

ON A COLLECTION OF CHIRONOMIDS (DIPTERA :
CHIRONOMIDAE) FROM TIBET

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ABSTRACT

Three new species, *Chironomus sinuosus* n. sp., *Paratanytarsus sinensis* n. sp. and *Tanytarsus pectus* n. sp. are described from a collection of Tibet (China.)

INTRODUCTION

Whilst studying the collections of chironomid midges at the Zoological Survey of India, Calcutta, the senior author was requested to go through a collection of unidentified pinned insects from Tibet. On enquiry, it was reported that the insects were deposited as such by a team of Ramkrishna Mission led by Swami Pranavananda which visited Tibet (now in China) in May 1946. Some of the insects were mounted on microslides in the usual manner (Chaudhuri, Guha, and Das Gupta, 1981) and the others were kept as such. The chironomid midges were found to belong to three species of genera such as *Chironomus* Meigen, *Paratanytarsus* Bause and *Tanytarsus* van der Wulp.

The slide-mounts and the others are now in the collection of insects at the Zoological Survey of India, Calcutta.

In describing the species the works of Guha and Chaudhuri (1980) and Saether (1980) have been followed.

***Chironomus sinuosus* n. sp.**

(Figs. 1a-c)

Male : Body length 8.19 mm

Head : Vertex with 29 (postocular 16, outer verticals 10 and inner verticals 3) setae. Corona without seta. Clypeal ratio 1.0. Maxillary palp yellow, length ratio of palpomeres 1-V 4 : 4 : 18 : 18 : 25, L/W 4.5, Eyes bare, reniform with a short dorsal extension. Frontal tubercle elongated 0.36 mm.

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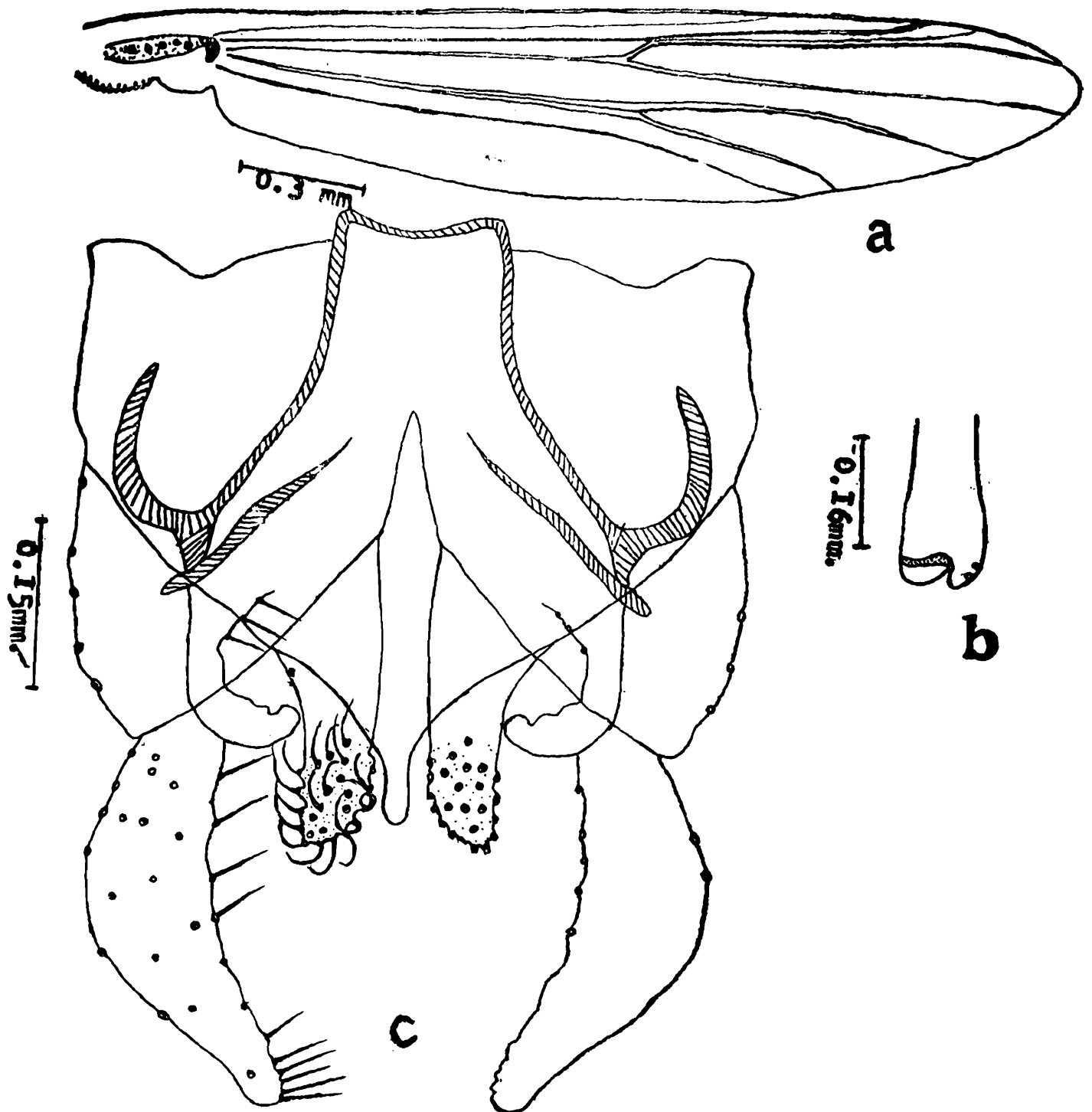


