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*Kowalewskiella totani* n. sp. (Cestoda: Dilepididae)  
from *Totanus flavipes*

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***Kowalewskiella totani* n. sp. (Cestoda : Dilepididae) from *Totanus flavipes*<sup>1</sup>**

J. TEAGUE SELF AND JOHN JANOVY, JR.

*Totanus flavipes* (Gmelin) 1789 (lesser yellowlegs) collected from the Cheyenne Bottoms Waterfowl Management area, Barton County, Kansas was parasitized by cestodes belonging to the poorly known genus *Kowalewskiella* Baczynska 1914 and constituting a species new to science.

MATERIALS AND METHODS

All the worms were obtained from birds shot as they migrated through the Cheyenne Bottoms. Since the testes, and to a certain extent the complex of female glands, disappear as the proglottids become gravid in these worms, the study is based on observations of about 20 specimens in various stages of development. Also, since the tiny hooks of these worms are lost during routine staining procedures they were studied on fresh scolices crushed in Hoyer's Medium.

*Kowalewskiella totani* n. sp.  
(Figs. 1, 3, and 7)

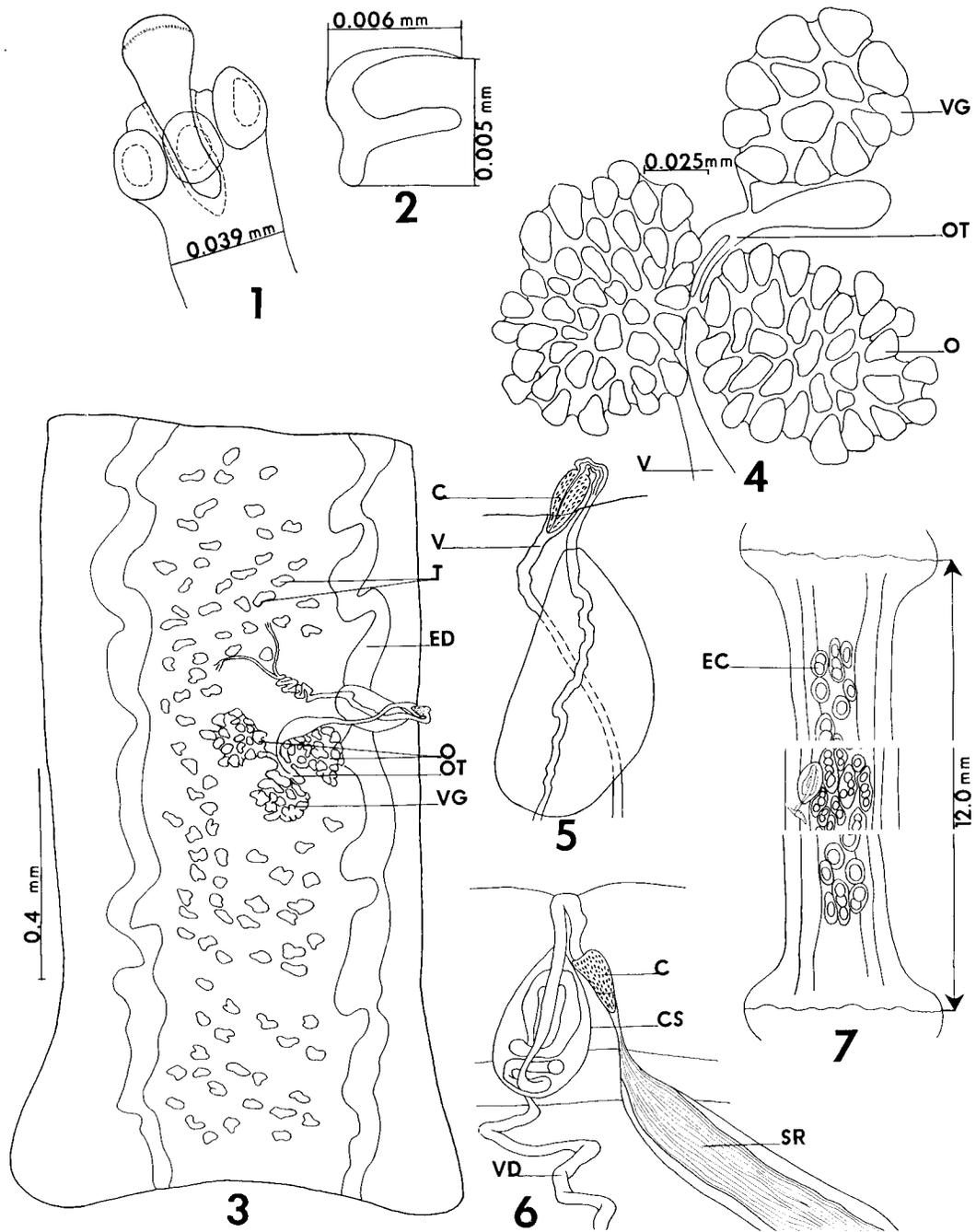
DESCRIPTION (based on four specimens with all measurements in millimeters): Length of strobila 60. Diameter of scolex 0.118 (Fig. 1). Number of hooks 28-30. Size of hooks (Fig. 2) 0.006 from outer curvature to point and 0.005 from posterior margin of base to point. Diameter of suckers 0.04. Mature proglottid 1.42; width 0.68 (Fig. 3); and located 150 proglottids from neck. Number of testes 89. Length

of cirrus sac 0.11; diameter 0.065 (Fig. 5). Length of seminal receptacle 0.074; diameter 0.037 (Fig. 3). Ovarian lobes 0.104 × 0.072. Diameter of vitelline gland 0.071. Length of gravid proglottid 12.0; width 0.68 (Fig. 7). Suckers round and weakly muscular lying close to scolex in fixed material. Rostellum relatively large and retractible. Single row of tiny hooks near tip of extended rostellum. Neck extends for about 1 mm posterior to scolex and proglottidization gradual. Youngest proglottids trapezoid-shaped, mature rectangular, gravid ones almost threadlike.

