Taxonomic Account
Superfamily: Aphidoidea

**Diagnostic Characters:** Mouth parts present in both sexes. Antennae variable 1-6 segmented. They are Polymorphic. Alate forms with 2 pairs of transparent membranous wings, legs long and slender, tarsi 2 segmented, the basal segment sometimes reduced with paired claws, paired dorsal processes i.e. cornicles present on 5th or 6th abdominal segment.

Family: Aphididae

**Diagnostic Characters:** Radial Sector is present in fore wing; Media of fore wing is branched. Cornicles nearly always present but vary in shape and size from very small pore like to very long and slender.

Subfamily: Aphidinae

**Diagnostic Characters:** Process terminalis (p.t.) usually longer than base of last antennal segment, if rarely shorter then even siphunculi elongate, head and pronotum in apterae mutually free. Eyes always multifaceted, Siphunculi and cauda usually elongate but when reduced processus terminalis longer than base of last antennal segment. Cauda longer than broad. Subanal plate never indented or bilobed. Empodial hairs always fine. Body sometimes with processi. Secondary rhinaria never subannular or ring like.

The subfamily Aphidinae further divided into 2 tribes
Keys to the tribes of the subfamilies Aphidinae

1. Spiracles on abdominal segment 1 and 2 usually placed together, if apart, then their mutual distance is never more than 3.0x diameter of spiracular aperture; abdomen usually without lateral abdominal tubercles, though these may be variably present on abdominal segment 2-5, if lateral abdominal tubercles present on segment 1 & 7, these are not larger than those on segment 2 -5; lateral frontal tubercles usually pronounced; Apterae sometimes with secondary rhinaria on antennal segment III, antennal hairs usually not with fine apices..........................Macrosiphini

2. Spiracles present on abdominal segments 1 and 2 placed far apart, lateral abdominal tubercles usually present on abdominal segment 1 and 7, other segments with or without these tubercles; lateral frontal tubercles not or hardly developed; antennal hairs usually fine; Antenna and body never densely pilose, apterae never with secondary rhinaria. .........................Aphidini
Tribe: Aphidini

The tribe Aphidini is represented by two genera from this region. Key to genera of tribe Aphidini is given below.

**Key to Genera of Tribe Aphidini represented in these regions**

1. Abdominal dorsum of both apterae and alatae with spinules, those in apterae form distinct polygon encloses a few spinules; alatae with or without dorsal abdominal pigmentation .......................................... *Rhopalosiphum Koch*

2. Abdominal dorsum in apterae and alatae usually lacking spinules which if present, never forms polygons as above.......................... *Aphis Linnaeus*

**Genus Aphis Linnaeus**


Type species: *Aphis sambuci* Linnaeus, 1758.

**Diagnostic Characters:** Body oval to elongate. Head smooth and usually without any lateral frontal tubercle, if present very ill developed; frons smooth, straight or slightly convex. Antenna usually 6 segmented (sometimes 5 segmented in case of apterae) shorter to longer than body, flagellum faintly to distinctly imbricated, pale or pigmented, true apterae without secondary rhinaria, alate with roundish secondary rhinaria on III segment, sometimes also on segment IV & V; flagellar hairs short and sparse, with acuminate or blunt apices; p.t. about 1.5-4.0 times as long as the base of VI segment. Primary rhinaria is ciliated. Compound eyes either with distinct or indistinct triommatidia. Rostrum may reach up to hind coxa; ultimate rostral segment (u.r.s.) normal in shape, sometimes heart shaped or stiletto shaped and shorter to slightly longer than second tarsal segment of hind leg(h.t.2) and bears a pair of secondary hairs which may be shorter or longer than primary hairs. Midthoracic furca
sessile or consisting of two arms and without a stalk. Abdominal dorsum smooth or rugose and sometimes with usual aphidine polygonal reticulations, very rarely with dorsal sclerotic patch in aptera; pigmented areas often present on alate, spiracle normal. Post siphuncular sclerite rarely present. Dorsal hairs often short with acuminate or blunt spines, sometimes quite long with acute apices. Siphunculi subcylindrical or tapering, imbricate, dark, rarely smooth, pale and with only a small flange; Cauda elongate, pale or dark always shorter than siphunculi, with basal constriction and with 4-20 hairs. Legs pale to dark sometimes distal parts of femora and tibia darker and tarsi always brown with normal imbrications. Alate often with darker legs; (First Tarsal Chetotaxy) F.T.C. 3,3,3 or 3,3,2. Wings venation normal, veins sometimes bordered brown.

Remarks: Eleven species have been considered under this genus. All these except glycines, punicae and polygonaceae are represented by both apterae and alatae. Among these, both apterous oviparae and alate males could be found for craccivora and gossypii group, and only alate male for nasturii. Aphis evonymy has been found belong to A. gossypii group. The re-examination of the material has further revealed that the apterous oviparae of nasturii reported by Basu, Gosh and Raychaudhuri (1970) from Assam and spiraecola reported by Gosh et. al. (1972) from West Bengal, also belong to gossypii group.

This genus is represented by three species from Aligarh and Delhi region.

Key to the species of Aphis L.

1. Secondary hairs on u.r.s. as long as to longer than primary hairs.................................................craccivora Koch

Secondary hairs on u.r.s. shorter than primary hairs..............................................................2
2. Second tarsal segment with both dorsal and ventral secondary hairs; siphunculi stout brown to dark brown, 1.25 – 1.30 x segment III..................*nerii* Boyer de Fonscolombe

Second Tarsal segment with secondary hairs only ventrally; siphunculi subequal to or just longer than segment III..............*gossypii* Glover

1. *Aphis gossypii* Glover (Figs. 1, 2; Plate 1)


**Material examined:**

2 alatoid nymphs, 2 alate and 4 apterous adults on *Brassica compestris*, *Corriandrum sativum* from Aligarh and on *Coccinia indica* and *Gossypium* species from IARI Campus Delhi.

**Diagnostic characters:**

Small to medium sized aphids. Apterae very variable in color, large specimens dark green, almost black, but adults produced in crowded colonies at high temperature may be less than 1 mm long and very pale yellow to almost white. Most commonly the nymphs are light green mottled with darker green, with dark siphunculi and a pale or dusky cauda. Often ant-attended. Antennal segments I, II, apical half of processus terminalis and area around the primary rhinaria of VI dark; remainder of antennae pale. Cauda apically broadly rounded, often with 4-7 hairs. Cauda dusky but lighter than siphunculi. Abdominal dorsum without any pigmentation. Irrespective of the host plant, individuals of the same colony show a great deal of color variation, which is characteristic of the species.
Measurements (in mm.):

Population I: \textit{(Brassica compestris)}

Aptera: length of body 2.3, width 1.41; antenna 1.22 segments III:IV:V:VI 0.37:0.18:0.15:(0.11+0.26); u.r.s. 0.11; h.t.2 0.14; siphunculus 0.23, cauda 0.2.

