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A note on *Turnicola* sp. (Ischnocera: Phthiraptera: Insecta) infesting *Turnix suscitator* (Turnicidae)

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Abstract

Ischnoceran louse belonging to genus *Turnicola* were collected from *Turnix suscitator* (Turnicidae) in district Rampur. The morphological features of all the three species recorded from Turnices so far have not been adequately described. Difficulties arising in taxonomic categorization of the specimens of *Turnicola* and preparation of key of genus have been discussed in the paper. The specimens collected during present studies resembled to *T. angustissimus*

Keywords: *Biting louse, Insecta, Ischnocera, Phthiraptera, Turnicola, Turnix louse*

Introduction

Giebel (1866) recorded the ischnoceran louse, *Lipeurus angustissimus* from *Turnix nigricollis* and *L. platyclypeatus* from *Turnix suscitator*. Piaget (1885) recorded *L.nigrolineatus* from *Turnix sylvatica*. However, Clay and Minertzhagen (1938) created the genus *Turnicola* and regarded the aforesaid three ischnoceran species, as member of this genus. Thus, a look on the checklist of Price *et al.* (2003) indicates that the genus *Turnicola* includes only three species (*T. angustissimus*, *T. nigrolineatus* and *T. platyclypeatus*), occurring on Turnices. In India Lakshminarayan (1979) recorded only *T. angustissimus* from *T. suscitator*. According to Clay (1938) genus *Turnicola* is characterized by the presence of vertical bar (passing through the centre) in the pre-antennal region of head, distinct clypeal structure (prolonged inwards across the dorsal surface of head as semilunar suture), large clypeal area with internal band curving towards each other anteriorly (and fusing just posterior to the suture dividing the semicircular anterior portion of head). However, a look on the available literature (indicated in Table 1) suggests that morphological features of the *T. angustissimus* have yet not been adequately described by the authors. Several additional features of the louse, including the chaetotaxy deserved further description. Hence, present report provides further information of morphological features of *T. angustissimus.*

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Materials and Method

Lice were collected from two host bird *Turnix suscitator* (in district Rampur, U.P. India during 2007) were subjected to dehydration (ethanol series), clearing (clove oil) and mounting (Canada Balsam) (Palma, 1978) for light microscopy.

Results and Discussion

The specimens collected from *T. suscitator* largely resemble to *Turnicola angustissimus* in morphological characters. However, following addition features observed in the specimens deserve supplementation. Marginal carina laterally thickened but absent medially. Hyaline margin surrounded by thin, prominent anterior rim. The pre-antennal nodi medium sized and not bulbous. Conus well developed post-antennal nodus medium sized, eyes distinct. Antennae monomorphic, long but three flagellomeres not equal sized. Temple margin rounded laterally but

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posterior margin of head straight. The median bar present on head merges with arc shaped ridge occurring below the premarginal carina. Mesothoracic spiracle has migrated forward and lies pleurally close to the posterior margin of the prothorax. Size of abdominal segment Ist is slightly smaller than abdominal segment IInd and bulging on the sides. Abdominal segment Ist and IInd completely separate.Tergopleurites fused medially. Vertical sclerotized plates are present in middle from IV to VII segment in females and from IIIrd to Vth in males. In males, the head is

Table 1: Comparative account of morphological features of three species of *Turnicola* (based on available literature)

Characters	*T. platyclypeatus* (Piaget, 1880)	*T. nigrolineatus* (Piaget, 1885)	*T. angustissimus* (Giebel, 1866)
Head	4 fine hair in front	Bare, rounded in front	Elongate, rounded anterior margin
Trabeculae	Short	Short	Small, pointed
Antenna	Last 3 articles equal sized.	Last article longer than 4th.	Filiform, monomorphic
Clypeus	Separated by suture, constricted on sides, flattened into thin colorless stripes	?	clypeal suture prolonged inwards across dorsal surface of head
Occiput	Hardly retractable	Prominent	
Occipetal Stripes	Straight and curved into a hook at the base	Curved backwards	Occipetal bands distinct.
Prothorax	Trapeziform, bare with marginal stripes	Trapezoid	
Mesothorax	Marked by lateral bulge	?	?
Metathorax	pointed on the abdomen. 2 bristles; a marginal stripes curved into hook	Bare, convex on the abdomen, with pointed angles, with a marginal stripes	Pterothorax short and diverging posteriorly.
Abdomen shape	Lanceolate	Oval, elongated	Narrow, elongated
Ist segment	Bulging on sides	Ist broader than IInd, rounded laterally	Ist short
Ist-VIIth	More or less of same length, Bare, except at the last angles; a small median mark in the shape of ossicle; lateral stripes enter fairly far into anterior segments	IInd with a small rounded mark. IIIrd-VIIth with small median mark in form of ossicle. Broadest at IIIrd and IVth, prominent angles	Pleurites narrow, distinct, with re-entrant heads.
VIIIth-IXth	Shorter, a mark taking shape of pincer. Last one bilobate, fringed with fine hairs.	VIIIth colorless. IXth shorter deeply notched with 2 longitudinal marks	9 rounded, bilobed posteriorly.

