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Two new species and a new record of *Hishimonus* ISH. from India

(Insecta, Homoptera, Auchenorrhyncha: Cicadellidae)

With 23 Figures

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Abstract. Two new species, *Hishimonus mayarami* sp. n. and *H. versicolor* sp. n. are described with illustrations. *H. nielsoni* KNIGHT is recorded in India for the first time. A key to the species known from India is provided.

Hishimonus was described by ISHIHARA (1953) with *Thamnotettix sellata* UHLER as type-species. LINDBERG (1958), LINNAVUORI (1960), ISHIHARA (1963), EVANS (1966), NIELSON (1968), SAWAI SINGH (1971), KNIGHT (1970a, 1970b, 1973) have subsequently treated this genus. KNIGHT (1970a) revised the genus and also (1970b) erected two new genera *Litura* and *Naevus* which are closely related to *Hishimonus* and *Hishimonoides*.

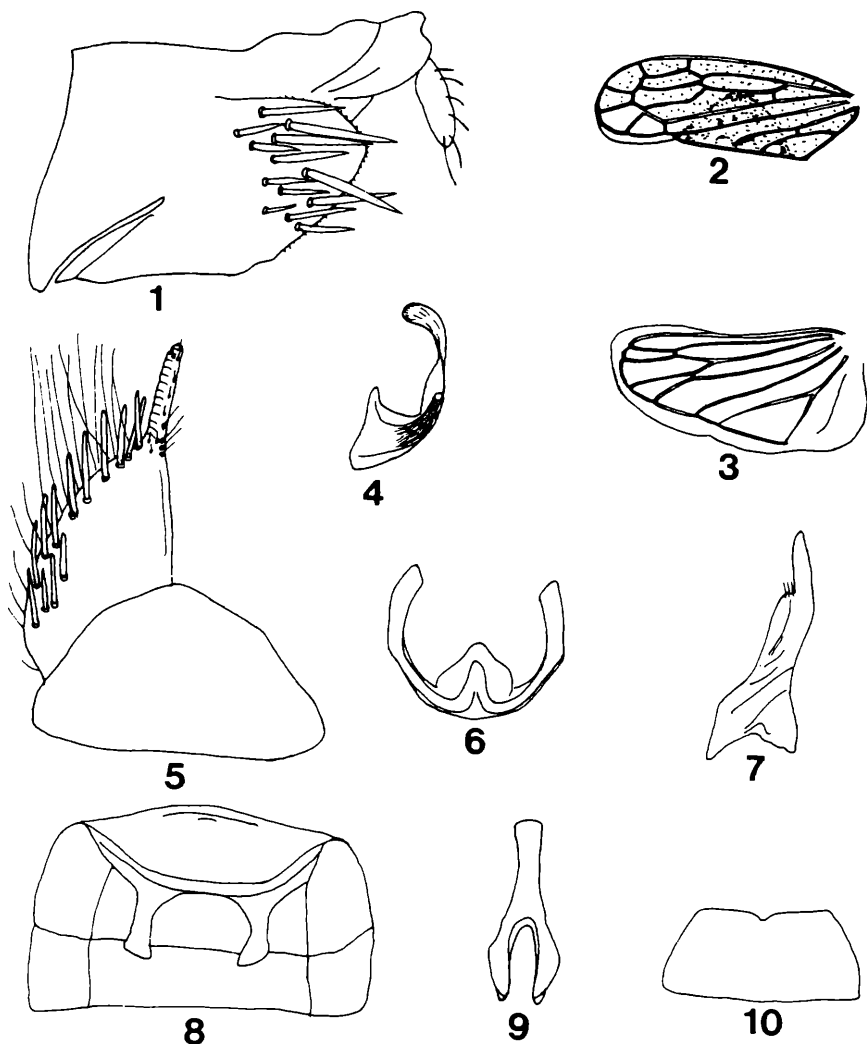
So far 27 species have been described in the genus *Hishimonus*, of which 20 species occur in the Oriental region. Only four species, *H. phycitis* (DIST.), *H. bengalensis* (DIST.), *H. viraktamathi* KNIGHT and *H. indicus* (SOHI) have been found previously in India. Three more species are added in the present paper, two new species and another a new record for India.