Fig. 1.

Figs. 1a-c. *Chironomus sinuosus* n. sp. (♂) a. wing, b. fore tibial scale and c. hypopygium.

Antenna densely setaceous, last flagellomeres unusually long, length ratio of flagelloemeres 1-XI 3 : 2 : 1 : 5 : 1.5 : 1.5 : 1.5 : 1.5 : 1 : 1 : 1 113, AR 7.01.CA 0.4, CP 1.5.

Thorax : Dark brown in colour. Anteprenotum collar-like with a dorsal emargination. Acrostichals 80-85 in rows, dorsocentrals 50-55 and prealars 8. Scutellum with 90-95 setae, postscutellum bare.

Wings (Fig. 1a) : Hyaline. Brachiolum with 5 setae. R with 10-12, R₁, 2-4 and R₄₊₅ with 2-4 setae ; R₂₊₃ ends close to R₁ ; r-m proximal to f-cu ; An ends below f-cu. Squama with 30-35 setae. Haltere brown and bare. CR 0.98, VR 1.07.

Legs : Brown in colour. Fore tibial scale (Fig. 1b) blunt bearing 2 setae. Spurs of mid tibia small, equal and those of hind tibia unequal, inner spur shorter. Pulvilli large. LR 1.28 in fore, 0.55 in mid and 0.59 in hind legs. TR of hind leg 1.45.

Abdomen : Dark brown in colour with uniformly distributed setae.

Hypopygium : (Fig. 1c) : Anal point blunt with 6-7 setae on each basal margin. Gonocoxite with 15-20 setae ; gonostylus attenuated towards distal bearing 15-20 long setae over it and 6 setae at its inner apical margin. Appendage 1 slender, blunt and incurved, appendage 2 stout and straight with 25-30 curved setae. HR 1.26, HV 2.27.

Female : Unknown

Holotype : ♂ (Z.S.I. Reg. 6602/46), Harm Lake (4481 m above sea level), Tibet (China), 12.v.1946, Coll. P. I. R. M.

Paratype : 4 ♂♂, data same as holotype, in the department of Zoology, University of Burdwan.

