

TWO NEW SPECIES OF APHIDIIDAE (HYMENOPTERA) FROM INDIA

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(With 1 Text-figure)

Genus: **Lysiphlebia** Stary' & Schlinger.

The genus *Lysiphlebia* was erected by Stary' & Schlinger (1967) for the reception of *Lysiphlebia japonica* (Ashmead), which was previously in the genus *Lysiphlebus* Förster. *Lysiphlebia* differs from *Lysiphlebus* for having the propodeum completely areolated and strongly declivous in its lower part and also in the structure of the petiole. The genus is reported for the first time from India and a new species is described. Key to the species given by Stary' & Schlinger (1967) is also revised to accommodate the new species.

Revised key to the species of the genus Lysiphlebia based on females

- 1—Metacarp (R_1) and pterostigma subequal. Propodeum with a distinct mid-longitudinal carina. Petiole coarsely rugose with a central longitudinal carina. 2.
- Metacarp (R_1) distinctly longer than pterostigma. Propodeum without mid-longitudinal carina. Petiole smooth without central longitudinal carina. *L. mirzai* n.sp.
- 2—Distance between spiracular tubercle and apex of petiole $1/2$ times more than width at spiracles. *L. japonica* (Ashmead)
- Distance between spiracular tubercle and apex of petiole a little shorter than width at spiracles. *L. rugosa* Stary' & Schlinger.

Lysiphlebia mirzai n.sp.¹

(Text-fig. 1, 1-5)

Female

Head.—Brown excepting middle of frons, posterior of occiput and facia which are yellowish brown; clypeus and palpi yellow; transverse, smooth, hairy, wider than thorax width at tegulae (0.442:0.314 mm); occiput margined; temple $1/4$ narrower than eye width (0.128:0.171 mm), equal to clypeo-antennal line; inter-ocular line as long as facial line, distinctly longer than transfacial line (0.30:0.228 mm);

¹ This species is named after Prof. M. B. Mirza, formerly Head, Department of Zoology, Aligarh Muslim University, Aligarh, India.

transfacial line $1/2$ head width; socket-ocular line shorter than socket diameter (0.042: 0.071 mm); malar space $1/3$ of eye length (0.071: 0.20 mm), as wide as mandible width; tentorio-ocular line shorter than intertentorial line (0.074: 0.096 mm); ocular-ocellar line² (OOL): post-ocellar line³ (POL): ant-ocellar line⁴ (AOL) = 9: 6: 4; eyes large, prominent, oval, bare and somewhat convergent towards clypeus; clypeus oval with 10 long hairs.

Antennae.—Scape, pedicel, annellus and underside of first and second flagellar segments yellow, rest brown; 1.28 mm long; 13-14 segmented; first and second flagellar segments subequal, each two and a half times longer than wide; apical segment longer than penultimate segment (0.151: 0.092 mm).

Thorax.—Prothorax yellowish, mesoscutum brown or yellow in the later condition with one brown spot in each parapsis and another on scutal portion between parapsis; tegulae, mesonotal furrow, axillae, anterolateral margins of mesoscutellum and propodeum yellowish, rest brown; parapsidal furrows distinct anteriorly, slightly crenulate, effaced on disc; propodeum (Text-fig. 1, 5) areolated, strongly declivous behind lateral carinae mid-longitudinal carina absent.

Fore wings (Text-fig. 1, 1).—Hyaline; less than three times longer than wide (1.542: 0.557 mm); venation brown except 2r-m; pterostigma yellowish in the middle, four times as long as wide, shorter than meta-carp (R_1) (0.357: 0.457 mm); r & Rs shorter than pterostigma; 2r-m $1/4$ of r & Rs (0.071: 0.285 mm).

Hind wings.—Hyaline; slightly more than five times as long as wide (1.140: 0.214 mm); venation brown; marginal fringe $1/3$ wing width (0.071: 0.214 mm).

Legs.—Yellow, tarsal segments yellowish brown.

Abdomen.—Brown excepting petiole and anterior end of third tergum which are yellow, apex of abdomen brownish black; lanceolate; petiole (Text-fig. 1, 2) two times longer than wide at apex, slightly more than twice as long as wide at spiracular tubercles; distance between spiracular tubercle and apex of petiole about $1/6$ longer than width at spiracles; post-petiolar terga smooth, sparsely hairy; external genitalia (Text-fig. 1, 3) black, third valvulae (Text-fig. 1, 4) with straight dorsal margin and 7 pegs at its tip.

Length.—1.88 mm.

