

STUDIES ON *VESPERUGIDENDRIUM PANDEI* n.sp., A DIGENETIC
TREMATODE FROM THE INTESTINE OF BAT

N. K. GUPTA and VEENA MEHROTRA

(Department of Zoology, Panjab University, Chandigarh, India)

(Received 7th November, 1968)

ABSTRACT

The new species *Vesperugidendrium pandei* has been recovered from a bat at Chandigarh. Body somewhat elongate-oval, 0.825–1.152 mm. in length and 0.489–0.5904 mm. in maximum breadth. Pharynx very small. Oesophagus 0.1008–0.168 mm. long. Ventral circular depression 0.115–0.12 mm. in diameter, provided laterally with a pair of sucker-like pouches, one on either side. Ovary, very close to right acetabular pouch, almost rounded in shape. Vitelline follicles 7–8 on left and 6–9 on right side.

The relationship of the new species with the other known species is given.

OBSERVATIONS

Family **Lecithodendriidae** Odhner, 1910
Subfamily **VESPERUGIDENDRIINAE** Yamaguti, 1958
Genus *Vesperugidendrium* Pande, 1937

Vesperugidendrium pandei n.sp.

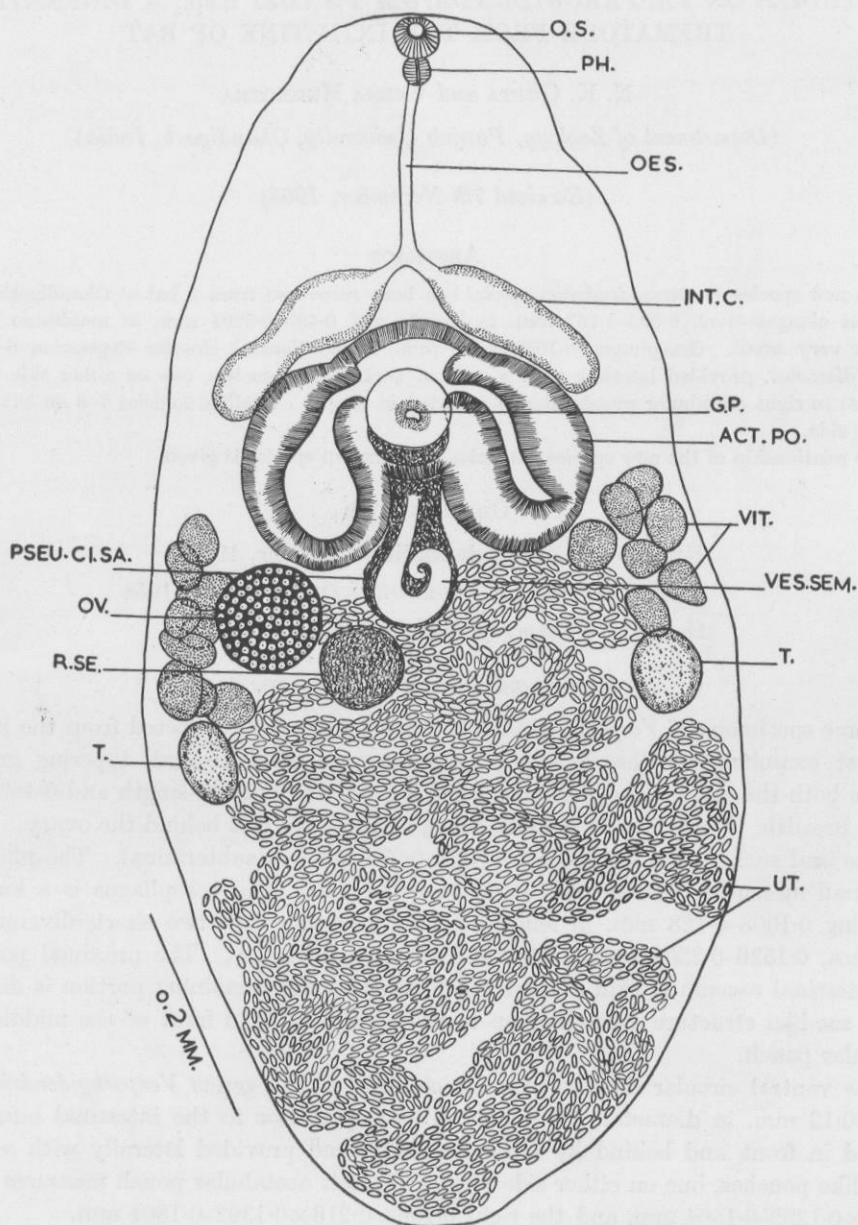
Three specimens of *Vesperugidendrium pandei* n.sp. were collected from the intestine of a bat examined at Chandigarh. The flukes are elongate-oval, tapering gradually towards both the ends. The fluke measures 0.825–1.152 mm. in length and 0.489–0.5904 mm. in breadth, the maximum breadth being at the level just behind the ovary.