Remarks : This is a dark coloured

medium to large sized insect of the genus *Chironomus* Meigen. In certain morphological features, especially concerning the male hypopygium, such as the slender abrupt attenuation of gonostylus and appendage 2 shows closeness with *C. bipunctus* Johannsen (1932) from Java, *C. congolensis* Goetghebuer (1936). *C. sinuosus* comes close to *C. linearis* Kieffer (1911) in shape of the gonocoxite, chaetotaxy of appendage 1. Similarly the shape of anal point and shape of appendage 2 of *C. formosipennis* draws affinities with *C. sinuosus*. Number of setae on vertex, reniform dorsally extended eye, elongated frontal tubercle, chaetotaxy on thorax, brachiolum with 5 setae, squama with 30-35 setae, number of setae on veins, blunt fore tibial scale with 2 apical setae, large pulvilli ; shape of gonostylus with 8 apical setae, blunt, incurved slender appendage 1 and stout straight appendage 2 with 25-30 setae, blunt anal point, readily mark its consideration as a new species quite different from others described prior to it.

Paratanytarsus sinensis n. sp.

(Figs. 2a-c)

Male : Body length 3.93 mm

Head : Dark brown colour. Vertex dark brown with 8 (postoculars 2, outer verticals 2 and inner verticals 2) setae. Corona with 4 setae. Maxillary palp brown, length ratio of palpomeres I-V 2 : 3 : 12 : 10 : 10 ; L/W 6.0. Eyes bare and extended dorsally. Frontal tubercle absent. Antenna brown, length ratio of I-XIII 4 : 2 : 2 : 2.5 : 3 : 3 : 3 : 3 : 5 : 4 : 4 : 4.5 : 52, Ar 1.1. Pedicel ratio 1.1 CA, 0.3, CP 1.0.

