Phyllacanthus (*Cidaris*).

Phyllacanthus, Brandt, 1835, Prod. Desc. An.

Phyllacanthus annulifera.

Cidarites annulifera, Lamk., 1816, Anim. sans Vert.
Phyllacanthus annulifera, A. Agassiz, 1872, Revis. Ech., part 1, p. 150.

Mr P. de Loriol [Mém. Soc. des. Sc. Nat. de Neufchatel, vol. v. p. 23, pls. iii. to vi., Mai 1873] has distinguished as *Cidaris lütkeni* a specimen closely allied to *Cidaris annulifera*. The specimens collected by the Challenger of what I take to be (*Phyllacanthus*) *Cidaris annulifera*, show that the variation of the primary and secondary spines is much greater than is admitted by De Loriol, after a comparison of the different spines of the Challenger specimens with those of the Museum of Comparative Zoölogy I am unable to distinguish *Cidaris lütkeni* from *Cidaris annulifera;* De Loriol acknowledges himself the identity of the structure of the test, and bases his principal characters on the variation of the primary spines. They differ in the same specimen sufficiently to be taken as belonging either to the typical *Cidaris annulifera* or to *Cidaris lütkeni*, and even resemble sometimes so closely the spines of *Stephanocidaris bispinosa* as readily to pass for spines belonging to that species.

Station 186. September 8, 1874. Lat. 10° 30′ S., long. 142° 18′ E.; 8 fathoms; coral sand.

Station 188. September 10, 1874. Lat. 9° 59′ S., long. 139° 42′ E.; 28 fathoms; mud.

Cape York.

Phyllacanthus baculosa.

Cidarites baculosa, Lamk., 1816, Anim. sans Vert.
Phyllacanthus baculosa, A. Agassiz, 1872, Revis. Ech., part 1, p. 150.

A specimen from Station 201 is extremely interesting, as it is the only specimen thus far collected of this species in which all the primary spines belong to the type of *Cidaris* proper, resembling to an extraordinary degree the elongated spines sometimes occurring in specimens of *Cidaris tribuloides*. The serrations of the shaft show no trace of the lamellar arrangement forming a more or less prominent fluting of the tip of the spines as in specimens of the typical *Cidaris baculosa;* neither are there any prominent serrations or spines on the shaft such as we find on forms usually considered as specific, viz.:—*Cidaris lima*, *Cidaris pistillaris*, or *Cidaris krohnii*, but which I have already shown all belong to this species. The specimen figured in Revision of the Echini (pl. i.[b],