Population II: \textit{(Coccinia indica)}

Aptera: length of body 1.65, width 1.09; antenna 1.66, segments III:IV:V:VI 0.35:0.25:0.23:(0.10+0.56); u.r.s. 0.10; h.t.2 0.11; siphunculus 0.25, cauda 0.17.

Population III: \textit{(Gossypium sp.)}

Aptera: length of body 1.65, width 0.95; antenna 1.03, segments III:IV:V:VI 0.26:0.18:0.16:(0.10+0.22); u.r.s. 0.10; h.t.2 0.10; siphunculus 0.34, cauda 0.17.

Alata: Length of the body 1.57, width 0.73; antenna 1.21, segments III:IV:V:VI 0.30:0.21:0.18:(0.13+0.26); u.r.s. 0.11; h.t.2 0.10; siphunculus 0.22; cauda 0.12.

Host plants:

Highly polyphagous on plants belonging to Acanthaceae, Amaranthaceae, Anacardiaceae, Apocynaceae, Araceae, Aroidae, Asclepiadaceae, Balsaminaceae, Bignoniaceae, Boraginaceae, Caesalpiniae, Canaceae, Capparidaceae, Caprifoliaceae, Caryophyllaceae, Chenopodiaceae, Commeninaceae, Compositae, Convolvulaceae, Cruciferae, Cucurbitaceae, Dipterocarpaceae, Ericaceae, Euphorbiaceae, Geraniaceae, Graminae, Hypericaceae, Labiatae, Lauraceae, Liliaceae, Loganaceae, Lythraceae, Malvaceae, Melastomaceae, Mimosae, Moraceae, Musaceae, Myrsinaceae, Myrtaceae, Nyctaginaceae, Onagraceae, Orchidaceae, Oxalidaceae, Papilionaceae, Plantaginaceae, Polygonaceae, Rosaceae, Rubiaceae, Rutaceae, Saxifragaceae,
Scrophulriaceae, Solanaceae, Styracaceae, Teliaceae, Ternstroemiaceae, Utricaceae, Verbinaceae and Zinziberaceae.

**Seasonal occurrence:**
Throughout the year

**Distribution:**
Cosmopolitan.

**Natural enemies:**


Remarks: *Coccinella transversalis* F. (Plate 11) was found on *Aphis gossypii* from Aligarh, orange red colored beetle having 3 transverse bands on elytra. Both adults and larvae feed on aphids. It is uniformly distributed through out the country.

*Dieratus sp.* (Hymenoptera : Braconidae) (Plate 14) was found on *Aphis gossypii* from Aligarh.

Note: This Braconid species is reported for the first time on *Aphis gossypii* from Aligarh.

2. *Aphis nerii* Boyer de Fonscolombe (Fig. 3; Plate 2)


Material examined:

2 Alatoid nymphs and 3 Apterous on *Calotropis sp.* from Aligarh and on *Platycodon sp.* (Balloon flower) from I.A.R.I., Delhi.
Diagnostic characters:

Apterae bright orange-yellow with black siphunculi and cauda; antennae and legs also predominantly dark. Alatae yellow with dark wing veins and pigmented thorax. Antenna about 3/5 as long as body, apices of segments I and III dusky, whole of II and apices of II and apices of IV and V and whole VI dark. Black siphunculi and cauda; cauda with 9-18 hairs. The aphid forms dense colonies on young stems, tendrils and leaves of the host plants. The aphid is very easy to identify because of its unique bright yellow-orange colour and dark brown appendages.

Measurements (in mm.):

Aptera: length of body 2.34, width 1.4; antenna 1.71, segments III:IV:V:VI 0.46:0.30:0.25:(0.11+0.43); u.r.0.18; h.t.2 0.11; siphunculus 0.6, cauda 0.28.

Alata: (From Lit.) Length of the body 2.25, width 1.01; antenna 1.53, segments III:IV:V:VI 0.44:0.34:0.26:(0.13+0.48); u.r.s.0.14; h.t.2 0.12; siphunculus 0.43; cauda 0.20.

Host plants:

Asclepias curassavica, Calotropis spp. (Asclepiadaceae).

Seasonal occurrence:

June - July and January - February

Distribution:

All over India, Africa, America, Europe, Japan, Java, Korea, Middle East and Taiwan.

Natural enemies:

Coleoptera: Coccinellidae: Brumoides suturalis (F.), Cheilomenes sexmaculata (F.), Coccinella transversalis F., C. undecimpunctata L., Propylea japonica (Thunberg), Pseudaspidimerus trinotatus (Thunberg), Scymnus (Pullus)
latemaculatus Motschulsky, S. (P.) castaneus Sicard, S. (P.) xerampelimus Mulsant, S. (S.) nubilus Mulsant; **Diptera: Syrphidae: Ischiodon scutellaris** (F.);

**Hymenoptera: Braconidae: Aphidiinae: Lipolexis scutellaris** Mackauer, **Toxares deltiger** (Haliday).

**Note:** *Aphis neri* is recorded for the first time from Aligarh region.

3. **Aphis craccivora** Koch (Fig. 4; Plate 3)

*Aphis craccivora* Koch, 1854, *Die Pfl. Aphen*, 1:124

**Material examined:**

4 apterae on *Dolichos lablab* from Aligarh.

**Diagnostic characters:**

Small aphids, mainly found on growing points of the host plant, and regularly attended by ants. Adults are shiny black, nymphs lightly dusted with wax and light brownish; siphunculi and cauda black. Abdomen black dorsally, pigmentation often extending laterally to enclose lateral sclerites and to encircle bases of siphunculi. In small specimens, pigmentation broken, not extending so far laterally. Antenna about 2/3 as long as body. Segments I, II, and apex of V dark, segments III, IV and basal V pale. Cauda with 4-7 hairs.

**Distribution:**

Cosmopolitan, particularly well distributed through the tropics.

