

## POSTLEPIDAPEDON QUINTUM N. SP. (DIGENEA: LPOCREADIIDAE) FROM THE BASTARD TRUMPETER *LATRIDOPSIS FORSTERI* (PERCIFORMES: LATRIDAE) OFF THE COAST OF NORTHERN TASMANIA

by Rodney A. Bray & Thomas H. Cribb

(with one text figure)

BRAY, R.A. & CRIBB, T.H., 2001 (31:xii): *Postlepidapedon quintum* n. sp. (Digenea: Lepocreadiidae) from the bastard trumpeter *Latridopsis forsteri* (Perciformes: Latridae) off the coast of northern Tasmania. *Pap. Proc. R. Soc. Tasm.* 135: 21–23. <https://doi.org/10.26749/rstpp.135.21> ISSN 0080–4703. Department of Zoology, Natural History Museum, Cromwell Road, London SW7 5BD, UK (RAB); Department of Microbiology and Parasitology, The University of Queensland, Brisbane, Queensland, Australia 4072 (THC).

The new lepecreadiid species, *Postlepidapedon quintum*, is erected for worms recovered from the perciform fish *Latridopsis forsteri* off the coast of northern Tasmania. It is distinguished from its congeners by the vitelline extent and the shape and thickness of the wall of the internal seminal vesicle. A key to the genus *Postlepidapedon* is given. *P. quintum* is likely to be endemic to southern Australia and New Zealand, as is its host.

**Key Words:** *Postlepidapedon*, *Latridopsis*, Digenea, Lepocreadiidae, Tasmania.

### INTRODUCTION

*Postlepidapedon* Zdzitowiecki, 1993 was erected by Zdzitowiecki (1993) to accommodate his species *Neolepidapedon opisthobifurcatus* Zdzitowiecki, 1990 from the gadiform fish *Muraenolepis microps* off South Georgia (Zdzitowiecki 1990). This species had an “Opechona-type” cirrus-sac (as defined by Bray & Gibson 1989), but with an elongate, rather than oval, internal seminal vesicle, and the intestinal bifurcation displaced posteriorly at about the level of the posterior margin of the ventral sucker (Zdzitowiecki 1990; Zdzitowiecki & Cielecka 1997). Bray *et al.* (1997) placed three further species in the genus — *P. secundum* (Durio & Manter, 1968), *P. spissum* Bray, Cribb & Barker, 1997 and *P. uberis* Bray, Cribb & Barker, 1997 — and gave a key to these four species. In this paper we present a description of a further species of *Postlepidapedon*.

We are aware of only two previous records of digeneans from *Latridopsis forsteri*, a perciform teleost endemic to southern Australia and New Zealand (Froese & Pauly 2001). These records are of the opecoelid *Opecoelus tasmanicus* Crowcroft, 1947 from the Hobart fish market, Tasmania (Crowcroft 1947), and the lepecreadiid *Scaphatrema nemadactyli* (Kurochkin & Korotaeva, 1972) from the Great Australian Bight/Tasman Sea area (Kurochkin & Korotaeva 1972).

### MATERIALS AND METHODS

Digeneans collected from freshly killed fish were fixed by being pipetted into nearly boiling saline and immediately preserved in formalin or 70% ethanol. Whole-mounts were stained with Mayer’s haematoxylin, cleared in methyl salicylate and mounted in Canada balsam. Measurements were made through a drawing tube on an Olympus BH-2 microscope, using a Digicad Plus digitising tablet and Carl Zeiss KS100 software adapted by Imaging Associates, and are quoted in micrometres, averages are in parentheses. The following abbreviations are used: BMNH, the British Museum (Natural History) collection at The Natural History

Museum, London, UK; QM, Queensland Museum collection, Brisbane, Australia.

