of the two lateral rudimentary gonapophyses. Specimens containing embryos are here described as apterae viviparae, specimens with eggs in their abdomen as oviparae. Such vague differences between viviparae and oviparae are rather rare, but they are known in some other species.

The species somewhat resembles *Hydaphias hoffmanni* Börner (syn. *Aphis bicolor* Koch nec Haldeman), but it differs by the much larger marginal tubercles and above all by the short ventral hairs. In the other species of this genus the longest ventral hairs on, e.g., the IIIrd abd. sternite, are long and fine and about twice as long as the largest diameter of IIIrd ant. segment, about 5 times as long as the spinal hairs on that abdominal segment. Oviparae of *H. hoffmanni* have strongly swollen, blackish hind tibiae with a large number of pseudosensoria, while the other tibiae are pale with blackish apices; these pseudosensoria in very small number appear already on the hind tibiae of the last larval instar, which I have not seen in other aphids.

This species would seem to be very rare. All attempts to refind it failed.

Cotypes in the author's collection.

##### 5. *Sappaphis albocinerea* spec. nov.

Apterous viviparous female.

Morphological characters. Body rather broadly oval. Tergum membraneous except for local sclerites, often finely reticulated; head, a broad, broken band on pronotum and a narrow band across VIIIth abd. tergite always smoky sclerotic to brown; very small to small irregular spinal, pleural and marginal sclerites usually here and there present, on VIIth and sometimes VIth abd. tergite partly coalescing to a transverse sclerite. Dorsal hairs numerous, rather thick and stiff, those on IIIrd abd. tergite blunt, about as long as largest diameter of IIIrd ant. segment; on VIIIth abd. tergite 4 (—6) fine, acute hairs, about  $2\frac{1}{2}$  times that diameter. Low, flattish tubercles present in large numbers; marginal tubercles on prothorax and abd. segments I—VII, those on IInd and IIIrd segment usually the largest, up to as large in diameter as the length of the nearest hairs, those on Ist and VIIth segment sometimes hardly larger than the stigmata, those on VIIth segment sometimes absent; spinal tubercles rather regularly present on all segments from vertex to VIIIth abd. tergite, sometimes with more than a single pair per segment; pleural tubercles occasionally present on one of the anterior abd. tergites. Head normal, without frontal tubercles. Antennae short, brown with darker apices, hardly imbricated; IIIrd segment without rhinaria, with strongly constricted base, about as long as IIIrd + IVth segment; processus terminalis short,  $2-2\frac{1}{2}$  times base of VIth segment, mostly just shorter than IIIrd segment; IVth and Vth segment sometimes coalescing. Hairs on IIIrd segment numerous, up to  $\frac{7}{8}$  of largest diameter of the segment. Rostrum reaching far past the hind coxae; last segment nearly  $1\frac{1}{2}$  times, 2nd joint of hind tarsi, with 2, rarely 4 hairs besides the 3 apical pairs. Siphunculi short, strongly tapering, just longer than 2nd joint



of hind tarsi, dark to blackish with paler base, faintly imbricated, with distinct flange. Cauda very short, broadly triangular with convex sides, pointed, dark, about  $\frac{2}{3}$ — $\frac{4}{5}$  of the siphunculi, with 5—7 strongly curved hairs. Legs short, rather evenly brownish, with spiny hairs, only at the apices of the hind tibiae with longer hairs; first tarsal joints with 3, 3, 2 hairs.

Colour. Pale greenish, evenly covered by grey waxpowder, Legs, etc., brownish.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Ant. segments			
					III	IV	V	IV
1	1.70	0.68	0.13	0.10	0.16	0.09	0.08	(0.07 + 0.16)
2	1.67	0.63	0.13	0.10	0.19	0.10	0.08	(0.07 + 0.16)
3	1.51	0.63	0.12	0.10	0.15	0.08	0.07	(0.07 + 0.15)

(1, 27.IX.50; 2—3, 3.IX.50).

Oviparous female.

Morphological characters. Body larger than in apterae, but otherwise very similar. VIIIth abd. tergite with 5—8 hairs. Hind tibiae a little swollen on basal half, not darker than the other tibiae, with 10—35 pseudosensoria over nearly their whole length.

Colour. As in apterae viviparae.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Ant. segments			
					III	IV	V	VI
1	1.88	0.69	0.13	0.09	0.17	0.09	0.08	(0.07 + 0.16)
2	1.92	0.67	0.12	0.09	0.16	0.09	0.07	(0.07 + 0.16)
3	1.86	0.64	0.12	0.08	0.15	0.09	0.07	(0.06 + 0.15)

(1—3, 15.X.50).

Apterous male.

Morphological characters. Rather small and narrow. Head and thorax black sclerotic, the thorax with the structure of the normal pterothorax, but without vestiges of wings; abdomen with distinct marginal sclerites, with small spinal sclerites on the anterior segments and with broad spino-pleural transverse bars from IIIrd—VIIIth abd. tergite; these bars are longest on Vth abd. tergite and they are at least pleurally coalescing from IVth—VIth tergite, so that a rather complete central sclerite is formed with medially intersegmental membranous sutures. Tubercles as in other forms. Antennae black, rather tuberculate by the rhinaria, more than half as long as body; IIIrd segment with about 17—30 rather small, tuberculate rhinaria over about half the circumference; IVth segment with 4—11 rhinaria, Vth segment with 1—4 secondary rhinaria; processus terminalis much shorter than IIIrd segment. Siphunculi rather cylindrical with often slightly constricted base, black. Cauda short and narrower than in the other forms. Legs yellowish to brown with the femora except basally and the apices of the tibiae dark to blackish. Genitalia normal.

Colour. Seemingly quite black, but the membranous parts of the abdomen reddish brown.



## Measurements in mm.

♂ Z body	Length	Ant.	Siph.	Cau.	Rhin. on segment			Ant. segments			
					III	IV	V	III	IV	V	VI
1	1.34	0.75	0.10	0.06	18 & 18	6 & 4	1 & 1	0.22	0.11	0.07	(0.07 + 0.15)
2	1.28	0.83	0.10	0.06	25 & 27	6 & 10	3 & 1	0.26	0.12	0.11	(0.06 + 0.15)
3	1.33	0.75	0.10	0.06	17 & 21	9 & 6	3 & 2	0.23	0.11	0.07	(0.06 + 0.15)

(1—3, 15.X.50).