**Host plants:**

**Malvaceae:** *Abelmoschus esculentus* Moench, *Hibiscus rosa-sinensis* L.; **Fabaceae:** *Abrus* sp., *Arachis hypogaea* Willd., *Cajanus cajan* (L.), *Cicer arietinum* Linn., *Cassia fistula* L., *Crotalaria juncea* L., *Crotalaria mucronata* Desvaux, *Cyamopsis*

**Measurements (in mm.):**

Aptera: Length of body 1.94, width 1.28; antennae 1.48, segments III: IV: V: VI 0.36: 0.27: 0.24: (0.13+0.30); u.r.s. 0.12; h.t.2 0.14; siphunculus 0.42; cauda 0.26.

Alata: (From Lit.) Length of body 2.22, width 1.03; antennae 1.42, segments III: IV: V: VI 0.32: 0.28: 0.26:(0.12+0.32); u.r.s. 0.10; h.t.2 0.12; siphunculus 0.28; cauda 0.19.

**Seasonal occurrence:**

Throughout the year. During June-July and January to February, it makes enormous colonies on *Gliricidia maculata.*
Natural enemies:


**Remarks:** *Cheilomenes sexmaculata* (F.) (Plate 12) is recorded from Aligarh on *Aphis craccivora*. Yellowish orange colored beetle having 2 black transverse bands and one round spot on each elytra. Larvae as well as adults are feed on aphids, they are voracious feeder. Very common, abundant and widely distributed species through out the world specially in India.
Genus *Rhopalosiphum* Koch


Type-species: *Aphis nymphae* Linnaeus, 1761.

**Diagnostic characters:** Head smooth with, weakly developed lateral frontal tubercles having rhopalosiphine projections. Antennae 5 or 6 segmented, 0.30 – 0.81 x body; p.t. 1.70 – 6.80 x base of last segment; secondary rhinaria absent in apterae, in alatae segment III with 11 – 54, IV with 0 -15 and V with 0 – 13 such rhinaria, base of segment VI in male with 3 rhinaria; hairs on flagellum in both apterae and alate may with fine to bluntish apices. Ultimate rostral segment about 0.71- 1.53 x h.t.2 and with 2-4 secondary hairs. Mid thoracic furca in apterae usually sessile. Apterae with pale abdominal dorsum, alatae with plural intersegmental pigmentation and with a dusky band on each of tergites 7 and 8, well developed pattern of spinulose polygonal reticulation present on dorsum of apterae and each polygon enclose a group of spinule; dorsal abdominal hairs may be long and fine with blunt apices. Siphunculi about 0.05-0.25 x body, often dark and cylindrical to slightly swollen and with a well developed flange. Cauda short, about 0.35 – 0.93 x siphunculi and with 3- 9 hairs. Subanal plate brown and entire, with many long hairs. Subgenital plate pale brown to dark brown, transversely oval, with many hairs. Legs brown to dark brown, coxae and femora partly imbricated, other segments usually smooth but rarely tibiae imbricated faintly, F.T.C. 3,3,3 or 3,3,2. wing venation normal, sometimes media once branched.

This Genus represented by two species from these regions.
**Key to species of Rhopalosiphum Koch.**

1. Antennae 5 segmented, p.t. about 5.3 – 6.2 x base of last antennal segment; body about 7.70 – 11.20 x siphunculi; abdominal dorsum covered with long and fine hairs; siphunculi 1.7 – 1.8 times longer than cauda ......................................................... *rufiabdominalis* (Sasaki)

   Antenna 6 segmented, p.t. about 4.06 – 5.33 x base of last antennal segment; body about 6.0 – 8.66 x siphunculi; abdominal dorsum hairs with blunt apices; siphunculi more than 1.5 times as long as cauda.......................................................... *padi* (L.)

4. *Rhopalosiphum padi* (Linnaeus) (Fig.5; Plate 4)


**Material examined:**

4 alatoid nymphs on *Cynodon sp.* from Aligarh and I.A.R.I. and on *Andropogon sp.* from I.A.R.I.

**Diagnostic characters:**

Found on grasses and cereals, broadly oval, green mottled with yellowish green or olive-green, or dark-olive to greenish black; often with rust-colored patches around the bases of siphunculi. These patches sometimes meet on the abdominal dorsum. The aphid has a very hairy appearance. Alatae have pale to dark-green abdomen.

Body 1.4-1.5 times as long as antennae. Processes terminalis more than three-four times the base of last antennal segment. Siphunculi more than 1.5 times as long as cauda uniformly dark, but in black specimens, paler at the base. Patches around the bases of Siphunculi are darker as compared to *R. rufiabdominalis.*
Measurements (in mm.):

Aptera: length of body 2.10, width 1.30; antenna 1.45, segments III:IV:V:VI 0.32:0.17:0.22:(0.10+0.49); u.r.s. 1.12; h.t.2 0.11; siphunculus 0.07, cauda 0.04.

Alata: Length of the body 1.47, width 0.84; antenna 1.18, segments III:IV:V:VI 0.30:0.14:0.14:(0.89+0.41); u.r.s.0.09; h.t.2 0.02; siphunculus 0.05; cauda 0.03.

Host Plants:

Plants belonging to Acanthaceae, Canaceae, Cyperaceae, Graminae, Oxalidaceae and Polygonaceae.

Seasonal occurrence:

November - December.

Distribution:

Virtually cosmopolitan.

Natural enemies:

Coleoptera: Coccinellidae: Aiilocaria hexaspilota (Hope), Cheilomenes sexmaculata (F.), Oenopia sauzeti Mulsant, Propylea japonica (Thunberg);

Hymenoptera: Braconidae: Aphidiinae: Aphidius colemani Viereck, Ephedrus nacheri Quilis, Praon abjectum (Haliday), Trioxys sinensis Mackauer.

5. Rhopalosiphum rufiabdominalis (sasaki) (Fig. 6; Plate 7)


Material examined:

4 Apterous on Sorghum sp. from I.A.R.I.

Diagnostic characters:

Apterae dark-green or olive with usually a reddish area at the posterior end of abdomen between and around Siphunculi. The abdomen of the alata is similarly
colored. Antennae almost half the body length and 8 times as long as Siphunculi. Processes terminalis six times longer than the base of last antennal segment. Siphunculi 1.7-1.8 times longer than Cauda. Cauda lighter than Siphunculi in younger specimens but as dark as in adults. The aphid is generally found on the subterranean parts of the plant, and has only five- segmented antennae; however, the specimens studied had six segmented antennae and were found on subterranean as well as aerial parts.

**Measurements (in mm.):**

Aptera: Length of body 1.87 width 1.09; antenna 0.95, Segments III:IV:V 0.30:0.14:(0.09+0.30); u.r.s 0.07; h.t.2 0.08; siphunculus 0.12; Cauda 0.15

Alata: (From Lit.) Length of the body 2.34, width 1.23; antenna .1.42, segments III:IV:V 0.50:0.17:(0.10+0.53); u.r.s 0.13; h.t.2 0.10; siphunculus 0.06; cauda 0.03.