### RESULTS

Family Lepocreadiidae Odhner, 1905  
Family Lepocreadiinae Odhner, 1905  
Genus *Postlepidapedon* Zdzitowiecki, 1993

#### *Postlepidapedon quintum* n. sp. (Fig. 1A, B)

##### Material studied

Ex *Latridopsis forsteri* (Castelnau) (Latridae). Intestine. Off Stanley, Tasmania (40°46’S, 145°20’E, Dec., 1999). Prevalence 75% (six of eight hosts infected). QM holotype G217784, paratypes G217785–217798, BMNH paratypes 2001.6.1.1–8.

##### Description

Based on 22 whole-mounts. Body with narrow, tapering forebody, wider hindbody, 773–1634 × 237–443 (1088 × 342); width 26–40 (32) % of length (fig. 1A). Tegument spinose; spines becoming scarcer posteriorly, reach to close to posterior extremity. Eye-spot pigment sparse, scattered in forebody, or not seen. Pre-oral lobe short, 1–16 (6). Oral sucker subglobular, subterminal, 90–172 × 91–179 (123 × 132). Ventral sucker rounded, pre-equatorial, 104–205 × 114–218 (152 × 160). Forebody 213–498 (299) long, 24–31 (27) % of length. Sucker-width ratio 1:1.11–1.56 (1.22). Prepharynx short, but distinct, partly in posterior concavity of oral sucker, thick-walled, 10–50 (26) long. Pharynx subglobular, 59–128 × 57–113 (82 × 85). Pharynx to oral sucker width ratio 1:1.20–1.64 (1.55). Oesophagus distinct, 30–87 (54) long. Intestinal bifurcation more or less dorsal to anterior part of ventral sucker. Caeca blind, reach to within 21–117 (53) of posterior extremity.

Testes 2, tandem, oval, entire, contiguous, usually contiguous with ovary, occasionally slightly separated by up to 21; anterior 87–159 × 106–168 (113 × 136), posterior

