# NOTES ON NORTH-AMERICAN EARTHWORMS OF THE GENUS DIPLOCARDIA.

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WITH the discovery of a species of *Diplocardia* possessing the spermiducal pores in xx, it becomes advisable to include in this genus my genus, *Aleodrilus*. This genus was established some years ago for a species from Baja, California, *Aleodrilus Keyesi*, and based on the position of the spermiducal pores in xxi instead of in xix, as in *Diplocardia communis*, the only species known at that time. Later finds of new species of this genus show that *Diplocardia verrucosa* Ude stands intermediate between the two first-mentioned species, possessing the prostate pores in xx.

The location of the spermiducal pores in *Oligochaeta* is generally considered of generic importance, and it is very rare that we find variations in this respect in the same genus. But this character ought to be accompanied by others in order to serve as a genus characteristic, provided the distance between the respective somites is not very great. If we except the absence of penial setae in *Aleodrilus*, there are no other characters which would help to sustain the genus, since we have a complete series regarding the location of the male pores running through three successive somites. As few species of *Diplocardia* are known, and no confusion will ensue, a fusion of the two genera *Aleodrilus* and *Diplocardia* will help to simplify the already extensive nomenclature of the terrestrial *Oligochaeta*. Through the kindness of Prof. Frank Smith, I have had opportunity to examine all the various *Diplocardia* species at his disposal, and am able to add a few observations on minor points. I have also received several new species from North Carolina, which I describe here preliminarily, reserving a more detailed description for an illustrated paper now in press. As many more species of *Diplocardia* are likely to be found in the United States, a review of the species, so far known, is of

considerable interest, especially as the original descriptions are scattered, and not readily compared. I wish to call especial attention to the position of the spermathecal pores, which in some species are post-septal, in others pre-septal, while in at least one species some of the pores are pre-septal, while others are post-septal. The existence of sexual spermathecal setae is of the greatest interest. The sculptures of these setae vary in different species, and in a detailed description should be carefully noted.

Another interesting feature in the anatomy of at least one species, and probably in several, is the posterior "glandular crop" of the intestine, found in xiv and xv. It is of a totally different structure from the gizzard, and resembles greatly the glandular crop which I have once described in *Pontodrilus Michaelseni*, and which in this species is also situated posteriorly.

With our extended knowledge of new species, it will be necessary to modify the definition of the genus as given by Ude, the last one to define the genus. Several of the characters considered by him generic are now seen to be only specific.

In the following I have endeavored to mark the thickening of some septa in a way that it could be readily recognized. The number of bars above the Roman numeral indicates the comparative thickness of the septa. Thus, one marked with three bars is about three times thicker than the one marked with one bar, etc.

## DIPLOCARDIA GARMAN.

*Definition.* — *Setae*, eight, in four couples, lateral and ventral. *Penial setae*, present or absent. *Spermathecal setae*, present or absent. *Prostomium* divides somite i more or less. *Clitellum* saddle or ring like, generally xiii–xviii. *Oviducal pores* xiv. *Spermathecal pores*, two or three pairs, either post-septal or pre-septal. *Spermiducal pores* on xix, xx, or xxi, according to species. *Prostate pores* on somites next anterior and posterior to the spermiducal pores. The pores on each side connected by a groove. A *genital zone* generally present,

with or without papillae. *Intestine* with two gizzards, generally in v, vi. *Oesophagus* either with or without folds containing calcic concretions, but never with calciferous diverticula, as in *Benhamia*. Sometimes a glandular crop in xiv and xv. *Sperm sacs*, one pair pre-septal in ix, one pair post-septal in xii. Two pairs testes in x, xi. Two pairs sperm funnels in x, xi. *Prostates*, two pairs, opening anteriorly and posteriorly to the sperm ducts. *Spermathecae*, two or three pairs, each one with a diverticulum near the center. *Dorsal vessel*, double or single. *Nephridia*, meganephridia, generally without coelomic mantle. *Acanthodrilidae*. As far as known, confined to the United States and to northern Mexico.

