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BAKERERPES FRAGILIS N. G., N. SP., A CESTODE FROM THE
NIGHTHAWK (CESTODA: DILEPIDIDAE)

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The examination of an Eastern Nighthawk (*Chordeiles m. minor* (Forster)), collected September 25, 1945, at Marion, Ohio, revealed numerous, very small cestodes free in the lumen of the small intestine. About fifty specimens were found, but, because of the delicate strobila of this species, few were entire.

Although these cestodes were very thin and translucent, the preparation of well-stained whole mounts presented unusual difficulty. Best results were obtained with a mixture of Ehrlich's and Delafield's haematoxylin stains. Frontal and transverse serial sections, cut at 10 and 15 μ , were made.

This cestode clearly belongs in the sub-family DILEPIDINAE, but, in so far as the writer has been able to determine, the combination of characters is such that it cannot be assigned to any of the existing genera. A new genus has therefore been erected.

Bakererpes n. g.

Diagnosis: Dilepididae. Small, weakly-muscled cestodes, with few segments. Genital pores regularly alternate; genital atrium large, surrounded by large muscular area, and provided with spines. Cirrus sac very large, extending across entire width of mature segments; relatively smaller in other segments. Cirrus spined. Vagina separated into two parts by narrow constriction. Genital ducts pass between longitudinal excretory canals. Rostellum well-developed; armed with few hooks in single row. Testes numerous, posterior and lateral to ovary and vitelline gland. Uterus develops sacculations which later break down, becoming single large sac in gravid segments. Parasites of birds.

Type species: *B. fragilis*.

Bakererpes fragilis n. sp.

(Figs. 1 to 7)

Diagnosis: Strobila, wedge-shaped, averages 2.5 mm long; greatest width, slightly over 1.0 mm, attained in terminal segment. Usually 8 segments present. Segments broader than long; gradual increase in length to middle of strobila, after which length decreases. Strobila very fragile; musculature extremely weak. Scolex large, averaging 420 μ long by 240 μ wide. Suckers well-developed, about 100 μ in diameter. Rostellum strongly developed, armed with a single row of hooks, 10 in number. Hooks average 80 μ in length.

Excretory canals very small; ventral and transverse canals about 4 μ in diameter; dorsal canal somewhat smaller. Exact course of dorsal canal not determined.

Genital *Anlagen* visible in third segment; transition from immature to gravid segments very rapid. Genital pores regularly alternate; genital ducts pass between longitudinal excretory canals. Genital atrium strongly developed, averaging 90 μ long by 70 μ deep; lined with large (7 μ long) spines, directed medially. Atrium surrounded by large muscular area, about 200 μ long by 150 μ deep; thickness of segment, about 200 μ , greatest through this area.

Cirrus sac very large; greatest size (about 445 by 60 μ) attained in mature segments. Cirrus sac extends to aporal margin in latter; at times aporal end of sac may break through into posterior edge of preceding segment. Ductus ejaculatorius somewhat coiled within cirrus sac; cirrus, about 9 μ in diameter, provided with very numerous, small spines. Internal and external seminal vesicles absent; vas deferens greatly coiled and enlarged before entering cirrus sac. Testes 16 to 20 in number; averaging about 16 μ in diameter when first visible, and reaching a diameter of 36 μ before disappearing in pre-gravid segments. Testes posterior and lateral to ovary and vitelline gland.

Ovary, partially separated into two parts, situated just anterior to center of segment. Ovary enlarges somewhat after segments mature, but disappears before latter become gravid. Vitelline gland, nearly spherical, situated just posterior to ovary, near center of segment.

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Vagina in mature segments takes rather direct course toward margin, and empties into common genital canal just before latter enters genital atrium. Vagina divisible into two parts; a distal section slightly longer than cirrus, into which the latter is introduced, and a proximal section. This division is most obvious in gravid segments. The distal section of the vagina, into which the cirrus is introduced, is larger in diameter than the cirrus, and is separated from the proximal part by a very narrow constriction. The poral end of the proximal section of the vagina enlarges in gravid segments and appears to function as a seminal receptacle, which persists throughout. The cirrus was seen inserted into the vagina only in segments well past maturity.

The early development of the uterus is not clear. It appears to develop numerous, small sacculations which later break down, leaving the eggs free in a single, large sac. The eggs in the specimens available were not fully developed; they measured from 20 to 25 μ in diameter, but had no outer shell.

Host: *Chordeiles minor minor* (Forster) (Eastern Nighthawk).

Habitat: Small intestine.

Locality: Marion, Ohio.

Type specimen: In the U. S. National Museum Helminthological Collection No. 36995.

DISCUSSION

Of the genera previously assigned to the sub-family DILEPIDINAE, few closely resemble *Bakererpes*. The arrangement of the genital ducts in the latter appears to be unique in this group.

The genus *Liga* Weinland, 1857, resembles the present genus in having regularly alternate genital pores, few segments, and similarly arranged reproductive organs. As with *Bakererpes*, the vas deferens and seminal receptacle persist in the gravid segments in *Liga*, and the form of the uterus is similar. *Liga*, however, has two rows of hooks on the rostellum, and a small cirrus sac, in addition to marked differences in the region of the genital atrium. The eggs of the species of *Liga* are provided with characteristic projections, which may or may not be present on the eggs of *Bakererpes*. The writer had available for comparison specimens of *Liga brasiliensis* (Parona, 1901), from the Flicker. This species was well described by Ransom (1909).

The genus *Amoebotaenia* Cohn, 1899, is similar to the present genus in having a single row of hooks, regularly alternate genital pores, and a somewhat similar arrangement of the genital organs. However, the details of the cirrus sac and the genital pore differ greatly, the testes are arranged in a row in the posterior part of the segment, and the form of the ovary differs from that in *Bakererpes*. The more numerous segments of *Amoebotaenia* are much shorter, with a corresponding arrangement of the genital organs. The writer had available for comparison specimens of *Amoebotaenia* sp. from a warbler, in addition to the descriptions in the literature.

The genus *Krimi* Burt, 1944, has a single row of hooks, approximately the same arrangement of genital organs, and a similar small size, with few segments. *Krimi* differs chiefly, however, in having irregularly alternate genital pores, dissimilar copulatory organs, and a reticulate uterus.

The remaining genera of the sub-family DILEPIDINAE do not resemble *Bakererpes* to a sufficient degree to warrant discussion.

This cestode has been named in honor of Mr. Mark H. Baker, of Marion, Ohio, without whose kind cooperation this work would not have been possible.

The writer wishes to acknowledge information kindly supplied by Dr. E. W. Price from the files of the Bureau of Animal Industry.

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EXPLANATION OF PLATE

Morphology of *Bakererpes fragilis* n. sp.

- FIG. 1. Details of scolex.
- FIG. 2. Morphology of an early mature segment.
- FIG. 3. Details of a gravid segment (terminal).
- FIG. 4. Enlarged hook from the rostellum.
- FIG. 5. Entire specimen, showing external appearance and relative size of cirrus sac.
- Drawn from photomicrograph.
- FIG. 6. Details of copulatory organs.
- FIG. 7. Details of genital pore.

