

Sudarikovina multitesticulata n. sp. (Cestoidea: Cyclophyllida)
from *Mus musculus* of Allahabad, India

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Abstract

Sudarikovina multitesticulata n. sp. is described from *Mus musculus* in Allahabad, India. The species possesses 75–85 testes, cirrus pouch overlapping or just crossing beyond poral excretory vessels, genital pores alternate irregularly, uterus reticulate and eggs with pyriform apparatus. This is the first report of the genus from India.

Key words: *Sudarikovina multitesticulata* n. sp., *Mus musculus*, reticulate uterus

Introduction

The subgenus *Sudarikovina* Spassky (1951) was raised to the genus by Hunkeler (1972) with *S. tetrae* as the type species erroneously. Later Hunkeler (1974) transferred *Aprostotandrya* (*Sudarikovina*) *monodi* (Joyeux and Baer, 1930) Spassky, 1951 to the genus *Sudarikovina* as *S. monodi* n. comb. The worms under study have been placed in the genus *Sudarikovina*, family Anoplocephalidae Wardle, McLeod and Radinovsky (1974) of the order Anoplocephalida Wardle *et al.* (1974), class Cyclophyllida Ubelaker (1983), subphylum Eucestoda Ubelaker (1983) of the phylum Cestoidea Ubelaker (1983) because of the presence of uterus, disposition of testes in relation to female genitalia, absence of prostrate gland and presence of an external seminal vesicle. This is the first record of the genus *Sudarikovina* from India.

Materials and Methods

The description is based on 15 specimens and several fragments fixed in Bouin's fluid.

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Worms were collected from 3 infected *Mus musculus* out of a total of 221 mice examined at Allahabad. The worms were not flattened during fixation. Whole mounts were stained with haemalum. Specimens used for sections were embedded in paraffin, cut serially at 0.005 or 0.008 m.m. and stained with iron haematoxylin and eosin. Camera lucida drawings were prepared. All measurements are in millimeters unless otherwise stated and are given as range followed by the mean and S.E. in parentheses.

Sudarikovina multitesticulata n.sp.
(Figs. 1–6)

Living specimens of *S. multitesticulata* are faintly pinkish. Worms measure 55–65 (60 ± 3.54) in length and 1.952 (N = 8) in maximum width in the posterior gravid proglottides. Proglottides craspedote, generally wider than long but last few gravid proglottides much longer than wide. The transverse sections reveal a thin layer of circular muscle fibres and under this is a layer of longitudinal muscle fibres. Longitudinal muscle fibres measure 0.012–0.016 (0.014 ± 0.001). Dorso-ventral muscle fibres are scattered throughout the parenchyma.

Scolex (Fig. 1) 0.51–0.6 (0.56 ± 0.03) × 0.4–0.5 (0.45 ± 0.04) (N = 15). Suckers oval to spherical, aspinose, 0.04–0.11 (0.08 ± 0.03) × 0.05–0.13 (0.09 ± 0.03) (N = 14). Immature (Fig. 2), mature (Fig. 3) and gravid (Fig. 4)