The genus *Diplocardia* differs thus from *Acanthodrilus* in having two successive gizzards, *Acanthodrilus* having only one. From *Benhamia*, which genus possesses two successive gizzards, three pairs of calciferous diverticula, and numerous micronephridia, *Diplocardia* is distinguished by its meganephridia, of which there are two in each somite, and by the absence of calciferous diverticula of the tubular intestine. From both *Benhamia* and *Acanthodrilus*, as well as from all other genera of the family, *Diplocardia* is characterized by the position of its male or spermiducal pores.

*Key to Species of Diplocardia.*

I. Spermiducal pores in somite xxi, no penial setae. (*Aleodrilus*.)
*Sp.* 1. *D. Keyesi* (Eisen).

II. Spermiducal pores in somite xx.
*Sp.* 2. *D. verrucosa* Ude.

III. Spermiducal pores in xix.

*A*. Spermathecae, two pairs.

*Sp.* 3. Both pairs of spermathecal pores pre-septal, or posterior to the setae ; sexual spermathecal setae present in viii and ix.
*D. Eiseni* (Michaelsen).

*Sp.* 4. The pair of spermathecal pores in viii are post-septal; the pair in ix are pre-septal. Sexual spermathecal setae in viii and ix. *D. Michaelseni* n. sp.

*Sp.* 5. Both pairs of spermathecal pores are post-septal, sexual spermathecal setae in viii–x. *D. Udei* n. sp.

*Sp.* 6. Both pairs of spermathecal pores are post-septal, no sexual spermathecal setae. *D. riparia* Smith.

*B.* Spermathecae, three pairs.

*Sp.* 7. Penial setae straight, about one-half longer than ordinary setae. *D. communis* Garman.

*Sp.* 8. Penial setae sigmoid, several times longer than ordinary setae.

α. Penial setae not ornamented. *D. singularis* Ude.

β. Penial setae ornamented. *D. singularis*, subsp. n. *caroliniana.*

## DIPLOCARDIA KEYESI (EISEN).

*Definition.* — *Color*, flesh, marbled violet, no pigment. *Size*, 70 mm. by 5 mm. *Somites*, 150. *Prostomium* divides somite i about one-half. *Dorsal pores*, the most anterior one in i viii/ix. *Spermiducal pores* in xxi. *Spermathecal pores*, two pairs, in viii and ix, in front of setae *ab*. *Prostate pores* in xx, xxii. *Oviducal pores* in front of setae *a*. *Setae* all ventral ; *a–b* slightly larger than *c–d* ; *a–a* larger than *b–c*. No sculpture. *Penial setae* none. *Spermathecal setae* not differentiated. *Clitellum* ring-like anteriorly, posteriorly saddle-shaped. *Genital zone* not distinct, two parallel grooves in ½ xx–½ xxii ; groove almost straight, with a knob at each apex ; concavity turned ventrally. *Septa*, thickened are :

vi/vii, vii/viii, viii/ix, ix/x, x/xi.

*Oesophagus* without calcic concretions. *Gizzards* v, vi. *Sacculated intestine* xv. *Dorsal vessel* single, not covered with chloragogen cells. *Hearts* in x, xi, xii, with large pulsating divisions ; no chloragogen cells. *Nephridia*, meganephridia, no coelomic mantle. *Testes* x, xi. *Sperm funnels* x, xi. *Sperm ducts*, which join at xii/xiii in a common muscular sheath ; fuse in xx/xxi. *Sperm sacs*, one pair pre-septal in ix, one pair post-septal in xii. *Sperm masses* in x, xi. *Oviducts* in xiv. *Prostates* confined to one somite each, small, tubular, thicker at apex. *Spermathecae*, two pairs in viii, ix; distal end knob-like; the duct is very slender and long, with a very minute wart-like and ear-shaped diverticle, about the middle of the duct.

*Habitat.* — Ensenada de Todos Santos, Baja California, Mexico.

## DIPLOCARDIA VERRUCOSA UDE.

*Definition.* — *Color*, pink. *Size*, 65 to 75 mm. by 2½ to 3 mm. *Somites* 100 to 125, body round, of even thickness.

