

AFRICAN APHIDIDAE.—PART IV.

By FRED. V. THEOBALD.

The following new species of Aphids have been sent from Africa ; four are from a collection forwarded by Mr. Claude Fuller of the Department of Agriculture of the Union of South Africa (*Macrosiphum cissi*, *Phorodon violae*, *Capitophorus chrysanthemi* and *Forda natalensis*) ; one has been sent by Mr. C. C. Gowdey from the British East African Protectorate which has to be placed in a new genus (*Cerciaphis*).

Macrosiphum cissi, sp. nov. (fig. 1).*Alate viviparous female.*

Antennae longer than body, rather dark, pale at base of third segment ; basal segment wider and a little longer than second ; third longer than fourth, not so long as sixth, with a line of 15–18 sensoria extending nearly to the end of the segment the distal one usually markedly separated from the others ; fourth segment a little longer than fifth, the latter with the usual sub-apical sensorium ; sixth with long flagellum and usual sensoria at apex of basal area ; fourth to sixth markedly imbricated ; with short, simple, scattered hairs. Eyes large and dark. Frontal lobes small, but prominent, median ocellus prominent ; head with slightly spatulate

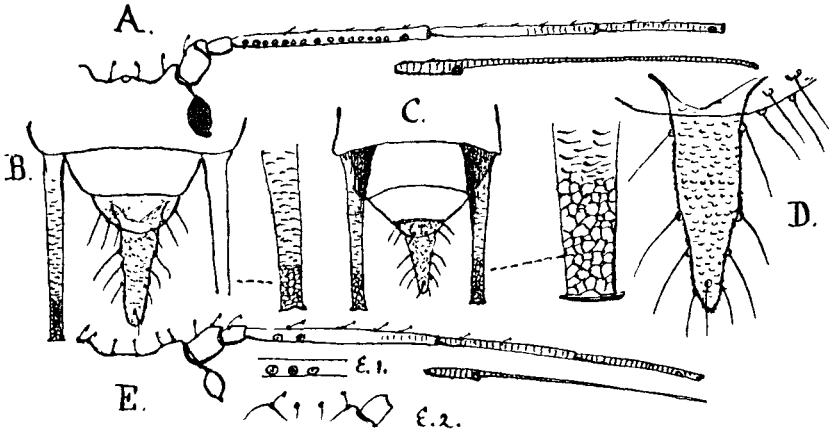


Fig. 1. *Macrosiphum cissi*, sp. n. : A, head of alate ♀ ; B, cornicles and cauda of apterous ♀ ; C, cornicles and cauda of alate ♀ ; D, cauda of alate ♀ ; E, head and antenna of apterous ♀.

hairs. Proboscis rather broad, dark at apex, reaching to or just beyond the second coxae, apical segment a little longer and narrower than second. Legs long and thin, dark at apices of femora and tibiae, tarsi dark, most of hind femora dark, short hairs over apex of femora and tibiae. Cornicles black, long and cylindrical, about as long as third antennal segment, apex reticulate, remainder imbricated. Cauda about one-half the length of cornicles, pale, with three pairs of long lateral hairs, a smaller apical pair and a median sub-apical one. Anal plate darker and with many hairs. Cauda not quite level with apices of cornicles. Wings normal. *Length*, 2–2.3 mm.

Apterous viviparous female.

Antennae longer than body ; first to third segments pale, except apex of latter, remainder dark ; first segment much larger than second ; third longer than fourth, but shorter than sixth, with a group of 2-6 sensoria near the base ; fourth longer than fifth, the latter with usual sub-apical sensorium, both combined a little shorter than sixth to about the same length ; flagellum of sixth long ; hairs normal. Head with well formed frontal lobes and with a small median prominence showing only in some specimens ; other mounted specimens show the vertex almost flat. Eyes large and dark. Proboscis reaching to or just beyond the second coxae ; apical segment longer and considerably narrower than the penultimate. Cornicles dark, cylindrical, somewhat expanding basally, reticulate at apex, remainder imbricated ; shorter than third antennal segment. Cauda pale, about half as long as cornicles and slightly thicker, with three hairs on each side and some apical ones ; not quite reaching the apices of the cornicles. Legs relatively shorter and thicker than in alate female ; apices of femora and tibiae and tarsi darkened ; hairs moderate. Anal plate dusky, with rather long hairs. Hairs of body slightly spatulate. Length 2·2-2·5 mm.

