

SPIXIANA	23	2	207–210	München, 01. Juli 2000	ISSN 0341–8391
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Description of the pupa of *Tanytarsus cuieirensis* Fittkau & Reiss

(Insecta, Diptera, Chironomidae)

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Sanseverino, A. M. & S. Wiedenbrug (2000): Description of the pupa of *Tanytarsus cuieirensis* Fittkau & Reiss (Insecta, Diptera, Chironomidae). – In: Baehr, M. & M. Spies (eds.): Contributions to chironomid research in memory of Dr. Friedrich Reiss. – Spixiana 23/2: 207–210.

Four species belonging to the *riopreto*-group (Fittkau & Reiss 1973) of the genus *Tanytarsus* are known from Brazil, all of them based on descriptions of adult males. *Tanytarsus cuieirensis* (Fittkau & Reiss) is a member of this group, and in the present work the pupa is described and a diagnosis for pupae of the *riopreto*-group is suggested.

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Für Herrn Reiss

Introduction

Most publications on *Tanytarsus* van der Wulp concern species from the Holarctic region. In the Neotropics this genus is comparatively poorly known, with only 21 species described (Sublette & Sasa 1994, Spies & Reiss 1996, Ekrem & Reiss 1999). Fittkau (1971) presented a list of 437 species of chironomids distributed into 58 genera (33 possibly new), collected with light traps in the Amazon region; in this material *Tanytarsus* was mentioned as a particularly diverse genus (70 species were estimated). In spite of its great diversity, until now only seven species of *Tanytarsus* have been published from Brazil, four of them belonging to the *riopreto*-group described from the Amazon basin (Fittkau & Reiss 1973). *Tanytarsus cuieirensis* Fittkau & Reiss is a member of the *riopreto*-group previously known only as adult male. In the present work the pupa of *T. cuieirensis* is described, and a possible diagnosis for the pupae of this group is presented.

Material and methods

The material was collected by E. J. Fittkau during a research program supported by the Instituto Nacional de Pesquisas da Amazônia-INPA (Manaus, Brazil) and the Max-Planck-Institut für Limnologie (Plön, Germany). The sample was taken from Rio Cuieiras (city of Manaus, Amazonas state, Brazil) using a Brundin drift net, the exuviae and pharate adult males were mounted in Euparal, adults were prepared uncleaned. The morphological terminology follows Sæther (1980). For measurements $n=1$. The term “taenia” was used for any broad flattened seta on the pupa (Langton 1994).