Host plant : *Rumex acetosella*.

Locality: Bennekom (Wageningen-Hoog).

This very curious aphid lives rather deeply underground on the rhizomes of its host plant, apparently always only in nests of the ant *Tetramorium caespitum*. Two *Aphis* spp. occurred sometimes on the same plants, but more near the surface of the soil. Apterae viviparae were taken from the beginning of October, males after the first week of October. Infested stolones often show flattened spots with longitudinal impressions in which the eggs are laid; fresh eggs are orange.

The species could only be found in dry, gravelly sand along the Hartense weg, 10—150 m South-East of its crossing with the Hollandse weg. Though that kind of biotope is quite common, I did not succeed in finding this species outside the area indicated, although the two *Aphis* spp. occur commonly where the biotope occurs. It is also remarkable that when *Rumex acetosella* within the area indicated grew in nests of *Lasius alienus*, only one or both of the *Aphis* spp. occurred on the rhizomes, but never this new species, however near it might be found with *Tetramorium caespitum*.

Recognition of this species is very easy because of its numerous spinal tubercles, which are only recorded in the Russian species, *Zinia veronicae* Shap. The sculpture of the siphunculi makes it quite certain that the correct generic location is in the genus *Sappaphis* Mats. Within this genus it comes in the subgenus *Zinia*, recently erected by SHAPOSHNIKOV.

Cotypes in the author's collection.

6. *Aphis pilosellae* spec. nov.

## Fundatrix.

Morphological characters. Much like the next form, but antennae, siphunculi and cauda considerably shorter. Antennae sometimes with the division between IIIrd and IVth segment obsolete, so that only 4 segments are present.

Colour. Mottled very dark green.

## Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Ant. segments		
					III	IV	V
1	1.61	0.60	0.13	0.13	0.20	0.09	(0.09 + 0.12)
2	1.55	0.59	0.13	0.14	0.19	0.07	(0.09 + 0.13)

## Apterous viviparous female.

Morphological characters. Body oval, about 1.25—1.65 mm long. Head, more or less complete bands across the thoracal nota and abd. tergites VII and VIII



dark sclerotic; small darkish marginal sclerites usually present and often also scattered spinal sclerites on abd. segments I and VI. Very large but low, rounded marginal tubercles always present on prothorax and abd. segments I and VII, much smaller ones irregularly on segments II—IV; the tubercles on VIIth abd. tergite with transversely oval base, as wide as the base of the siphunculi. Hairs very scarce, so that on abd. tergites I—III normally only 4 hairs occur, on IVth 6 hairs (2 spinal and 4 marginal hairs); dorsal hairs short, bluntish, the spinal ones on IIIrd abd. segment about half as long as largest diameter of IIIrd ant. segment; ventral hairs only little longer, but more numerous. Front normal. Antennae dark, with the basal half of IIIrd segment paler, imbricated, always of 5 segments, only about half as long as body; no secondary rhinaria present; IIIrd segment more than twice as long as IVth; IVth about as long as base of Vth segment; processus terminalis  $1\frac{2}{3}$ — $2\frac{1}{4}$  times base of Vth segment. Hairs on IIIrd segment very short, only about  $\frac{1}{3}$  of maximum diameter of the segment. Rostrum very long, reaching to far past the hind coxae; last segment very elongated and narrow, about  $\frac{7}{8}$ —1 times the siphunculi,  $\frac{12}{3}$ — $1\frac{9}{10}$  times as long as the 2nd joint of hind tarsi, with on basal half 2—4 short hairs which are less than half as long as the largest of the 3 pairs on distal half; of the latter one pair rather more basewards and all the subapical hairs rather far from the apex. Siphunculi blackish sclerotic, slightly tapering, imbricated, about  $\frac{1}{9}$ — $\frac{1}{10}$  length of body, with very small flange. Cauda blackish sclerotic, rather thick, not constricted, about  $\frac{3}{4}$  of, to as long as the siphunculi, with 6—9 hairs of which the apical ones are very strongly curved inwards.

Legs brownish yellow with the larger part of the femora and the apical parts of the tibiae dark to blackish; first tarsal joints with 3, 3, 2 hairs; hairs short, only towards the apices of the tibiae a little longer.

Colour. Light to rather dark green, often mottled, with the sclerotic parts darker. Siphunculi and cauda blackish. Legs with most of the tibiae and base of the femora translucent, the rest dark.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Ant. segments		V
					III	IV	
1	1.49	0.73	0.17	0.15	0.26	0.10	(0.10 + 0.19)
2	1.48	0.75	0.17	0.14	0.26	0.11	(0.11 + 0.18)
3	1.56	0.72	0.18	0.15	0.25	0.09	(0.10 + 0.20)

Alate viviparous female.

Morphological characters. Head and thorax black sclerotic; abdomen with rather large marginal and postsiphuncular sclerites, a narrow transverse band on VIIIth tergite and small spinal bands on tergites I (-II), VI and VII. Tubercles a little smaller than in apterae. Antennae always of 5 segments, black with only the very base of IIIrd segment paler,  $\frac{3}{5}$ — $\frac{2}{3}$  length of body; IIIrd segment with about 9—14 rather large, flat rhinaria usually not in a row over whole length; IVth segment rarely with one secondary rhinarium. Siphunculi rather thin, more or less cylindrical, less than  $\frac{1}{10}$  length of body. Cauda short, somewhat conical, slightly acuminate, with 6—8 strongly curved hairs. Wings somewhat



smoky, with normal venation; second fork of media rather near the apex of the wing. Other characters as in apterae viviparae.

Colour. Dark green with black head and thorax, otherwise like apterae viviparae.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Rhin. on		Ant. segments		V
					III	IV	III	IV	
1	1.40	0.89	0.13	0.11	11 & 11	0 & 0	0.35	0.12	(0.10 + 0.21)
2	1.27	0.84	0.12	0.11	12 & 12	0 & 0	0.31	0.11	(0.09 + 0.22)
3	1.43	0.83	0.12	0.10	10 & 13	1 & 0	0.32	0.11	(0.11 + 0.19)

Host plant: *Hieracium pilosella*.