*Prostomium* divides somite i by one-half. *Dorsal pores*, most anterior one viii/ix (or x/xi). *Spermiducal pores* on xx. *Spermathecal pores* on anterior ⅓ of somites ix, x, somewhat dorsal to setae *d*. *Prostate pores* on xix, xxi. *Oviducal pores* interior to setae *a*, no glandular ridge. *Setae* sigmoid, very faintly ornamented. Distance *d–d* more than ½ the periphery; *c–d* somewhat larger than *a–b* ; *a–a* three times, and *b–b* two and a half times larger than *a–b*, no setae *ab* in xx. *Penial setae* curved, not ornamented. *Spermathecal setae* not differentiated. *Clitellum* saddle-shaped, xiii–xviii. *Genital zone*, a rectangular field from posterior ⅓ xviii–½ xxii, extending laterally to center between *b–c*. Two deep grooves from ½ xix–½ xxi, the convexity of which is outwards, except in the center of xx, where it is turned towards median line; one median papilla on xxii; one pair papillae on xix in line with setae *b* ; one pair papillae on xix and xxi, interior to grooves ; one pair papillae exterior to grooves on each of xix, xxi, xxii (two pairs papillae on each of xix, xxi, and three papillae on xxii). *Septa*, thickened are:

vi/vii, vii/viii, viii/ix, ix/x, x/xi, xi/xii.

*Oesophagus*, no calciferous folds or thickenings. *Gizzards* in v, vi. *Sacculated intestine* commences in xvi. *Dorsal vessel* single. *Hearts*, three pairs in x, xi, xii. *Nephridia*, meganephridia, commence in ii, pores intersegmental in front of setae *d*. *Testes*, x, xi. *Sperm funnels*, x, xi. *Sperm ducts* open in central part of groove in xx. *Sperm sacs*, one pair pre-septal in ix, one pair post-septal in xii. *Oviducts* open in front of and interior to setae *a*. *Prostates* very thin, even, bent in four folds, confined to one somite each. *Spermathecae*, two pairs in viii, ix, retort-like, with a small, short-stalked, ear-like diverticulum below the center. No specialized spermathecal setae.

*Habitat.* — Omaha, Nebraska. (See note on page 172.)

### Diplocardia Eiseni (Michaelsen).

*Definition.* — *Color*, dorsally gray or pigmented, clitellum violet gray. *Size*, 150 mm. by 2 mm. *Somites*, 165; viii–xiii, smoother and wider than the others. *Prostomium* divides somite

i about one-half, with the lateral margins strongly converging. *Dorsal pores,* most anterior one on xi, first distinct one on xiii. *Spermiducal pores* on xix in line with setae *a*. *Spermathecal pores* viii, ix, posterior to setae *a*, in line with *ab*. *Prostate pores* xviii, xx, in line with setae *b*. *Oviducal pores* near median line, surrounded by a zone. *Setae,* sigmoid, with numerous fine bars; *a–a* about $\frac{1}{12}$, *d–d*, $\frac{5}{9}$ the whole periphery; *b–c* is shorter than *a–a*; *a–b*, shorter than *c–d*; *a–b*, ½ as long as *b–c*; *a–b*, slightly shorter than *c–d*. Setae *b* in xix is present, *a* is absent or present. *Penial setae* rudimentary or very small, in the body wall of xviii and xx. *Spermathecal setae* differentiated and ornamented in viii and ix. *Clitellum* ring-shaped in xiii–xvii, saddle-shaped in xviii. *Genital zone,* a quadrangular glandular ventral zone in xviii–xx, in the corners of which lie the prostate pores. The two grooves are curved ventrally. No depressed area and no papillae. *Septa,* thickened are :

vi/vii, vii/viii, viii/ix, ix/x, x/xi, xi/xii.

*Gizzards* v, vi. *Sacculated intestine* commences in xviii, a dorsal typhlosole. *Dorsal vessel* alternatingly double and single in vi–xv. *Hearts,* four pairs in x–xiii. *Nephridia,* meganephridia, commence in iii. *Testes* in x, xi. *Sperm funnels* x, xi. *Sperm ducts* join, but do not fuse until at the male pore in xx. *Sperm sacs,* one pair pre-septal in ix, one pair post-septal in xii. *Oviducts* large. *Prostates,* two pairs in viii, ix. A large sac-like part and a thinner, irregularly bent, muscular duct; a small, stalk-like diverticle with a knob-like apex.