proglottides 0.07–0.24 (0.18 ± 0.02) \times (0.57–0.68 (0.63 ± 0.01)) ($N = 15$), 0.16–1.23 (0.57 \pm 0.11) \times 0.67–1.68 (1.06 ± 0.09) ($N = 82$) and 1.21–4.50 (2.57 ± 0.96) \times 1.6–1.952 (1.81 ± 0.06) ($N = 70$), respectively. Internal seminal vesicle 0.01–0.04 (0.03 ± 0.01) \times 0.02–0.05 (0.04 ± 0.01) ($N = 79$). Cirrus pouch overlapping or just crossing beyond poral excretory vessels, 0.09–0.19 (0.14 ± 0.03) \times 0.03–0.09 (0.07 ± 0.01) ($N = 102$). External seminal vesicle 0.02–0.05 (0.04 ± 0.01) \times 0.03–0.08 (0.07 ± 0.01) ($N = 94$). Vas deferens 0.01–0.014 (0.012 ± 0.001) in diameter ($N = 80$). Testes small, spherical, 0.01–0.06 (0.03 ± 0.01) \times 0.01–0.06 (0.04 ± 0.01) ($N = 120$) 75–85 (82.5 ± 1.25) in each proglottid posterolateral to female genitalia. Ovary bilobed, median, each lobe with 10–16 finger-like processes on each side, located in anterior half of proglottid, 0.12–0.59 (0.33 ± 0.05) \times 0.16–0.88 (0.63 ± 0.06) ($N = 125$). Receptaculum seminis near ovary, 0.08–0.1 (0.09 ± 0.01) \times 0.05–0.2 (0.15 ± 0.01) ($N = 85$). Ootype, 0.03–0.05 (0.04 ± 0.01) \times 0.04–0.05 (0.04 ± 0.01) ($N = 65$). Vagina simply tubular, 0.006–0.02 (0.02 ± 0.002) in diameter ($N = 120$). Vitelline gland with irregular margins, postovarian, 0.03–0.27 (0.11 ± 0.06) \times 0.06–0.37 (0.21 ± 0.11) ($N = 175$). Uterus reticulate, 1.5–4.3 (2.9 ± 0.99) \times 1.28–1.50 (1.39 ± 0.08) ($N = 35$). Eggs (Fig. 5) round to oval with pyriform apparatus filling up the whole proglottid in late gravid segments, 0.01–0.04 (0.03 ± 0.01) \times 0.02–0.06 (0.03 ± 0.01) ($N = 180$). Cap of pyriform apparatus 0.003–0.005 (0.004 ± 0.001) in diameter while its horn 0.008–0.016 (0.012 ± 0.003) long. Oncosphere 0.016–0.027 (0.02 ± 0.004) \times 0.014–0.028 (0.026 ± 0.01) ($N = 175$).

Genital pores alternating irregularly, located in anterolateral margin of each proglottid. Genital atrium massive, strongly muscular forming a sucker-like organ, 0.03–0.052 (0.04 ± 0.01) deep and 0.06–0.08 (0.07 ± 0.01) wide ($N = 154$). Genital ducts (Fig. 6) pass dorsal to excretory vessels. Excretory vessels composed of 2 pairs without additional branches. Ventral excretory vessel 0.048–0.14 (0.12 ± 0.01) ($N =$

180) and dorsal excretory vessel 0.01–0.03 (0.02 ± 0.01) ($N = 115$) in diameter.

Habitat: Small intestine of *Mus musculus* from laboratory animals at Parasitology Laboratory, University of Allahabad, India.

Type Specimens: Holotype slide no. PCLS-109/85 and Paratype slide no. PCLS-110/85 deposited with the Parasitological collections, Department of Zoology, University of Allahabad, Allahabad, U.P., India.

Etymology: The species is named after multiple number of testes in proglottides.

Discussion

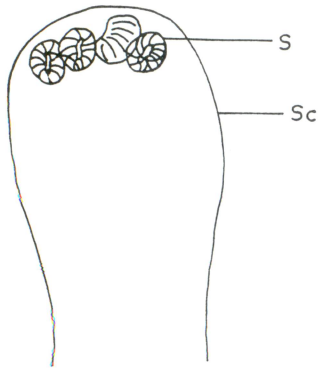
Sudarikovina multitesticulata differs from all the known species of the genus by irregularly alternate genital pores and the number of testes, those being much greater (75–85) than any other reported from the other species. However, it is closely allied to *S. monodi* from which it can be differentiated in being larger, having wider mature proglottides, larger scolex and suckers, larger cirrus pouch overlapping or just crossing beyond poral excretory vessels, aspinose cirrus and smaller eggs. On the basis of aforesaid points of difference the authors feel justified to erect the new species, *Sudarikovina multitesticulata* n. sp.