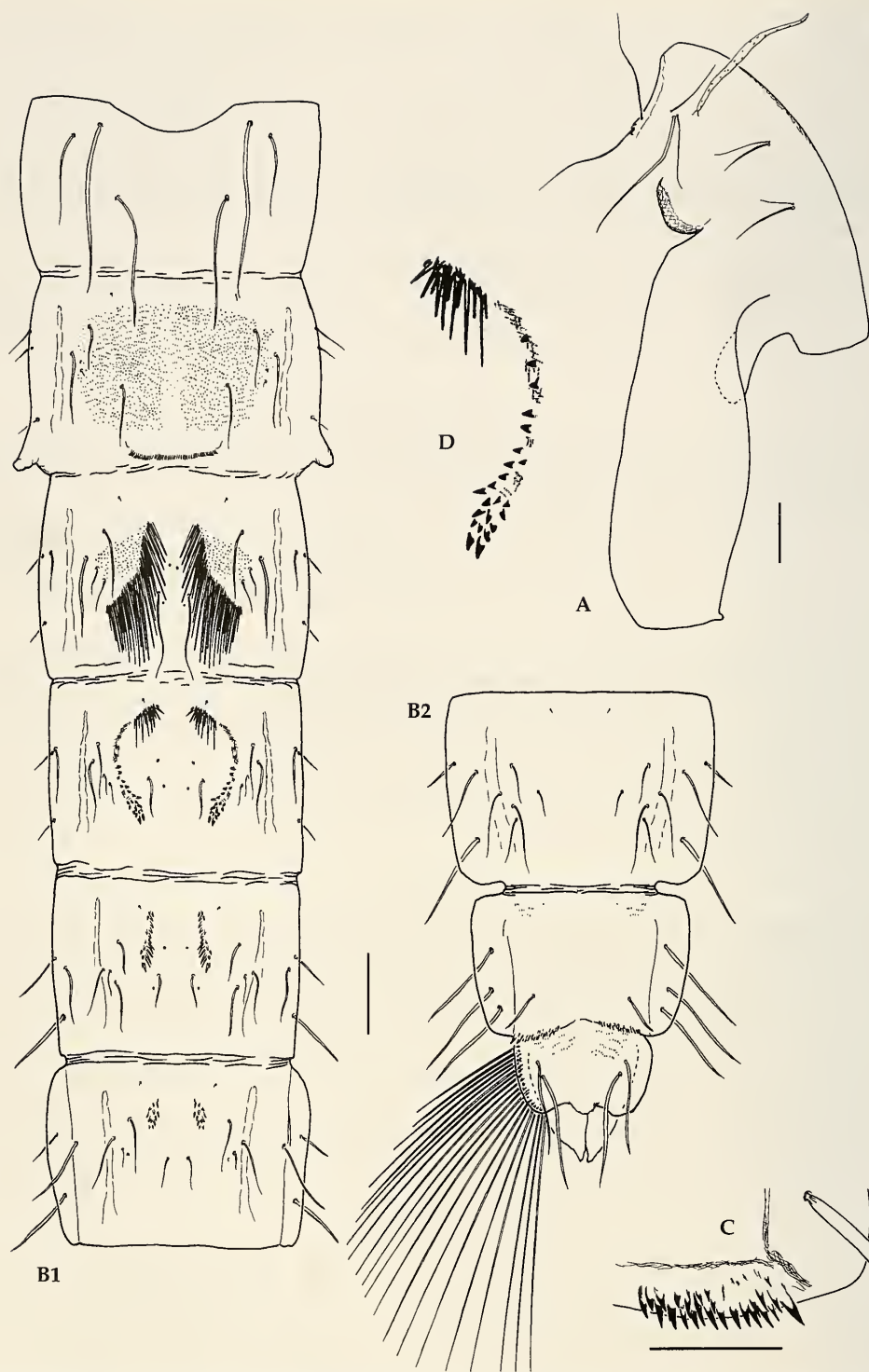


Fig. 1. *Tanytarsus cuieirensis* Fittkau & Reiss; pupa. **A.** Thorax. **B1,2.** Abdomen, dorsal. **C.** Anal comb. **D.** Band of spines on tergite IV. Scales: A, B: 100 μ m, C: 50 μ m.

Tanytarsus cuieirensis Fittkau & Reiss

Fig. 1

Tanytarsus cuieirensis Fittkau & Reiss, 1973: 14; adult male.

Type material examined (BRAZIL, Amazonas state, leg. E. J. Fittkau): Holotype: ♂, sample A 62, Rio Cuieiras about 50 km above its mouth, at light, 15.XII.1960, on slide in Canada balsam (INPA, Manaus, Brazil). – Paratypes: 2♂♂, sample A 431, Igarapé do Cachoeira (tributary of R. Cuieiras) near Cachoeira da Traíra, at light, 26.XI.1962 (ZSM).

Other material examined. 3 pharate ♂♂, 2 pupal exuviae, sample A 308, BRAZIL, Amazonas state, Rio Cuieiras at mouth of Rio Branquinho, drift net, 21.XII.1961, leg. E. J. Fittkau (ZSM).

Description of pupa

Colour of pupal exuviae pale brown, somewhat darker near lateral muscle marks on tergites.

Cephalothorax (Fig. 1A): Length 667 μm . Frontal apotome rugulose. Frontal setae thin (99 μm), mounted on weakly developed cephalic tubercles; frontal warts absent. Thoracic horn elongate and slender (260 μm), sparsely covered with spinules. Thorax smooth, over median suture rugulose with small spinules and brown coloured. Prealar region inwardly folded. Wing sheath with nose. Thorax setation: 1 median and 1 lateral anteprenotal, both thick and long (about 195 μm); 3 precorneals (111, 243, 128 μm), Pc_2 and Pc_3 closer to each other, Pc_2 thicker and longer; 2 pairs of dorsocentrals (95, 88, 56, 111 μm), each pair with one seta thicker and longer.