Thorax : Brown in colour having dark brown patches. Acrostichals 12-14 in

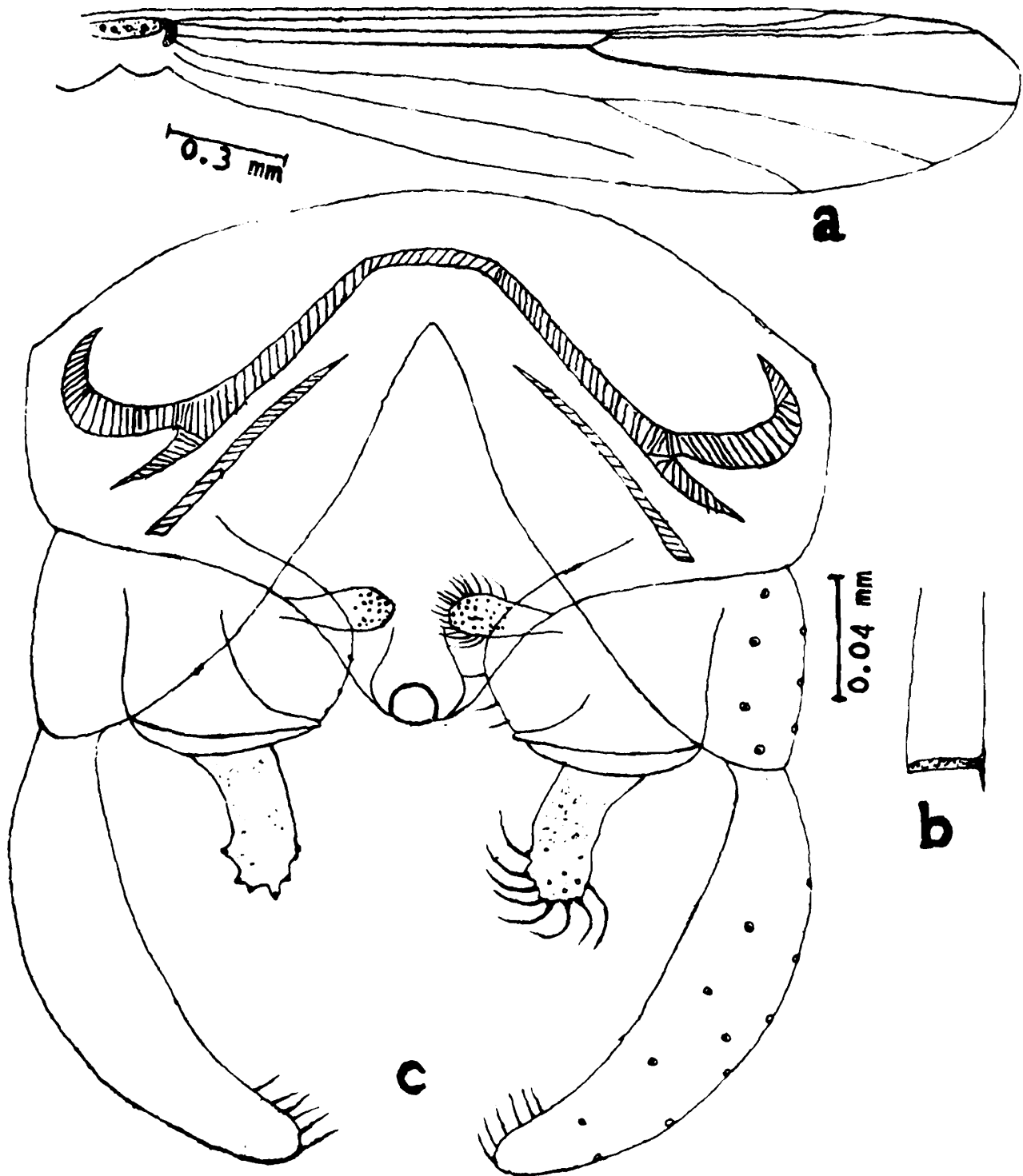


Fig. 2

Figs. 2a-c. *Paratanytarsus sinensis* n. sp. (♂) a. wing, b. fore tibial scale and c. hypopygium.

pairs dorsocentrals 12-14, humeral 1 and prealars 3. Scutellum with 8-10 setae, postscutellum bare.

Wing (Fig. 2a): Wing membrane with macrotrichia at the apex. Brachiolum with 4 setae. R with 15, R_1 , 5 and R_{4+5} with 4 setae; R_{2+3} scarcely visible; r-m a little proximal to f-cu; An ends distal to f-cu. Squama bare. Haltere brown and bare. CR 1.1, VR 1.06. Wing length 3.0mm, breadth 0.69 mm.

Legs: Brown in colour. Fore tibial scale (Fig. 2b) with a short spine. Mid and hind tibia with 1 seta at each comb, LR0.9 in fore, LR0.4 in mid and LR0.5 in hind leg.

Hypopygium (2c): Anal point short with a bubble like crest. Appendage 1 more or less clubbed, appendage 2 long bearing curved setae; appendage 1a beak-like with 2-3 setae at its base, appendage 2a stout bearing unbranched setae at its apex. Gonocoxite short; gonostylus elongated and bent bearing 6 setae at its inner apical margin. HR 0.7, HV 0.5.

Female: Unknown

Holotype ♂ (Z. S. I. Reg. 6603/46), Harm lake (4481 m above sea level), Tibet (China), 12.v.1946, Coll. P. I. R. M.

Paratype 3 ♂♂, date same as holotype, in the department of Zoology, University of Burdwan.

Remarks: The present species appears to be closely related to *Paratanytarsus paivus* Glover and *P. jefferyi* Glover (1973) from Australia in distribution of macrotrichia on wing and structure of gonocoxite and gonostylus. But the characters like, i) absence of frontal tubercle ii) with dark brown patches on the thorax, iii) number of macrotrichia on the wing membrane, iv) R_{2+3}

scarcely visible, v) brown and bare haltere, vi) fore tibial scale with a short spine, vii) long gonostylus, viii) short anal point with a bubble like crest, ix) more or less clubbed appendage 1, beak like appendage 1a with 2-3 setae at base; appendage 2 long bearing curved setae etc. separate *sinensis* from all other described species.

