

**DESCRIPTION OF THE LAST INSTAR LARVA
OF *TAURIPHILA RISI* MARTIN
(ANISOPTERA: LIBELLULIDAE)***

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This is the southernmost member of the genus. The description is based on the reared Argentine material from Buenos Aires. Unlike in *T. australis* (Hag.), the only congener of which the immature stage has been described, in *T. risi* there are dorsal hooks on segments 4-8 only. This requires a slight modification of the generic key provided by J.G. NEEDHAM & M.J. WESTFALL, 1955, *Dragonflies of North America*, Univ. California Press. A modified key is appended.

INTRODUCTION

Three species of the genus *Tauriphila* Kirby have been reported from Argentina, viz. *T. argo* Hag., *T. risi* Martin and *T. xiphea* Ris (cf. FRASER, 1947; PAULSON, 1977). *T. australis* (Hag.), ranging from the United States to southern Brazil, is the only member of the genus of which the larva has been described (NEEDHAM & WESTFALL, 1955).

This paper presents the description of the final instar of *T. risi* Martin, based on the reared and subsequently with RIS (1913) and CALVERT (1901-1908) identified material. The species occurs in the middle eastern provinces of Argentina (Buenos Aires, Córdoba, Corrientes, Entre Ríos, Santa Fé, Santiago del Estero), and is the southernmost member of the genus.

MATERIAL EXAMINED

ARGENTINA: Buenos Aires prov., Chascomús pond, 1 reared ♀, X-1979; 1 reared ♂, 8-X-1980, both A. Rodrigues Capítulo & E. Domissi leg.; - Punta Lara margin forest, 3 reared ♂, 30-XI-1984; 9

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final instar larvae, 14/30-XI-1984, A. Rodrigues Capitulo & J. Muzón leg.; - Los Talas (Berisso), 1 reared ♂, no date, L. Fernández leg.

The specimens are deposited in UNLP, La Plata.

DESCRIPTION OF FINAL INSTAR

Measurements (means of 14 larvae, SD in parenthesis; in mm). - Body length 18.90 (1.04), length of abdomen (including caudal appendages) 10.40 (0.33); maximum abdomen width at 6th segment 6.61 (0.43); length caudal appendages, superior 0.95, laterals 0.72 and inferiors 1.83; maximum head width 5.90 (0.30), length 4.20; posterior wing cases 6.41 (0.27), anterior pair 6.81 (0.12).

Body in life pale brown with pale markings, not, or very thinly hairy. Head triangular, with broad eyes, rear side of head right. Coloration patterns as in Figure 1. Antennae filiform, 7 segmented (3.50 mm), lengths of segments: 0.30-0.60-0.70-0.42-0.58-0.60-0.62 mm. Labium with 10-11 lateral and 15 mental setae (9 lateral longer). Length of prementum 5.0 mm, width 4.5 mm (Figs 2-3); 9-10 smooth crenulations on internal margin of lateral lobes.

Mandibular formula (following WATSON, 1956), see Figures 5-8:

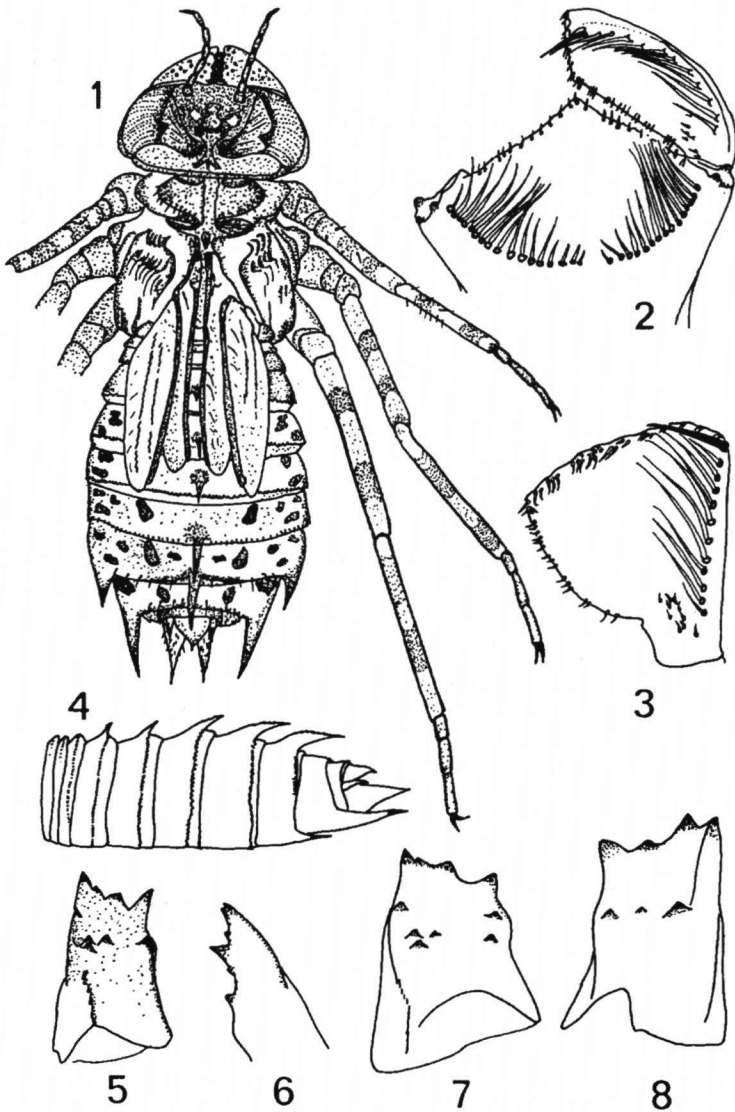
L		1	2	3	4	y	a	b	c	
R		1	2	3 + 4	y	a	b	c	d	
Left	A	1.	b > a > c							
		2.	All the molars are pointed and have broad bases							
	B	1.	All the incisors pointed							
		2.	3 > 4 > 1 > 2							
		3.	The incisors are more prominent than on the right							
	C		y is very small							
Right	A	1.	d > b > a > c							
		2.	4 > 3 > 2 > 1							
		4.	The base of 1 widest							

Wing cases almost parallel and the hind pair reaching the posterior side of the 6th tergum. Legs: pale brown with two pigmented rings on all femora (Fig. 1).

Dorsal abdominal segments 1 to 5 without pigmentation below wing cases. Other marks as in Figure 1. Dorsal hooks increasing in length on segments 4 to 8 (= *Miathyria marcella*); the 6th hook reaches the anterior edge of segment 7, the 7th reaches the posterior of segment 8 and the 8th reaches the first third of the superior caudal appendage. Lateral spine on 8th abdominal segment 1.10 mm (10 tenths of the middorsal length of the segment), on 9th 1.9 mm (16 tenths of middorsal lengths of the segment).

FIELD NOTES

Some larvae were collected from littoral floating plants (*Ceratophyllum demersum*



Figs 1-8. *Tauriphila risi* Martin, larval structural features: (1) final instar, general aspect, total length 18.9 mm; - (2) mask, dorsal view, width 4.5 mm; - (3) palpus; - (4) abdomen, lateral view; - (5-8) mandibles: - (5-7) right, - (5) specimen with incisors well developed, inner side, - (6) anterior side, - (7) specimen with the incisors less sharpened, inner side, - (8) left, inner side.

and *Azolla filiculoides*) in lentic waters of Chascomús Pond. Other odonate larvae collected in the same pond and reared in laboratory were *Aeshna bonariensis*, *Erythrodiplax corallina*, *E. nigricans*, *Micrathyria ringueleti*, *M. hipodidyma*, and various Zygoptera. In Punta Lara the larvae of *T. risi* were captured in a permanent pond (RODRIGUES CAPITULO, A. & J. MUZON, 1987), dominated by *Pistia stratiotes*, *Lemna gibba* and *Hydrocotyle ranunculoides*. Other odonate larvae associated with these hydrophyta are *A. bonariensis*, *Erythemis attala*, *M. ringueleti*, *M. hipodidyma*, *Perithemis mooma*, *E. nigricans*, *Lestes undulatus*, *Acanthagrion lancea*, *Cyanallagma cheliferum*, *Oxyagrion terminale*, *Ischnura fluviatilis* and *I. capreolus* (MUZÓN et al., 1990).

DISCUSSION

The larva of *T. risi* has dorsal hooks on segments 4-8 (cf. Fig. 4) rather than 4-9, as given as a generic feature by NEEDHAM & WESTFALL 1955, p. 431), therefore their generic key should be slightly modified as follows.