Nymph.

Antennae longer than body ; darkened on fifth and sixth segments ; basal segment larger than second ; third longer than fourth ; fourth longer than fifth ; the sixth much longer than 4+5 ; flagellum long, but relatively shorter than in mature forms ; a few scattered hairs. Proboscis with dark apical segment, reaching to the third coxae ; last two segments nearly equal. Wing pads dusky ; cornicles dark ; about as long and as thick as third antennal segment, imbricated ; reaching past the cauda. Cauda triangulate, pale, with two pairs of lateral hairs. Legs with dusky apices to tibiae, but not to femora ; latter with hairs on one side ; tibiae hairy. Length 1·8 to 2 mm.

Food-plant. Cissus sp.

TRANSVAAL : Pretoria 18.x.1918.

Described from three alate females and a number of apterous females and nymphae. No colour notes were sent, but the species is so well marked that I have described it. It comes nearest to *Macrosiphum*, but also approaches *Myzus*, especially in the alate stage. Mounted apterae show the vertex in different forms, some have it almost flat, others of typical *Macrosiphum* form, whilst others show a median prominence. In the various larval instars the differences are great ; the first has very short thick cornicles, in later stages they increase in length. The length of the cornicles varies in the adults.

The plant upon which these Aphids were found—*Cissus*—is one of the Order Ampelideae. This genus is often merged into *Vitis*. None of the species recorded from *Vitis* agrees with Mr. Fuller's specimens, and so far no Aphid has been recorded from *Cissus*.

The Aphids recorded from *Vitis* are *Aphis illinoisensis*, Shimer ; *Aphis ripariae*, Oestlund ; *Aphis vitis*, Scopoli ; *Macrosiphum viticola*, Thomas ; *Hyalopterus arundinis*, Fabricius ; *Peritymbia vitisana*, Westwood ; *Rhizoctonus ampelinus*, Mokrzejki ; *Schizoneura ampelorrhiza*, Del Guercio ; and three species of *Phylloxera*.

Rhopalosiphum carduellinum, Theobald (fig. 2).

Bull. Ent. Res. vi, p. 112. figs. 9 and 10, (1915).

Apterous viviparous female.

Antennae about as long as the body, arising from prominent frontal tubercles; basal segment much larger than second; third not quite as long as the sixth, with 17-20 small sensoria along one side; fourth slightly longer than fifth, with 3-6 sensoria; fifth with normal sub-apical sensorium; sixth about as long as 4+5, its basal area about one-fourth the length of the fifth; the apices of segments 3-5 are darkened and there is a dark area at junction of basal area and flagellum of sixth; all the segments are imbricated; the sensoria on 3 are of varied size and shape;

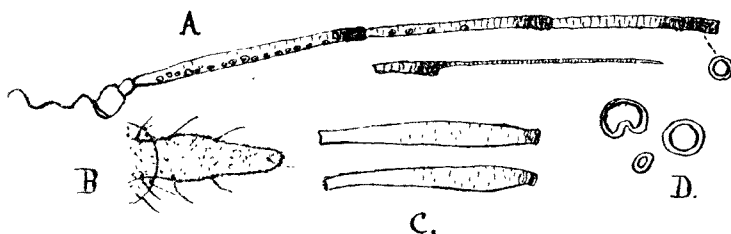


Fig. 2. *Rhopalosiphum carduellinum*, Theob., apterous female; A. head and antenna; B. cauda and anal plate; C. cornicles; D. sensoria on 3rd antennal segment.

those on 5 are more regular in outline. Proboscis reaching to just past the second pair of legs; two bands of a few hairs on penultimate segment; two marked sub-apical ones on the apical arising from clear circular areas. Legs with apices of femora and tibiae darkened and dark tarsi, a few hairs on apex of femora and numerous short ones on the tibiae. Cornicles about as long as the fourth antennal segment, about twice as wide and somewhat swollen on the apical half; apex with a few striae, remainder faintly imbricated. Cauda pale, broader than cornicles, more than half their length, with three long hairs on each side and a curved sub-apical one; reaching just beyond the apices of cornicles. *Length*, 1.8-2 mm.