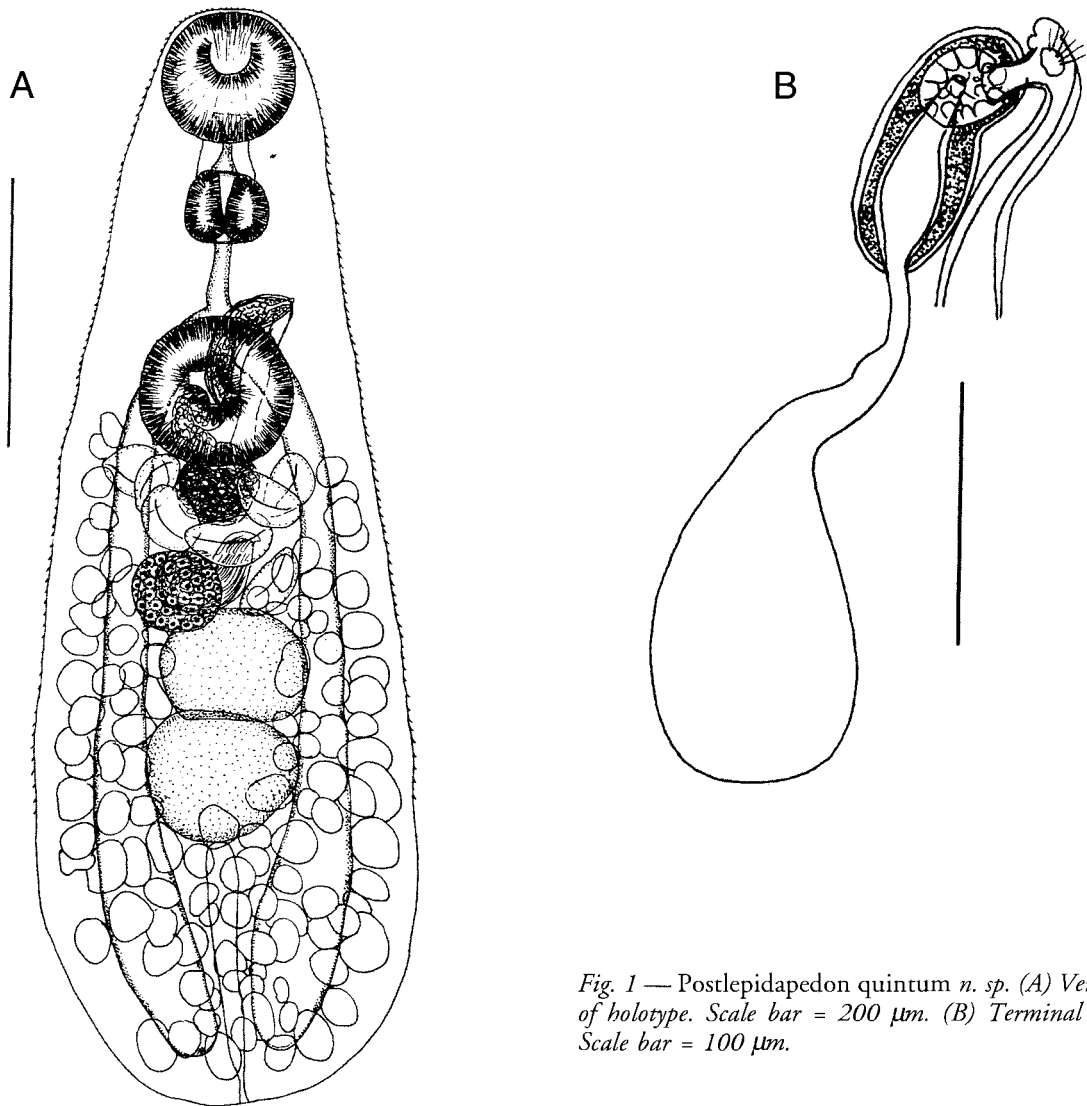


Fig. 1 — *Postlepidapedon quintum* n. sp. (A) Ventral view of holotype. Scale bar = 200  $\mu$ m. (B) Terminal genitalia. Scale bar = 100  $\mu$ m.

101–204  $\times$  110–187 (133  $\times$  135). Post-testicular region 161–390 (255) long, 19–27 (23) % of body length. External seminal vesicle saccular, reaches 42–127 (77) into hindbody, 49–140 (87) % of ventral sucker to ovary distance. Cirrus-sac oval, slightly curved, overlaps to about middle of ventral sucker, wall fairly thick, 89–197  $\times$  27–60 (119  $\times$  36) (fig. 1B). Internal seminal vesicle rectilinear, fusiform, fairly thick-walled. Pars prostatica vesicular, subglobular, lined with anuclear cell-like bodies, towards distal end of cirrus-sac. Ejaculatory duct short, wide. Everted cirrus not seen. Genital atrium distinct. Genital pore sinistral, about midway between median line and body margin, just pre-bifurcal in posterior forebody.

Ovary subglobular, entire, usually contiguous with anterior testis, sinistral, 51–140  $\times$  44–125 (83  $\times$  79); 59–128 (90) from ventral sucker. Seminal receptacle canalicular, saccular, mainly dorsal to ovary. Mehlis' gland dorso-median to ovary. Laurer's canal opens dorsally to left caecum at level of posterior part of uterus. Uterus pretesticular, sinistral to ovary and between ovary and about mid-ventral sucker level. Eggs not numerous, tanned, operculate, 59–92  $\times$  24–53 (76  $\times$  40), decrease slightly in size with increase in degree of tanning. Metraterm muscular, commences about

mid-ventral sucker level. Vitellarium follicular; fields reach from level of ventral sucker or occasionally just posterior (<15) to posterior extremity; lateral fields lie ventral, lateral and dorsal to caeca, encroaching only slightly over gonads, confluent dorsally and ventrally in post-testicular region.

Excretory pore terminal. Excretory vesicle I-shaped, reaches just to posterior margin of posterior testis.

