

**DESCRIPTIONS OF THE LARVAE OF THREE SPECIES OF THE GENUS
ISCHNURA CHARPENTIER, WITH A KEY TO THE PAKISTANI SPECIES
(ZYGOPTERA: COENAGRIONIDAE)**

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Abstract – Ultimate instar larvae of *I. forcipata* are described and illustrated for the first time. For *I. aurora* and *I. elegans*, deviations from the published descriptions are stated. A larval key for the 5 known Pakistani spp. is appended.

Introduction

Five *Ischnura* species are known to occur in Pakistan, they are widely distributed throughout the country (YOUSUF & CHISHTI, 1986; KHALIQ, 1990). However, their larvae are poorly known and were so far habitually identified to the generic level only (CHISHTI, 1988; HUSSAIN, 1988). *I. aurora* (Br.), *I. elegans* (Vander L.) and *I. forcipata* Morton, treated in the present paper, were collected at various localities in Poonch Valley, Azad Kashmir, in the summer season of 1993.

Methods

The mature larvae were collected and reared in

small containers, as described by NOVELO-GUTIERREZ (1992), but no special food was offered to them in the aquaria. In order to provide the food, at alternate days the water was changed with fresh stream water.

***Ischnura forcipata* Morton – (Fig. 1)**

Material: 34 specimens, collected at the grassy banks of stagnant and slowly running water, Banjosa (alt. 1960 m), 16/26-VI-1993; and Harighale (alt. 1060 m), 4/7-VII-1993.

Larvae are blackish-yellow in colour.

Head wider than long, its hind angles rounded. Eyes medium-sized, almost rounded, lateral in position with a black area spreading inward from them. Antennae 7-segmented, scape and pedicel blackish-yellow, flagellum white. Labium with its hinge reaching slightly beyond the mesocoxae, median lobe smooth, triangular, movable hooks strong, curving inwards, nearly as long as lateral setae, mental and lateral setae 3 and 5 respec-

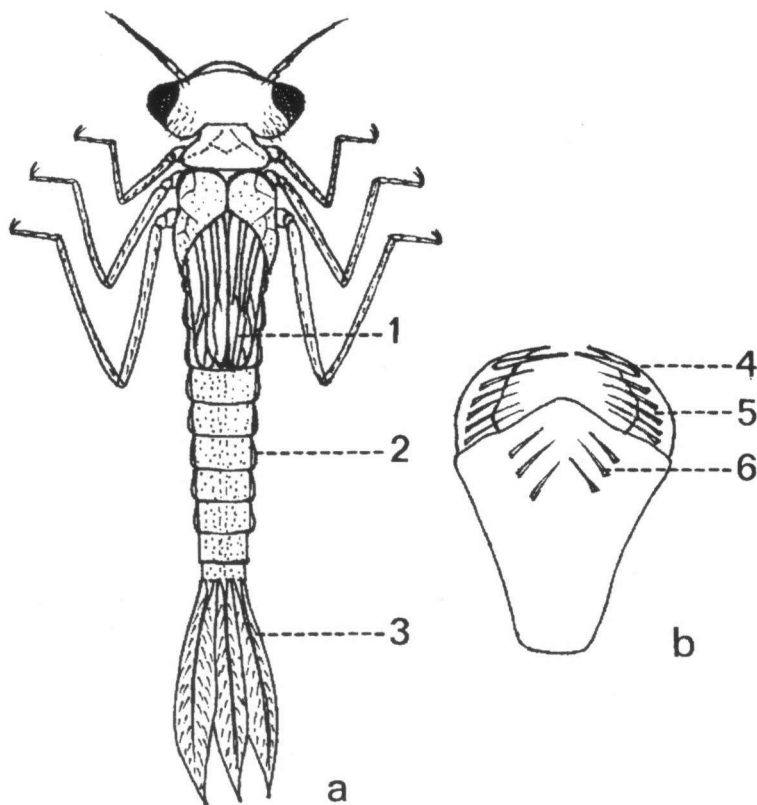


Fig. 1. *Ischnura forcipata* Morton, ultimate instar larva: (a) general aspect [1: wind-pad, 2: carination, 3: caudal lamellae]; – (b) labium [4: movable hook, 5: lateral setae, 6: mental setae].

tively.

Prothorax slightly narrower than hind margin of head. Wing-pads parallel, reaching up to 3rd abdominal segment. Legs long and slender.