Locality: Bennekom.

Some samples were taken on subterraneous parts (base of leaves, buried runners) in the spring of 1944. Both *Tetramorium caespitum* and *Lasius alienus* attended this aphid. The plants showed no reaction. Adult fundatrices were found on May 4th, the second generation which contained numerous alatae about a week afterwards.

The species is easily recognized by its long ultimate rostral segment in combination with large marginal tubercles. It probably is nearly related to *Cerosipha hieracii* Börner, 1940, from *Hieracium auricomus* (an error for *Hieracium auricula* ?), but if it were the same, BÖRNER even in a so inadequate diagnosis as his would probably have mentioned the rostrum, so that I suppose that the species are different. Even if they are the same, the name will stand because BÖRNER's name is preoccupied by *Aphis hieracii* Schrank, 1801, if *Cerosipha* del Guercio is considered to be a subgenus of *Aphis* L.

Cotypes in the author's collection.

## 7. *Aphis kaltenbachii* spec. nov.

1940. BÖRNER, C., Neue Blattläuse aus Mitteleuropa, ed. Börner, p. 3, no 39, *Pergandeida ononidis* Börner nec Schouteden.

Apterous viviparous female.

Morphological characters. Body small, oval. Tergum with slightly variable sclerotisation, mostly with the head, pronotum and mesonotum with free sclerites, but the rest covered by a single sclerotic, dark shield which extends from metanotum to VIth abd. tergite with membranous perforations pleurally on the metanotum and anterior abd. tergites and a membranous ring around each siphunculus; VIIth and VIIIth abd. tergites with free sclerotic transverse bands; often a distinct very narrow spinal membranous suture present on the anterior abd. tergites and sometimes the pleural membranous areas on the anterior abd. tergites much extended, so that there only spinal sclerotisation is present; the sclerotic part mostly darkish to black, sometimes distinctly reticulated. Marginal tubercles conical, blunt, inconspicuous, on pronotum and abd. segments I and VII, small, not or hardly larger or higher than the length of the nearest marginal hair. Dorsal hairs short, blunt, on IIIrd abd. tergite about  $2/5$ — $1/2$  of basal diameter of IIIrd ant. segment; ventral hairs 2—3 times as long as those dorsal hairs. Head normal. An-



tennae short, of 6 segments, with dark basal segments and apex, brownish yellow, with apical more acute imbrications, but with IIIrd segment on inner side, at least on basal half, rather smooth; processus terminalis short, only  $1\frac{1}{3}$ — $1\frac{1}{2}$  times base of VIth segment, shorter than IIIrd segment. Hairs on IIIrd segment very short, about  $\frac{1}{3}$ — $\frac{2}{5}$  of basal diameter of the segment. Rostrum short, reaching to only just past the middle coxae; apical segment short, only about  $\frac{3}{4}$  of 2nd joint of hind tarsi, with the 2 hairs on basal half as long as the 3 pairs of apical hairs. Siphunculi tapering, suddenly narrowing to the very small seemingly absent flange, black, superficially imbricated, very short, with the porus curved upwards, less than  $\frac{1}{20}$  of the body's length,  $1$ — $1\frac{1}{2}$  times as long as their basal width. Cauda very long, to more than 4 times as long as the siphunculi, constricted, with cylindrical distal  $\frac{3}{5}$  part and rounded apex, black with 6—9 hairs. Legs short and rather thick, with the femora dark with pale base, the tibiae yellow with the very base dusky and the apices dark to black; first tarsal joints with 3, 3, 2 hairs.

Colour. In life quite grey, mealy by wax-powder; in alcohol brownish black with translucent tibiae.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Ant. segments			
					III	IV	V	VI
1	1.64	0.94	0.05	0.22	0.23	0.16	0.15	(0.12 + 0.17)
2	1.18	0.66	0.04	0.18	0.14	0.09	0.11	(0.09 + 0.16)
3	1.27	0.64	0.04	0.17	0.14	0.10	0.11	(0.10 + 0.12)
4	1.51	0.79	0.06	0.21	0.19	0.12	0.13	(0.11 + 0.15)
5	1.36	0.82	0.06	0.20	0.19	0.14	0.13	(0.11 + 0.15)
6	1.48	0.65	0.05	0.21	0.15	0.09	0.11	(0.09 + 0.12)

(1—3, Ootmarsum, 22.VI.47; 4—6, Ede, 26.VI.47).

Alate viviparous female.

Morphological characters. Head and thorax black sclerotic. Abdomen largely membranous; with dark marginal and often pleural sclerites besides small pleural intersegmental sclerites and spinal transverse bars on each segment: small ones on the middle segments, distinct ones on the last segments. Antennae blackish, about  $\frac{5}{7}$ — $\frac{2}{3}$  length of body; IIIrd segment with 5—8 very irregularly placed rhinaria, often in two different sizes, along one side; IVth segment rarely with a rhinarium. Siphunculi a little thinner and slightly more cylindrical, seemingly longer than in apterae. Wings with brownish veins, slightly smoky; media only once forked or with the 2nd fork quite near the apex of the forewing. Other characters as in apterae viviparae.

Colour. Black.

Measurements in mm.

No.	Length body	Ant.	Siph.	Cau.	Rhin. on III	Ant. segments			
						III	IV	V	VI
1	1.44	0.92	0.04	0.17	5 & 6	0.24	0.16	0.14	(0.12 + 0.16)
2	1.36	0.84	0.04	0.16	6 & 6	0.21	0.14	0.13	(0.11 + 0.14)
3	1.48	0.95	0.04	0.16	5 & 8	0.22	0.16	0.16	(0.13 + 0.17)

(1—3, Ootmarsum, 22-VI.47).



