

while it is evenly continuous with the inner surface it does not rise up quite so high as the outer, leaving the rough angles exposed. The two materials meet in a distinct line near the bottom of the notch.

This confirms what has been stated by previous observers, that the processes of repair are differently carried out in the marginal and central parts of the shell.

Family IV. PHILONEXIDÆ, d'Orbigny.

Tremoctopus, Delle Chiaje.

Philonexis, d'Orbigny.

Tremoctopus quoyanus (d'Orbigny), Steenstrup (Pl. XIII. fig. 7).

1835. *Octopus* (*Philonexis*) *Quoyanus*, d'Orb., Amér. mérid., p. 17, pl. ii. figs. 6-8.

1838. *Philonexis Quoyanus*, d'Orb., Céph. acét., p. 96; Poulpes, pl. xvi. figs. 6-8, pl. xxiii. fig. 5.

1861. *Tremoctopus Quoyanus*, Stp., Vid. Meddel. nat. Foren. Kjøbenhavn, Aar 1860, p. 332.

Habitat.—North Atlantic, April 28, 1876; lat. 17° 47' N., long. 28° 28' W. (at noon); from the tow-net at night; surface. Seventeen specimens (8 ♀, 9 ♂).

South Pacific, between the Sandwich Islands and Tahiti, September 15, 1875; lat. 12° 8' S., long. 150° 13' W. One specimen, ♂.

South Atlantic (d'Orb.); Atlantic (Stp.).

Of the seventeen specimens from the Atlantic above recorded, the three largest were in a separate bottle labelled "in absolute alcohol," while a fourth was mounted in a cell as a microscopic object, but, owing to the impossibility of identification in that condition, it was transferred to a tube of alcohol.

All the males had the hectocotylised arm (the third on the right side) still enclosed in its sac, which had the form of a large tumour extending as far as the margin of the mouth; and in one case there were six suckers upon its inner surface close to the margin of the mouth, belonging to the arm which was just issuing from its sac, an interesting fact as showing that the sac opens first at its oral margin (Pl. XIII. fig. 7).

The specimen from the Pacific Ocean was not very well preserved, the web between the arms having been almost entirely destroyed, so that error in its identification is by no means impossible.

The largest female specimen obtained was so much larger than those measured by d'Orbigny that it seems worth while to record its principal dimensions; it does not appear to be sexually mature, and Professor Steenstrup informs me that he has never seen any individual in that condition.