**Host Plants:**

Plants belonging to Aroidae, Canaceae, Ericanaceae, Fagaceae, Graminae, Liliaceae, Malvaceae, Papilionaceae, Rosaceae and Solanaceae.

**Seasonal occurrence:**

May-July, September-November.

**Distribution:**

Virtually cosmopolitan.

**Natural enemies:**

Coleoptera: Coccinellidae: *Micraspis univittata* (Hope) (=*M. vincta* (Gorham)).
Tribe: Macrosiphini

This tribe represented by six genera from this region.

**Key to the Genera of Tribe Macrosiphini.**

1. Some of the secondary hairs on u.r.s. as long as or longer than primary hairs................................................................. *Macrosiphoniella* de Guercio

   Secondary hairs on u.r.s. usually much shorter than primary hairs.................................................................2

2. Siphunculi reticulated (Cells either isodiametrical or transversely elongated)

   ................................................................................. *Macrosiphum* Passerini

   Siphunculi not reticulated but sometimes a few interconnecting striae present near the apical flange.................................................................3

3. Apterae without any median frontal prominence................................................................. *Acyrthosiphon* Mordvilko

   Apterae with median frontal prominence.................................................................4

4. Dorsum of head in apterae usually smooth or may be slightly wrinkled.................................................................5

   Dorsum of head in apterae spinulose or warty......................... *Myzus* Passerini

5. Siphunculi shorter than cauda......................................................... *Brevicoryne* Van der Goot

   Siphunculi longer than cauda......................................................... *Lipaphis* Mordvilko
**Genus Acyrthosiphon** Mordvilko


Type-species: *Aphis pisi* Kaltenbach, 1843 (=*Aphis pisum* Harris, 1776).

**Diagnostic characters:** Head in both aptera and alata usually smooth, sometimes with a very few indistinct spinules ventrally near base of antennal sockets; lateral frontal tubercles well developed, frontal sinus at least in aptera usually V-shaped; in alata middle of frontal sinus might be slightly raised and head provided with a pair of small somewhat pleurally placed tubercles just inner to eyes; dorsal cephalic hairs short with bluish to incrassate apices. Antenna six segmented slightly shorter to fairly longer than body, imbricated, though in aptera sometimes basal part of segment III smooth; segment III in aptera with a few secondary rhinaria near base, in alata number may go up to 25 and then these are arranged more or less in a row at most on basal 0.75 portion; p.t. long, about 3.0 – 5.0 x base of segment VI; flagellar hairs like dorsal cephalic hairs. Ultimate rostral segment shorter than h.t.2. Midthoracic furca sessile. Abdominal dorsum in aptera pale and smooth, in alata only with faint spinulose marginal sclerites. Dorsal hairs also like dorsal cephalic hair (nearly 0.50 x b.d.III) but these gradually become longer caudad, siphunculi cylindrical with wide base and a distinct apical flange, imbricated, sometimes with a few interconnecting preapical striae about 0.20-0.25 x body. Cauda elongated with pointed to bluish apices about 0.50-0.65 x siphunculi; hairs near base with nearly acute apices and those apical incrassate apices. Subgenital plate with short blunt hairs on hind margin which are hardly 0.50 x b.d.III. femora nearly smooth; F.T.C. 3,3,3. Wing venation normal.

**Remarks:** The genus *Acyrthosiphon* was erected by Mordvilko (1914) with *Aphis pisi* Kaltenbach as the type for accommodating those species of *Macrosiphum* which...
lacked reticulation on the siphunculi and constriction on cauda but had diverging, approximately smooth lateral frontal tubercles. Under the genus he described 4 subgenera, namely, *Acyrthosiphon*, *Microlophium* Mordvilko with *Aphis urticae* Schrank as the type, *Amphorophora* Buckton with *Amphorophora ampulata* Buckton as the type and *Metopolophium* Mordvilko with *Aphis dihorda* Walker as the type. This genus represented by single species from this region.

6. *Acyrthosiphone pisum* (Harris) (Fig. 7)

**Material examined:**

4 Alatoid nymphs on *Pisum sativum* from Aligarh.

**Diagnostic characters:**

Pale yellow or pale brown aphids with transverse diffused streaks of green on abdominal tergite 1 and in between Siphunculi. Head, distal portions of antennae, Siphunculi and legs are brown. Antennae 0.22 x as long as body. Processus terminalis shorter than base, 0.22 x as long as base of last antennal segment. Siphunculi on dark sclerotic cones. Cauda broader than long, bears 6 hairs. Colonies formed on the undersurface of the leaves at the basal portion, attended by ants.

**Measurements (in mm.):**

Aptera: (From Lit.) length of body 4.20, width 2.01; antenna 4.20, segments III:IV:V:VI 1.01:0.82:0.71:(0.28+1.05); u.r.s. 0.11; h.t.2 0.17; siphunculus 0.97; cauda 0.61.

Alata: (From Lit.) length of body 3.70, width 1.29; antenna 4.40, segments III:IV:V:VI 1.01:0.85:0.78:(0.30+1.15), u.r.s. 0.11; h.t.2 0.17; siphunculus 0.83; cauda 0.49.
Host plants:

*Pisum sativum*, *Pisum* sp., *Vicia faba* (Papilionaceae).

Seasonal occurrence:

Almost throughout the year, more prevalent during July-September

Distribution:

Cosmopolitan.

Natural enemies:

**Coleoptera**: *Coccinellidae*: Anegleis cardoni (Weise), Brumoides suturalis (F.), Cheilomenes sexmaculata (F.), Coccinella transversalis F., Coelophora biplagiata (Swartz), Harmonia dimidiata (F.), *H. octomaculata* (F.) and *Propylea japonica* (Thunberg); **Diptera**: *Syrphidae*: Eupeodes confrater (Wiedemann), Paragus serratus (F.), Melanostoma sp., Xanthogramma sp., Ischiodon scutellaris (F.), Episyrphus balteatus (De Geer), Sphaerophoria menthastri (L.); **Hymenoptera**: *Braconidae*: Aphidiinae: Aphidius ervi Haliday, A. smithi Sharma & Subba Rao, A. urticae Haliday, Ephedrus plagiator (Nees), Pauesia picta (Haliday), Praon dorsale (Haliday), and P. volucre (Haliday).

**Genus Bravicoryne** Van der Goot


Type-species: *Aphis brassicae* Linnaeus, 1758.