## Oviparous female.

Morphological characters. General structure as in apterous viviparous female, but sclerotisation of abdominal tergum strongly reduced, variable; as a minimum only head and small pleural intersegmental sclerites are blackish sclerotic, as a maximum an irregular spino-pleural sclerite, much perforated spinally and intersegmentally present cephalad the siphunculi. Siphunculi not longer than wide at base, constricted at apex. Cauda thicker than in viviparae, somewhat mottled, with 8—11 hairs. Subgenital plate consisting of two widely separated pigmented parts. Hind tibiae always darker than the other tibiae to quite black, considerably swollen, with a variable number of pseudo-sensoria.

Colour. As in apterous viviparous female.

Measurements of one specimen: Length of body: 2.34 mm; ant.: 0.64 mm; siph.: 0.04 mm; cau.: 0.15 mm. Ant. segments:  $\frac{0.12}{\text{III}}$ ,  $\frac{0.08}{\text{IV}}$ ,  $\frac{0.09}{\text{V}}$ ,  $\frac{(0.09 + 0.13)}{\text{VI}}$  mm. (Oirschot, 9.X.52, leg. VERHOEVEN & H.R.L.).

## Apterous male.

Morphological characters. Body very small and narrow, sclerotized as in apterous viviparous female but with more intersegmental perforations. Antennae about  $\frac{9}{10}$  length of body; IIIrd segment with 11—14 small, often compound rhinaria, mainly on distal half; IVth with 7—11 rhinaria; Vth with 5—7 rhinaria. Siphunculi very strongly tapering, often almost semiglobular. Cauda very slender. Genitalia normal. Otherwise as in apterous viviparous female.

Colour. As in apterous viviparous female, but in life blacker.

Measurements of one specimen: Length of body: 0.89 mm; ant.: 0.81 mm; siph.: 0.04 mm; cau.: 0.12 mm. Ant. segments:  $\frac{0.20}{\text{III}}$ ,  $\frac{0.13}{\text{IV}}$ ,  $\frac{0.12}{\text{V}}$ ,  $\frac{(0.11 + 0.15)}{\text{VI}}$  mm. Rhin. on IIIrd ant. segment: 11 and 14; on IVth: 10 and 11; on Vth: 5 and 7 mm. (Oirschot, 9.X.52, leg. VERHOEVEN & H.R.L.).

Host plant: *Genista anglica* L.

Distribution: Netherlands (Bennekom, Ede, Ootmarsum, Oirschot), probably also Germany (BÖRNER, 1940).

The species lives in small compact colonies on the youngest shoots of its host plant, in sunny, wet or dry places. It is not visited by ants. The plants do not react. Alatae appear in the 3rd generation, but later they are rather rare. Sexuales were found and reared from the end of September. The aphids are very much rarer than the plants on which they live, at least in the Netherlands.

BÖRNER (1940) writes that *Pergandeida ononidis* Schouteden does not live on *Ononis*, but on *Genista anglica* and that it differs from *genistae* Scop. by having still shorter siphunculi. This story relates to *Aphis kaltenbachii* sp. n. One can hardly assume that SCHOUTEDEN mistook *Genista anglica* for *Ononis spinosa*. I found on *Ononis spinosa* an aphid agreeing with the description of *ononidis* Schouteden near Lith (province of North Brabant), but its siphunculi are longer than those of *kaltenbachii*. On the other hand, if *Pergandeida ononidis* Schout. is placed in *Aphis* L., as I do, it requires a new name, because it is preoccupied by *Aphis*



*ononidis* Kltb., now placed in *Therioaphis* Wlk. Therefore I propose ***Aphis schoutedeni*** nom. nov. for *Pergandeida ononidis* Schouteden, 1903, nec Kaltenbach, 1846.

The name *kaltenbachii* might suggest that the species was mentioned by KALTENBACH (1843) who records *Aphis genistae* sp. n. from *Genista tinctoria* and *G. anglica*. His description relates to *Aphis genistae* Scop., 1763, except that of an ovipara from *Genista anglica*. His ovipara must have belonged to yet another species because it had siphunculi almost twice as long as the cauda.

Cotypes in the author's collection.

#### 8. *Neopterocomma verhoeveni* spec. nov.

Apterous viviparous female.

Morphological characters. Body rather large, very thickly spindle-shaped, slightly swollen. Tergum membraneous, with the head, the pro- and mesothorax laterally, and small, inconspicuous marginal sclerites faintly pigmented to slightly dusky. Marginal and spinal tubercles present on all segments, but not conspicuous and flattish. Dorsal hairs sparse, on the anterior abd. tergites at most half the largest diameter of IIIrd ant. segment, on VIIIth abd. tergite as long as that diameter; central and frontal hairs numerous and considerably longer than most of the dorsal hairs. Front flat with a median furrow but in mounted specimens convex. Antennae smooth, thick, pale like the head, with last segment dark to blackish, usually nearly half as long as body; IIIrd segment without secondary rhinaria; processus terminalis shorter than the base of last segment, pointed, in the usual view conspicuously tapering. Antennal hairs very numerous, fine, thin, up to the processus terminalis rather uniform in length, longer than maximum diameter of IIIrd segment, but on the processus terminalis stiffer and shorter. Rostrum long, reaching to nearly IIIrd abd. segment; apical segment just longer than second joint of hind tarsi, with 7—10 long hairs besides the 3 apical pairs. Siphunculi pale, flangeless, like elevated rings, smooth. Cauda rather elongated, often longer than its basal width, blunt, hairy, faintly brownish. Subanal plate cauda-like, with a large, often constricted, blunt processus, brownish pigmented. Subgenital plate oval, very hairy, pale brownish. Legs rather thick, not pigmented, hairy; first tarsal joints with 5 hairs, the middle hair of which is about half as long as the others; empodial hairs long, normal.

Measurements in mm.

No.	Length body	Ant.	Cau.	Ant. segments			
				III	IV	V	VI
1	2.06	1.02	0.13	0.30	0.17	0.19	(0.11 + 0.09)
2	2.29	1.06	0.13	0.31	0.17	0.20	(0.12 + 0.09)
3	2.57	1.11	0.15	0.32	0.18	0.21	(0.12 + 0.09)
4	2.23	1.02	0.14	0.30	0.16	0.19	(0.12 + 0.09)
5	2.22	1.09	0.13	0.35	0.17	0.19	(0.11 + 0.10)
6	2.23	1.04	0.14	0.31	0.17	0.19	(0.11 + 0.09)
7	2.21	1.00	0.14	0.30	0.15	0.18	(0.12 + 0.09)

(1, Deurne, 18.VIII.52; 2—3, Oirschot, 1.IX.52; 4—5, Oirschot, 2.IX.52; 6—7, Oirschot-Wintelre, 7.IX.52).



