

# ***BOTHRIOCEPHALUS EURYCIENSIS* N. SP. (CESTOIDEA, PSEUDOPHYLLIDEA) FROM THE CAVE SALAMANDER *EURYCEA LONGICAUDA***

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*Bothriocephalus euryciensis* n. sp. occurs in the cave salamander *Eurycea longicauda* Green 1818 in Adair County, Oklahoma. It is most clearly related to *B. rarus* Thomas 1937 from *Triturus viridescens* Raf., but it differs from the latter in being much smaller, in shape of the scolex, number of eggs in gravid proglottids, number of testes, and position of the genital pore, and in having a sac-like uterus in gravid proglottids, characteristic, unusually large bothria, and a protrusible unarmed cirrus.

## INTRODUCTION

All of five specimens of the cave salamander *Eurycea longicauda* Green 1818 collected from Adair Cave, Adair County, Oklahoma were infected with a bothriocephalid cestode. Specimens were preserved in FAA fixative, stained with Mayer's paracarmine and, except for 2 proglottids of the proposed holotype, mounted in toto in clearmount. The 2 proglottids not mounted were sectioned by the paraffin technique and the sections employed to verify internal structures. All figures are tracings from the projected type specimen. Measurements are in millimeters, except where otherwise designated.

Only two other bothriocephalids have been reported from salamanders. These are *B. rarus* Thomas (1) and *B. typhlotritonis* Reeves (2). The species described here differs significantly from those two. The holotype chosen is the largest specimen recovered and the description is based entirely on it. It is specimen No. 74475 in the Helminthological Collection, U. S. National Museum, Washington, D.C.

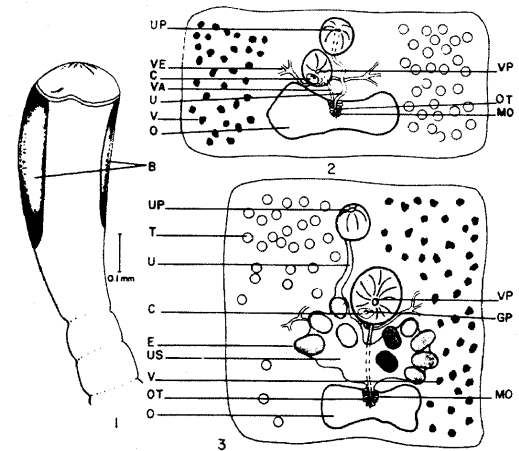
Only five specimens were collected in order to protect the delicate balance of the ecosystem in this small cave. The magnitude of infection ranged from 6-19 parasites per host.

## DESCRIPTION

*Bothriocephalus euryciensis* n. sp.  
(figs. 1-3)

Diagnosis: Length 160 mm, width 0.15-4 mm anterior to posterior, scolex 748 × 155 μ, terminal disc dome-shaped with transient notching in live specimens. Strobilization begins immediately posterior to scolex. First proglottids slightly longer than wide, mature ones wider than long, terminal ones square to slightly longer than wide, total proglottids 75.

Ovary bilobed, compact, ventro-median, occupying 1/3 proglottid width. Vitellaria follicular, irregularly shaped, continuous throughout proglottid, numerous. Testes roughly spherical, maximum number 76 per proglottid, medullary, up to 63 microns in diameter. Cirrus pouch dorsal, submedian, opening in a shallow depression near the vaginal opening. Uterus ventral, tubular in mature proglottids; posterior region becomes saccular in gravid proglot-



FIGURES 1-3. *Bothriocephalus euryciensis* n. sp. Figure 1 Scolex. Figure 2 Mature proglottid. Figure 3 Gravid proglottid. Legend: B, bothria; UP, uterine pore; VE, vasa efferentia; C, cirrus; VA, vagina; U, uterus; V, vitellaria; VP, vaginal pore; O, ovary; OT, ootype; MO, Mehlis' organ; T, testes; E, eggs; US, uterine, sac; GP, genital pore.

tids. Uterine pore in anterior 1/4 of the proglottid. Eggs vary in size and shape; shell thin; operculum difficult to see; number up to 63 per gravid proglottid.

## DISCUSSION

*B. euryciensis* is most closely related to *B. rarus*. It is a much smaller cestode than the latter, the proglottids are fewer in mature specimens, and the number of eggs in gravid proglottids is smaller than in *B. rarus*. Thomas (1) described the cirrus of *B. rarus* as non-protrusible and this appears to be true of all fixed specimens of *B. euryciensis*. However, we have seen it protrude in living specimens and sections show it to be protrusible. In fixed specimens it appears as a slight prominence as described for *B. rarus* by Thomas. A peculiarity of the apical disc of *B. euryciensis* is a transient notching of the lower margin. This notch is not permanent and is often not present. The scolex differs vividly from that of *B. rarus* in being club-shaped rather than rectangular. The bothria of *B. euryciensis* are wide and deep. Their combined widths cover close to half of the surface area of the scolex and their depth, although not accurately measurable, is pronounced. This is in contrast to the bothria of *B. rarus* and *B. typhlotritonis*, both of which are relatively less pronounced.

The testes of *B. euryciensis* tend to be spherical rather than bilobed as in *B. rarus*. They are distributed throughout the proglottid as in *B. rarus*. In all other features the two worms are not significantly different. They are definitely more closely related than either is to *B. typhlotritonis*, the other known bothriocephalid from salamanders.

## ACKNOWLEDGMENTS

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## REFERENCES

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2. J. D. REEVES, J. Parasitol. 35: 600-604 (1949).