Abdomen dotted with very minute black spots on dorsum, segments 1-8 with lateral carination. Caudal lamellae with minute spines laterally, divided into two parts by a strong midrib.

Measurements (in mm): Body 14.80; head (length) 1.50, (width) 2.45; distance between antennae 1.45; thorax 2.90; abdomen 7.05; lamellae 3.35.

Ischnura aurora (Br.)

Material: 51 specimens, collected at muddy and

grassy margins of slowly running and stagnant waters, Banjosa (alt. 1960 m), 25/30-VII-1993; and Harighale (alt. 1060 m), 7/10-VIII-1993, 18-IX-1993.

It differs from the published descriptions (KUMAR, 1973; ROWE, 1987) in the following characters:

Head slightly wider than long, its hind angles rounded. Eyes medium-sized, lateral in position. Labium with its hinge reaching slightly beyond the mesocoxae, its median lobe triangular. Prothorax slightly narrower than hind margin of head; mesothorax compressed laterally, raised above. Wing-pads parallel, reaching just beyond the middle of 4th abdominal segment. Legs me-

dium-sized. Abdomen somewhat rounded and dotted with small black spots on dorsum, segments 1-8 with lateral carination.

Measurements (in mm): Body 12.07; head (length) 1.36, (width) 1.80; distance between antennae 1.07; thorax 2.56; abdomen 5.67; lamellae 2.48.

***Ischnura elegans* (Vander L.)**

Material: 4 specimens, collected along weedy margins in rice field channels, Harighale (alt. 1060 m), 8-VII-1993.

It differs from the published description (LUCAS, 1930) in the following characters:

Head with its hind angles rounded. Eyes small, rounded, wider than long, lateral in position. Antennae with scape shorter than pedicel, flagellar segments transparent. Labium with its hinge reaching slightly beyond the mesocoxae. Wing-pads parallel, reaching up to the end of 4th abdominal segment. Legs medium-sized, its hind femora reaching up to the middle of 4th abdominal segment. Abdomen dotted with minute black spots on dorsum, segments 1-8 with lateral carination.

Measurements (in mm): Body 12.10; head (length) 1.65, (width) 2.70; distance between antennae 0.85; thorax 2.20; abdomen 6.05; lamellae 2.20.

Larval key to the *Ischnura* species of Pakistan

- 1 Labial hinge reaching up to procoxae; 3 crescent-shaped markings in the middle of head *senegalensis* (Ramb.)
- Labial hinge reaching slightly beyond or up to mesocoxae; crescent-shaped markings absent

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- 2 Labium with 5 mental setae and its hinge reaching up to mesocoxae *fountaineae* Morton
- Labium with 3-4 mental setae and its hinge reaching slightly beyond the mesocoxae 3
- 3 Labium with 3 mental setae; wing-pads reaching up to 3rd abdominal segment *forcipata* Morton
- Labium with 4 mental setae; wing-pads reaching beyond the 3rd abdominal segment 4
- 4 Flagellar segments transparent; mesothorax not compressed laterally or raised above *elegans* (Vander L.)
- Flagellar segments not transparent; mesothorax compressed laterally and raised above *aurora* (Br.)

References – CHISHTI, M.J.K., 1988, *Odonate naiads of the Punjab province*, M.Sc. (Hons) thesis, Dept Agric. Ent., Univ. Agric., Faisalabad; – HUSSAIN, R., 1988, *Odonate naiads of the Sind province*, M.Sc. (Hons) thesis, Dept Agric. Ent., Univ. Agric., Faisalabad; – KHALIQ, A., 1990, *Taxonomic studies on Zygoptera (Odonata) of Pakistan*, PhD thesis, Dept Agric. Ent., Univ. Agric., Faisalabad; – KUMAR, A., 1973, *Oriental Insects* 7(1): 83-118; – LUCAS, W.J., 1930, *The aquatic (naiad) stage of the British dragonflies (Paraneuroptera)*, Ray Soc., London; – NOVELO-GUTIERREZ, R., 1992, *Odonatologica* 21(1): 39-71; – ROWE, R., 1987, *The dragonflies of New Zealand*, Auckland Univ. Press, Auckland; – YOUSUF, M. & M.Y. CHISHTI, 1986, *Notul. odonatol.* 2(8): 135-136.

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