
d. Mouse-grey. Fore wing with a patch of short scales below the end of the cell, with a copper-coloured longitudinal streak below it from which two black bands run to inner margin, the inner one oblique, the outer erect; a patch of short black scales beyond the end of the cell, with a small copper spot at its lower extremity; and a dark band from the costa to its upper extremity; a dark band from the costa near the apex; outer area with some dark striae. Hind wing paler.


Family *HEPIALIDÆ.*

Proboscis absent; palpi usually absent. Antennæ very short and filiform. Legs short and without spurs. Fore wing with vein 1 a forming a fork with b or separate; a bar from vein 12 to the costa near the base. Hind wing with 12 veins; 3 internal veins; a bar from vein 12 to the costa near the base; veinlets in the cell of both wings forked. Frenulum absent.

*Larvae* internal feeders in wood or the roots of grasses &c. *

**Key to the Genera.**

a. Palpi present. Fore wing with no bar between vein 1 b and median nervure . . 1. PALPIFER, p. 316.
b. Palpi absent. Fore wing with a bar between vein 1 b and median nervure.
a'. Veins 8, 9, 10 of both wings stalked . . 2. HEPIALISCUS, p. 317.
b'. Vein 10 of both wings not stalked with 8 and 9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3. PHASSUS, p. 318.

**Genus PALPIFER,** nov.

Type, *P. scrotatus,* Moore.

*Range.* Himalayas; Ceylon; Tenasserim.

Palpi large, rounded, and ascending. Antennæ short and setiferous. Legs hairy; tibiae without spurs. Fore wing without a

* Next to the *Hepialidae* would come the *Micropterygidae,* if the Heterocera could be arranged in a linear series.
bar between vein 1 b and the median nervure; veins 7 and 8 and 9 and 10 stalked in both wings, and the veinlets in cell forked.

Hepialis murinus, Moore, P. Z. S. 1879, p. 413; C. & S. no. 1608.
Hepialis taprobanaus, Moore, Lep. Ceyl. iii, p. 545.

Fig. 217.—Palpifer sexnotatus, ♂. 4.
- ♀. Head, pro- and mesothorax dark brown; metathorax fulvous yellow; abdomen black-brown. Fore wing dark red-brown; two white subbasal spots below the median nervure; a round white spot at centre of cell; traces of a postmedial dark line; some ochreous specks on costa near apex; a black speck at centre of inner margin. Hind wing—the basal area fulvous yellow, extending along the costa nearly to apex; the outer area dark red-brown.

Hab. Dharmsala; Sikhim; Ceylon. Exp. 34 millim.

♂. Pale vinous brown; hind part of thorax and 1st segment of abdomen clothed with ochreous hairs. Fore wing with some dark quadrate costal marks, others in and below the cell; an irregular medial band with dentate margin; a series of small marginal lunules and a black spot above outer angle; all these markings with narrow ochreous edges. Hind wing dark vinous brown, ochreous at base; cilia ochreous from anal angle to vein 4.

Hab. Tavoy. Exp. 77 millim.

Genus HEPIALISCUS, nov.

Type, H. nepalensis, Wlk.

Range. Himalayas.

Palpi absent. Antennae short and filiform. Fore wing with veins 1 a and c short and slender; a bar between veins 1 b and c and the median nervure; both wings with veins 8, 9, 10 stalked, and two veinlets in the cell which are bent down and meet near centre of median nervure. Legs short and hairy; tibiae without spurs.

In Hepialus, Fabr., type humulii, vein 8 is given off from the cell in both wings.

Larva feeding in the roots of grasses &c.

Hepialis indicus, Wlk. Cat. vii, p. 1563; C. & S. no. 1606.
Hepialis pauperatus, Wlk. Cat. xxii, p. 593; C. & S. no. 1610;
Butt. II. Het. vi, pl. 108, figs. 6, 7.
Head, thorax, and abdomen greyish or reddish brown. Fore wing greyish or ochreous brown, with four indistinct series of small dark specks or small ring-spots on indistinct pale oblique bands; a submarginal series of specks or ring-spots on pale spots. Hind wing pale fuscous.

Fig. 218.—Hepialidus nepalensis, ♂.

In the form indicus = marcidus black blotches are developed in, beyond, and below the cell of the fore wing.

_Hab._ Simla; Kulu; Nepal; Sikhim. _Exp._, ♂ 44, ♀ 56 millim.

**Genus PHASSUS.**

_Phassus_, _Wlk. Cat._ vii, p. 1596 (1855).
_Endoelesta_, _Feld. Reis. Nov._, _Lep._, _Atl._, pl. 81, fig. 8, _Erk._, p. 4 (1897).

_Type._ _P. hübneri_, Geyer, from Mexico.

_Range._ Mexico; S. America; Africa; Japan; China; throughout India, Ceylon, and Burma; Peru; Borneo.

_Palpi_ absent. _Antennae_ short and filiform. _Fore_ and _mid_ legs fringed with hair on both sides; _hind_ legs aborted in male, the _femur_ and _tibia_ short, the latter with a curved tuft of long hairs, the _tarsus_ more or less aborted, in some species only represented by a bristle. Both wings with veins 8 and 10 stalked; a forked _veinlet_ in the _cell_, and vein 12 fringed with hair. _Fore_ wing with a bar between _vein_ 1 _b_ and _median nerve._

_The prothorax_, consisting of two pieces, is _ankylosed_ to the _mesothorax_ consisting of three pieces, the _metathorax_, consisting of one large piece, being freely movable on the _mesothorax._

_Larva_ bores in trunks of trees.