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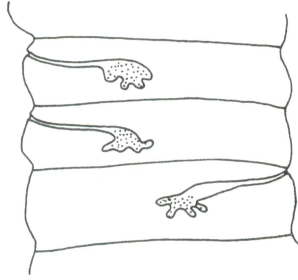
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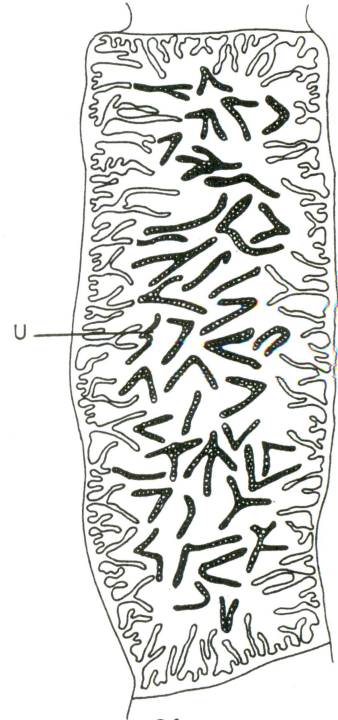
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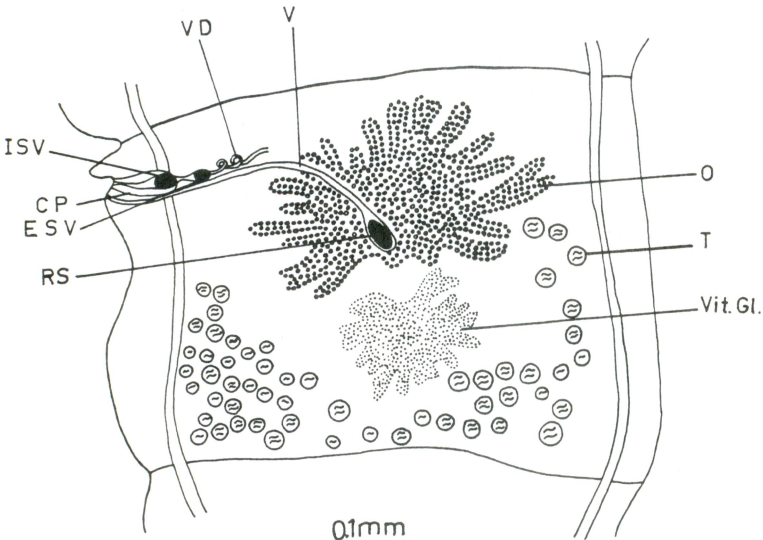
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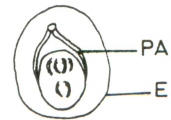
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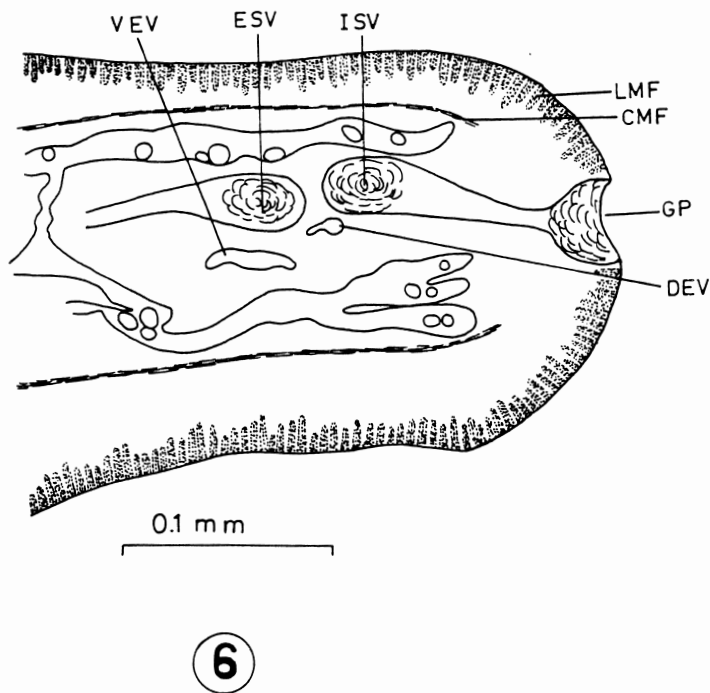
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Figs. 1–6 *Sudarikovina multitesticulata* n. sp. from *Mus musculus*. 1. Scolex, 2. Immature proglottides, 3. Mature proglottid, 4. Gravid proglottid, 5. Eggs, 6. Transverse Section of a part of a mature proglottid showing disposition of genital ducts in relation to excretory vessels.

Abbreviations

CMF, circular muscle fibres; CP, cirrus pouch; DEV, dorsal excretory vessel; E, egg; ESV, external seminal vesicle; GP, genital pore; ISV, internal seminal vesicle; LMF, longitudinal muscle fibres; O, ovary; PA, pyriform apparatus; RS, receptaculum seminis; S, sucker; Sc, scolex; T, testis; U, reticulate uterus; V, vagina; VD, vas deferens; VEV, ventral excretory vessel; Vit. Gl., vitelline gland.

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