

NOTES ON THE HEMIPTERA FROM  
PAKISTAN AND ADJOINING AREAS.

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THE following descriptions of new species and a list of Hemiptera are based on the material which has been received for identification during the last few years, mainly from West Pakistan. The list of species shows that the fauna from northern and north-western localities of West Pakistan has substantial affinities with Palaearctic fauna. It gives one a general impression that these areas have a mixture of Oriental and Palaearctic elements. A study on similar lines, but on a much larger scale, would provide more evidence to understand fully the nature and extent of this mixed fauna.

Genus PYLORGUS Stal.

Stal 1874, *Enum. Hem.* 4, 123, 125. Type, *Cimex colon* Thunberg 1784, *Diss. Ent. Nov. Ins. Sp. Sist.*, 3, 57.

*Pylorgus ghanii* sp. n. (Fig. 1.)

In a recent key by Scudder (1962, p. 184) the new species runs to *obscurus* Scudder (*ibid.*, p. 191) described from Philippines, but it differs from the latter in the absence of the brown streaks and the brown median spot on pronotum and having a comparatively shorter head.

*Coloration:* General colour reddish yellow with reddish brown patches mainly on wings; head yellowish brown, in front of each eye a yellow undefined patch, throat with a large deep brown triangular patch lined on sides with yellow; eyes reddish brown, ocelli red; antennæ honey-coloured with first and fourth segments deeply so, becoming almost black elsewhere. Rostrum brown. Pronotum brownish yellow with brown punctures, median impunctate line yellow, calli black backed by yellow patches, humeral angles with black spots extending linearly to one third posterior length of marginal ridge, on lateral side a crescent-shaped black cicatrix just below marginal ridge; scutellum, disc with a central cruciform yellow ridge, depressions yellowish brown with brown punctures. Meso- and meta-pleurites yellowish brown with smaller brown punctures, both having a cicatrix similar to one on prothorax, wax gland opening yellow; tegmen, claval, commissural and apical margins along with triangular area on apical angle and veins partly black, clavus yellowish brown with brown punctures, membrane colourless, transparent with an elongate black spot, veins also colourless; coxæ brown; femora brown with a broad yellow band near base; tibiæ brown with a broad yellow band in middle; tarsi brownish black; abdomen dark brown with some yellow but mostly black patches.

white stripe running on head behind eyes and continuing and widening on to pronotum.

*Measurements in mm.:* Length of head 2.81; length of anteocular 1.80, postocular 0.80; length of eye 0.26, width 0.17; width of head between eyes 0.11; length of first antennal segment 0.60, of second antennal segment 1.15, third and fourth segments missing; length of pronotum 1.70, length of metanotum 1.50; distance between first and second coxæ 0.96 and between second and third 1.50; length of abdomen 4.50; total body length 11.0.

*Structure:* clypeus conical, rostrum extending well beyond eyes; anteocular to postocular as to 48 : 21; dorsal interocular groove shorter than length of an eye, ventral interocular groove deep between eyes but shallow on postocular distance; ratio of first and second segments 16 : 31; pronotum with a collar-like anterior margin having a circular row of pits, posterior lobe with very faint pits on median line, lateral row of about 8 pits, in addition a group of 5-6 pits on pleural part of pronotum; distance between first and second coxæ is to that between second and third coxæ as 26 : 40; first acetabula with a vertical row of three well defined pits anterior to cleft and two pits posterior to cleft, second acetabula with a large pit at its anterior margin ventrally, three not well defined pits in a ventral row anterior to cleft and two posterior to it; third acetabula with a single pit at its middle dorsally. Anterior femora subequal to head; posterior femora attaining apex of abdomen. Abdomen, sixth (visible) segment having a lateral depression with stiff curved hairs, in ventral view with a central triangular raised area surrounded by lateral depression, hind margin swollen, separated from median triangular raised area by a deep transverse sulcus; genital segment with lateral round knob like bulges well shown in dorsal and ventral views, in ventral view central triangular area with side depression, in dorsal view apical pointed process as shown in figures.

