

The primary interambulacral radioles (Pl. III. fig. 7) of this species are in the specimens collected more uniform in shape than those of *Porocidaris purpurata*. They are often three times the diameter of the test, cylindrical, slightly tapering, finely striated longitudinally, with minute sharp serrations. They differ from those of *Porocidaris purpurata* in having a short collar above the milled ring, while in the primary spines of *Porocidaris purpurata* the collar is frequently half the length of the spine and of a dark colour, in striking contrast to the white shafts. On the actinal side round the actinostome some of the primary interambulacral spines assume the curved spatula shape with serrated edges so characteristic of the spines of this genus (Pl. III. fig. 8a, b), the actinal opening is small (Pl. III. fig. 3), and the whole surface is covered by the long imbricating plates of the ambulacral system; the nature of these plates as modified ambulacral plates is readily traced in one of the specimens examined, where the ambulacral plates of the test proper are still partly soldered to the coronal plates. The interambulacral plates, however, appear independently as small plates, and are not ordinary interambulacral plates modified, as is well shown by Lovén (*Études sur les Echinoïdées*) in his drawing (woodcut, page 29).

The pedicellariæ characteristic of this species are figured on Plate III. figs. 10, 11, 12. In *Porocidaris elegans* the large-headed short-stemmed pedicellariæ, very similar to those of *Dorocidaris*, vary greatly in shape (Pl. XLIV. figs. 6, 7, 11), and the short-stemmed globular abactinal pedicellariæ (Pl. XLIV. fig. 10) are somewhat pyramidal and elongate.

Station 214. February 10, 1875. Lat. 4° 33' N., long. 127° 6' E.; 500 fathoms; bottom temperature, 5.3° C.; globigerina ooze.

Station 164a. June 13, 1874. Lat. 34° 13' S., long. 151° 38' E.; 410 fathoms; grey ooze.

Goniocidaris.

Goniocidaris, Des., 1846, in Agass. et Des., Cat. Rais.

Goniocidaris canaliculata (Pls. II., XLIV. figs. 1-3).

Temnocidaris canaliculata, A. Agassiz, 1863, Bull. Mus. Comp. Zool., vol. i.

Goniocidaris canaliculata, A. Agassiz, 1872, Revis. Ech., part 1.

In the Revision of the Echini, I referred *Temnocidaris canaliculata* (A. Agassiz, Bull. Mus. Comp. Zool., 1863, vol. i. p. 18) to *Goniocidaris*. The material then at my command was not very ample, and the specimens collected by the Challenger at Kerguelen Island, in the Straits of Magellan, and at the Falkland Islands, have brought out some interesting points, showing that the deep vertical sutural line (Pl. II. fig. 4), on account of which this species was removed to *Goniocidaris*, is frequently totally obliterated (Pl. II. fig. 5) by secondary granulation and by tubercles, both in the