Food-plant. Thistles (*Carduus* sp.).

TRANSVAAL: Pretoria, 20.v.1914 (C. Fuller); Onderstepoort, 28.vii.1914 (G. B. Bedford).

Type in the British Museum.

The apterous female sent with the alatae of this insect appears to be a distinct species. The sensoria in the two apterous females sent by Mr. Claude Fuller appear so much more closely allied that I have little doubt that they are true *carduellinum*.

Numbers of nymphae sent were mostly all of a uniform pale colour, evidently yellow or green, but a few show the tips of the wing pads dusky. One of the sensoria on the third antennal segment is markedly bean-shaped, and the varied size of the others is somewhat characteristic.

Phorodon violae, sp. nov. (fig. 3).

Apterous viviparous female.

Yellowish green to dull pale yellow. Antennae longer than body, of same colour as body except extreme tip of fifth and whole of sixth segments, which are dark;

basal segments (1 and 2) somewhat darker than the rest ; the basal one much larger than second and somewhat projecting on its inner side ; third segment longer than fourth, but not so long as sixth ; fourth and fifth about equal in length ; flagellum moderately long, about as long as third ; a few scattered hairs over the segment and the third with short stiff hairs arising from small projections along one side, some extending on to the fourth ; basal segment imbricated. Frontal lobes large, with

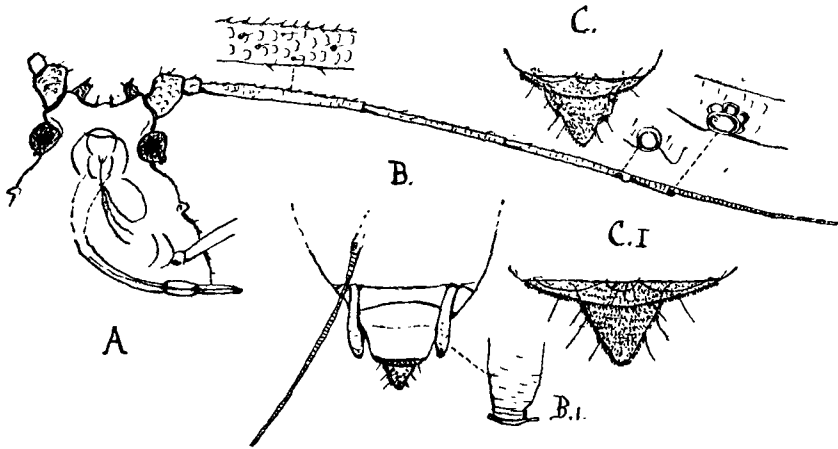


Fig. 3. *Phorodon violae*, sp. n., apterous viviparous female: A, head of apterous ♀; B, posterior end of body and end of antenna; B. 1, cornicle; C, C.1, cauda.

a marked, slightly inwardly directed, cone-like process on each side, imbricated and with two minute hairs. Two stiff hairs also project from the vertex. Eyes large, red to dark red. Proboscis pale, apex slightly darkened ; reaching to or just beyond the third coxae, narrow ; apical segment a little narrower and longer than penultimate. Legs of same colour as body, except the tarsi which are darkened ; very short stiff hairs on the tibiae. Cornicles of same colour as body, moderately long, but shorter than the fourth antennal segment, slightly swollen from the middle onwards ; faintly imbricated, sometimes slightly expanded at the base. Cauda pale, short, bluntly triangulate, spinose, with two short hairs on each side ; projecting well beyond the cornicles. Anal plate slightly darkened, narrow, spinose, with four long apical hairs and others somewhat shorter. On each side of pronotum a small lateral papilla and traces of four others on each side of the abdomen. The body is contracted at the apex. *Length*, 1.3–1.8 mm.