conical and carries eight setae in front, in which four setae are present infront of anterior part of frons, one between premarginal carina and post marginal carina , one above the pulvinus and two near the margin of postmarginal carina. Besides, one seta occurs near that lingual sclerite. One ocular seta, one sub-ocular seta and one temporal seta also occur on each half. In females, there are five setae in front of frons instead of eight. Prothorax quadrangular and bare. Posterior margin of pterothorax slightly convex with marginal strips and having two distinct setal pairs on postero-lateral margin. Two large setae present between these pair in both sexes. Abdomen lanceolate. Male chaetotaxy, Tergal setae I, 1; II, 1; II, 2; IV, 2; V, 2; VI, 2; VII, 0; IX, 1. Sternal setae II, 1; III, 1; IV, 1; V, 1; VI 1. Pleural setae III, 1; IV, 1; V, 2; VI, 2; VII, 2; VIII, 2. Post spiracular setae present from IInd to VIIth segments. The semi circular terminal segment bears 5+5 setae (Fig. 1)

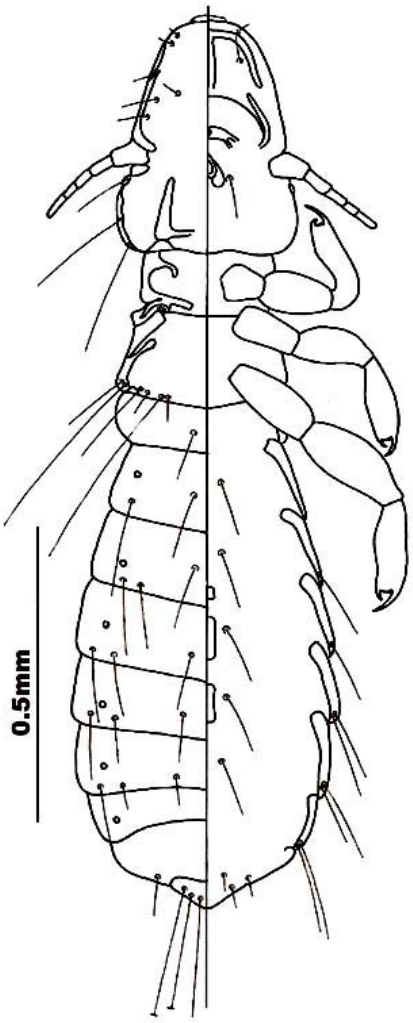

Fig. 1

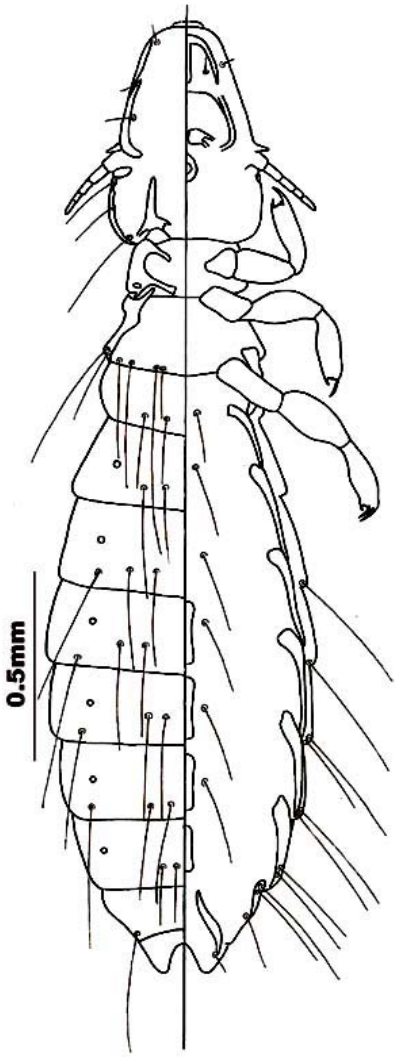

Fig. 2

Fig. 1: ***Turnicola Sp.*** **Adult Male**

Fig. 2: ***Turnicola Sp.*** **Adult Female**

Female chaetotaxy, Tergal setae I, 2; II, 2; III, 2; IV, 2; V, 2; VI, 2; VII, 2; VIII, 1. Sternal setae I, 1; II, 1; III, 1; IV, 1; V, 1; VI, 1; VII, 0; VIII, 0. Pleural setae III, 1; IV, 1; V, 2; VI, 2; VII, 2; VIII, 2. Post spiracular setae present from IIIrd to VIth segments. Terminal segment bilobed, beset with arc shaped chitinized plate. Vulval margin fringed with four fine hair on the posterior side and one on lateral side (Fig. 2). A scrutiny of description of all the three species of *Turnicola* clearly suggested that the authors have given only a brief account of morphological features of respective species. Even the chaetotaxy has not been described in any case. Hence, the available account does not permit comparative study of the three species so as to formulate a key. An examination of the holotype (if available) may indicate that the remaining two species may be synonyms. Nevertheless, the specimens collected during present studies from *T. suscitator* appear to be closely related to *T. angustissimus* and present report provides supplements morphological features of the louse.

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