Colour. In life covered by a fine wavy exsudation and then rosy grey dirty purplish. In alcohol pale, more or less strongly mottled with purple. Legs, etc., colourless.

Oviparous female.

Morphological characters. Very much like the preceding morph, but with more pigmentation, so that the various tubercles are more conspicuous. Anal plate not much elongated. Hind tibiae not swollen, but on their outer side on basal half with a few small, tubercular pseudorhinaria.

Colour. As in apterae viviparae.

Measurements in mm.

No.	Length body	Ant.	Cau.	Ant. segments			
				III	IV	V	VI
1	2.62	1.34	0.15	0.40	0.23	0.26	(0.14 + 0.11)
2	2.57	1.17	0.15	0.35	0.18	0.21	(0.12 + 0.11)
3	2.53	1.11	0.15	0.34	0.16	0.21	(0.11 + 0.09)
4	2.72	1.04	0.15	0.32	0.16	0.18	(0.11 + 0.09)

(1—4, Oirschotsche Dijk, 4.X.51).

Apterous male.

Morphological characters. Body almost cylindrical, like a young larva, only about 1.30—1.50 mm long. Tergum membraneous with only small areas around the large spinal tubercles on VIIth abd. tergite very faintly pigmented and probably somewhat sclerotic; VIIIth abd. segment transformed into a broad, strongly sclerotic ring, which especially laterally and ventrally is brown to blackish pigmented. Antennae with only the last segment darker pigmented,  $\frac{4}{7}$ — $\frac{3}{5}$  length of body, rather like those of larvae, but yet with some very inconspicuous rhinaria in very different sizes along one side; IIIrd segment with 0—5 rhinaria; IVth with 1—8; Vth with 2—7; VIth with 0—2 secondary rhinaria. No ocelli present. Siphunculi absent. Genitalia very strongly developed, claspers black or blackish.

Colour. Yellowish white, with the caudal end suddenly blackish. Not or hardly mealy.

Measurements in mm.

♂ Z	Length body	Ant.	Rhinaria on segment				Ant. segments			
			III	IV	V	VI	III	IV	V	VI
1	1.49	0.84	0 & 1	1 & 3	5 & 7	0 & 0	0.19	0.14	0.17	(0.12 + 0.09)
2	1.47	0.83	1 & 0	3 & 2	4 & 6	1 & 1	0.20	0.14	0.18	(0.11 + 0.08)
3	1.37	0.75	3 & 2	3 & 4	4 & 5	0 & 0	0.18	0.12	0.16	(0.11 + 0.04)
4	1.38	0.79	3 & 3	2 & 3	5 & 5	0 & 0	0.18	0.14	0.16	(0.11 + 0.05)

(1—2, Oirschot, 9.X.52; 3—4, Deurne, 15.X.52).

Host plant: *Salix repens*.

Localities: Along the road Eindhoven-Oirschot and in the area south of that road; also near Deurne.

Lives underground on older branches of its host, in usually small families. Alatae or nymphs were not found. Sexuales developed in October. The yellowish



white eggs were not deposited on the host but on other substrata near it. The species is strongly myrmecophilous. In the absence of ants the insects are smothered under their excrementa. *Lasius umbratus*, *L. niger* and *L. alienus* were found with this aphid.

Mr L. VERHOEVEN, a farmer and an excellent field biologist, discovered this species while collecting *Pterocomma jacksoni* (Theob.), the common host of which in the Netherlands is also *Salix repens*. In alcohol and when mounted the aphids look like Fordini or *Anoecia*, particularly samples from Deurne. The males are very unusual. They look like new born larvae, seem to molt only once and were never seen feeding after their first and last molt although their mouthparts are normally developed. The single specimen which Mr. VERHOEVEN and I found and the many others which I reared show no trace of siphunculi. Whether first instar larvae of males have siphunculi is not known, but first instars of females have distinct siphunculi.

Though the species rather strongly resembles *N. asiphum* H.R.L. it can easily be recognized by its much shorter and frequently conical processus terminalis. It is remarkable that the large samples from Deurne consist of specimens with a conspicuously shorter and more conical processus terminalis than the various samples from the Oirschot area; this holds also for the males.

Cotypes in the author's collection.

#### 9. *Thripsaphis gelrica* spec. nov.

1952. BÖRNER, C., Mitt. Thür. Bot. Gesellsch., Beiheft 4, p. 64, *Thripsaphis cyperi* "Wlk."

Apterous viviparous female.

Morphological characters. Body elongated, rather broad and more pyriform than in *cyperi* Wlk., depressed. Tergum sclerotic, with abd. tergites III—VI laterally fused, but spinally separated by membranous areas; the other tergites free; tergum dark pigmented, with darker vaguely bordered spots spinally, pleurally and marginally, with a more or less extensive median line paler to pale and with blackish brown, sharply bordered intersegmental sclerites. Nearly the whole tergum covered with small wax-pores which are most distinct on the darker parts of the tergum, as in *cyperi* Wlk. Dorsal hairs acute, rather fine, very distinctly of two sizes, so that the "primary" spinal, pleural and marginal hairs are about twice as long as the several, irregularly arranged additional hairs. Front moderately convex. Antennae dark to black with the very base of segment III pale; flagellum not spinulose, but with the same pale reticulations as in *cyperi* Wlk.; length about  $\frac{2}{3}$  of that of body; IIIrd segment without rhinaria. Ant. hairs sparse, acute, up to half the diameter of IVth ant. segment. Rostrum just reaching the mesosternum, with the apical segment quite blunt and only  $\frac{2}{5}$  of 2nd joint of hind tarsi. Siphunculi nearly poriform, on the middle of VIth abd. tergite. VIIIth abd. tergite semicircular, not incised on posterior margin. Cauda knobbed. Subanal plate with a wide rectangular incision dividing it into two curved, converging lobes. Legs dark, with the basal and dorsal part of the femora rather smooth, the rest finely spinulose between the hairs; empodial hairs broadly spatulate.