Nymph.

Colour similar to adult. Antennae about as long as body and of same colour ; sixth segment and apex of fifth dusky ; basal segment much larger than second, third a little longer than fourth ; fourth and fifth about equal ; sixth as long as or a little longer than 4 + 5, its basal area about half the length of the fifth. Frontal processes as in alate female. Eyes bright red. Wing-cases of same colour as body, also the legs, except apices of tibiae and the tarsi, which are smoky, with numerous fine short hairs. Cornicles and cauda pale, the latter bluntly triangulate and

extending beyond the cornicles, which are shorter than the fifth antennal segment. Cauda finely spinose, but showing no lateral hairs. The pale proboscis reaches nearly to third coxae. *Length*, 1.2–1.5 mm.

Food-plant. Pansy.

NATAL: Durban, 1.x.1912.

Described from a number of apterous females and some nymphae. Nearly all the females have the posterior portion of the gut, etc., evaginated, giving them a curious ragged appearance. The shape of the body is also marked.

I have placed this species provisionally in the genus *Phorodon* on account of the two marked frontal processes and the swelling on the basal segment of the antennae, but the cornicles and cauda do not exactly fit in with that genus, taking *P. humuli*, Schrank, as the type. The flattened anal plate occurs, however, in some stages of the hop aphid.

Capitophorus chrysanthemi, sp. nov. (fig. 4).

Apterous viviparous female.

Apparently a pale green or yellow species, with black eyes; dusky apices to the cornicles and antennae; tarsi all dark and to some extent the apices of the tibiae; hairs capitate. Antennae longer than body; basal segment larger than second and somewhat angulated on the inner side; third segment much longer than fourth

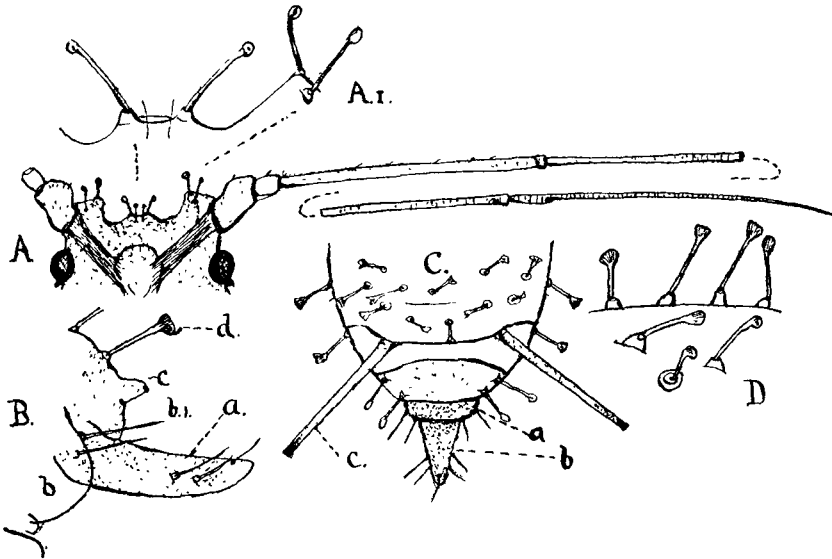


Fig. 4. *Capitophorus chrysanthemi*, sp. n.: A, head of apterous ♀; A. 1, enlarged cephalic hairs; B, anal region; a, cauda; b, anal plate; b. 1, hairs of anal plate; c, dorsal process; d, body hairs.

