**Vampirolepis schmidti** sp. n. (Cestoidea: Hymenolepididae) from *Triaenops persicus* (Hipposideridae) of Tanzania

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**Abstract:** *Vampirolepis schmidti* sp. n. is described from the triple leaf-nose bat, *Triaenops persicus*, of Tanzania. The number, length, and characteristic shape of the rostellate hooks distinguish this cestode from all other species in the genus. The tapeworm was observed in 10.1% of 109 bats.

Specimens of Cestoidea representing a species of *Vampirolepis* Spassky, 1954 were found in the triple leaf-nosed bat, *Triaenops persicus* Dobson, 1871, of Tanzania. To date there have been no published accounts of *Vampirolepis* in *T. persicus*; nevertheless, members of this genus have been reported in other species of African bats. Baer (1933) described *V. sandgroundi* (Baer, 1933) from *Pipistrellus nanus* of Zimbabwe, Mahon (1954) described *V. aelleni* Mahon, 1954 from *Epomophorus wahlbergi* of Zaire, and Edungbola (1981) reported *V. kerivoulae* (Hübscher, 1937) from *Hipposideros caffer* and *Nycteris gambiae* of Nigeria.

From May 1975 to October 1981, 109 bats were collected from an abandoned kaolin mine in Kisarawe District, Tanzania, and were examined for tapeworms. The worms were relaxed in tap water, fixed in 10% formalin, cleared in xylene, and mounted in Canada balsam. Measurements are given as the range, with the mean in parentheses, and are in micrometers unless otherwise stated.

**Vampirolepis schmidti** sp. n.

(Figs. 1–4)

**Description:** Worms (*N* = 5) 15–33 mm by 1.3–2.0 mm (\(\bar{x} = 25.6\) by 1.6). Metamerism distinct, craspedote, margins slightly serrate, genital ducts dorsal to osmoregulatory canals. Scolex (*N* = 6) 238–286 (\(\bar{x} = 260\)) in width, not distinctly set off from neck (Fig. 1), armed with single circle of 16 hooks. Hooks (8 worms, *N* = 50) 16–21 (\(\bar{x} = 19\)), handle, guard, and blade approximately equal in length (Fig. 2), or guard may be slightly shorter than handle and blade. Rostellar sac (*N* = 8) 112–151 by 100–125 (\(\bar{x} = 138\) by 114), muscular, pyriform, extending posteriad to suckers. Rostellum (*N* = 7) 51–68 by 49–69 (\(\bar{x} = 58\) by 60), retractable. Suckers (6 worms, *N* = 10) 70–100 by 75–91 (\(\bar{x} = 85\) by 82), muscular. Neck (*N* = 8) 70–388 (\(\bar{x} = 226\)). Well-developed longitudinal muscles. Mature segments (6 worms, *N* = 60) 0.1–0.2 mm by 0.7–1.1 mm (\(\bar{x} = 0.1\) by 0.9), markedly wider than long (Fig. 3). Gravid segment (8 worms, *N* = 8) 0.2–0.5 mm by 1.0–1.8 mm (\(\bar{x} = 0.3\) by 1.4), markedly wider than long (Fig. 4). Dorsal and ventral osmoregulatory canals sinuous. Dorsal canal situated directly above ventral canal. Testes (3 worms, *N* = 30) 75–133 by 62–99 (\(\bar{x} = 107\) by 80), 3 per segment, round to oval, medullary, dorsal, forming transverse row in posterior half of segment. External seminal vesicle elongate, directly dorsal to seminal receptacle, situated in anterior half of segment. Internal seminal vesicle gradually enlarges until it fills proximal portion of cirrus sac. Cirrus sac (3 worms, *N* = 25) 148–211 by 23–39 (\(\bar{x} = 170\) by 30), positioned anteromedial from genital atrium, extending...