Colour. In life bluish grey by wax, in alcohol dark brownish grey. Antennae, etc., blackish.



## Measurements in mm.

No.	Body	Ant.	Ant. segments			
			III	IV	V	VI
1	2.69 × 1.17	1.78	0.54	0.34	0.32	(0.22 + 0.16)
2	2.80 × 1.16	1.80	0.53	0.37	0.33	(0.22 + 0.15)
3	2.53 × 1.05	1.60	0.49	0.32	0.29	(0.20 + 0.14)
4	2.53 × 1.10	1.62	0.47	0.31	0.30	(0.21 + 0.14)

(1—4, 23.VI.44).

Host plant: Probably *Carex inflata*.

Locality: Bennekom. As already mentioned by BÖRNER (1952, p. 64) there are two aphids on *Carex*, which rather resemble each other. One, which BÖRNER calls *Thripsaphis cyperi* Wlk. has conspicuously spathulate or rather semifoliate empodial hairs, the other, which he gives the name *Trichocallis caricis* Mordv., has setaceous empodial hairs. Unfortunately the identification of WALKER's species by BÖRNER is incorrect. A slide labelled "*cyperi*, water grasses, Belford, Sept. 1-'47" in WALKER's handwriting, present in the Hope Museum at Oxford, as well as WALKER's material of *cyperi* remounted bij F. LAING in the British Museum are aphids with setaceous empodial hairs. Therefore, as MORDVILKO himself had already found, *Allaphis caricis* Mordv. is a synonym of *Aphis cyperi* Wlk., and if BÖRNER's subdivision is accepted, the species should be named *Trichocallis cyperi* (Wlk., 1848).

Consequently the species which BÖRNER (1952) records as *Thripsaphis cyperi* Wlk., a species with spathulate empodial hairs according to BÖRNER's 1949 definition of *Thripsaphis* Gill., requires a new name. Sexuales from a culture on *Carex vesicaria*, 26.X.42, started from a sample taken near Naumburg, identified by C. BÖRNER as *Thripsaphis cyperi* Wlk., most probably belong to *Thripsaphis gelrica* spec. nov., but complete identification is not possible through want of adequate material.

The species differs from apterae of *Thripsaphis* (*Trichocallis*) *cyperi* (Wlk.) by the absence of rhinaria on IIIrd ant. segment, by the empodial hairs, by the different shape of the subanal plate and by its much more pyriform and broader body.

QUEDNAU (1954) erected a new genus, *Synthripaphis* for "*Thripsaphis cyperi* C.B. 1952 nec Walk., Laing." There exists no description of *cyperi* by BÖRNER, and the only indication that his determination of *cyperi* Wlk. was wrong is in material identified by him, and in the fact that in 1952 he placed *cyperi* Wlk. in *Thripsaphis* Gill., 1917, while in 1949 he had in a key characterized *Thripsaphis* as having spathulate empodial hairs. The true *cyperi* of WALKER has setaceous empodial hairs. It is therefore doubtful whether *Synthripaphis* Quednau, 1954, based on an undescribed species, has standing as a valid genus, even if it is quite clear what QUEDNAU means.

Cotypes in the author's collection.

#### 10. *Bacillaphis maritima* spec. nov.

Apterous viviparous female.

Morphological characters. Body about 2.00—2.65 mm long, flat, elongated,



about 2.7 times as long its largest width, which lies usually just past the middle. Tergum covered with very small, acute spinules, arranged in wavy transverse lines and with very numerous mushroom-shaped microchaetae, only frontally, and marginally on tergites VI—VIII with stout bristles with blunt, swollen or incised apices. Tergum with small, brownish yellow pleural spots on abd. tergites II—V and with transverse lines of similar intersegmental sclerites, but the rest evenly pale, usually not even marginally pigmented. Hind margin of VIIth abd. tergite about 1.55 times as wide as the anterior margin of VIIIth tergite, the latter with 8—10 spines, 4 of which are placed on the posterior lobes. Middle portion of front protruding about as far as the basal diameter of IIIrd ant. segment. Antennae about  $\frac{2}{3}$  of the length of body, pale with the apex of IIIrd segment, the distal  $\frac{1}{3}$ — $\frac{2}{3}$  part of the IVth, most of the Vth segment and the whole VIth segment blackish; processus terminalis  $\frac{7}{9}$ — $\frac{9}{10}$  of base of VIth segment. Legs pale, hind femora at distal one-fourth part dorsally faintly dusky.

Colour. Yellowish white, marginally colourless, notably on the posterior half of the body, with vague brownish yellow transverse lines and very small pleural spots.

Measurements in mm.

No.	Length body	Ant.	Ant. segments			
			III	IV	V	VI
1	2.11	1.47	0.48	0.28	0.22	0.19 + 0.15
2	2.64	1.72	0.55	0.33	0.28	0.20 + 0.18
3	2.09	1.32	0.39	0.26	0.22	0.16 + 0.14
4	2.43	1.52	0.49	0.31	0.23	0.17 + 0.15
5	2.10	1.36	0.40	0.26	0.22	0.18 + 0.15
6	2.17	1.39	0.42	0.28	0.21	0.18 + 0.15

(16.VII.47).

Host plant. *Scirpus maritimus*.

Localities: Terschelling, South of Formerum; perhaps also in Germany.

In life this species somewhat resembles *B. picta* (H.R.L.), but it is not chequered as in that species. In slides the species is somewhat intermediate between *picta* and pale specimens of *B. ornata* (Theob.). But it differs from those and almost all other described species of *Bacillaphis* by its variegated antennae. In other species only the base of IIIrd segment is pale, but in young adults of *B. pallida* (H.R.L.) sometimes the base of IVth ant. segment is also rather pale. *B. pallida*, however, is easily separated by its dorsal ornamentation and the larger number of hairs on the VIIIth abd. tergite. *B. paniceae* Quednau has antennae variegated like those of the new species, but they are very considerably shorter, the body is smaller and broader and the abdomen has dusky marginal areas.

First instar larvae of *B. maritima* agree in chaetotaxy with those of *B. flava* (H.R.L.).