Testes appear in full number in about 150th proglottid, divided into anterior and posterior fields by ovary and vitelline gland which lie just anterior to mid-region of proglottid. Cirrus sac (Fig. 5) extends medially just across prominent somewhat tortuous excretory canal; cirrus organ pyriform-shaped and spinose. In mature proglottids vas deferens uncoiled in cirrus sac but coiled in gravid ones (Fig. 6). Vagina opens externally adjacent to genital pore and in most proglottids with cirrus inserted (Figs. 5 and 6). This undoubtedly confused Yamaguti (1959) into describing terminal dilatation of vagina as spinose. Seminal receptacle a dilatation of vaginal canal near ootype in mature proglottids, reaching almost to inserted cirrus in gravid proglottids (Fig. 6). A blind pouch extends from ootype. Ovary bilobed and follicular lying slightly poral to median plane. Vitelline gland follicular and prominent lying posterior to ootype. Neither Mehlis' organ nor uterus apparent.

Egg capsules receive eggs and eventually fill

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proglottids. Testes disappear as proglottids fill with egg capsules.

HOST: *Totanus flavipes* (Gmelin) 1789.

LOCATION: Small intestine.

LOCALITY: Cheyenne Bottoms Wildlife Management Area, Barton County, Kansas.

HOLOTYPE: U.S. National Museum Helm. Coll. No. 60955; Self No. F2101-4-1-(2), Mature Proglottids.

PARATYPES: U.S. National Museum Helm. Coll. No. 60955; Self No's. F2101-4-1-(3) Scolex, F2101-4-1-(2) Gravid Proglottids, F2101-4-1-(6) Armed Scolex, F2109-7-2 Hooks.

DISCUSSION: The genus *Kowalewskiella* was established and poorly described by Baczyńska 1914. Burt (1940) corrected obvious errors in measurements given by Baczyńska and listed *K. longiannulata* Baczyńska as closely related to *Choanotaenia stagnatilis* Burt, 1940, *C. glareolae* Burt, 1940, and *C. cingulifera* Krabbe, 1869, the first two of which he described as new species in the same paper. Burt retained *K. longiannulata* in its separate genus only by "... the generic character of a persistent uterus and small cirrus sac." In 1959 Baer and Gerber, following the ideas of Sandeman (1959) transferred *C. cingulifera* to the genus *Kowalewskiella* and listed *K. longiannulata*, *C. glareolae*, *C. stagnatilis* (= *C. stagnatilis*), and *C. hypoleucia* Singh 1952 as synonyms. They pointed out similarity of hooks and the separation of the testes into two groups by the female genital complex. The hooks in all these are distinctly smaller than those in *Choanotaenia* and the testes in the latter genus are all located posterior to the female organs. Thus this seems a logical basis for separating these closely related genera. However, the descriptions of a "sac-like uterus" and "spinose vagina" given by Yamaguti 1959 for *Kowalewskiella* are in error.

*K. totani* is most closely related to *K. longiannulata* which Baer and Gerber (1959) consider synonymous with *K. cingulifera*. It differs

from both of these in having roughly twice the number of testes described for them. In all other characters it is much like the other species but much larger. While one might assume that the types of *K. longiannulata* and *K. cingulifera* were immature thus accounting for the differences in the number of testes, this does not appear to be true. Descriptions of gravid proglottids would indicate that the types on which descriptions were based were mature worms. From the above it seems best to follow the opinions of Sandeman 1959 and concurred in by Baer and Gerber 1959 thus leaving *K. cingulifera* as the only valid species of *Kowalewskiella* up to now. *Kowalewskiella totani* n. sp. becomes the second species in the genus.

#### SUMMARY

*Kowalewskiella totani* n. sp. is described from *Totanus flavipes* from Barton County, Kansas. It differs from *K. cingulifera* (Krabbe 1869) Sandeman 1959 in being much larger and having roughly twice as many testes as the latter species.

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#### *Kowalewskiella totani* n. sp.

Fig. 1. Scolex with rostellum extended; Fig. 2. Hook detail; Fig. 3. Mature proglottid showing full complement of testes; Fig. 4. Female reproductive organs; Fig. 5. Cirrus and vagina in mature proglottid showing cirrus organ inserted into latter and noncoiled vas deferens; Fig. 6. Cirrus and vagina of gravid proglottid showing coiled vas deferens and enlarged seminal receptacle; Fig. 7. Gravid proglottid.

Abbreviations: C—cirrus organ; CS—cirrus sac; EC—egg capsule; ED—excretory duct; O—ovary; OT—ootype; SR—seminal receptacle; T—testes; V—vagina; VD—vas deferens.