Holotype male, on wing Malir (Karachi), *yaqub*, 3. vii. 1962; deposited in the British Museum (N.H.), London.

The new species *Hydrometra yaqubi* differs from *H. maindroni* H. and E. mainly by the presence of lateral depression in addition to a ventral depression (sulcus) and by the knob-like tubercles on the genital segment.

The new species is named after its collector Mr. M. Yaqub of the Department of Plant Protection, Karachi, Pakistan.

#### QADRIVA gen. n.

The new genus superficially resembles *Tatva* Distant (1906, p. 336) but differs in the structures of frons, number of spines on the post tibia and the venation of tegmen.

Vertex slightly wider than long (20 : 16), hexagonal i.e. anterior and posterior margins divided into halves and converging anteriorly, lateral parallel margins straight, all margins sharply carinate, disc markedly concave with a longitudinal faint carina in middle; frons with a well

developed median carina, lateral margins sharply carinate, submarginal carina degenerate, longer than broad (30 : 24); clypeus not carinate but with a gently raised median line; ocelli degenerate, represented by a minute pin-head mark adjacent to antero-ventral angle of eye; sub-antennal process absent, first antennal segment as long as wide, tubercular. Pronotum in middle line about two thirds of length of vertex, more than three times as broad as long, medially carinate with gentle depressions on each side of middle line, lateral lobes expanded with ventral margin markedly raised; mesonotum almost one and half times as long as pronotum, finely medially carinate, lateral carinae short, fine and straight. Post-tibia with a single spine beyond middle, five smaller spines at apex flanked by one larger spine on each side of smaller teeth, basal metatarsal segment with four small and two long spines. Tegmina with anterior and posterior margins converging posteriorly, Sc, and M arising jointly from R base, Sc and R separating from each other at a point one fourth length of tegmen from base in level with union of claval veins, M bifurcating before middle of tegmen but anterior to union of claval veins, claval union at middle of clavus, claval veins joining claval suture just before claval angle. Wings reduced.

Type species, *Qadriva artemisiae* sp. n.

*Qadriva artemisiae* sp. n. (Fig. 5.)

*Colour:* Pale brownish ochraceous, carinae of darker brown colour, anterior carinae of vertex with a dark spot on each side of median line, frons with brownish punctures on sub-marginal area, clypeus with oblique reddish markings; tegmen with an irregular black spot crossing Cu and lying in between Cu and M near middle of tegmen, ill-defined brown markings in clavus near apex and near anterior basal area of tegmen, veins stramineous; other parts of body unicolorous except for spines on legs which are black.

*Measurements in mm.:* Head width including eyes 1.05, width of vertex 0.50, length of head along median line 0.32; frons median length 0.76, maximum width 0.63; pronotum length 0.34, width 1.13; mesonotum length 0.50, width 1.13; total body length 3.10.