*Habitat.* — Florida.

### DIPLOCARDIA RIPARIA SMITH.

*Definition.* — *Color,* brown anteriorly and dorsally, clitellum dull coppery colored. *Size,* 220–250 mm. *Somites,* 136–157. *Prostomium* divides somite i by one-half. *Dorsal pores,* most anterior one on anterior margin of xi, near x/xi. *Spermiducal pores,* xix. *Spermathecal pores,* two pairs in viii, ix, anterior to setae *ab*. *Prostate pores,* xviii, xx. *Oviducal pores,* xiv. *Setae* as in *D. communis,* no ventral setae *ab* in xix. Distance

*a–a* = *b–c* ; *a–b* very little larger than *c–d*. *Penial setae*, xviii, xx. *Spermathecal setae* not differentiated (?). *Clitellum* saddle-shaped in xiii–xviii. *Genital zone*, no rectangular ventral zone; a ventral depression in xvii–xxi, deepest in xviii and xx. A pair of crescent-shaped grooves curved ventrally, from center of xviii–xx. Two papillae very close to median line, between xxi/xx. One median papilla xvi/xvii, one pair papillae xvii/xviii, one pair papillae xx/xxi, one pair papillae xvii/xviii. *Gizzards* v, vi. *Sacculated intestine* commences xviii. *Dorsal vessel* single. *Nephridia*, meganephridia, a small pair in ii. *Testes* in x, xi. *Sperm funnels* x, xi. *Sperm sacs*, one pair pre-septal in ix, one pair post-septal in xii. *Prostates* xviii, xx. *Spermathecae*, two pairs in viii, ix, with a large ear-like diverticulum, which is very prominent and exteriorily slightly racemose. Anterior and posterior spermathecae are of the same size.

*Habitat.* — Havana, banks of Illinois River, Illinois, U. S. A.

### Diplocardia Michaelseni *n. sp.*

*Definition.* — *Color*, flesh. *Size*, 45 mm. by 2 mm., hardly tapering posteriorly. *Somites*, 63. *Prostomium* divides somite i completely. *Dorsal pores*, most anterior iv/v. *Spermiducal pores* xix. *Spermathecal pores*, one pair pre-septal in ix, one pair post-septal and almost central or median in viii. *Prostate pores* xviii, xx. *Oviducal pores* xiv, in front of and anterior to setae *a*, close together. *Setae* all ventral ; *a–a* = 3 *a–b* ; *a–a* about one-third larger than *b–c* ; *b–c* = about 2 *a–b*. *Penial setae* present at spermiducal pore. *Spermathecal setae* present in viii, ix ; setae *a* and *b* being differentiated and sculptured. *Clitellum* ring-like, dorsally xiii–½ xviii ; ventrally xiv–xvii. *Genital zone*, a deep central, oval pit in xviii–xx, surrounded by an elevated ridge. A pear-shaped ventral and median papilla in xxi and ½ xxii, and a similar papilla in ½ xxii and xxiii. Grooves between prostate pores are straight. A pair of deep, round pits in posterior part of xvii. No paired papillae. *Septa*, thickened are :

vi/vii, vii/viii, viii/ix, ix/x, x/xi, xi/xii.

*Oesophagus* straight or bent, not widening in any somite. *Gizzards* vi, vii. A large, thick glandular *crop* in xiv, xv. *Sacculated intestine* commences in xviii. *Dorsal vessel* swollen in xvi, xvii. Single (?). *Hearts* x, xi. *Nephridia*, meganephridia. *Testes* very large in x, xi. *Ovaries* are digitate. *Sperm funnels* in x, xi. *Sperm sacs*, three pairs, in ix, x, xii. Those in ix are pre-septal, those in x and xii are post-septal, in xi only sperm masses. *Oviducts* in xiv. *Prostates* occupy somites xvii–xxi, glandular part contains only one layer of cells, muscular duct folded, glandular part thick. *Spermathecae*, duct muscular, long, folded, pouch large in two divisions ; a large, oval, exterior diverticle, pointed forwards. The spermathecae in viii open anterior to setae, those in ix open posterior to setae.