Cotypes in the author's collection and in that of Dr QUEDNAU.

# 11. *Stomaphis longirostris* (F., 1776)

BÖRNER (1952) places *S. radicola* H.R.L., a species from the roots of *Betula*



as a synonym of *Aphis longirostris* F. FABRICIUS' grey aphid undoubtedly was a *Stomaphis* Wlk., but how could „Dresdae sub corticibus arborum” refer to a strictly underground species like *radicola*, which does not live under the cortex?

In 1952 I found the species from *Salix alba*, known as *S. bobretzkyi* Mordv. in the Netherlands. The greyish white, powdered insects were all found on the trunk of the tree, completely hidden under the bark. Therefore this species answers the description of *Aphis longirostris* F. completely, and I now consider *bobretzkyi* Mordv. a synonym of *Stomaphis longirostris* (F., 1776). Contrary to BÖRNER's (1952) statement *S. graffii* (Chol., 1894) has not been found in the Netherlands. And I might add, that *S. quercus* (L., 1758) is about as common on *Betula* (*verrucosa*, *pubescens*) as it is on *Quercus robur*. On both host plants it completes its cyclis and colonies persist for many years on the same tree.

## 12. *Cinara kochiana* (Börner, 1939) and *Cinara laricicola* Börner, 1939

Three *Cinara* spp. have been recorded from *Larix europaea*, viz., *C. laricis* (Wlk.), *C. kochiana* (Börner, 1939) and *C. laricicola* (Börner, 1939). In the Netherlands also the Japanese Larch, *Larix leptolepis*, is infested by these species, notably by the last two mentioned.

The nomenclature of these species is somewhat confused. BÖRNER (1939) used the name *Cinara kochiana* as nomen novum for *Lachnus laricis* Koch, 1857, nec Walker, 1848, and he adds a few characters which make it clear which species he is discussing. It is, however, evident that *C. kochiana* Börner is quite different from *Lachnus laricis* Koch. *C. kochiana* Börner is a tar-brown, very large, elongated species with black or blackish tibiae, while KOCH (1857) figures and described *Lachnus laricis* as a thickly oval, variegated insect with the middle portion of the tibiae yellow. BÖRNER's name *kochiana* can be used for the tar-brown species because he adds distinct descriptive characters.

What *Lachnus laricis* Koch is can not be decided beyond doubt. Most probably it is *Cinara laricicola* Börner, 1939. But *Cinara laricicola* Börner, 1939, is preoccupied by *Lachnus laricicola* Matsumura, 1917, a congeneric but different species nearly related to or identical with *Cinara laricis* (Wlk.). Therefore I propose *Cinara börneri* nomen novum for *Cinara laricicola* Börner, 1939 nec Matsumura, 1917.

## 13. *Cinara acutirostris* spec. nov.

Apterous viviparous female.

Morphological characters. Body elongated oval, about 2.64—3.62 mm long. Head and pronotum dark sclerotic; meso- and metanotum with a pair of rather large spinal sclerites; VIIIth abd. tergite with a pair of strongly transverse dark sclerites which sometimes almost fuse in the middle; VIIth abd. tergite often with some small irregularly shaped sclerites, which apparently do not fuse into a sclerotic band; intersegmental sclerites on abdomen rather roundish, smaller than the stigmal plates; abdominal tergum with a darkish, very fine net of wrinkles, which cephalad of the siphunculi laterally passes into a paler net



with larger meshes. Dorsal hairs between the siphunculi on dark sockets, about 0.035—0.048 mm long. Hairs on front much longer than maximum diameter of IIIrd ant. segment. Antennae pale with the basal segments, the apices of segment III and IV, the distal one third to half of V and the whole VIth segment dark; IVth segment shorter than Vth,  $\frac{9}{10}$ — $1\frac{1}{5}$  times as long as VIth; VIth segment on the processus terminalis with 3 apical and subapical spiny hairs; IIIrd segment without rhinaria, IVth with 0—1, Vth with 1 and a primary rhinarium. Hairs on IIIrd segment up to rather longer than maximum diameter of the segment, at angles from  $30^{\circ}$ — $60^{\circ}$ . Mesosternal tubercle in summer forms very pronounced and rather slender. Rostrum very long, when fully extended almost reaching the cauda; apical segments very slender, the IVth 0.9—1.1 times second joint of hind tarsi; Vth segment about half as long as IVth, about  $3\frac{1}{2}$  times as long as its maximum width. Siphunculi large, only with long hairs of the ventral type. Cauda somewhat pointed. Legs pale with the distal  $\frac{1}{2}$ — $\frac{2}{3}$  part of the femora, basal  $\frac{1}{8}$  and distal  $\frac{1}{2}$ — $\frac{2}{3}$  part of the tibiae more or less abruptly dark; dorsal hairs on the middle portion of the tibiae about as long as the diameter of the tibiae at their points of insertion; dorsum of first tarsal joint half as long as the ventral side.

Colour. Bronzy with a pattern of wax-dust as in *Cinara pini* (L.).

Measurements in mm.

No.	Length body	Ant.	Siph. diam.	Rhin. on		III	Ant. segments		
				IV	V		IV	V	VI
1	2.64	1.20	0.28	0 & 1	1 & 1	0.46	0.17	0.23	0.16
2	2.94	1.27	0.34	0 & 1	1 & 1	0.47	0.19	0.25	0.17
3	2.86	1.31	0.39	? & 1	? & 1	0.49	0.21	0.24	0.17
4	2.77	1.21	0.36	1 & 1	1 & 1	0.46	0.17	0.23	0.15
5	3.62	1.35	0.47	0 & 0	1 & 1	0.50	0.21	0.27	0.17
6	2.92	1.13	0.43	0 & 0	1 & 1	0.45	0.15	0.20	0.15

(1—4, *Pinus nigra* var. *austriaca*, Terschelling, 14.VII.47, leg. D.H.R.L.; 5, *Pinus nigra*, Banska Stiavnica, Czechoslovakia, 30.IX.53, leg. PASEK; 6, from nest of *Psenulus fuscipennis*, Cervia, Italy, Aug.-Sept. '32, leg. GRANDI).