Key to the Indian species (excluding *H. bengalensis* (DIST.), recorded so far, only by female holotype specimen)

- | | |
|---|-------------------------------|
| 1 Aedeagus with a pair of basal processes. | 2 |
| — Aedeagus without basal processes. | 4 |
| 2 Aedeagal processes fused basally with the shafts. | H. versicolor sp. n. |
| — Aedeagal processes not fused basally with the shafts. | |
| 3 Aedeagal processes are closely apposed; with a row of small teeth along the lateral surface of processes. | H. viraktamathi KNIGHT |
| — Aedeagal processes are separated wide apart; without any teeth along the lateral surface of processes. | H. indicus (SOHI) |
| 4 Apex of aedeagal shafts filiform, tapered distad of gonopore. | H. nielsoni KNIGHT |
| — Apex of aedeagal shafts broadly rounded or obliquely truncated. | 5 |
| 5 Aedeagal shafts broad, straight, length approximately 2–2.5 times apical width, gonopore adjacent to mesal margin. | H. phycitis (DISTANT) |
| — Aedeagal shafts narrow, curved mesad, length approximately 4 times apical width; gonopore adjacent to lateral margin. | H. mayarami sp. n. |

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Figs. 1–10: *Hishimonus mayarami* sp. n. 1: pygofer, lateral view – 2: fore wing – 3: hind wing – 4: aedeagus, lateral view – 5: valve and subgenital plate – 6: aedeagus, posterior view – 7: style – 8: abdominal apodemes – 9: connective – 10: female sternum VII.

***Hishimonus mayarami* RAMA SUBBA RAO & U. RAMAKRISHNAN, sp. n. (Figs. 1–10)**

Colour Head, pronotum and scutellum yellowish brown. Forewings with a distinct brown semicircular spot against commissural margin extending over distal half of clavus, its margin bordered in part with a dark brown and forming when at rest a distinct circular shaped spot.

External Morphology Head as wide as pronotum. Vertex longer medially, anterior margin sub-acutely rounded. Ocelli on anterior margin, contiguous with eyes. A shallow, pale silvery white furrow on vertex between ocelli. Pronotum longer than length of vertex. Fore wings with four apical and three anteapical cells; claval veins with a cross vein near midlength. Posterior femoral setal pattern is 2–2–1. Abdominal apodemes well developed and extending to sternum IV

Male genitalia Pygofer obtusely rounded, with stout macrosetae on postero-dorsal surface. Subgenital plate tapering to membranous finger-like extension, a row of stout macrosetae submarginally and long filamentous setae marginally. Connective Y-shaped, stem and arms subequal in length. Style apophysis finger like. Aedeagus with shafts broadly curved mesad; gonopore located laterad at mid-length of shaft.

Female sternum VII slightly notched in the middle.

Measurements (mm) of ♂ (♀) Head, width 1.1 (1.2); vertex, width 0.55 (0.55), length 0.35 (0.35); pronotum, width 1.1 (1.2), length 0.55 (0.55); scutellum, width, 0.8 (0.8), length 0.45 (0.45); total length including fore wings 3.55 (3.75).

Types Holotype ♂ — Lonawala (Maharashtra State), light, 4. X. 1986, MAYA RAM; paratype, 1 ♀, same data as holotype, deposited in National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi — 110 012, India.

Remarks In the key to *Hishimonus* species given by KNIGHT (1970a) this species comes near *H. lindbergi* KNIGHT but differs in having the aedeagal shafts much more extended mesally beyond gonopore with latter occupying the outer middle position. The dorsal apodome is also much broader than in *lindbergi*. The external colour and markings are similar to *H. sellatus* (UHL.).

