# THE AEDEAGUS OF DINIDORINAE (HEM., PENTATOMIDAE)

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## INTRODUCTION

Pruthi (1925, *Trans. R. ent. Soc. Lond.*, **1925**: 148) described and figured the aedeagus of *Coridius* (=*Aspongopus*) *janus* (F.). His figure showed a ligament within the theca, two pairs of conjunctival appendages and a simple sperm duct. The writer has examined the male genitalia of four species of *Coridius* (including *C. janus*) and finds them to be of a remarkably constant type and to differ from Pruthi's description. However, it was only with some difficulty that manual erection was accomplished, and that only in *C. viduatus* (F.). A description is given in order that Pruthi's can be emended and also in an attempt to elucidate the position and status of Dinidorinae, a subfamily of which *Coridius* is the dominant genus.

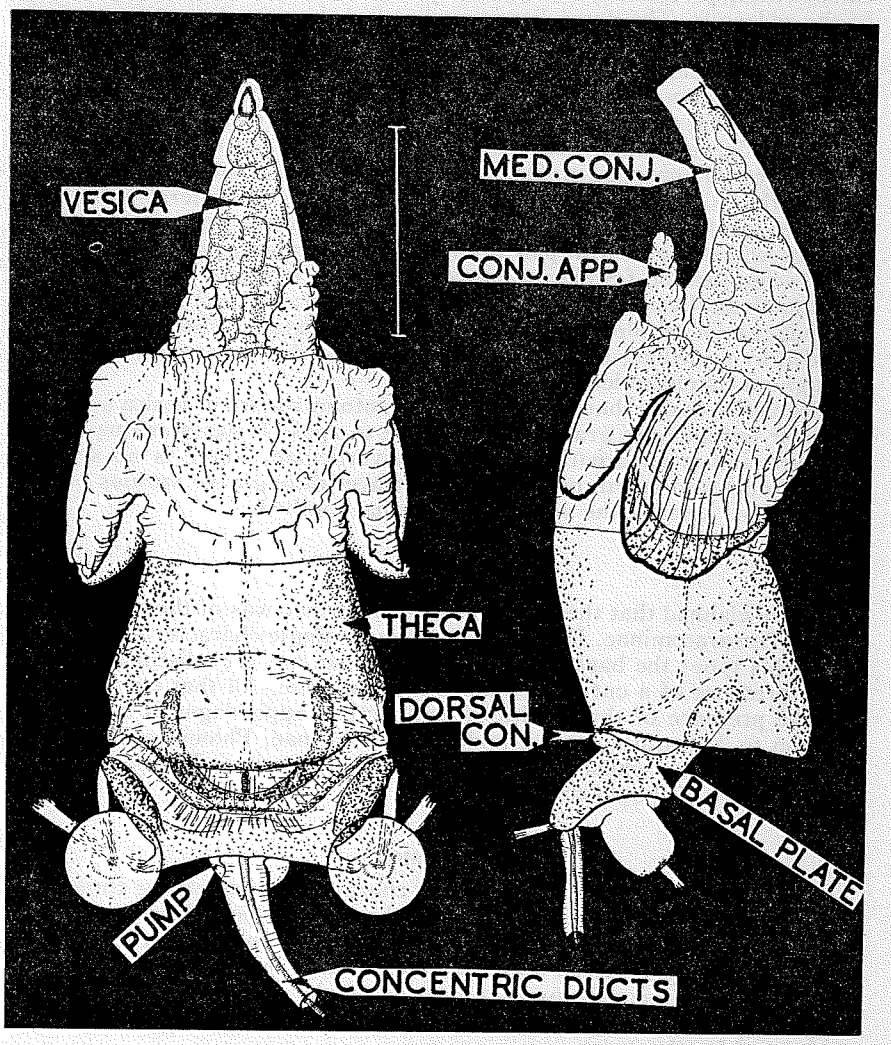


FIG. 1.—Aedeagus of *Coridius viduatus* (F.): left, dorsal view; right, lateral view. Med. conj., median conjunctival sheath; conj. app., conjunctival appendage; dorsal con., dorsal connective. Scale = 1.0 mm.

AEDEAGUS OF *CORIDIUS VIDUATUS* (F.)

The aedeagus when expanded is over 3 mm. in length. The theca is a semi-rigid cylinder within which, beneath an upturned membranous floor, the basal plate enters in the form of a median C-shaped rod. The rod is rigid and heavily sclerotised and is a ventral continuation of the transverse part of the basal plate. The basal plate is largely situated dorsally and carries two principal pair of ligaments. The upper pair of ligaments mushroom out as the capitate processes (dorsal connectives) whilst the lower pair run ventrally and are the ventral connectives. The basal plate pump, with its muscle attachment, is situated in the centre of the basal plate dorsally. (Note: dorsal and ventral refer to the position of the resting aedeagus within the 9th segment.)

The sperm duct, before the basal plate, is surrounded by a concentric canal which, presumably, carries body fluid for the erection, by pumping, of the aedeagus. The pump lies immediately below the duct at its entrance to the theca but the pump-duct inter-relationship was not elucidated. The duct, now simple, enters the theca dorsally.

The endosoma, or conjunctiva and vesica, lies when at rest completely retracted within the theca. On erection the conjunctiva is shown to enclose an area as large as the theca itself and to be drawn out to form three pairs of conjunctival appendages. One pair is small, conical and situated on either side of the mid-line dorsally. The two other pairs are lateral and closely identified at their bases; the dorsal pair are membranous and apically rounded whilst the ventral pair are large and membranous with an area of apical sclerotisation forming a crescentic tip. As has been demonstrated in Pentatominae (Leston, 1955, *J. Soc. Brit. Ent.*, **5**: 101-105) the conjunctival appendages lie within the vagina during copulation. The vesica is surrounded by a median, membranous conjunctival sheath (median penis lobe) throughout its entire length.

The vesica is not sharply differentiated into intromittent vesica and basal reservoir but narrows gradually from base to apex. It has a unique cellular structure and is apparently a mass of diverticulae. There is no separate seminal duct and sperm must therefore travel through the various cellular diverticulae. Apically the vesica is somewhat toothed.

## DISCUSSION

Pruthi claimed that the aedeagus of Dinidorinae was of the same type as that of Tessaratominae. However, he gave no single character which would define this type; the basal plates of Dinidorinae are very distinct by virtue of the presence of a curved C-shaped median piece. All that can be said is that the presence of three pairs of conjunctival appendages is a character common to Tessaratominae, Dinidorinae, Sehirinae, Phloeidae and Scutellerinae *sensu str.*, whilst the vesica sharply differentiates Dinidorinae from the remainder of these subfamilies.

## CONCLUSIONS

(1) Dinidorinae share the primitive character of possessing three pairs of conjunctival appendages with many other subfamilies of Pentatomoidea.

(2) Dinidorinae are clearly distinct from other subfamilies of Pentatomoidea in having a vesica scarcely differentiated into reservoir and intromittent organ and consisting of a mass of cellular diverticulae.

(3) By virtue of the structure of the aedeagus, Dinidorinae clearly warrant subfamily status.

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