## DISCUSSION

This new species fits comfortably into the small genus *Postlepidapedon* Zdzitowiecki, 1993, which is characterised mainly by the relatively narrow internal seminal vesicle (as opposed to the oval to subglobular internal seminal vesicle found in most lepecreidiines) and the intestinal bifurcation being dorsal to the ventral sucker. Other species of the genus tend to have the intestinal bifurcation at a level relatively further posterior than *P. quintum*. Nevertheless, the five species now recognised are all similar. *P. quintum* and *P. opisthobifurcatum* both have their vitellarium reaching to, or almost to, the ventral sucker, whilst the other three species have their vitellarium restricted to well within the hindbody.

The intestinal bifurcation of *P. quintum* is slightly more anterior than that found in *P. opisthobifurcatum* and the wall of the internal seminal vesicle distinctly thicker. The internal seminal vesicle is more or less rectilinear in *P. quintum*, *P. opisthobifurcatum* and *P. spissum*, whereas it is thin-walled and coiled in *P. uberis* and *P. secundum*.

*Postlepidapedon* is now known from gadiforms of the families Muraenolepididae and Macrouridae and perciforms of the families Labridae and Latridae. It is restricted to the Southern Hemisphere, i.e. from the waters off Australia, New Caledonia and the Antarctic. *P. quintum* adds a further species to the endemic fauna which make up some 85% of the fauna in the waters of southern and southwestern Australia (Bray & Cribb 2001; Bray *et al.* 1999).

### ACKNOWLEDGEMENTS

We are grateful to Sylvie Pichelin for helping THC in the collection of this material and Trudy Wright for processing the material. David Gibson kindly read the manuscript.

### REFERENCES

- BRAY, R.A. & CRIBB, T.H., 2001: *Amphicreadium* gen. n. (Digenea: Lepocreadiidae) from monacanthid fishes (Tetraodontiformes) from the coast of northern Tasmania. *Syst. Parasitol.* 49: 205–209.
- BRAY, R.A. & GIBSON, D.I., 1989: The Lepocreadiidae (Digenea) of fishes from the north-east Atlantic: review of the genus *Neolepidapedon* Manter 1954, with a description of *N. smithi* n. sp. *Syst. Parasitol.* 13: 11–23.
- BRAY, R.A., CRIBB, T.H. & BARKER, S.C., 1997: *Postlepidapedon* Zdzitowiecki, 1993 and *Gibsonivermis* n. g. (Digenea: Lepocreadiidae) from fishes of the southern Great Barrier Reef, Australia, and their relationship to *Intusatrium* Durio & Manter, 1968. *Syst. Parasitol.* 36: 143–155.
- BRAY, R.A., CRIBB, T.H. & PICHELIN, S.P., 1999: Two new species of lepidapedines (Digenea, Lepocreadiidae) from the King George whiting *Sillaginodes punctata* (Perciformes, Sillaginidae) from off Kangaroo Island, South Australia. *Acta Parasitol.* 44: 108–114.
- CROWCROFT, P.W., 1947: Some digenetic trematodes from fishes of shallow Tasmanian waters. *Pap. Proc. R. Soc. Tasm.* 81: 5–25.
- FROESE, R. & PAULY, D., 2001: *FISHBASE*. World Wide Web electronic publication. [www.fishbase.org](http://www.fishbase.org).
- KUROCHKIN, Y. & KOROTAEVA, V.D., 1972: [Trematodes of the genus *Multitestis* Manter, 1931 (Fam. Lepocreadiidae) from marine fishes of Australia and New Zealand]. *Parazitologiya* 6: 75–78. (In Russian.)
- ZDZITOWIECKI, K., 1990: Little known and new Antarctic Digenea species of the genera *Neolepidapedon* and *Lepidapedon* (Lepocreadiidae). *Acta Parasitol.* 35: 19–30.
- ZDZITOWIECKI, K., 1993: A contribution to the morphology of the Antarctic fish lepecreadiid digeneans, with a description of a new genus. *Acta Parasitol.* 38: 109–112.
- ZDZITOWIECKI, K. & CIELECKA, D., 1997: Digenea of fishes of the Weddell Sea. I. Parasites of *Macrourus whitsoni* (Gadiformes, Macrouridae). *Acta Parasitol.* 42: 23–30.

(accepted 10 May 2001)