Tanytarsus pectus n. sp.

(Figs. 3a-c)

Male: Body length 4.3 mm

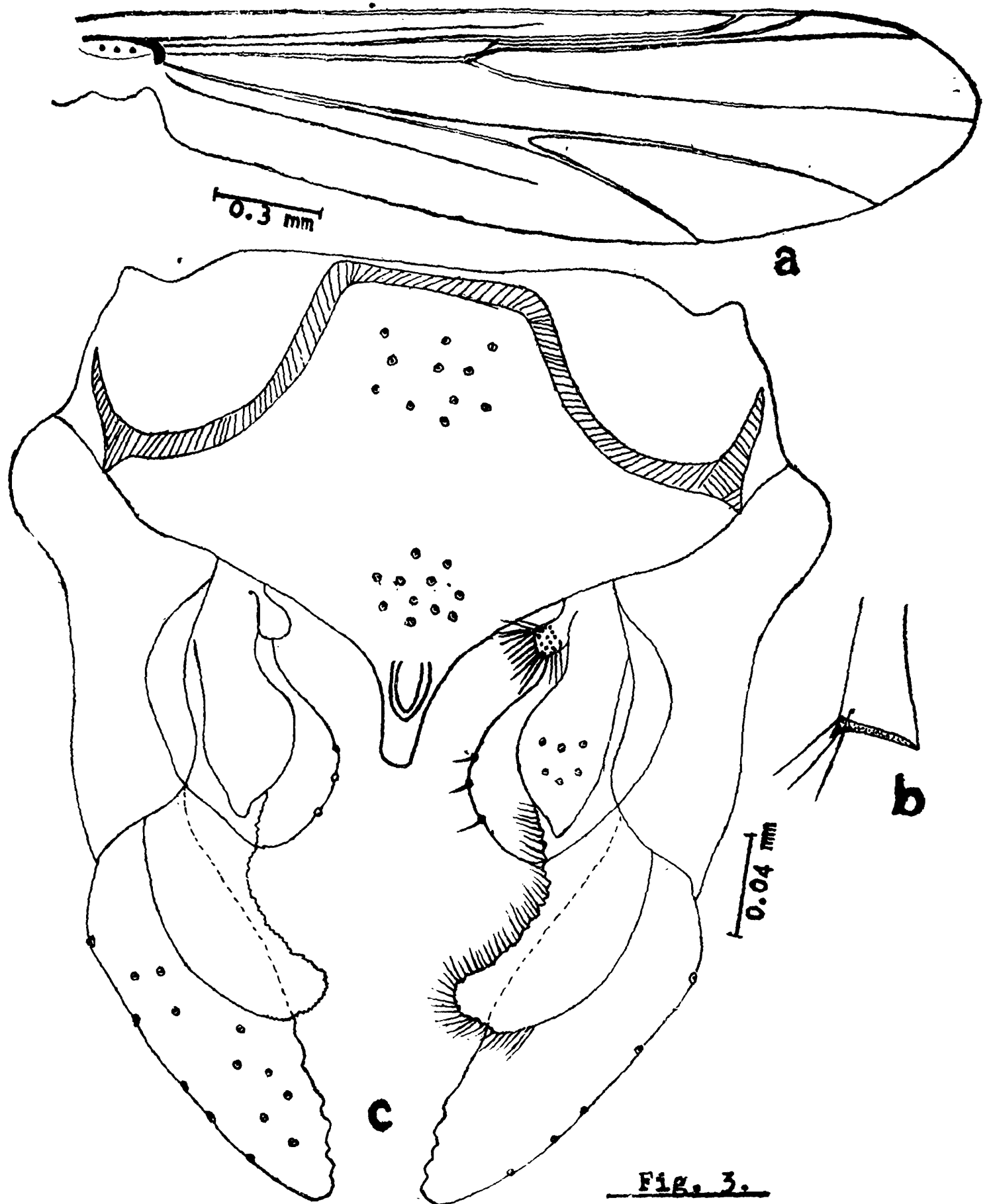
Head: Dark brown in colour. Vertex with 12 (postoculars 2, outer verticals 4 and inner verticals 6) setae. Corona with 4 setae in two rows. Clypeal ratio 1.2. Maxillary palp brown, length ratio of palpomeres I-V 2 : 3 : 11 : 10 : 6, L/W 2.1. Eyes bare with dorsal extension 0.09 mm long. Antenna brown, length ratio of flagellomeres I-XIII 11 : 5 : 5 : 4 : 4 : 5 : 5 : 6 : 6 : 6 : 6 : 7 : 205, AR 2.9. Pedicel ratio 1.4. CA 0.1, CP 0.9.