This species is named in honour of Mr MAYA RAM, Division of Entomology, Indian Agricultural Research Institute, New Delhi who collected these specimens.

Hishimonus versicolor RAMA SUBBA RAO & U. RAMAKRISHNAN, sp. n. (Figs. 11–21)

Colour Yellowish green, with whitish maculae and numerous black dots on the fore wings, fuscous apically. The shining opaque spots at the base of vertex, prominent in females than in males.

External morphology Vertex, slightly longer medially, broadly rounded in the anterior margin. Ocelli located from the corresponding eyes by their own diameter. Face much wider than long, clypeus broad and clypellus very narrow, rectangular, width more or less equal to the width of lora. Fore wings with four apical and three anteapical cells. Posterior femoral setal pattern is 2–2–1. Abdominal apodemes well developed extending to sternum IV

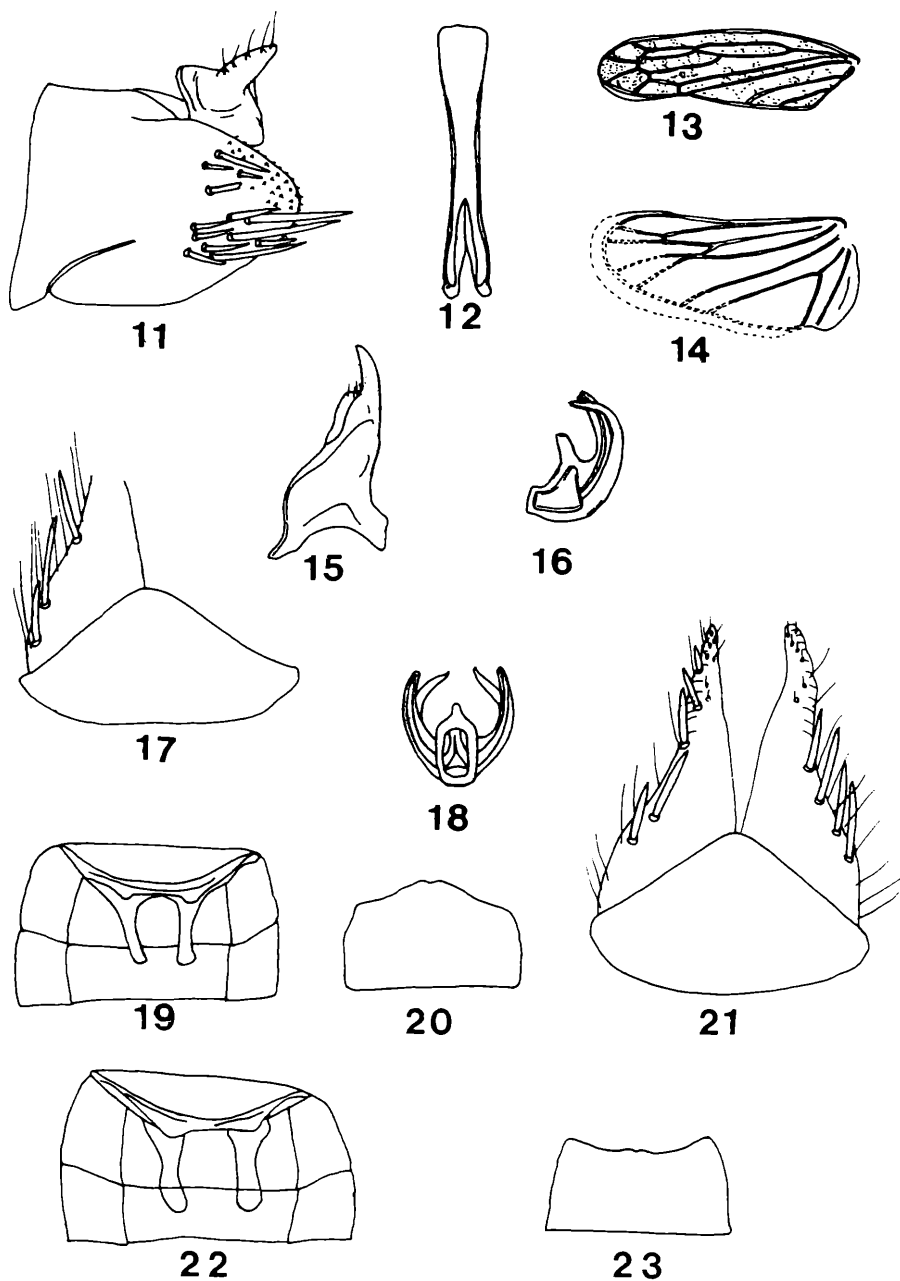
Male genitalia Pygofer subacute and a number of macro- and micro-setae. Subgenital plate triangular, its apical area much narrowed, slightly prolonged and less sclerotized, few submarginal macrosetae and fine long hairs on margin and at apex. Connective stem much elongate, approximately twice the length of arms. Style, apophysis finger-like. Aedeagus with paired shafts, each with pointed process between bases of shafts, fused to and slightly extending the length of latter, with apices turned mesodorsally; gonopores apical.