In this species, as in *D. Udei*, there are bundles of glands opening jointly in a pair of circular orifices in viii and ix, between the sexual spermathecal setae. These glands are interposed between the layers of the body wall and the epithelial cells, and run parallel with the longitudinal axis of the body. Their structure is described more in detail in a memoir soon to be published by the California Academy of Science, San Francisco.

*Habitat.* — Raleigh, North Carolina, U. S. A.

### Diplocardia Udei *n. sp.*

*Definition.* — *Color*, flesh, without any pigment ; an even tint all around the body. *Size*, 70–90 mm. by 2 mm. at the widest part. *Somites*, 200–220. *Prostomium* divides somite i about two-thirds. *Dorsal pores*, most anterior one on anterior part of xi. *Spermiducal pores* in xix. *Spermathecal pores*, two pairs, in front of setae *b* on anterior part of viii and ix. *Prostate pores* in xviii, xx. *Oviducal pore* xiv. *Setae: a–a* = 3 *a–b*; *a–a* slightly smaller than *b–c*; *b–c* = 4 *a–b* (about); *c–d* not quite twice as wide as *a–b* ; *d–d* greater than half the periphery. In viii, ix, x, *a–a* = 1½ *a–b*. *Penial setae* present, ornamented. *Spermathecal setae* differentiated in viii–x, highly ornamented, accompanied by glands in the body wall. *Clitellum* dorsally

xiii–½ xviii, ventrally xiii–½ xxi. *Genital zone*, a narrow, deep, rectangular depression, deeper than in any of the other species, surrounded by a thick, elevated ridge. *Tubercula pubertatis* in xix–xxi, a pair of papillae in xviii. *Septa*, thickened are:

vi/vii, vii/viii, viii/ix, ix/x, x/xi, xi/xii.

Most anterior septum iii/iv. *Oesophagus*, no dilations containing calcic concretions. *Gizzard* v, vi. *Sacculated intestine* commences in xvii. *Dorsal vessel* single, thickly covered with chloragogen cells. *Hearts* x–xii, with chloragogen cells. *Nephridia*, meganephridia, no coelomic mantle. *Testes* x, xi. *Sperm funnels* x, xi. *Sperm sacs*, one pre-septal in ix, one post-septal in xii, both racemose. *Oviducts* small. *Prostates* very short and thick, occupying two somites each. *Spermathecae*, with a diverticulum hidden in the wall of the spermathecae, not perceptible except in sections. Anterior spermathecae largest.

*Habitat.* — Raleigh, North Carolina, U. S. A.

### Diplocardia communis Garman.

*Definition.* — *Color*, flesh; *clitellum* dull yellow or flesh. *Size*, 300 mm. *Somites*, 123–165. *Prostomium* divides i by one-half. *Dorsal pores*, most anterior one x/xi. *Spermiducal pores*, xix. *Spermathecal pores*, three pairs in vii–ix, in line with *a–b*. *Prostate pores* xviii, xx. *Oviducal pores* close together in front of and interior to setae *a–b*. *Setae*, ventral, *a–a* slightly larger than *b–c*, not ornamented; no setae *a–b* in xix. *Penial setae* in xviii, xx, only slightly curved, smooth, one-third longer than ordinary setae. *Spermathecal setae* not differentiated. *Clitellum* saddle-shaped, xiii–xviii. *Genital zone, copulatory* papillae: one pair on xvii, one pair xx. *Copulatory* grooves on xviii–xx, curved towards the ventral median line. With or without a depressed zone. *Septa*, thickened are:

vi/vii, vii/viii, viii/ix, ix/x, x/xi.

*Oesophagus*, no calciferous folds. *Gizzard* v, vi. *Sacculated intestine* commences in xvii, a low typhlosole from xxiii–xl.

*Dorsal vessel* alternately double and single from vii backwards. *Hearts* x–xii. *Nephridia*, meganephridia, most anterior one in iii. *Testes* x, xi. *Sperm funnels* x, xi. *Sperm ducts* join only at the pore. *Sperm sacs* in ix pre-septal, in xii post-septal. *Prostates* long, slender, tubular, abruptly bent at the pore, sometimes extending over more than one somite. *Spermathecae*, three pairs in vii–ix, club-like, with an ear-shaped diverticle below the center.