but not so long as the sixth; fourth a little longer than fifth, the latter with the usual sub-apical sensorium; sixth with long flagellum, basal area about one-fourth of the fifth segment. Head with marked frontal lobes and a median raised process; with two capitate hairs on each lobe, two in front on the median lobe, and two just above them. Eyes prominent, varying from black to deep red or reddish black. Proboscis pale, reaching to just past the second coxae; apical segment

narrow and acuminate, penultimate nearly as long, expanded. Legs pallid, except tarsi, which are dusky except at extreme base; tibiae with moderately long fine hairs and a few on apex of femora. Cornicles long and very thin, about as long as fourth antennal segment; pale, apex dark. Cauda pale, rather long and thick, bluntly elongate-triangular, with two hairs on each side, close together towards the apex and a median sub-apical one; finely spinose. Anal plate slightly darker, spinose and with a few long hairs, broadly rounded. The thin cornicles project to about the level of the cauda, which is very much wider and about half to less than half their length. Body hairs strongly capitate, some with fan-shaped extremities, whilst those on the anal plate and cauda are simple. The lateral view shows a small tubercle above the cauda (fig. 4, B. c.). Length, 1.8–2 mm.

Food-plant. Chrysanthemum.

ORANGE FREE STATE: Bloemfontein, 18.v.1914.

Described from several mature apterous females. It resembles a typical *Myzus*, but the median frontal projection places it in Van der Goot's genus *Capitophorus*; which appears to be undoubtedly well marked, but I find so many species between the true *Myzus* and typical *Capitophorus* that it is doubtful if this genus should be accepted, unless many others are to be initiated.

Genus **Cerciaphis**, nov.

Described from apterous viviparous females.

Head flat to very slightly concave in front. Antennae shorter than body, of five segments, the third about as long as 4+5; the fifth longer than fourth, its flagellum only half the length of basal area. Eyes small. Cornicles small, cone-shaped. Two thick, acuminate anal cerci, about as long as fourth segment of antennae. Cauda small, flattened. Anal plate rounded. Proboscis rather short.

Cerciaphis bougainvilleae, sp. nov. (fig. 5).

Apterous viviparous female.

Pale-coloured; apices of antennae dusky. Eyes small and dark. Legs, cornicles, anal plate, cauda and base of antennae of same colour as body. Head narrower

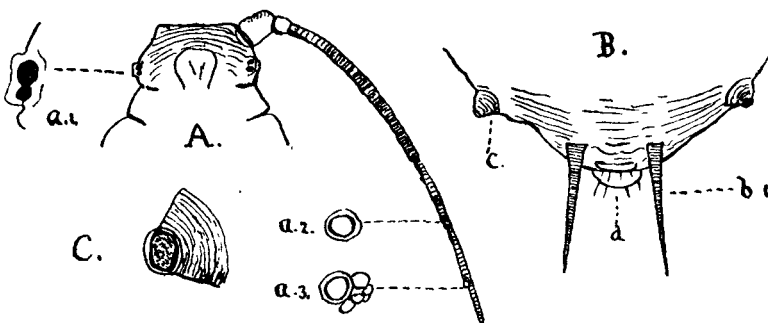


Fig. 5 *Cerciaphis bougainvilleae*, sp. n.: A, head of apterous ♀; a. 1, enlarged eye; a. 2, and a. 3, sensoria; B, posterior end; b. 1, cerci; c, cornicle; d, cauda and anal plate; C, cornicle.

than body, which is more or less oval; head flattened to slightly concave in front. integument strongly striate. Antennae shorter than body, of five segments, the

basal one larger than second, the third the longest, as long as or longer than 4+5; the fourth shorter than fifth, with a simple round sub-apical sensorium; the fifth with the flagellum short, about half the length of the basal area, which is equal in length to the fourth segment; third to fifth imbricated. Cornicles cone-shaped, of Lachnid appearance, more or less circularly striate. Two long, pale, acuminate anal cerci, striate and about the length of the fourth antennal segment to a little longer. Anal plate pale, small, with a few longish hairs. Cauda inconspicuous. Legs rather short and thick. The posterior integument is striate, but not so markedly as the cephalic. The proboscis in all the mounted specimens is bent forwards but appears to reach to about the second coxae. Length, 1.4–1.8 mm.

Food-plant. *Bougainvillea*.

UGANDA: Kampala, 14.v.1919 (*C. Gowdey*).

