

ance to the plate in question if my observations had been limited to a single species, but I have detected the presence of the intermediate plate in every species I have examined critically (small and more or less aborted in some cases it is true, but present in all); and I can assert its existence in all the forms included in the following synoptic table:—

*Synopsis of the Species included in the Genus Luidia herein described.*

- A. Certain paxillæ bearing a large central spine on the tabulum.
- a. Rays eight to ten. Spine-bearing paxillæ separated from the marginal plates by three longitudinal series of plain paxillæ. Plain paxillæ on the median area of the ray with several papilliform granules on the tabulum, scarcely larger than the encircling series. Infero-marginal plates with five spines gradually increasing in size as they approach the margin of the ray. Often two pedicellariæ behind, and forming a serial line with, the spines composing the adambulacral armature . . . . . *aspera.*
- b. Rays five. Spine-bearing paxillæ separated from the marginal plates by two longitudinal series of plain paxillæ. Plain paxillæ on the median area of the ray with one large tubercle-like central granule. Infero-marginal plates with the lateral (and sometimes a second spine) much longer than the others. One pedicellaria behind the adambulacral armature, and often absent . . . . . *alternata.*
- B. Paxillæ without a large central spinelet.
- a. Paxillæ with a quadrate tabulum.
- a. Lateral spine very short, compressed and robust. Forficiform pedicellariæ on the infero-marginal plates. Valvate pedicellariæ above the infero-marginal plates . . . . . *limbata.*
- b. Lateral spine long, delicate, tapering. No forficiform pedicellariæ on the infero-marginal plates. No valvate pedicellariæ present . . . . . *clathrata.*
- b. Paxillæ with a stellate crown.
- a. Adambulacral armature forming a single transverse series continuous with the spines on the infero-marginal plates.
- α. Seven rays. Pedicellariæ three-jawed.
- i. One spine on the actinal area of the adambulacral plates, long, robust, cylindrical, sometimes with a small unequal companion. Pedicellariæ very large, three-jawed, nut-shaped, very broad at the base, nearly as broad as long. Infero-marginal plates with three or four spines, the outer two or three subequal, the lateral or median one the longest . . . . . *ciliaris.*
- β. Five rays. Pedicellariæ two-jawed.
- i. One spine on the actinal area of the adambulacral plates. Pedicellariæ long and spine-like.
1. The actinal spine of the adambulacral armature short, robust, conical. The pedicellariæ with delicate spine-like jaws. Infero-marginal plates with three spines, the lateral one long, the other two much smaller, less than the actinal spine of the adambulacral armature . . . . . *longispina.*
- ii. Two spines on the actinal area of the adambulacral plates. Pedicellariæ short and papilliform.