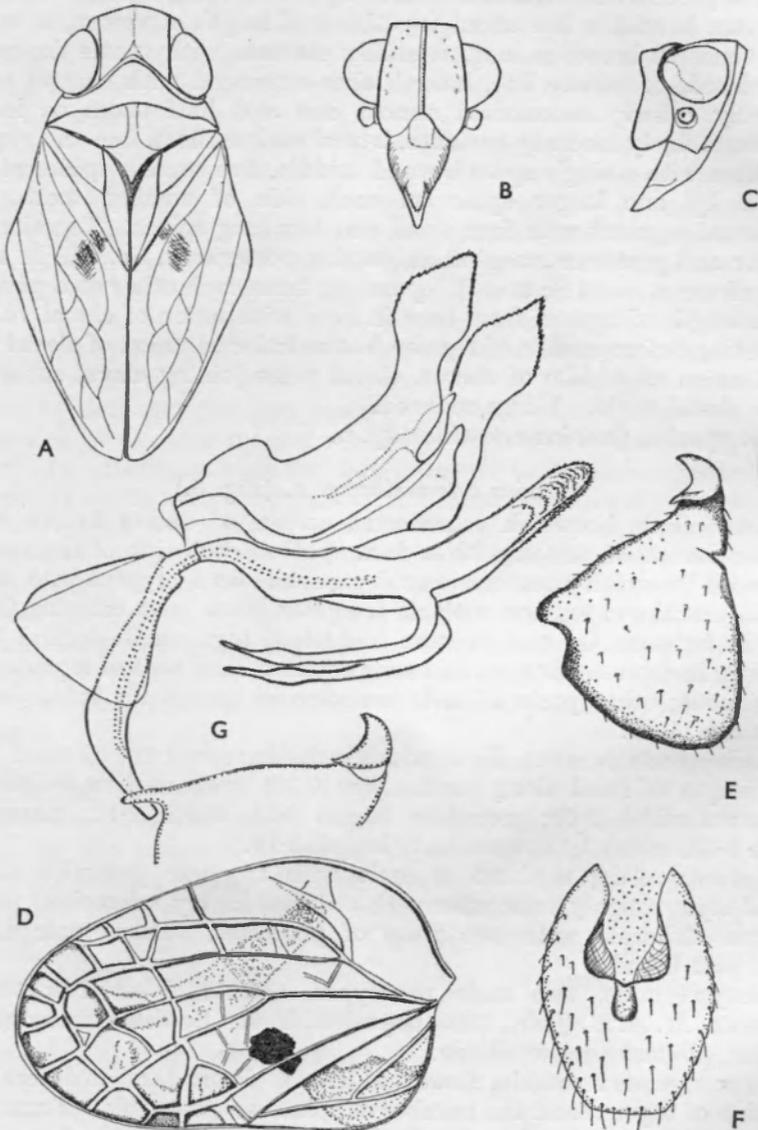
*Structure:* Anal segment of male with truncate posterior margin; genital style roughly triangular with a dorsal highly sclerotised process; aedeagus elaborate with two pairs of processes, ventral pair narrow, dorsal pair broad.

Holotype male, two male paratypes, Quetta, West Pakistan, on *Artemisia*, M. A. H. Qadri, 1963, deposited in the British Museum (N.H.), London. Female not available.

The new genus resembles *Issus* and *Tatva*. From *Issus* it differs in the venation of tegmen and the number of spines on post-tibia. From *Tatva* it mainly differs in the absence of submarginal carinae on the frons, in the venation of tegmen in that the claval veins joins in the middle of clavus unlike *Tatva* where they join distad of middle of clavus, and in having a single spine on post-tibia instead of two as in *Tatva*.

The genus is named after Professor M. A. H. Qadri of Karachi University, West Pakistan, who kindly supplied the material and whose help is gratefully acknowledged.

Fig. 5.



*Qadriva artemisiae* sp. n.

A, dorsal view of body; B, front view of face; C, lateral view of head and pronotum; D, tegmen; E, lateral view of paramere; F, dorsal view of anal segment; G, lateral view of aedeagus.

Genus *EMPOASCA* Walsh.

Walsh 1862, *Prairie Farmer*, 10, 147-149. Type, *Empoasca viridescens* Walsh, *loc. cit.*

*Empoasca bombaxia* sp. n. (Figs. 6 and 7.)

Numerous specimens received from the Government Entomologist, Dacca, East Pakistan, form the basis for the description of this new species. It is interesting to note that superficially it resembles the more commonly found *Empoasca devastans* Distant (1918, p. 93), especially on account of the presence of a dark spot near the apex of cubital cell. This character is shared with *Empoasca terraereginae* Paoli (1936, p. 13) also. However, the shape of the vertex is quite different from the old species, apart from the internal genitalic characters.

Thanks are due to the Entomologist, East Pakistan who sent the material for this description.

Body moderately robust, not delicate.

*Colour*: (As seen from specimens preserved in 70% alcohol) greenish or brownish yellow. One brownish kidney shaped mark on each side of median sulcus of vertex. Eyes, a spot in the apex of cubital cell and apex of ovipositor black; claws brown.

*Measurements in mm.*: Head, width including eyes 0.82 ((0.87 ♀), vertex, length 0.24, width 0.28 (0.30 ♀); pronotum, length 0.41 (0.45 ♀), width at base 0.81 (0.88 ♀); scutellum, length 0.47 (0.54 ♀), width at base 0.54 (0.64 ♀). Length of tegmen 2.76 (2.86 ♀); total body length without tegmen, 2.5 (2.86 ♀).