**Diagnostic characters**: Head smooth or slightly wrinkled and pigmented; lateral frontal tubercles very low and medium frontal elevation as high as or higher than lateral frontal tubercles; dorsal cephalic hairs long with acute to sub acute apices, ventral ones shorter than dorsal ones. Antenna six segmented, about 0.45-0.65 x body; segment I faintly imbricated, shorter than wide, segment II as long as segment I and
faintly imbricated; flagellum strongly imbricated; aptera without secondary rhinaria, intermediate forms up to 22 circular protuberant secondary rhinaria, alata with numerous distinctly protuberant such rhinaria scattered irregularly all over segment III; primary rhinaria ciliated; flagellar hairs sparse, short with acute to acuminate apices; p.t. 2.0-4.0 x base of segment VI, u.r.s. reaches almost up to midcoxae, normal, much shorter than h.t.2 and bears 4 secondary hairs. Prothorax in aptera with marginal brown patches and in alata with a transverse pigmented bands; meso and meta thorax in aptera with such marginal patches in addition to scattered pigmented patches and muscle-plate arranged pleurally; Midthoracic furca with separate arm. Abdominal dorsum in aptera with pleural pigmented irregular shaped, wrinkled patches with various degree of coalescence with those occurring spinally on segment 1-7, segment 8 with a spinopleural band and scattered muscle-plate on antisiphuncular segments, alata with spinopleural segmental bars on each segment, sometimes those on anterior segments broken, marginal spinular pigmented patches on segment 2-5 along with muscle plate; dorsal hairs of moderate size thick with blunt apices in aptera, and with acuminate apices in alata placed on slightly raised bases. Siphunculi about 0.05-0.08 x body, barrel shaped in alata basal portion much constricted and wrinkled, faintly imbricated, almost with out any apical flange. Cauda dark triangular about 1.10-1.30 x siphunculi and bears 5-7 hairs. Subgenital plate broadly oval with 10 hairs in 2 groups posteriorly and 2 hairs anteriorly. Legs smooth with hairs having acute to sub acute apices or faintly imbricated; tarsi with normal imbrications, F.T.C. 3,3,3. wing venation normal, all veins slightly to distinctly bordered brown. Nymphs with hind tibiae smooth.

Remarks: Bodenheimer and Swirski (1957) considered *Brevicoryne* as a subgenus of *Hyadaphis*. Eastop (1966) stated that it was closely related to *Lipaphis* and perhaps
with this best regarded as a subgenus of *Hyadaphis*. It would appear; therefore, that *Brevicoryne*, *Lipaphis* and *Hyadaphis* are very closely related genera. It is true that the two genera (*Brevicoryne* and *Hyadaphis*) show close resemblance in respect of the siphunculus which is shorter than the cauda, in the nature of the frons and in midthoracic furca in apterae. *Hyadaphis* possesses cauda which is elongated and with a median constriction, but in *Brevicoryne* the cauda is short and triangular. Moreover, the dorsal abdominal pigmentation of both apterae and alatae in *Brevicoryne* is quite distinctive for the genus, and the brownish bordering of the wing-veins of *Brevicoryne* is not found in *Hyadaphis*. *Brevicoryne* and *Hyadaphis* are, therefore, regarded here as distinct genera.

This genus represented by single species from this region.

7. *Brevicoryne brassicae* (Linnaeus) (Fig. 8; Plate 6)


**Material examined:**

3 alatoid nymphs on *Brassica oleracea capitata* from I.A.R.I.

**Diagnostic characters:**

Apterae medium-sized, grayish-green or dull green, with dark head and dark dorsal thoracic and abdominal markings, body covered with greyish-white mealy wax which is also secreted on to the surface of the plant and extends throughout the colony. Alatae with dark head and thorax and black transverse bars on dorsal abdomen. Antennae 0.6-0.65 times as long as body length. Siphunculi barrel shaped, dark. The aphid is frequently found in association with *M. persicae* and *L. erysimi* on different
host plants; however, it can be easily segregated by the presence of mealy covering on the body.

**Measurements (in mm.):**

Aptera: (From Lit.) Length of body 2.47, width 1.50; antenna 1.54, segments III:IV:V:VI 0.51:0.18:0.16:(0.12+0.37); u.r.s. 0.13; h.t.2 0.16; siphunculus 0.16; cauda 0.18.

Alata: (From Lit.) Length of body 2.28, width 1.03; antenna 1.96, segments III:IV:V:VI 0.67:0.14:0.25(0.13+0.51); u.r.s 0.10; h.t.2 0.19; siphunculus 0.13, Cauda 0.16.

**Host Plants:**

*Beta vulgaris* (Chenopodiaceae), *Brassica compestris, Brassica nepus, Brassica oleracea, Capsella bursapesoris, Cardamine hirsute and Raphanus sativa* (Cruciferae).

**Seasonal occurrence:**

December - March

**Distribution:**

India: West Bengal; virtually cosmopolitan.

**Natural enemies:**


**Genus Lipaphis** Mordvilko


Type-species: *Aphis erysimi* Kaltenbach, 1848.

**Diagnostic characters:** Head wrinkled and pigmented; lateral frontal tubercles very low, somewhat scabrous and diverging; median frontal prominence distinct, as high as lateral frontal tubercles; dorsal cephalic hairs short with incrassate apices. Antenna 6 segmented, shorter than body; segment I scabrous, shorter than wide, segment II scabrous, as long as segment I; flagellum distinctly imbricated; aptera without secondary rhinaria, alata with many round, somewhat flat, secondary rhinaria scattered irregularly all over segment III and IV and sometimes also on V, some of the rhinaria placed close together; flagellar hairs short with acuminate apices; p.t. about 1.75-4.50 x base of segment VI; primary rhinaria flat, ciliated. Rostrum rather short, reaching hardly mid coxae; u.r.s. shorter than h.t.2 and bears about 4 secondary hairs. Thoracic tergum in aptera rugose with diffuse brown segmental bars; Midthoracic furca sessile. Abdominal dorsum in aptera pale, weakly wrinkled and sometimes with faint reticulated area on anterior segments, more so pleurally; in alata with pigmented patches spinally on hair bases on segment 6 and brown bars on segment 7 and 8, muscle plate arrange segmentally and pleurally on the antisiphuncular segments; in aptera marginally small tubercles present on segments 3-5, alata have spinulose
sclerites at base of marginal tubercles and spinally such patches on segment 6 also spinulose; dorsal hairs very short with incrassate apices. Siphunculi subcylindrical, a little constricted slightly below the middle and again apically attenuated to a small but distinct flange, imbricated, pigmented, about 0.09-0.15 x body and longer than cauda. Cauda dusky gradually tapers distally with about 6 hairs, of which four basal ones long and fine and two apical ones short and blunt. Subgenital plate normal, brown with 8 short, blunt hairs in two groups on posterior margin and pair of long hairs with sub-acute apices placed close. Spiracles reniform with brown sclerite around. Coxae imbricated; trochanter smooth; femora ventrally scabrous; tibiae with a few imbrications near articular region with femora, rest smooth; tarsi with normal imbrications; hairs short with blunt apices; F.T.C. 3,3,3. Wing venation normal, veins slightly bordered brown. Nymphs with hind tibiae smooth.

