

PETRAIA BINA (*Lonsd. Sp.*)

Syn. and Ref.—*Turbinolopsis bina* (Lonsd.) Sil. Syst. t. 16. *bis* f. 5. and 5 a.

Sp. Ch.—Adult size of corallum, length nine lines, width six lines, slightly curved towards the apex, rapidly enlarging for the first three lines to a width of about the same; exterior marked with alternately larger and smaller lamellar striæ; terminal cup (and cast) about one-fourth wider than long, obtusely conical, radiated with thirty to forty vertical rows of strong conical papillæ, forming the primary lamellæ, extending but a very short way towards the centre, leaving a corresponding number of large pits on the cast, about seven rows at the margin in a space of three lines; between these an equal number of rows of much smaller and less prominent papillæ form the secondary lamellæ, and secondary row of small pits on the casts; the larger papillæ about one-third their diameter apart, the smaller papillæ (and pits) about their diameter (or rather more) apart.

Position and Locality.—Caradoc sandstone of Horderly; Malverns, Worcestershire.

PETRAIA ELONGATA (*Phill. Sp.*)

Syn. and Ref.—*Turbinolopsis elongata* (Phill.) Pal. Foss. t. 2. f. 6 b. Sil. Syst. t. 16. *bis* f. 6.

Sp. Ch.—Corallum regularly elongate, conic; casts conical, subtruncate at the smaller end, little wider than long; average diameter nine lines, marked with thirty-two to thirty-six strong primary lamellæ extending nearly to the centre, where they are complicated in a cellulose mass; between each pair of primary sulci is a finer secondary one, pierced with tubular papillæ (forming a row of pits on the cast) extending but a short way towards the centre, and reaching about four-fifths the length of the cast from the base towards the apex.

The sixty-four or seventy lamellar sulci often seem nearly equal at the edge of the cup in strength, (six or seven in three lines at the above diameter) but only the secondary ones pitted. The pitting of the secondary lamellæ, the greater coarseness of the ribs between the lamellar sulci, greater size, and greater number of the lamellæ distinguish this from the *P. subduplicata* (M^cCoy).

Position and Locality.—Calcareous flags of Bala, Merionethshire.

PETRAIA RUGOSA (*Phill. Sp.*)

Ref. and Syn.—*Turbinolopsis rugosa*. (Phill.) Pal. Foss. t. 2. f. 7. C.

Sp. Ch.—Cast conical, marked with one or two large concentric undulations of growth; average diameter nine lines, height varying from one half to slightly more than the diameter, (the latter form being very young) radiated with about seventy sub-equal, strongly pitted lamellar sulci, nine or ten in three lines (at six lines in diameter); the primary extending but a short distance towards the centre, which is wide and obscurely cellulose, secondary rows and pits as broad as the primary, but merely marginal and reaching only about half way from the edge of the cup to the base.

The close, equal, rows of large pits, of both the primary and secondary lamellæ, give a uniformly porous or cellular appearance to the casts of this species, totally unlike any of the others with which I am acquainted; Prof. Phillips's figure very imperfectly represents these peculiarities, although taking his description into account, there cannot be a doubt of the identity of the species.

Position and Locality.—Occurring occasionally in the schists of Pen lar, Llandovery; Castel Craig, Gwyddon, Llandovery, Caermarthenshire; and Peniarth.

PETRAIA SUBDUPLICATA (M^cCoy). Pl. 1. B. fig. 26.

Ref.—M^cCoy, Ann. Nat. Hist. 2nd Series, Vol. VI. p. 279.

Sp. Ch.—Regularly conic, slightly oblique and curved at the tip, outer wall thick, marked with one or two small interruptions of growth, and with fine, longitudinal, distant impressed equal striæ (seven in two lines at a