Described from a number of apterous viviparous females. It is a very marked insect on account of the two posterior cerci. The head and body seem almost devoid of hairs, except posteriorly. The nymphae have long narrow wing-buds.

***Forda natalensis*, sp. nov.** (Fig. 6).

Apterous viviparous female.

Globular, much domed dorsally, flattened ventrally. Grey, greyish white to brown; antennae, proboscis and legs brown. Segmentation marked posteriorly. Antennae from one-fourth to one-fifth the length of body; of five segments, basal one about half the length of second, third the longest, about as long as 4+5; fourth shorter

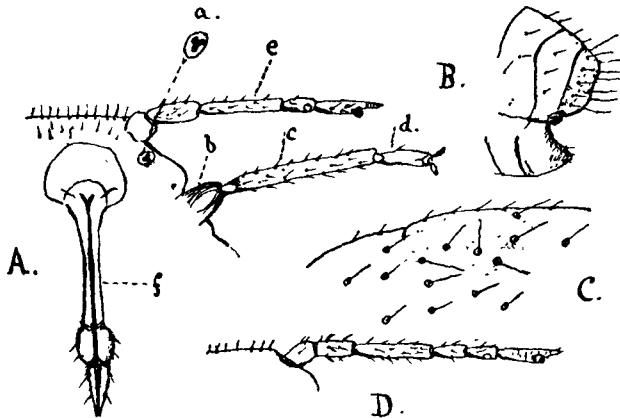


Fig. 6. *Forda natalensis*, sp. n.: A, head; B, cauda, C, integument of apterous viviparous ♀; D, nymph.

than fifth; fifth with a short blunt nail, a large rather projecting sensorium at its base and traces of a secondary one, also a round sensorium at the apex of the fourth; slightly hairy; last two segments darker than remainder. Vertex flat, with a few short blunt hairs. Eyes very small, black. Proboscis reaching to near the third pair of legs or just past them, moderately broad; apical segment a little longer and narrower than the penultimate, with a few short hairs. Legs rather short and thick, prothoracic shorter than mesothoracic, the latter shorter than the

metathoracic ; tibiae and tarsi with short fine hairs, a few on the femora ; femora of first and second pairs nearly as long as tibiae, the third a little shorter. Body with short fine scattered hairs, except at the apex, where they are longer. *Length*, 2-2.5 mm.

Immature viviparous female.

Paler, legs pale brown ; antennae dark on last two segments only. Antennae about one-fifth the length of the body ; basal segment shorter than second and very little broader ; third a little longer than second ; fourth about as long as the first ; fifth a little shorter than third, with a small blunt nail, with normal sensoria at its base ; a few scattered hairs. Proboscis reaching to or beyond the third pair of legs. Legs short, just projecting beyond the body, the first slightly shorter than second, third the longest ; tibiae and tarsi with hairs as in adult. Eyes very small. Body with a few rather short scattered hairs. *Length*, 1.5-2.0 mm.

Food-plant. Roots of a weed and in ants nest.

NATAL : Umzinto, 23.iv.1911.

Described from several apterous viviparous females and some immature forms. It somewhat resembles *Forda rotunda*, Theobald, but can at once be distinguished by the long second antennal segment and the short fourth segment, also by the flat vertex and different posterior structure. The eyes also do not project in the same way, and the body is clothed with scattered fine short hairs.

Some specimens show a partial constriction on the third antennal segment, but I could find none in which it was complete, so that they are only of five segments.

Species not previously recorded or from new Localities.

Macrosiphum dahliafolii, Theobald, Bull. Ent. Res. vii, p. 273, 1918.

UGANDA : Kampala, 2.xii.1917 (*Gowdey*) ; on thistles (*Carduus*).

Macrosiphum sonchi, Linnaeus. Syst. Nat. ii, p. 735.

UGANDA : Kampala, 2.xii.1917 (*Gowdey*) ; on thistles (*Carduus*).

One apterous ♀, which agrees with British specimens. The darkening of the antennae around the sensoria of the third antennal segment is very marked.