Remarks: Eastop (1966) pointed out that there is a chance of confusing Lipaphis with Hyadaphis, but stout, strongly elevate siphunculi and somewhat weakly developed flange in Hyadaphis stand in sharp contrast to the slender siphunculi with slight swelling near the apex and well-developed flange found in Lipaphis. Moreover, in Lipaphis the arms of the midthoracic furca are joined by a broad base, while in Hyadaphis the arms are separate.

This genus represented by single species from this region

8. Lipaphis erysimi (Kaltenbach) (Fig. 9; Plate 7)

Aphis erysimi, 1843, Mon. fam. Pfl., 99.

Material examined:

5 Alatoid nymphs on Brassica oleracea and Brassica compestris from Aligarh. 1 alatae on Brassica compestris from I.A.R.I.
**Diagnostic characters:**

Apterae small to medium-sized, yellowish green, grey green, or olive green, with a white wax bloom; in humid conditions often more densely coated with wax. Alatae have a dusky green abdomen with conspicuous dark lateral sclerites, and dusky wing veins. Sometimes in large numbers on the undersides of leaves, which may curl and turn yellow, or in inflorescences. Apterae 1.4-2.4 mm, alatae 1.4-2.2 mm. Easily identified by the presence of equidistant pleural oily patches on abdominal segments 1-4 and spinal bigger patches on segments 5-7, bases of Siphunculi with oily patch at the base.

**Measurements (in mm.):**

Aptera: (From Lit.) Length of body 1.52, width 0.97; antenna 0.93, segments III:IV:V:VI 0.27:0.10: 0.11:(0.10+0.21); u.r.s. 0.09; h.t.2 0.11; siphunculus 0.18; Cauda 0.15.

Alata: Length of body 1.58, width 0.73; antenna 1.25, segments III:IV:V:VI 0.37:0.18: 0.17:(0.12+0.29); u.r.s 0.09; h.t.2 0.14; siphunculus 0.18; Cauda 0.16.

**Host plants:**

*Drymeria cardata* (Caryophyllaceae); *Calendula* sp., *Emilia sonchifolia*, *Lactusa sativa* (Compositae); *Brassica* sp., *Iberis amara*, *Nasturtium indicum*, *Raphanus sativus* (Cruciferae) and *Tropeolum majus* (Tropeolaceae).

**Seasonal occurrence:**

September - March
Distribution:

India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Rajasthan, Sikkim, South India, Tripura, Uttar Pradesh, West Bengal; Bhutan, Nepal, and virtually cosmopolitan.

Natural enemies:

Coleoptera: Coccinellidae: Chelomenes sexmaculata (F.), Adalia tetraspilota (Hope), Anegleis cardoni (Weise), Coccinella transversalis F., C. undecimpunctata L., Hippodamia variegata (Goeze), Propylea japonica (Thunberg), P. luteopustulata (Mulsant), Pseudaspidimerus trinotatus (Thunberg), Nephus regularis Sicard, Scymnus (Pullus) pyrocheilus Mulsant, S. (P.) xerampelinus Mulsant; Hymenoptera: Aphelinidae: Aphelinus asychis (Walker), A. albipodus Hayat & Fatima; Braconidae: Aphidiinae: Aphidius matricariae Haliday,

Remarks: Coccinella septumpunctata L. (Plate 10) was recorded from Aligarh on Lipaphis erysimi. It is reddish brown colored beetle having 7 black round spots on elytra. It can be seen through out the year, but more abundant and active from December to March and then from July to September. Both larvae and adults are voracious. Most common species reported from India as well as different part of the world.

Ischiodon scutellaris F. (Diptera : Syrphidae) was also recorded from Aligarh. Widely distributed in India. Larvae feed on aphids. Adult females lay their eggs near aphid colony, when larvae hatched out from eggs, start feeding on aphids.

Diaeretiella rapae (M’Intosh) (Hymenoptera : Aphidiidae) (Plate 15) was recorded on this aphid species from Aligarh. Adult female laid their eggs inside the body of aphid, when eggs hatched, the larvae start feeding on haemolymph and tissues of aphids.
Chrysoperla caniea (Neuroptera) (Plate 13) was found on this aphid species from Aligarh

**Genus Macrosiphoniella** de Guercio


Type-species: *Siphonora atra* Ferrari, 1872.

**Diagnostic characters:** Head smooth, pale to deep brown with moderately well developed diverging lateral frontal tubercles and without any median prominence; 4-7 pairs of dorsal cephalic hairs with acuminate to bluntish apices. Antenna 6 segmented, slightly shorter to much longer than body; hairs on flagellum with acuminate to spatulate apices, about 0.60-3.50 x b.d.III; segment III in apterae with 2-30 small to large round protuberant secondary rhinaria restricted near base or distributed over whole length, in alate secondary rhinaria may be distributed also on segment IV; primary rhinaria may be ciliated or nonciliated; p.t. 2.30-6.0 x base of last segment and 8.50-1.50 x segment III. Rostrum may reach up to hind coxae; u.r.s. usually stiletto shaped, shorter to much longer than h.t.2 and with 3 pairs of secondary hairs, basal ones longer than primary hairs. Dorsum of abdomen in apterae never homogeneously colored but often with small dark patches at bases of hairs in addition to other similar patches, in alatae with or without broken to entire spinopleural transverse patches but always with more developed marginal patches, sometimes distinct or indistinct semilunar dark patch present in front of the very base of siphunculi, similar patch may or may not be present behind base of siphunculi; Dorsal abdominal hairs short to very long (on anterior tergites 1.20-4.50 x b.d.III) with acuminate, incrassate or spatulate apices. Siphunculi calf shaped to nearly cylindrical, pale to dark brown, imbricated with or without an indistinct flange,
reticulated on apical 0.20-0.60 portion, about 0.10-0.25 x body and may be shorter to longer than cauda which is pale to dark brown, thumb shaped and without any constriction or narrower with a basal constriction and bears 8-30 hairs. Subgenital plate with 12-16 hairs on posterior margin in a half-circle and 4-6 hairs anteriorly, hairs being rather long. Legs pale to variably colored; femora and tibiae may be smooth or imbricated, sometimes hind tibiae with a row of thick spines besides normal hair first tarsal segment with 3 hairs. Wing venation normal.