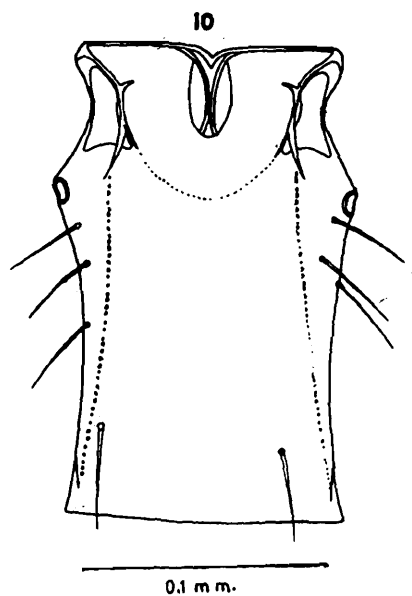
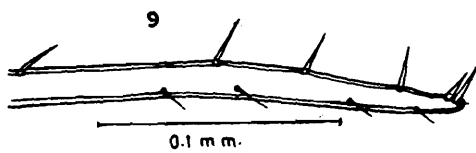
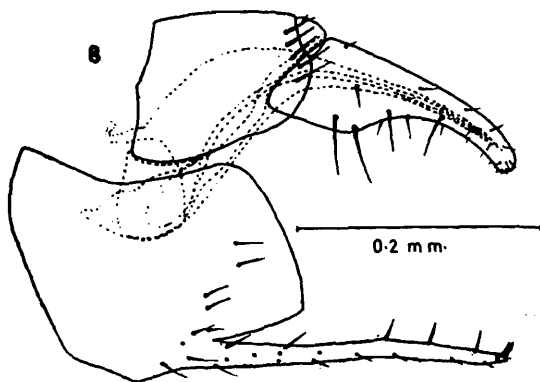
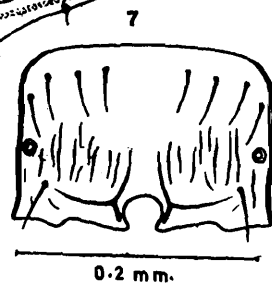
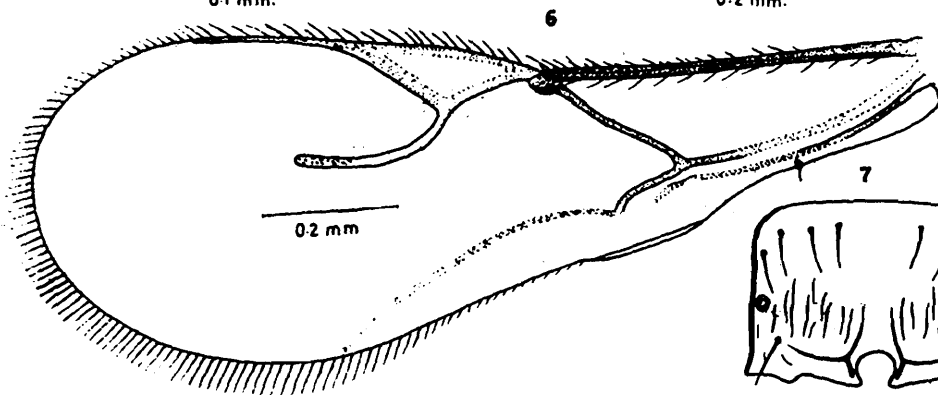
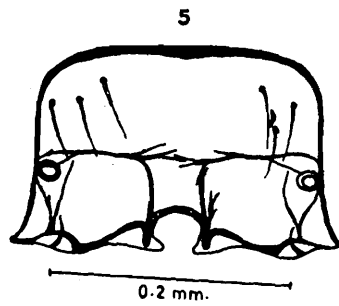
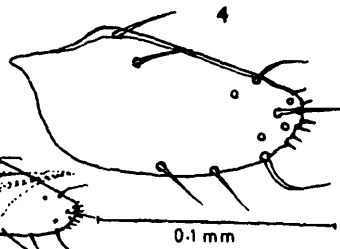
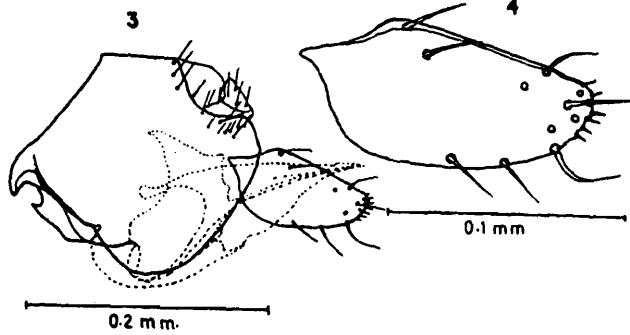
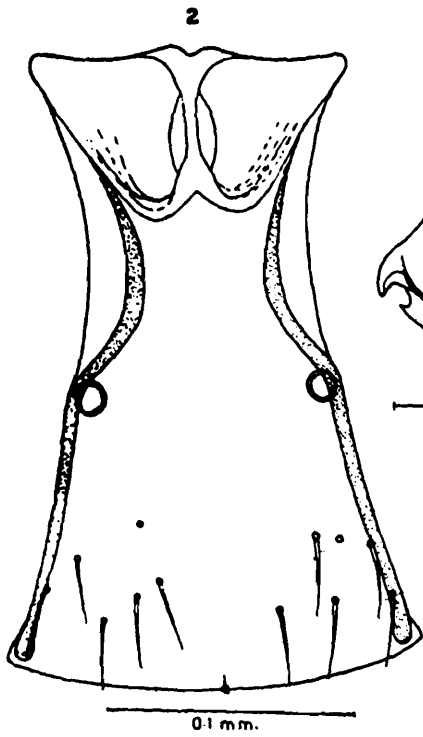
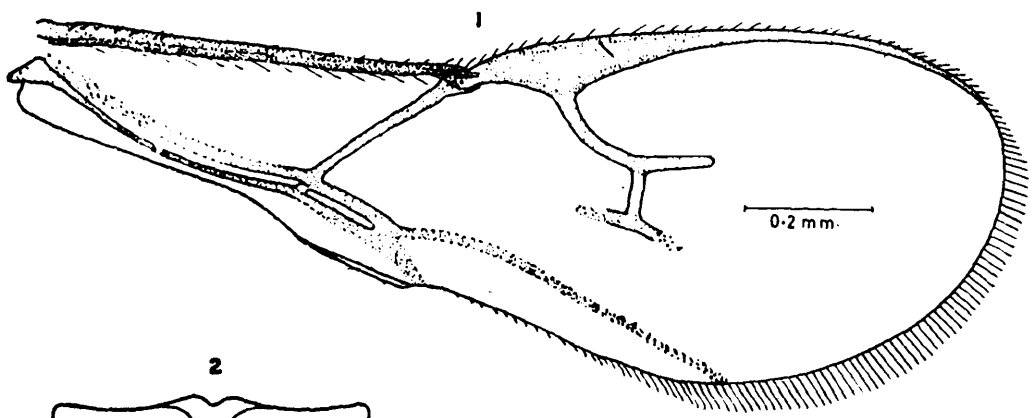
Male.—Resembles female except in the following characters: Antennae 14-15 segmented; coloration dark brown.

