

and posteriorly these two fillets unite and often form a little pointed space into which the hinder end of the visceral sac is received; this I have called the "inner cone," because in many cases the margin of the shell proper forms a larger more or less complete cone outside this, which is called the "outer cone." (See Pl. XXI. figs. 14, 15.) The two fillets above described will be alluded to as the "limbs of the inner cone."

The suckers, also, in this genus offer valuable characters for the discrimination of species; they are always pedunculate and obliquely set, as in most Decapoda, but the horny ring surrounding the acetabular cavity may be either smooth or more or less coarsely toothed. Steenstrup has pointed out that this denticulation is in some cases subject to a sexual variation, so that in instituting comparisons between different forms in respect of this character, care must be taken not to use different sexes. The ring is commonly surrounded by an area in which the epidermal cells are surmounted by rough plates of a chitinous material; this I propose to call the "papillary area." The relative sizes and shapes of its component parts vary in different species, and in many cases I have figured them. Furthermore, the margin of the sucker itself is in many species marked by a number of narrow grooves, separating more bulging intermediate portions; these, from their direction, will be called "meridional grooves," and will be alluded to in those cases in which their presence has been observed.

The structure of the hectocotylised arm has been described and figured, wherever it was present; and so far from this being uniform throughout the genus, no less than four different types of modification have been observed. It is very unfortunate that we have accurate information on this point in so few forms of this genus, for there is no doubt that it would afford a most valuable character in the discrimination of species.

I regret that I have been unable in the present work to adopt the divisions of the genus proposed by Dr. de Rochebrune in his recent "Étude monographique;"<sup>1</sup> from some of his conclusions I am obliged to differ entirely, as for example the separation of *Diphtherosepion ornatum* (Rang), from the genus *Sepiella*, and having been unable to go fully into the whole question it appeared to me better to leave the genus intact, except in so far as specimens, which I have myself examined, seemed to require a different treatment.

*Sepia smithi*,<sup>1</sup> Hoyle (Pl. XVI. figs. 1-12).

1885. *Sepia Smithi*, Hoyle, Diagnoses I., p. 190.

1885. ,, ,, Hoyle, Prelim. Rep. I., p. 294.

*Habitat*.—Station 188, Arafura Sea, south of Papua, September 10, 1874; lat. 9° 59' S., long. 139° 42' E.; 28 fathoms; green mud. Four specimens, ♀.

<sup>1</sup> *Bull. Soc. Philom. Paris*, sér. 7, t. viii. pp. 74-122, pls. iii.-vi.

<sup>2</sup> Named after Mr. Edgar A. Smith, F.Z.S., of the British Museum, whose investigation of the collections made by H.M.S. "Alert," has made us acquainted with several new and interesting Cephalopods.