Remarks: This genus shows affinity with Dactynotus Rafinesque and Paczoskia Mordvilko from the point of view of host-association, i.e., Compositae. Among these genera Macrosiphoniella del Guercio and Paczoskia Mordvilko appear closer by the shape of the rostrum which is no doubt much longer in the latter genus and by the possession of many more short secondary hairs; those based being longer than the primary ones.

This genus represented by single species from this region

9. Macrosiphoniella sanborni (Gillete)


Material examined:

4 Alate on *Chrysanthemum sp.* from Aligarh.

Diagnostic characters:

Apterae 1.0-2.3 mm, shiny, dark reddish-brown to blackish brown, broadly spindle shaped, with black, relatively short and thick siphunculi, shorter than the black cauda. Alatae 1.8-2.6 mm, similarly pigmented. Antennae almost equal to body length.
Processus terminalis five times longer than the base of last antennal segment. Siphunculi 0.13 times as long as body, cauda 1.4-1.5 times longer than siphunculi. Cauda dark with 10-20 hairs.

**Measurements (in mm.):**

Aptera: (From Lit.) Length of the body: 2.07 Width: 0.94, Antenna 2.0 Segments III:IV:V:IV 0.51:0.29:0.29:(0.13+0.54); u.r.s 0.13 ; h.t.2 0.13, Siphunculus 0.27; cauda 0.39. Alata: Length of body 2.11, width 0.93; antenna 2.32, segments III:IV:V:VI 0.66:0.37:0.36:(0.13+0.59); u.r.s.0.13; h.t.2 0.12; siphunculus 0.26; cauda 0.30.

**Host Plants:**

*Artemisia* sp; *Chrysanthemum* sp; *C. coronarium* and *C. indicum* (Compositae).

**Distribution:**

India: All over; and virtually Cosmopolitan.

**Natural enemies:**

Genus *Macrosiphum* Passerini


Type-species: *Aphis rosae* Linnaeus, 1758

**Diagnostic characters:** Head usually completely smooth, sometimes finely stippled or minutely spinulose either on both surfaces or on one surface with moderately to strongly developed, diverging smooth lateral frontal tubercles and indistinct to distinct median frontal prominence; dorsal cephalic hair short or long, with acute, acuminate, incrassate or blunt apices. Antenna 6-segmented, shorter to longer than body; basal 2 segment either smooth or scabrous; flagellum imbricated; apterae always with circular non-protuberant secondary rhinaria in a row either restricted to the very base of segment III or distributed over entire length of the segment, in alatae such rhinaria mostly found on segment III but sometime also on segment IV; primary rhinaria ciliated, p.t. much longer than base of last segment; flagellar hair like dorsal cephalic hair, may be shorter or longer than 0.50 x b.d. III. Ultimate rostral segment shorter to longer than h.t.2, heart shaped or elongate with blunt apex and with 4-6 secondary hairs. Midthoracic furca with a narrow base. Abdominal dorsum in apterae either completely pale or sometimes pigmented middorsally and marginally up to segment VI or with only hair bearing pigmented areas besides some muscle plate structures scattered pleurally, smooth or faintly rugose, in alatae also pale with brown marginal patches and transverse pleural bands often linked by spinal sclerotic area, smooth with spinulose on marginal pigmented patches and on segments caudad to siphunculi, siphunculi cylindrical, with or without a distinct flange, faintly to distinctly imbricated, imbrications passing on to a distinct apical reticulated area about 0.10-0.35 portion of siphunculi, reticulations in the form of isodiometrical cells. Cauda elongate, pale or dark, with or without a basal constriction. Subanal plate somewhat
emerginate on posterior margin. Subgenital plate with 7-16 hairs in 2 groups on posterior margin and 2 long fine hairs on anterior 0.50 portion. Venter of abdomen with spinulose striae; Ventral abdominal hairs long with fine to acuminate apices. Legs smooth; sometimes hind tibiae with spines besides normal hairs; second tarsal segments with normal imbrications, F.T.C. 3,3,3, or 4,4,4. Wing venation normal with stigma and veins sometimes dark.

Remarks: Hille Ris Lambers (1939) discussed the genus *Macrosiphum* in detail. He did not mention spinulosity on the head and F.T.C. 4,4,4 for the specimens of the species then available to him. Some species have been found closely similar to *Macrosiphum* species and some of these have F.T.C. 4,4,4 and some have spinules either on both surfaces of the head or on only one surface. Takahashi (1961b) erected the genus *Unisitobion* for *Macrosiphum* like species possessing spinulosity on the venter of the head, pigmented abdominal dorsum and high antennal sockets, but such species have F.T.C. 3,3,3. Since all *Macrosiphum* like species except the Indian species, namely, *macrospinulosum* David, Rajsingh and Narayanan; *pseudoluteum* Ghosh; and *pseudogeranii* Chakrabarti and Raychaudhuri have F.T.C 4,4,4 a new subgenus *Neomacrosiphum* is recognized here to accommodate them with *M. pseudoluteum* Ghosh as the type. Again of these, *M. macrospinulosum* has spinules on head as in some other *Macrosiphum* like species having F.T.C 3,3,3.

This genus represented by single species from this region

10. *Macrosiphum (Sitobion) rosaeiformis* Das (Fig.10; Plate 8)


**Material examined:**

1 Alatae and 4 Apterous on *Rosa indica* from Aligarh.
Diagnostic characters:

Medium-sized to rather large (2.1.-3.5mm) aphids on new growth of wild and cultivated roses, narrowly spindle-shaped, bright yellowish green to green, or reddish brown. The dorsal abdomen is normally pale except for small brown intersegmental sclerites and the Siphunculi are basally pale and apically dark in apterae, wholly dark in alatae. Antennae equal to or less than body length, sometimes larger than body. Processus terminalis 4.7 times as long as base of last antennal segment. Segment III about equal to processus terminalis. Siphunculi 0.25 times as long as body length and almost twice in length of that of cauda. Cauda with nine hairs. The aphid sometimes occurs with *M. rosae* in a very few numbers.