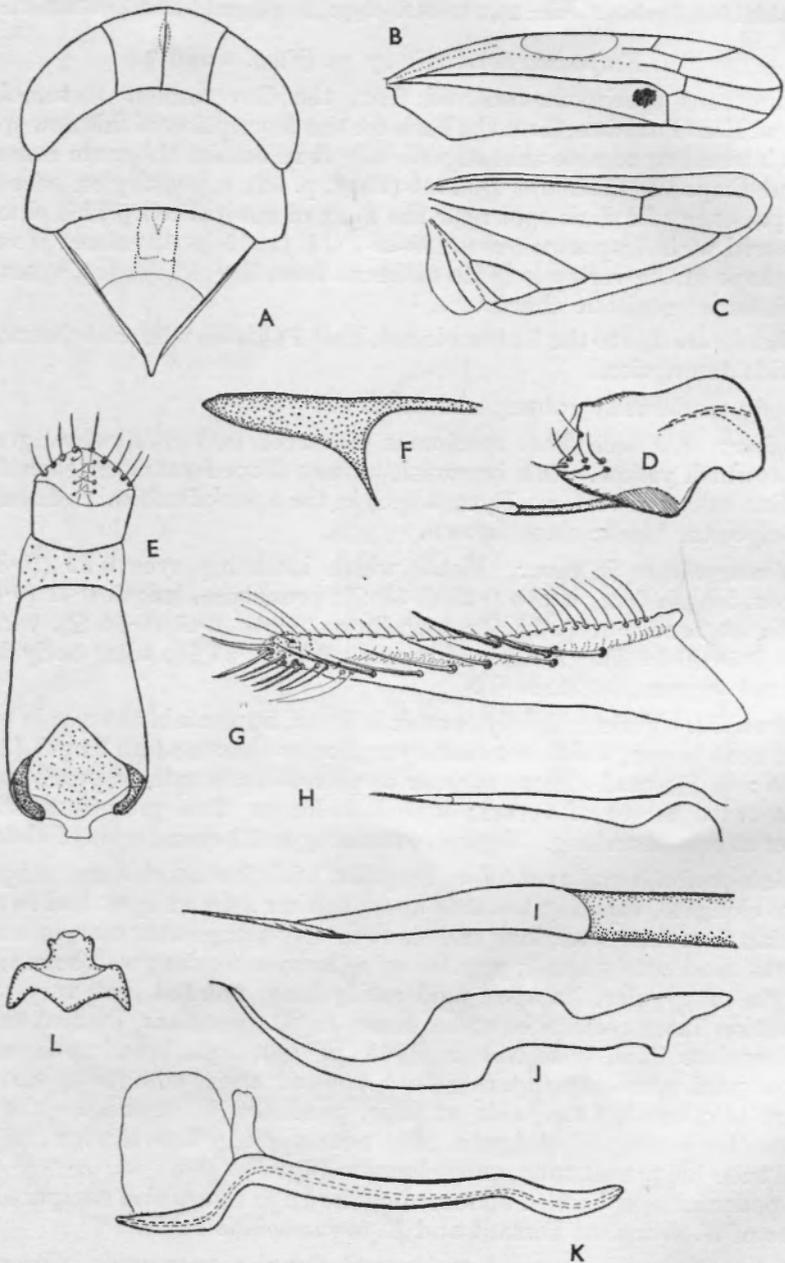
*Structure*: Vertex slightly convex in front, appreciably longer in middle than next to eye, width between eyes shorter than median length (35 : 42 ♂, 35 : 45 ♀); head almost as wide as pronotum, length of pronotum less than twice length of vertex; scutellum longer than pronotum, slightly wider at base than long. Tegmen extending well beyond apex of abdomen.

