

In this family will also be included the genera *Benthopecten* of Verrill,¹ *Cheiraster* of Studer,² and, according to their distinguished author, perhaps also *Blakiaster*, Perrier,³ and *Goniopecten*, Perrier.⁴

The diagnosis of *Benthopecten* is too brief even to indicate with certainty the subfamily to which it belongs.

Cheiraster probably finds its nearest ally in *Pontaster*, but is widely separated from that type by the truly remarkable position of the generative organs, which are said to be confined to the outer half of the ray in the form of a pair of long bands—an abnormal structural character, which is certainly not present in *Pontaster*. The polygonal plates of the paxillæ are likewise different. This position of the genitalia is so unusual that I should have been disposed to regard it as an error of observation had it been recorded by a less experienced and careful anatomist than Professor Studer.

Blakiaster is placed by Perrier in the family Archasteridæ, and it is on his authority that I now include it, for unfortunately both the description and the figure convey only a very imperfect idea of the structural and genetic characters of the form. It appears to be remarkably *Astropecten*-like in many respects, and it might ultimately turn out to belong to the family to which that genus gives the name. In fact I rather suspect that such will be the case, from the presence of the series of small plates intervening between the infero-marginal plates and the adambulacral plates; and Perrier's remark, "L'anus n'est pas distinct," seems to point in the same direction.

Goniopecten, as far as I can judge from the characters described—which are chiefly specific rather than generic—will probably be included in the subfamily Plutonasterinæ, one of the species approaching in many respects *Plutonaster*; but whether all the species can be retained in the one genus is somewhat doubtful. A more exhaustive study of their real structural characters might, however, place the group of species as a distinct subfamily of Archasteridæ—to be called the Goniopectininæ.

M. Perrier seems to have had much doubt as to the classificatory position of *Goniopecten*, as in the Liste Méthodique (Nouv. Arch., pp. 166–169) that genus is ranked in a distinct family, Goniopectinidæ, in the order "Stelleridæ valvulatæ" (*loc. cit.*, p. 168); whilst in the description of the species on p. 249 the genus *Goniopecten* is removed to the order "Stelleridæ paxillosæ," and is there placed in the family Archasteridæ. No explanation of this discrepancy is given. With this conflict of opinion on the part of the author, and only an imperfect generic diagnosis as a guide, it is obviously impossible at

¹ *Amer. Journ. Sci. and Arts*, Sept. 1884, vol. xxviii. p. 218.

² *Sitzungsber. naturforsch. Freunde Berlin*, 16. Oct. 1883, p. 130; *Anhang z. d. Abhandl. d. k. preuss. Akad. d. Wiss. Berlin*, vom Jahre 1884, p. 49, Taf. iv. figs. 8, a, b, c; Taf. v. figs. 9, a, b, c, d, e.

³ *Bull. Mus. Comp. Zool.*, 1881, vol. ix. p. 28; *Nouv. Archives Mus. Hist. Nat.*, 2e Série, 1884, t. vi. p. 265, pl. ix. fig. 2.

⁴ *Bull. Mus. Comp. Zool.*, 1881, vol. ix. p. 24; *Nouv. Archives Mus. Hist. Nat.*, 2e Série, 1884, t. vi. p. 249, pl. iv. figs. 4 and 5; pl. v. figs. 3 and 4; pl. vii. figs. 1 and 2.