Measurements (in mm.):

Population I:

Aptera: Length of body 3.36, width 1.48; Antenna 3.58, Segments III:IV:V:VI 1.06:0.73:0.61:(0.17+0.76); u.r.s. 0.14; h.t.2. 0.16: Siphunculus 1.24; cauda 0.62.

Alata: Length of body 3.47, width 1.28; antenna 4.00 Segments III:IV:V:VI 1.08:0.78:0.74:(0.16+0.76); u.r.s. 0.14; h.t.2. 0.15; Siphunculus 1.84; cauda 0.52.

Population II:

Aptera: Length of body 2.22, width 1.08; Antenna 2.33, Segments III:IV:V:VI 0.52:0.41:0.40:(0.14+0.62); u.r.s. 0.13; h.t.2. 0.14: Siphunculus 0.8; cauda 0.26.

Host Plants:

*Rosa cania, Rosa macrophylla, Rosa moschata, Rosa Sp. Spirarea corymbosa* (Rosaceae).

Seasonal occurrence:

September-October.
Distribution:
India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, south India, Uttar Pradesh, West Bengal; Nepal & Pakistan.

Natural enemies:


**Genus Myzus Passerini**


Type-species: *Aphis cerasi* Fabricius, 1785.

**Diagnostic characters:** Head dorsally spinulose or warty either entirely or leaving a broad central portion free, ventrally also spinulose, with hardly or weakly developed median prominence but moderately to well developed lateral frontal tubercle with the inner margin converging to diverging; dorsal cephalic hairs very short to some what long with acuminate to Myzine type of apices, much shorter to longer than b.d.III. Antennae six segmented, shorter to longer than body; segment I and II scabrous; flagellum gradually more distinctly imbricated apically; flagellar hairs usually short and sparse, and with Myzine type of apices, but sometimes moderately long with blunt, acuminate to incrassate apices; apterae without secondary rhinaria ciliated; p.t. slightly to much longer than last antennal segment. Ultimate rostral segment
Siphunculi much shorter to much longer than h.t.2 with blunt obtuse or normal apex, with 2-4 secondary hairs. Midthoracic furca with jointed arms and a short stalk. Dorsum of abdomen rugose and sparsely to strongly spinulose; in apterae pail to sclerotic entirely and without scattered patches, but in alatae with a dark large central patch, beside sclerotic marginal patches; hairs on dorsum like those antennae; 7th tergite normal or prolonged posteriorly. Siphunculi cylindrical to tapering, slight to distinctly clavate or at least swollen on distal 0.50 portion, nearly smooth to strongly imbricated, with sometimes one or two rows of striae near apex, with or without distinct flange, about 0.06 to 0.30 x body and slightly shorter to distinctly longer than cauda, which may or may not be constricted at middle. Subanal plate broadly rounded. Subgenital plate either normal with hind margin rounded or triangular and strongly produced caudad, with 10-16 short and blunt hairs on posterior margin and a pair of long fine hairs anteriorly. Venter of abdomen strongly spinulose and with hairs long and fine. Femora sometimes with dense spinules besides normal imbrications; tibiae smooth but with normal imbrications in adults, but hind tibiae nymphs sometimes strongly spinulose; tarsi with normal imbrications; F.T.C. 3,3,2 or 3,3,3. Wing venation normal but veins may sometimes be bordered brown.

Remarks: Because of the subtle variations in characters like the abdominal pigmentation of apterae and alatae, the clouded nature of the wing-veins, the presence of secondary rhinaria in alatae either only on the segment III or on all the flagellar segments excepting the last one and slight swelling on the siphunculi, some authors, notably Stroyan (1954), Takahashi (1965c) and Eastop (1966), are inclined to break up the genus into a number of subgenera like Nectarosiphon, Neotoxoptera, Prunomyzus, Sciamyzius, Tubaphic, etc. Miyazaki (1971) considered Myzus in its
entirety and divided the species into two major groups, *viz*, one possessing spinulose hind tibiae in nymphs and the other lacking it.

This genus represented by single species from this region

11. *Myzus persicae* (Sulzer) (Figs. 11, 12; Plate 9)


**Material examined:**

2 Alatae on *Morus alba*, 1 alatae and 2 Apterus on *Echinocloa Colona* from Aligarh and 2 Apterus on *Brassica oleracea capitata* from Delhi.

**Diagnostic characters:**

Adult apterae small to medium-sized, whitish green, pale yellow-green, grey-green, mid-green, pink, red or almost black; rather uniformly colored, not shiny. Alatae have a black central patch on abdominal dorsum. Antennae 0.62 x as long as body.

**Measurements (in mm.):**

Population I: (*Brassica oleracea*)

Aptera: Length of body 2.12, width 1.24; antenna 1.78, segments III:IV:V:VI 0.42:0.33:0.26:(0.13+0.46); u.r.s 0.12; h.t.2 0.12; siphunculus 0.57; cauda 0.22.

Population II: (*Echinocloa colona*)

Aptera: Length of body 1.79, width 1.00; antenna 1.66, segments III:IV:V:VI 0.40:0.29:0.24:(0.13+0.44); u.r.s 0.11; h.t.2 0.11; siphunculus 0.49; cauda 0.19.

Alata: Length of body 1.82, width 0.96; antenna 2.39, segments III:IV:V:VI 0.54:0.48:0.35:(0.13+0.69); u.r.s 0.12; h.t.2 0.12; siphunculus 0.42; cauda 0.21.
Host plants:

Extremely polyphagous.

Seasonal occurrence:

All through the year, with heavy infestation during winter and early summer.

Distribution:

India: All over; and virtually cosmopolitan.

Natural enemies:

Coleoptera: Coccinellidae: Brumoides suturalis (F.), Priscibrumus uropygialis (Mulsant), Adalia tetraspilota (Hope), Calvia punctata (Mulsant), Cheilomenes sexmaculata (F.), Coccinella transversalis F., C. undecimpunctata L., Harmonia dimidiata (F.), H. eucharis (Mulsant), H. octomaculata (F.), H. sedecimnotata (F.), Hippodamia variegata (Goeze), Micrapsis allardi (Mulsant), Oenopia kirbyi Mulsant, O. sauzeti Mulsant, O. sexareata (Mulsant), Propylea japonica (Thunberg), P. luteopustulata (Mulsant), Scymnus (Pullus) latemaculatus Motschulsky, pyrocheilus Mulsant; Hymenoptera: Aphelinidae: Aphelinus asychis (Walker), A. mali (Haldeman), A. albipodus Hayat & Fatima; Braconidae: Aphidius ervi Haliday, A. colemani Viereck, Monoctonus ?longiradius Takada, Trioxys brevicornis (Haliday).