*Male genitalia and anal tube*: Pygofer, with few short setae, subgenital plate elongate, tapering towards apex, thicker setae at apex and in a long median row, finer setae, long and short mostly along outer margin, number of setae moderately small; pygofer spine long, extending well beyond hind margin of pygofer, its apex moderately long, pointed, not very stiff, a condition intermediate between those in *E. devastans* Distant and *E. terraereginae* Paoli (*vide* Ghauri, 1963, p. 654); style broadest in middle, apical part gradually tapering to a pointed apex, sinuate as shown in figure (J); basal plate, wide at base, produced in centre, as shown in figure (L); aedeagus, elongate, bent near apex in lateral view, (fig. K); anal tube long, anal tube spine elongate (fig. F).

Apodemes near base of abdomen as shown in figure and compared with those of *E. devastans* Distant and *E. terraereginae* Paoli.

Holotype, male, several males and females paratypes, *Government Entomologist, East Pakistan, Dacca, 1964*, on "Simul" (*Bombax malabaricum* DC.); deposited in the British Museum (N.H.), London.

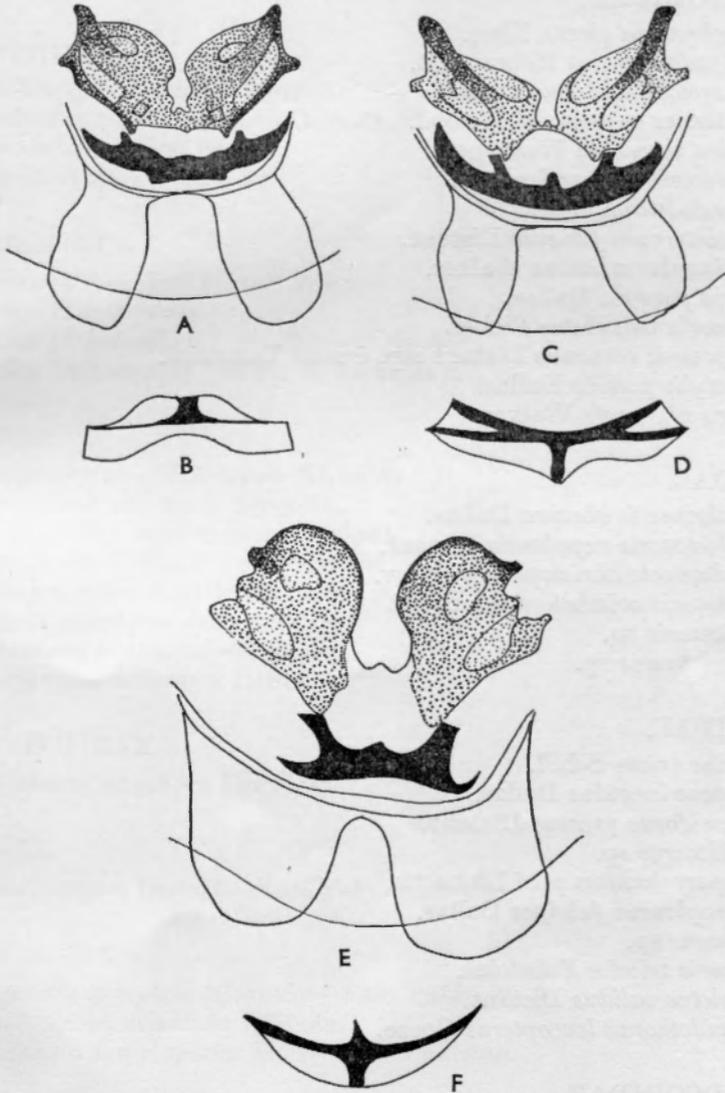
Fig. 6.

*Empoasca bombaxia* sp. n.

A, dorsal view of head and thorax; B, tegmen; C, wing; D, lateral view of pygofer; E, dorsal view of anal tube; F, lateral view of anal spine; G, ventral view of subgenital plate; H, pygofer spine; I, apex of same; J, lateral view of paramere; K, lateral view of aedeagus; L, basal plate.

*Remarks:* Although it resembles *E. devastans* Distant and *E. terraereginae* Paoli, the new species differs from both the species in having narrower vertex, more robust head and thorax, less hairy subgenital plates, much more sinuate style and by the structure of the apex of pygofer spine.