Alate viviparous female.

Morphological characters. Very much as in apterous viviparous female. Cuticular net on abdominal tergum uniformly fine, rather pale. Dorsal hairs longer. Distal half of IIIrd and IVth ant. segments mottled to dark; IIIrd segment on distal half with a few rhinaria and also IVth segment with 1—3 rhinaria. Hairs on antennae considerably longer and finer. Legs on the whole darker and longer; dorsal hairs on the middle portion of the hind tibiae about  $1\frac{1}{2}$  times as long as the diameter of the tibiae. Other characters as in apterae viviparae.

Colour. As in apterous viviparous female.

Measurements of one specimen: Length of body: 2.74 mm; ant.: 1.48 mm; diameter of siph.: 0.36 mm. Ant. segments:  $\frac{0.48}{\text{III}}$ ,  $\frac{0.20}{\text{IV}}$ ,  $\frac{0.24}{\text{V}}$ ,  $\frac{0.15}{\text{VI}}$ . Rhin. on IIIrd ant. segment: 2 and 3; on IVth: 2 and 2; on Vth: 1 and 1 (*Pinus nigra* var. *austriaca*, Terschelling, 14.VII.47, leg. D.H.R.L.).



Host plant: *Pinus nigra* var. *austriaca* Aschers. & Graebn.

Localities: Terschelling, near Hoorn; also in England (leg. EASTOP), Czechoslovakia (leg. PASEK) and Italy (leg. GRANDI).

This species belongs to a very difficult group of forms which all live on species of *Pinus*, to which the described species *Cinara setosa* Börner, 1950, *C. longirostris* Börner, 1950, *C. montanicola* Börner, 1939, *C. escherichi* Börner, 1950 and *C. pini* L., 1758 (*nuda* Mordv., 1895) belong. The late Dr PASEK of Czechoslovakia, a brilliant student of Lachinids, made a special study of this group and we frequently exchanged material and letters on this subject. We agreed that *C. longirostris* Börner and *C. setosa* Börner are fundatrices of one or more of the other species, as fundatrices have no mesosternal tubercle. *C. escherichi* is a good species, which can easily be recognized by the presence of 5—7 subapical bristles on the processus terminalis in all adult forms and by having more rhinaria, normally also on IIIrd ant. segment, in apterae. In the other forms there are 4 subapical bristles on the processus terminalis of adults. It appears to be impossible to separate all the other mentioned species from *C. pini* L. This species appears to be very variable in length of hairs and sclerotisation of apterae, though the individuals in one colony generally are more or less uniform at one time. After I had keyed my European material into five subspecies I sent the key with all my material to Dr PASEK who replied: "Observations, made in the great pine-forests in Western Slovakia showed that almost all forms mentioned in your key appear synchronously with further intermediate forms in the same area. Specimens taken from one colony are of the most part quite uniform, comprehensively; but when comparing materials of two neighbouring plants, from different generations of the same plant respectively, one can see a high degree of plasticity of the whole population. All my trials to find out any distinguishing characters for closer differentiation into subspecies failed entirely. For this purpose I used the degree of pigmentation of the integumentum, length, quality and situation of hairs (characters used in my manuscript key, H.R.L.) but in no case I was able to discover any real discontinuity in the geographical and ecological distribution of the various forms. Now, I have 103 slides of this species from 36 localities, but I must tend the opinion, that all our forms of "*nuda*" from *Pinus silvestris* are the same subspecies, which varies within wide limits".

After examination of the material which Dr PASEK sent me I agree that no clear subdivision of *C. pini* L. is as yet possible, and that *setosa* Börner, *longirostris* Börner, *montanicola* Börner are synonyms of *pini* L.

*C. acutirostris* spec. nov. differs from *pini* and *escherichi* by having considerably longer last rostral segments. The Vth segment in *acutirostris* is  $3\frac{1}{2}$  times as long as its maximum width, that in *pini* at most  $2\frac{1}{2}$  times as long as its largest width. Segments IV + V are in *C. acutirostris* as long as or longer than segment 1 + 2 of the hind tarsi, in *C. pini* shorter than 1 + 2 of the hind tarsi. These differences hold for material from the Netherlands, England and Czechoslovakia which both Dr PASEK and I examined, and for specimens from Italy.

Nearly related is *C. intermedia* Pasek from *Pinus silvestris*, but that species also in summer apterae has a very poorly developed mesosternal tubercle, and its dorsal



pattern of sclerites is quite different. Its rostrum, however, is like that in *acutirostris*, also in comparison to the hind tarsi.

Cotypes in the author's collection.

#### LITERATURE

- BÖRNER, C., 1939. Arb. phys. u. angew. Entom., vol. 6, p. 75—83.  
BÖRNER, C., 1940. Neue Blattl. aus Mitteleuropa, ed. Börner, p. 1—4.  
BÖRNER, C., 1949. Beitr. taxon. Zool., vol. 1, p. 44—62.  
BÖRNER, C., 1952. Mitt. Thüring. Bot. Ges., Beiheft 3, p. 1—259.  
HARDY, J., 1850. North Brit. Agric. & Journ. Hortic., p. 531, 788—790.  
HILLE RIS LAMBERS, D., 1938. Temminckia, vol. 3, p. 1—44.  
HILLE RIS LAMBERS, D., 1949. Temminckia, vol. 8, p. 182—324.  
KOCH, C. L., 1854—1857. Pflanzenläuse Aphiden, p. 1—334.  
PASEK, V., 1953. Folia Zool. Entom., vol. 16, p. 2—8.  
PASEK, V., 1953. Act. Soc. Zool. Bohem., vol. 17, p. 149—177.  
QUEDNAU, W., 1954. Mitt. Biol. Zentr. Land. Forstw., part 78, p. 1—62.  
SHAPOSHNIKOV, G. Ch., 1950. Entom. Review (Russian), vol. 31, p. 213—228.





Hille Ris Lambers, D. 1956. "On Aphids from the Netherlands with descriptions of new species (Aphididae, Homoptera)." *Tijdschrift voor entomologie* 98, 229–249.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/89059>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/65649>

**Holding Institution**

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

**Sponsored by**

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.