Holotype ♀, paratypes, 75♀♀, 25♂♂, INDIA: Uttar Pradesh, Meerut, ex. *Longiunguis sacchari* (Zehnt.) on *Saccharum officinarum* L., 25.11.1968 (*Shuja-uddin*). Types deposited in the Zoological Museum, Aligarh Muslim University, Aligarh.

² Distance from the outer edge of a lateral ocellus to the compound eye.

³ Distance between the inner edges of the two lateral ocelli.

⁴ Distance between the inner edges of anterior and lateral ocellus.



Text-fig. 1-10. (1-5) *Lysiphlebia mirzai* n.sp. ♀, (1) Fore wing, (2) Petiole, (3) External genitalia, (4) Third valvula, (5) Propodeum; (6-10) *Trioxyx* (*Betuloxys*) *intermedius* n.sp. ♀. (6) Fore wing, (7) Propodeum, (8) External genitalia, (9) Prong of the subgenital plate, (10) Petiole.

Genus: **Trixys** Haliday.Subgenus: **Betuloxys** Mackauer.

The subgenus *Betuloxys* was raised by Mackauer (1960) to accommodate *Trixys* (*Betuloxys*) *compressicornis* Ruthe, for having (1) the prongs of the subgenital plate with a knee-bend in the middle and well developed bristles, and (2) petiole parallel sided without spiracular tubercles. The present author, however, considers the second character as non-persistent. Two more species, namely, *Trixys* (*Betuloxys*) *affinis* Mackauer, and *Trixys* (*Betuloxys*) *hortorum* Stary' were added to it. *Trixys* (*Betuloxys*) *intermedius* n. sp. was reared from the aphids infesting *Centaurea iberica* (Trevir) (Star thistle). This is the first record of the subgenus from India. A key to the species of the subgenus *Betuloxys* is proposed.