_Phassus salsettanesis_, _Moore_, _P. Z. S._ 1879, p. 412, pl. 34, fig. 5; _C. & S. no. 1621._

♂. _Head, thorax, and abdomen dull brown._ _Fore wing dull brown_; seven indistinct dark quadrilateral marks on the costa; a triangular dark mark at centre of cell extending downwards along _vein_ 2; two large dark marks in upper end of cell, two small marks in the lower end; four oblique bands of irregular ring-marks across the _marginal area_, the innermost bent below the _costa_, with a white spot at the bend; a number of irregular ring-marks
below the cell. Hind wing dark brown; two very indistinct quadrate marks at apex. The tuft on hind tibia ochreous.

♂. The first postmedial band of fore wing straighter and without the white spot inside it.

Hab. Sikkim; Bombay. Exp., ♀ 70, ♂ 88 millim.

682. Phassus punctimargo, n. sp.

♂. Head and thorax dark red-brown; abdomen duller brown. Fore wing dark red-brown; the inner area, two oblique bands on the outer area, and the outer angle with a glossy leaden tinge; some very indistinct yellowish quadrate marks on the costa; two indistinct postmedial lines, the inner with a white spot inside it beyond the cell, the outer curved at middle; between these two lines is a series of irregular ring-marks; a similar submarginal series; traces of white specks on the outer margin; some indistinct irregular ring-marks on inner area. Hind wing pale brown, with two very indistinct dark marks near the apex; the outer margin dark.

♀. Paler red-brown; fore wing with the white spot absent; the outer postmedial line nearly straight; a series of prominent white spots and streaks on outer margin of both wings more or less conjoined in places and differently developed in the several individuals.

Hab. Sikkim. Exp., ♂ 54, ♀ 90-108 millim. Type in coll. B. M.


Butl. Ill. Het. vi, pl. 106, fig. 3.

Endocyta similis, Feld. Reis. Nov. pl. 81, fig. 3; C. & S. no. 1622.

Head, thorax, and abdomen grey-brown. Fore wing grey-brown; some dark brown quadrate marks along the costa; a triangular brown mark at centre of cell joined below the cell to an oblique irregular brown mark which extends to vein 1 and nearly fills the end of the cell and an area beyond and below it, leaving a curved pale streak from the middle to upper angle of cell; a small spot on vein 1 just before the brown band; a streak beyond the end of the cell; three double oblique bands of more or less coalesced spots, one at end of cell, the second postmedial, the third submarginal. Hind wing fuscous; some brown spots on costa and outer margin near the apex.


684. Phassus purpurascens, Moore, Lep. Ceyl. ii, p. 156, pl. 143, fig. 4;

C. & S. no. 1620.

♀. Differs from damor in the ground-colour of the wings being purplish. Fore wing with a white "comma" mark in the cell before the middle, another at upper end, with from one to four white specks just outside the cell; a black subbasal speck between
veins 1b and c; no brown spot on vein 1b; the triangle in the cell smaller; the oblique streak more diffused. Hind wing without markings. Hind tarsus of male represented by a bristle.

In some specimens the ground-colour of the fore wing is redder brown; a number of white specks are scattered about the wing and incomplete circular black marks appear on the costa and on each side of vein 1b.


♂. Head, thorax, abdomen, and ground-colour of fore wing yellowish flesh-colour or pale grey-brown. Differs from purpurascens in the costal marks of the fore wing being larger and more conjoined. Hind wing flesh-coloured.

♀. Darker; fore wing with the costal marks larger; the hind wing suffused with fuscous and with obscure marks at apex.

In a Burmese specimen the ground-colour of the fore wing is pale brownish yellow, with no white spots in the cell; the hind wing ochreous brown. The species is thus extremely variable, but may chiefly be known by the darker discal markings of fore wing terminating along vein 2.

**Hab.** Sylhet; Bernardmyo, Burma; B. Pegu; Borneo. **Exp.**, ♀ 100, ♀ 154 millim.

♂. Differs from *signifer* in the markings of the fore wing being pale chestnut in colour; the costal markings small; the yellowish-white mark before the middle of the cell triangular or a longitudinal not transverse streak; the spots of the postmedial and submarginal bands rounded not elongated. Hind wing reddish fuscous.

♀. The fore wing greyish or reddish brown.

*Hab.* Canara; Nilgiri plateau, 6000-8000 feet. *Exp.,* ♂ 102, ♀ 126 millim.

687. *Phassus auratus*, n.sp.

♂. Head and thorax black-brown. Fore wing very dark brown; the basal half of the costa and cell brassy yellow, with some brown marks on the costa; a brassy-yellow patch at apex; an indistinct yellowish mark near centre of outer margin; a faint postmedial oblique line with a yellowish-white spot on it at veins 5 and 6. Abdomen and hind wing fuscous, the latter slightly red-brown at apex. Tuft on hind tibia ochreous.


688. *Phassus albofasciatus*, Moore, *P. Z. S.* 1879, p. 413, pl. 34, fig. 8; *C. & S.* no. 1616.

♀. Head and thorax grey-brown. Fore wing grey-brown; an ill-defined greyish-white fascia from the base to the apex; the inner area reddish brown; the whole wing closely covered by waved black stripe and obscure spots and ring-marks. Abdomen and hind wing fuscous.


689. *Phassus viridis*, n.sp.

♂. Head, thorax, fore and mid legs, and fore wing pale sap-green; the last with a small white spot at end of cell and a white speck beyond it. Abdomen, hind wing, and hind legs dark fuscous; the hind wing with the costal edge green. Tibial tuft fuscous.


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*Species formerly recorded as Indian which are omitted.*

*Gorgopis vilis*, Wilk., *C. & S.* no. 1614, is a Tineid of the genus *Alavona.*