- 1 Eyes capping fronto-lateral part of head; abdomen long and tapering 2
- Eyes lower, more broadly rounded and more lateral in position; abdomen usually ending more bluntly 5
- 2 Margin of median lobe of labium smooth *Libellula*
- Margin of median lobe of labium crenulate 3
- 3 No dorsal hooks on middle abdominal segments *Orthemis*
- Dorsal hooks present on middle abdominal segments 4
- 4 No dorsal hook on 8 *Plathemis*
- Dorsal hook present on 8 *Ladona*
- 5 Inferior abdominal appendages strongly decurved at tip 6
- These appendages straight or nearly so 7
- 6 No lateral spines on abdomen; lateral setae of labium seven to nine *Erythemis*
- Minute lateral spines on 9; lateral setae eleven or twelve *Leptemis*
- 7 Dorsal hook on some abdominal segments 8
- No dorsal hook on any abdominal segment 23
- 8 Dorsal hook on 9 9
- No dorsal hook on 9 17
- 9 Dorsal hooks cultriform, the series in lateral view like teeth of a circular saw *Perithemis*
- Dorsal hooks more spinelike or low and blunt 10
- 10 Dorsal hooks long and laterally flattened 11
- Dorsal hooks short and thick 14
- 11 Abdomen broadly depressed, little longer than wide *Tauriphila* (in part) (*australis*)
- Abdomen about twice as long as wide 12
- 12 Superior abdominal appendage, seen from above, slightly longer than its basal width; lateral abdominal appendage more than half as long as inferior appendages *Brachymesia*
- Superior abdominal appendage about twice as long as its basal width 13
- 13 Length when grown 21 mm or more; tip of hind-wing case extends to rear-ward about halfway across abdominal segment 6 *Cannacria*
- Length when grown 20 mm or less; tip of hind-wing case extends about halfway over 7 *Idiataphe*
- 14 Teeth on lateral lobe of labium large 15
- Teeth on lateral lobe obsolete *Dythemis*

- 15 Lateral setae six *Macrothemis*
 - Lateral setae seven to ten 16
 16 Dorsal hooks high and conspicuous *Brechmorhoga*
 - Dorsal hooks low, ridgelike *Scapanea*
 17 Dorsal hook on 8 18
 - No dorsal hook on 8 21
 18 Lateral setae seven, mental setae nine to eleven *Miathyria*
 - Lateral setae nine to twelve, mental setae twelve to eighteen 19
 19 Superior abdominal appendage as long as, or nearly as long as inferiors 20
 - Superior abdominal appendage much shorter than inferiors 30
 30 Abdomen broadly depressed, little longer than wide *Tauriphila* (in part) (*risi*)
 - Abdomen about twice as long as wide *Sympetrum* (in part)

ROBACK (1966) described a larva of an unnamed *Tauriphila* species from a specimen collected by the Peruvian-Amazon Expedition. Its features relative to lateral spines and dorsal hooks (3-9) and its small size differ from the present description.

REFERENCES

- CALVERT, P.P., 1901-1908. Neuroptera. *Biologia cent.-am.* 50: 17-420.
 FRASER, F.C., 1947. The Odonata of the Argentine Republic. 1. *Acta zool. lilloana* 4: 427-461.
 MUZÓN, J., A. RODRIGUES CAPÍTULO & G. JURZITZA, 1990. Populationsdynamik von Telebasis willinki Fraser, 1948 im Galerie-wald des Rio de la Plata bei Punta Lara, Argentinien (Odonata: Coenagrionidae). *Opusc. zool. flumin.* 53: 1-10.
 NEEDHAM, J.G. & M.J. WESTFALL, Jr., 1955. *A manual of the dragonflies of North America (Anisoptera)*. Univ. Calif. Press, Berkeley-Los Angeles.
 PAULSON, D.R., 1977. Odonata. In: S.H. Hurlbert, [Ed.], *Biota acuática de Sudamerica austral*, pp. 170-184. San Diego St. Univ., San Diego/CA.
 RIS, F., 1913. Libellulinen monographisch bearbeitet. *Collns zool. de Sélys-Longchamps* 16(8): 965-1042.
 ROBACK, S.S., 1966. The Catherwood Foundation Peruvian-Amazon expedition. Odonata nymphs. 75-127. *Monogr. Acad. nat. Sci. Philad.* 14: 75-127.
 RODRIGUES CAPÍTULO, A. & J. MUZÓN, 1987. Dinámica poblacional de estadios preimaginales de Odonata en ambientes lénticos de la selva marginal de Punta Lara (Prov. Buenos Aires). *Resúm. I Congr. Argent. Ent., Tucumán*, p. 55.
 WATSON, M.C., 1956. The utilization of mandibular armature in taxonomic studies of anisopterous nymphs. *Trans. Am. ent. Soc.* 81: 151-205.