

*Grantia tuberosa*, n. sp. (Pl. I. fig. 6; Pl. III. figs. 6-13).

This Sponge differs from all other species of the genus by its large acerate spicules, which sometimes stand perpendicularly to the surface of the Sponge, but usually turn down into the parenchyma, not only piercing it in an oblique direction, but also—and this is very often the case—lying parallel to the outer surface, and thus either perpendicularly to the longitudinal axis of the Sponge, or parallel to it, or forming with it a more or less acute angle. This is a very interesting fact, for it indicates how a cortex of acerate spicules longitudinally disposed,—the chief character of the genus *Ute*—might have taken origin.

The species is represented in the Challenger collection by a complete specimen and some fragments. The first is of tubular form with extended base, 15 mm. long and 6 mm. broad in the middle; the thickness of the walls reaches 1 mm., the diameter of the osculum 2.25 mm. On one side of the outer surface are to be seen two nodular prominences, perpendicular to the longitudinal axis of the Sponge—probably incompletely developed gemmæ. Such a transverse gemmation has been also observed in *Amphoriscus stauridia* (Hæckel<sup>1</sup>). The outer surface is smooth, the inner surface slightly roughened by the apical rays of the gastric quadriradiate spicules. The radial tubes are irregular in their outlines, and show a tendency to ramify; the tubar pores are in this species larger and more numerous than I have ever seen them; the disposition of the tubar spicules is not so regular as is usually the case in the tubes with articulated skeleton.

*Skeleton*.—The skeleton consists of gastric quadriradiate, of subgastric triradiate or quadriradiate, of tubar triradiate, of large acerate, of minute cortical acerate, and of cortical sagittal and irregular triradiate spicules.

*Gastric quadriradiate spicules*.—All the rays of the same diameter (0.012 mm.), tapering from the base to sharp points; basal ray straight, often rather shorter than lateral rays, these latter being on an average 0.3 mm. long; lateral rays smooth, either straight or slightly curved, forming with basal ray an angle of about 115°; apical ray curved, rarely longer than 0.08 mm.

*Subgastric triradiate spicules*.—All the rays of the same diameter (0.02 mm.); basal ray straight, tapering from the base to a sharp point, reaching 0.38 mm. in length, forming with each of the lateral rays an angle of about 110°; lateral rays sharp-pointed, curved, often undulating, either lying in the same plane with basal ray or forming with one another an angle varying from 180° to 165°. Many of the subgastric triradiate spicules are provided with embryonal fourth rays, occasionally reaching 0.04 mm. in length, but half as thick as the other rays.

*Tubar triradiate spicules*.—All the rays sharp-pointed, of the same diameter (0.02 mm.), lying in the same plane; basal ray straight, its length varying from 0.12 to 0.28 mm.; lateral rays curved outwards, often undulating, 0.25 mm. long, each forming with basal ray an angle varying from 112° to 130°.

<sup>1</sup> Kalkschwämme, Bd. ii. p. 246.