*Habitat.* — Illinois, in black prairie soil.

### DIPLOCARDIA SINGULARIS UDE.

*Definition.* — *Color*, flesh. *Size*, 65 mm. by 3 mm. *Prostomium* divides somite i about one-half. *Dorsal pores*, most anterior one vii/viii. *Spermiducal pores* xix. *Spermathecal pores*, three pairs, vi/vii, vii/viii, viii/ix. *Prostate pores* xviii, xx. *Oviducal pore* xiv, interior to setae *a*, surrounded by a glandular ridge. *Setae*, ventral, lateral, *d–d* greater than half the periphery; *a–a* larger than *b–c*; *c–d* somewhat larger than *a–b*; *a–b* about one-half as large as *b–c*; *l.i.* shorter than *v.i.*; *a–b* twice shorter than *l.i.* and three times shorter than *v.i.*; faintly ornamented at apex. No setae *a–b* in xix. *Penial setae* three times longer than the ordinary setae, curved, not ornamented. *Spermathecal setae* not differentiated. *Clitellum*, ring-like xiii–½ xvii, saddle-shaped ½ xvii–xviii. *Genital zone*, no rectangular field, two lunate grooves on ½ xviii–½ xx, convexity towards ventral median line. One pair papillae in xvii. One pair in xx. Sometimes with a deep oval zone in xvii–½ xxi (Smith's specimens). *Oesophagus* strongly twisted, bead-like in x–xiii, narrower in xiv–xvi, no calciferous folds. *Gizzards* v, vi. *Sacculated intestine* commences in xvii. *Dorsal vessel* single. *Hearts*, three pairs in x–xii; in iv–ix narrow vessels. *Meganephridia*, pores ventral to setae *d*. *Testes* x, xi. *Sperm funnels* x, xi. *Sperm sacs*, one pair in ix pre-septal, one pair in xii post-septal. *Prostates* with many folds at right angles. *Spermathecae*, three pairs in vii–ix, sac-like, with gradually narrowing duct, with oblong diverticle.

*Habitat.* — Danville and Havana, Illinois.

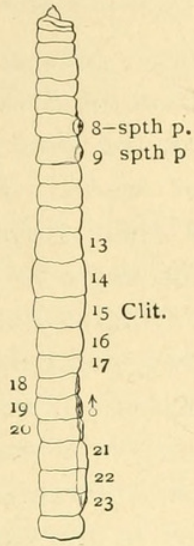


FIG. 1.

FIG. 2.

*Diplocardia Michaelseni* n. sp.

FIG. 1.—Anterior part of worm seen from the side.

FIG. 2.—Ventral part of somites 7–24.

FIG. 3.—Tip of a spermathecal seta.