Abdomen (Figs 1B-D): Total length 1642 μm . Tergites I and VII without shagreen. T II with homogeneous shagreen, sparse medially. T III with a pair of long bands of longer spines and a pair of lateral fields of fine shagreen, bands anteriorly straight, posteriorly curving outward. T IV with bracket-shaped pair of long bands of spines and pigment (Fig. 1D), anterior band section of slender, elongate spines directed to caudal, mid section with short spines directed to median, occasionally sparse or absent, posterior band section with short spines directed to median, lateral and caudal; short spines of mid and posterior section cone-shaped. T V with pair of elongate bands of spines, bands sometimes anteriorly slightly curved. T VI with pair of rounded to elongate patches of spines. T VIII-IX with oral-lateral shagreen. Sternites I, IV-VII without shagreen. S II-III medially with very fine shagreen. S VIII with fine oral-lateral shagreen. Conjunctives and pleura unarmed. Hook row about $\frac{1}{2}$ width of segment. Pedes Spurii A absent; Pedes Spurii B present on segment II. Segment VIII with unusually broad postero-lateral comb (60 μm), consisting of numerous small marginal teeth (Fig. 1C). Anal lobe well developed, with complete fringe of ca. 20 taeniae in single row and with two pairs of dorsal taeniae. Abdominal setation: segment I with 3 D, 0 L and 1 V, D-setae taeniate and unusually long; segment II with 4 D, 3 L and 4 V; segments III-VI with 5 D, 3 L and 4 V; segment VII with 5 D, 3 L and 4 V, seta L_3 taeniate and thicker than the other two; segment VIII with 1 D, 3 taeniate L and 2 V. Tergites II-VII with O-setae.

Discussion

Based on the pupa of *Tanytarsus cuieirensis*, we suggest that the presence of 1 median and 1 lateral anteprenotal, both thick and long, at least 1 thick and long dorsocentral, at least 2 long taeniate D-setae on tergite I, 3 taeniate L-setae on segment VIII and the shape of the anal comb are probably diagnostic for the pupae of the *riopreto*-group.

Six morphotypes from Amazonas (Ospina-Torres 1992), one from Rio de Janeiro (Stumpp 1993) and one from Rio Grande do Sul state (Wiedenbrug, pers. obs.) have been recorded from Brazil and share the diagnostic characters given above. Sublette & Sasa (1994) considered more than the original four species of *Tanytarsus* as members of *riopreto*-group, some of them with described pupae (*T. clivosus* Reiss, 1972; *T. hamatus* Reiss, 1972; *T. hastatus* Sublette & Sasa, 1994; *T. pandus* Sublette & Sasa, 1994). According to the descriptions, all these species have an anal comb shape different from *T. cuieirensis* and more than three taeniate L-setae on segment VIII; however, the paratypes of *T. clivosus* and *T. hamatus* show two taeniate D-setae on tergite I. In order to confirm if the suggested characters are diagnostic for the group a revision is in preparation, including other life stages and descriptions of new species.

Acknowledgements

This publication is a part of the first author's ongoing doctoral dissertation at Ludwig-Maximilians-Universität Munich, Germany, supported by DAAD (Deutscher Akademischer Austauschdienst). We thank Zoologische Staatssammlung Munich for the full use of facilities, and Instituto Nacional de Pesquisas da Amazônia for the holotype loan. The authors would like to thank Prof. E. J. Fittkau for valuable discussions and supervision, Martin Spies for discussions and comments on the manuscript, and the editors for working hard on this volume.

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Zeitschrift/Journal: [Spixiana, Zeitschrift für Zoologie](#)

Jahr/Year: 2000

Band/Volume: [023](#)

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Artikel/Article: [Description of the pupa of Tanytarsus cuieirensis Fittkau & Reiss \(Insecta, Diptera, Chironomidae\) 207-210](#)