The oral sucker, 0.0432–0.0579 × 0.0528–0.072 mm., is subterminal. The pharynx is very small measuring 0.0192–0.0216 × 0.024–0.026 mm. The oesophagus is a long tube measuring 0.1008–0.168 mm. in length and it bifurcates into two short, divergent sac-like tubes, 0.1526–0.2208 mm. behind the anterior extremity. The proximal portion of each intestinal caecum is thin and tube-like, whereas the remaining portion is dilated to form a sac-like structure extending up to the level a little in front of the middle of the acetabular pouch.

The ventral circular depression, characteristic of the genus *Vesperugidendrium* and 0.1152–0.12 mm. in diameter, is situated a little posterior to the intestinal bifurcation, bounded in front and behind by muscular ridges and provided laterally with a pair of sucker-like pouches, one on either side of it. The left acetabular pouch measures 0.2016–0.2208 × 0.1392–0.1804 mm. and the right 0.1968–0.216 × 0.1392–0.1804 mm.

The testes, two in number, somewhat oval in shape, are placed one on either side of the body just in the beginning of the second half of the body. The left testis is slightly anterior to the right testis and measures 0.0818–0.0932 × 0.0672 mm., whereas the right testis approximates 0.0864–0.096 × 0.0672–0.072 mm. The coiled vesicula seminalis and a mass of prostate gland cells are enclosed in a pseudocirrus sac which is situated between

the two acetabular pouches and extends posteriorly up to the level of middle of the ovary. The genital pore lies in the centre of the ventral circular depression.



A whole mount of *Vesperugidendrium pandei* n.sp.

Abbreviations:

ACT.PO.—acetabular pouch; *G.P.*—genital pore; *INT.C.*—intestinal caecum; *O.S.*—oral sucker; *OES.*—oesophagus; *OV.*—ovary; *PH.*—pharynx; *PSEU.CI.SA.*—pseudocirrus sac; *R.SE.*—receptaculum seminis; *T.*—testis; *UT.*—uterus; *VES.SEM.*—vesicula seminalis; *VIT.*—vitellaria.

The ovary, 0.1124–0.1248 × 0.0818–0.1008 mm. in size, lies to the right of the median line, very close to the right acetabular pouch. The receptaculum seminis is well developed, situated just behind the posterior margin of the pseudocirrus sac and close to the ovary. The uterus, forming both descending and ascending coils, fills up almost the whole of the posterior half of the body. The vitelline follicles lie laterally just in front of the testes, extending approximately up to the level of the last one-third of each acetabular pouch. The number of follicles on each side varies from 7 to 8 on the left and 6 to 9 on the right. The eggs measure 0.0164–0.0192 × 0.0072 mm.

Host: Bat

Habitat: Intestine

Locality: Chandigarh

DISCUSSION

The genus *Vesperugidendrium* Pande, 1937, comprises only a single already known species, namely *Vesperugidendrium indicum* Pande, 1937. The new species *Vesperugidendrium pandei* differs from the already known species in length of the oesophagus and its ratio to the length of the body, position of the ovary, shape of the gonads and the number of vitellaria.

The new species has 0.1008–0.1680 mm. long oesophagus, the ratio of its length to that of the body is 1:6.8–1:8.19; the ovary is almost rounded in shape, closely situated to the right of acetabular pouch; the testes are elongate-oval in shape and the number of vitelline follicles is 7–8 on the left and 6–9 on the right side of the body. *V. indicum*, on the other hand, has the ratio between the length of oesophagus and the length of the body 1:3.2 approximately (as calculated from the figure given in the original paper); the ovary is somewhat triangular in shape and well apart from the acetabular pouch; the vitellaria comprise seven follicles on one side and 10 on the other; and the testes are almost spherical in shape.

In view of the above differences, *Vesperugidendrium pandei* has been kept as a new valid species and it has been named after Dr B. P. Pande, who established the genus *Vesperugidendrium*.

LITERATURE CITED

- Odhner, T. (1910). *Zool. Anz.*, 35, 432.
Pande, B. P. (1937). *Ann. Mag. Nat. Hist.*, ser. 10, 20, 235.
Yamaguti, S. (1958). 'Systema Helminthum.' Vol. I. The Digenetic Trematodes of Vertebrates. New York (Interscience Publishers).