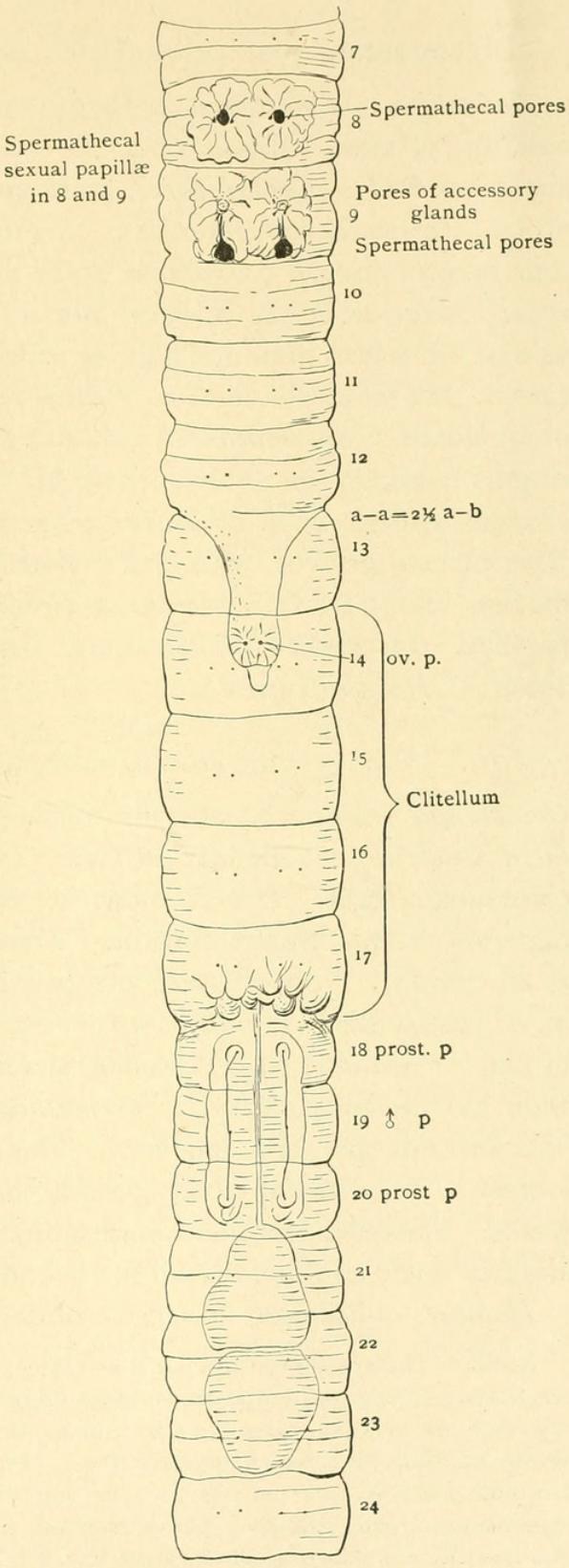


FIG. 3.

DIPLOCARDIA SINGULARIS (UDE), *subsp. n.* CAROLINIANA.

*Definition.* — *Color*, flesh, without pigmentation. *Size*, 40–50 mm. by 1½ mm. *Somites*, 64, 98–136. *Prostomium* divides i about one-half. *Dorsal pores*, most anterior on the front part of ix. *Spermiducal pores* xix. *Spermathecal* vii–ix. *Prostate pores* xviii, xx. *Oviducal pores* xiv, on a small glandular area. *Setae* as in the species, but *a–b* is about twice as long as *a–a*; *a–b* less than one-half as wide as *b–c*, all faintly sculptured. No setae *a–b* in xix. *Penial setae* curved, pointed, and ornamented. *Spermathecal setae* not differentiated. *Clitellum* ring-like, except in anterior part of xviii, where it is saddle-shaped, xiii–½ xviii. *Genital zone* not much differentiated. Two curved grooves, with the convexity turned to the ventral median line. In xvii two large circular areas, like depressed papillae. In xxi two similar areas. In xxii one median oblong area. *Septa*, thickened are:

vii/viii, viii/ix, ix/x, x/xi.

*Oesophagus* without calciferous folds. *Gizzards* v, vi. *Sacculated intestine* commences in xvii. *Dorsal vessel* single, with chloragogen cells. *Hearts*, muscular vessels in x–xii, with chloragogen cells. *Meganephridia*. *Testes* xxi. *Sperm funnels* x, xi, compact. *Sperm sacs*, one pair in ix pre-septal, one pair in xii post-septal. *Oviducts* with very large protruding funnels in xiii. *Prostates*, large, tubular, almost straight; one-third as wide as the body cavity. *Spermathecae*, three pairs in vii–ix. The anterior pair the smallest. The two posterior pairs the largest. Each of the latter extends through two somites backwards. The diverticulum is longitudinally oblong, with a distinct stalk or duct, and divided up in several chambers by trabecula.

*Habitat.* — Raleigh, North Carolina, U. S. A.

NOTE. — There is some little doubt about the opening of the spermathecae in *D. verrucosa*. Ude gives the pores as being slightly dorsal to setae *d*. Later, he says that the oviducal pores are also situated between setae *d*, while his Fig. 14 shows that they are situated between setae *a*. Of course it is possible that the misprint concerns only the reference to the oviducal pores. I have seen no specimens of this species. Those received from Prof. Frank Smith from Havana, Ill., and labeled "*D. verrucosa* Ude (?)" belong undoubtedly to a new, not yet described, species.