beyond osmoregulatory canals. Genital atria unilateral, situated at midline or in anterior half of segment, do not protrude. Vagina initially posterior to cirrus sac, passes beneath cirrus sac just prior to crossing osmoregulatory canals, gradually expands into voluminous seminal receptacle. Ovary (5 worms, \( N = 45 \)) 143–439 by 20–112 (\( \bar{x} = 266 \) by 55), medial, ventral to testes, transversely elongate, frequently irregularly lobate, at midline or in anterior half of segment. Vitellarian (5 worms, \( N = 50 \)) 78–166 by 23–122 (\( \bar{x} = 111 \) by 48), lobate, medial, posterior to ovary. Uterus saccular, occupies area between osmoregulatory canals in gravid segment. Eggs (6 worms, \( N = 60 \)) 30–49 by 26–42 (\( \bar{x} = 41 \) by 33), oval. Onchosphere (4 worms, \( N = 40 \)) 27–36 by 24–32 (\( \bar{x} = 31 \) by 27), round to oval. Length of embryonic hooks (4 worms, 31 eggs, \( N = 31 \)) 13–18 (\( \bar{x} = 14 \)).

**Definitive Host:** *Triaenops persicus*, the triple leaf-nosed bat.

**Location:** Small intestine.

**Locality:** Kisarawe District, Tanzania.

**Prevalence:** Found in 10.1% of 109 bats examined from May 1975 to October 1981.

**Worm Burden:** One to two per host.

**Etymology:** Patronymic after Dr. Gerald D. Schmidt, Parasitologist and Professor of Zoology, University of Northern Colorado.

**Type Specimens:** Holotype USNM Helm. Coll. No. 77087; paratypes USNM Helm. Coll. No. 77088; paratypes British Museum (Natural History) Nos. 1982.4.16.1–2.

**Remarks:** *Vampirolepis schmidti* sp. n. most resembles *V. hipposideri* (Prudhoe and Manger, 1969) comb. n. and *V. sandgroundi* in the number of rostellar hooks and the size of the eggs, and *V. bidentalus* Zdzitowiecki and Rutkowska,
Table 1. A comparison of the species of *Vampirolepis* Spassky, 1954 from bats in Africa.

<table>
<thead>
<tr>
<th>Cestode</th>
<th>Size of strobila (mm)</th>
<th>No. of rostellar hooks</th>
<th>Length of rostellar hooks</th>
<th>Arrangement of testes</th>
<th>Host</th>
<th>Locality</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>V. aelleni</em></td>
<td>17 by 0.8</td>
<td>40</td>
<td>26–30</td>
<td>Triangular to longitudinal row</td>
<td><em>Epomophorus wahlbergii</em></td>
<td>Zaire</td>
</tr>
<tr>
<td><em>V. kerivoulae</em></td>
<td>20–25 by 0.32</td>
<td>20–22</td>
<td>22–23</td>
<td>Triangular</td>
<td><em>Hipposideros caffer, Nycteris gambiensis</em></td>
<td>Nigeria</td>
</tr>
<tr>
<td><em>V. sandgroundi</em></td>
<td>15 by 0.72</td>
<td>16–18</td>
<td>24</td>
<td>Triangular</td>
<td><em>Pipistrellus nanus</em></td>
<td>Zimbabwe</td>
</tr>
<tr>
<td><em>V. schmidtii</em> sp. n.</td>
<td>15–33 by 1.3–2</td>
<td>16</td>
<td>16–21</td>
<td>Longitudinal row</td>
<td><em>Triaeonops persicus</em></td>
<td>Tanzania</td>
</tr>
</tbody>
</table>

1980 in the length of the rostellar hooks. The rostellar hooks of *V. schmidtii*, however, are characteristically different, because the handle and blade are approximately equal in length. *Vampirolepis schmidtii* can also be separated from *V. bidentalis* in that it possesses fewer rostellar hooks (16 vs. 18–22), a longer strobila (15–33 mm vs. 5–10 mm), and larger eggs (30–49 by 26–42 vs. 26–36 in diameter). It differs from *V. hipposideri* and *V. sandgroundi* in the length of the rostellar hooks (16–21 vs. 22–24, and 24) and in the arrangement of the testes (transverse row vs. triangular distribution). A comparison of some important taxonomic features for the described species of *Vampirolepis* in African bats is given in Table 1.

Acknowledgments

Thanks are due to C. A. Msuya and I. S. Kikula for helping with the collecting of bats and the recovery of the tapeworms. Also, the Department of Zoology, University of Dar es Salaam, provided transportation for the study. Appreciation is extended to L. Margaret Kowalczyk for the illustrations and to D. I. Gibson of the British Museum (Natural History) for his assistance in the preparation of this manuscript.

Literature Cited