Thorax: Dark brown in colour. Acrostichals 10, dorsocentrals 6, humeral 1 and prealars 4. Scutellum with 8 setae, postscutellum dark brown and bare.

Wing (Fig. 3a): Wing membrane with a few macrotrichia towards the apex of cells R_{4+5} and M_1 . Brachiolum with 3 setae. R with 6, R_1 , 4 and R_{4+5} with 1 seta; R_{2+3} ends one-third of the distance of R_1 and R_{4+5} ; r-m just above f-cu; Cu_1 straight; An ends distal to f-cu. Squama bare. CR 1.09, VR 1.0.

Wing length 3.2 mm, wing breadth 0.75 mm.

Legs: Brown in colour. Fore tibial scale (Fig. 3b) without seta but with a short projection bearing 3 setae at its base. Mid and hind tibia with 1 small spur at each comb.

Fig. 3.

Figs. 3a-c. *Tanytarsus pectus* n. sp. (♂) a. wing. b. fore. tibial scale. and c. hypopygium.

Hypopygium (Fig. 3c) : Anal point small, blunt and bare bearing 8 setae well behind its base. Gonocoxite and gonostylus stout with numerous setae. Appendage 1 broad with 3 setae, appendage 2 stout, bent setae bearing comb at its inner margin ; appendage 1a broad and prominent bearing a few setae, appendage 2a short having a bunch of setae. HR 1.1, HV 2. 1.

Female : Unknown

Holotype ♂ (Z. S. I. Reg. No. 6604/H6), Kala Lake (4481m above sea level), Tibet (China), 12. v. 1946, Coll. P. I. R. M.

Paratypes 3 ♂ ♂, data same as holotype in the department of Zoology, University of Burdwan.

Remarks : The male of the present species agrees with *Tanytarsus paskevillensis* Glover (1973) from Australia in the presence of a few macrotrichia towards the apex of cells R_{4+5} and M_1 , in the shape of anal point and shape of appendage 2a. But the characters like vertical setae, clypeal ratio, antennal ratio, chaetotaxy of thorax, brachiolum with 3 setae, arrangement of setae on wing veins, small, blunt and bare anal point bearing 8 setae well behind base, broad appendage 1 with 3 setae, stout appendage 2 bears setae like comb, appendage 1a broad and prominent with a few setae confirm *T. pectus* as a new species in genus *Tanytarsus*. The character presented by this species seem a little deviation from a typical *Tanytarsus* but we think it is wise to regard this species as a new member of *Tanytarsus* rather than creating a new genus. The following combination of the characters like 13 segmented antenna of male, wing membrane with macrotrichia at apex of cells R_{4+5} and M_1 , bare squama, absence of pulvilli, 4 pairs of appendage on male

hypopygium and appendage 2a with simple unbranched hairs disapprove its formation of a new genus in the tribe Tanytarsini.

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