Measurements (mm) of ♂ (♀) Head, width 1.1 (1.18); vertex, width 0.65 (0.72), length 0.25 (0.29); pronotum, width 1.1 (1.18), length 0.53 (0.57); scutellum, width 0.68 (0.76), length, 0.42 (0.44); total length including forewings 3.5 (3.95).

Types Holotype: ♂ — Delhi, inside lampdome, 15. IV. 1965, R. MENON; paratypes: 8 ♀♀, same data as holotype, deposited in N.P.C., Division of Entomology, IARI, New Delhi — 110 012; 1 ♂ (on permanent slide), 2 ♀♀, same data as holotype deposited in B.M. (N.H.), London.

Besides 3 ♂♂ (only genitalia on permanent slides, specimens lost), with same data as holotype, 3 ♀♀ (abdomen lost), Pusa, Bihar, at light, collected on different dates, H.S. PRUTHI, were also studied.

Remarks This species comes near *H. amabilis* KNIGHT in the key given by KNIGHT (1970a) by having long aedeagal processes between the shafts. The apices of aedeagal processes strongly turned mesoventrally and their length greatly exceeds the length of shafts in *amabilis*, whereas in this species the apices of the processes turned mesodorsally



Figs. 11–21 *Hishimonus versicolor* sp. n. 11 pygofer, lateral view – 12: connective – 13: fore wing – 14: hind wing – 15: style – 16: aedeagus, lateral view – 17: valve and subgenital plate – 18: aedeagus, dorsal view – 19: abdominal apodemes – 20: female sternum VII – 21: valve and subgenital plates (not of holotype). – Figs. 22–23: *Hishimonus nielsoni* KNIGHT. 22: abdominal apodemes – 23: female sternum VII.

which slightly exceeds the length of shafts. Connective stem is shorter than the arms in *amabilis*, but in this species it is twice the length of arms. This species resemble *H. virak-tamathi* KNIGHT and *H. indicus* (SOHI) in lacking a medial spot on the forewings and a membranous finger-like apex to the subgenital plates as well as having the connective stem more elongate, but these species differs with the present species in the shape of aedeagal processes.

***Hishimonus nielsoni* KNIGHT, 1970 (Figs. 22–23)**

Hishimonus nielsoni KNIGHT, 1970a, Ann. Ent. Fenn. 36 (3) 132.

The species was originally described from Ceylon and is here recorded for the first time from India. Abdominal apodemes well developed extending to sternum IV, their apices rounded. Female sternum VII as illustrated here.

Material examined 1 ♂, 1 ♀, Lonawala (Maharashtra State), light, 4. X. 1986, MAYA RAM.

A c k n o w l e d g e m e n t s

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