Fig. 7.



A & B, dorsal and ventral apodemes of *Empoasca devastans*; C & D, the same of *E. terraereginae*; E & F, the same of *E. bombaxia* sp. n.

List of Hemiptera from West Pakistan (except where indicated) most of which are considered to be new records.

## CYDNIDAE.

*Amaurocoris* sp.

## PENTATOMIDAE.

*Brachynema virens* Klug.

*Dalpada eremica* Hoberlandt.

*Eysarcoris sindellus* Distant.

*Eusthenes cupreus* Westwood.

*Cazira verrucosa* Westwood.

*Ventocoris* (*Selenodera*) sp.

*Eupododus* sp.

*Placosternum ficusius* Distant.

*Scotinophara limosa* Walker.

*Adria parvula* Dallas.

*Sciocoris maculatus* Fieber.

*Carpocoris coreanus* Distant ssp. *iranus* Tamanini.

*Urostylis pallida* Dallas.

*Hotea nigrorufa* Walker.

## COREIDAE.

*Petalocnemis obscura* Dallas.

*Aschistocoris nepalensis* Distant.

*Haploprocta christophi* Jakovlev.

*Leptocoris coimbatorensis* Gross.

*Coriomeris* sp.

*Megalotomus* sp.

## LYGAEIDAE.

*Nysius ericae* Schill.

*Lygaeus longulus* Dallas.

*Artemidorus pressus* Distant.

*Kleidocerys* sp.

*Rhyparochromus pini* Linnaeus.

*Cosmopleurus fulvipes* Dallas.

*Lethaeus* sp.

*Geocoris tricolor* Fabricius.

*Sadoletus validus* Distant.

*Tropidothorax leucopterus* Goeze.

## PYRRHOCORIDAE.

*Scantius volucris* Gerstaecker.

*Scantius aegyptius* Linnaeus.

## TINGIDAE.

- Copium horvathi* Wagner.  
*Tingis (Tropidocheila) reuteri* Horváth.  
*Monosteira discoidalis* Jakovlev.  
*Corythauma ayyari* Drake.  
*Trachypeplus jacobsoni* Horváth.  
*Monosteira* sp.

## REDUVIIDAE.

- Pirates quadrinotatus* Fabricius.  
*Reduvius fedtschenkianus* Oshanin.  
*Thodelmus falleni* Stål.  
*Vachiria* sp.

## ANTHOCORIDAE.

- Orius (Heterorius) ribauti* Wagner.  
*Orius (Dimorphella)* sp.  
*Orius (Dimorphella) albidipennis* Reuter.  
*Orius (Heterorius) tantilus* Motschulsky.

## MIRIDAE.

- Trigonotylus coelestialium* Kirkaldy.  
*Stenodema sibiricum* Bergroth.  
*Megacoelum mussooriensis* Distant.  
*Lygus gemellatus* Herrich-Schäffer.  
*Campylomma diversicornis* Reuter.  
*Lygus punctatus* Zetterstedt.  
*Deraeocoris punctulatus* Fallen.  
*Eurystylus bellevoeyi* Reuter.

## NOTONECTIDAE.

- Enithares lineatipes* Horváth.

## PLEIDAE.

- Plea pelopea* Distant—East Pakistan.

## DELPHACIDAE.

- Sogatella kolophon* Kirkaldy—East Pakistan.  
*Calligypona simulans* Dlabola.  
*Eoerysa flavocapitata* Muir—East Pakistan.

## CERCOPIDAE.

- Paphnutius rufifrons* Jacobi.

## MEMBRACIDAE.

*Tricentrus kamaonensis* Distant.

## CICADELLIDAE.

*Thaia oryzivora* Ghauri—East Pakistan.

*Psammotettix provincialis* Ribaut.

*Evacanthus repexus* Distant.

*Kolla vesta* Distant.

*Moonia sancita* Distant.

*Drabescus angulatus* Signoret.

*Circulifer guttulatus* Kirshbaum.

*Empoasca formosana* Paoli.

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