Key to the species of the subgenus Betuloxys based on females

- 1—Prongs of the subgenital plate distinctly curved upwards before knee-bend. .2
 —Prongs of the subgenital plate straight upto knee-bend. .3
- 2—Propodeum with complete pentagonal areola. Petiole's width at spiracles distinctly greater than width at posterior end. *T* (*B.*) *affinis* Mackauer.
- Propodeum without areola. Petiole's width at spiracles slightly shorter than width at posterior end. *T* (*B.*) *compressicornis* Ruthe.
- 3—Metacarp (R_1) distinctly shorter than r & Rs. Propodeum with complete pentagonal areola. Length of post knee-bend portion of prong two times greater than width of knee-bend. *T* (*B.*) *hortorum* Stary'.
- Metacarp (R_1) subequal to r & Rs. Propodeum without areola. Length of post knee-bend portion of prong six and a half times greater than width of knee-bend. *T* (*B.*) *intermedius* n.sp.

***Trixys* (*Betuloxys*) *intermedius* n.sp.**

(Text-fig. 1, 6-10)

Female

Head.—Dark brown, facia yellowish brown, malar space, clypeus and palpi yellow; transverse, rugulose, sparsely hairy; wider than width of thorax at tegulae (0.385: 0.271 mm); occiput margined; inter-ocular line almost one and a half times longer than transfacial line (0.228: 0.142 mm), shorter than facial line (0.228: 0.271 mm); tentorio-ocular line $1/6$ - $1/7$ of intertentorial line; socket-ocular almost $1/2$ socket diameter; inter-socket line somewhat longer than socket-ocular line (0.037: 0.029 mm); OOL: POL: AOL = 8: 4.5: 3.5; eyes large, oval, bulging, strongly convergent towards clypeus, sparsely hairy; clypeus oval, convex, smooth with 8 long hairs; mandibles width equal to intertentorial line, nearly $1/2$ of clypeoantennal line (0.071: 0.128 mm).

Antennae.—Scape, pedicel, annellus, first flagellar segment yellow, second segment yellowish brown, rest flagellar segments brown and thickened; length 1.285 mm.; 12 segmented; reaching upto base of fifth tergum; first flagellar segment somewhat longer than second segment (0.114: 0.103 mm), each four and a half times longer than wide;

flagellar segments 3-7 almost three times longer than wide; flagellar segments 8 & 9 almost two and a half times longer than wide; apical segment pointed, four times longer than wide.

Thorax.—Dark brown, prothorax and mesosternum yellowish, propodeum and mesopleura brown; mesoscutum falling vertically to prothorax somewhat covering it dorsally; sparsely hairy anteriorly, along margins and effaced parapsidal furrows on disc; parapsidal furrows distinct and crenulate anteriorly, effaced on disc; propodeum (Text-fig. 1, 7) with few rugosities and two semicircular carinae in the lower half.

Legs.—Yellow, pretarsi yellowish brown.

Fore wings (Text-fig. 1, 6).—Hyaline; almost two and a half times longer than wide (1.428:0.514 mm); venation brown; pterostigma yellowish in the middle, three times longer than wide; metacarp (R_1) shorter than pterostigma (0.257: 0.30 mm) and almost as long as r & Rs.

Hind wings.—Hyaline; almost five times longer than wide (1.071: 0.20 mm); marginal fringe $1/3$ wing width.

Abdomen.—Brown excepting petiole, anterior and postero-lateral margins of third tergum and terga 8 & 9 which are yellowish; lanceolate; petiole (Text-fig. 1, 10) smooth, sparsely hairy, one and a half times longer than wide at spiracles, width at spiracles equal to the distance between spiracle and posterior end; external genitalia (Text-fig. 1, 8) yellowish brown, subgenital plate with prongs yellowish; length of post knee-bend portion of prongs six and a half times greater than width of knee-bend (Text-fig. 1, 9).

Length.—1.84 mm.

Male.—Resembles female except in the following characters: Antennae 14 segmented; coloration darker than in the female.

Holotype ♀, paratypes, 12♀♀, 6♂♂, INDIA: Kashmir, Sopore, Wadoora, ex. green aphids on *Centaurea iberica*, 12.9.1969. (*Shuja-uddin*). Types deposited in the Zoological Museum, Aligarh Muslim University, Aligarh.

SUMMARY

The genus *Lysiphlebia* Stary' & Schlinger and the subgenus *Betuloxys* Mackauer (genus *Trioxys* Haliday) are being reported for the first time from the subcontinent of India. Two new species belonging to the above genera are described along with keys for identification of hitherto described species. Alam (1951, '53), Richards (1956), Riegel (1948) and Eady (1968) have been followed for various morphological structures and their terminologies, including wing venation and microsculpture.

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