

From the species showing the closest relation to it, *Amphoriscus poculum* can be distinguished by the following characters:—from *Amphoriscus stauridia* (*Sycetta stauridia*, H., Kalkschwämme, Bd. ii. p. 245), by the presence of acerate spicules; by the sagittal dermal and gastric triradiate spicules, the corresponding ones in *Amphoriscus stauridia* being regular; by the irregular subdermal triradiate spicules, which are sagittal in *Amphoriscus stauridia*. From *Amphoriscus sycilloides* (*Sycortis sycilloides*, Schuffner<sup>1</sup>) it is distinguished by the presence of acerate spicules in the body of the Sponge itself, which occur in *Amphoriscus sycilloides* only in the peristome; by the sagittal subgastric triradiate spicules, these being irregular in *Amphoriscus sycilloides*; and by the form of the dermal and gastric triradiate spicules.

*Skeleton*.—The skeleton consists of gastric triradiate, of subgastric triradiate, of subdermal triradiate, of dermal triradiate and of acerate spicules.

*Gastric triradiate spicules*.—Sagittal; all rays in the same plane, and of the same diameter (0·015 mm.); basal ray straight, tapering from the base to a sharp point, length inconstant, usually one and a half times as long as lateral rays, often much shorter; lateral rays curved outwards, cylindrical, either sharply or rather bluntly pointed, each forming with basal ray an angle of about 110°, 0·25 mm. long on the average.

*Subgastric triradiate spicules*.—Sagittal; all rays of the same diameter (0·02 mm.); basal ray straight, tapering from the base to a sharp point, usual length 0·38 to 0·45 mm.; lateral rays sharp-pointed, curved, often angularly bent in their middle or basal part, rarely exceeding 0·275 mm. in length, forming with each other an angle varying from 170° to 140°, and with the basal ray an angle varying from 100° to 120°.

*Subdermal triradiate spicules*.—Irregular; all rays usually of the same thickness (0·015 mm.), but of different lengths, lying in the same plane; basal ray straight, tapering from the base to a sharp point, rarely exceeding 0·1 mm. in length, occasionally rather thinner than lateral rays, forming with each of these latter an angle of about 120°; lateral rays curved forwards, sharp-pointed, of different lengths, the longer, directed centripetally, reaching 0·35 mm., often, however, considerably shorter, scarcely longer than the shorter lateral ray, the length of which varies from 0·12 to 0·15 mm. The reasons which led me to regard the centripetally directed ray as one of the laterals are expounded in the morphological part of this memoir (p. 18).

*Dermal triradiate spicules*.—Sagittal; all rays of the same diameter (0·02 mm.), usually sharp-pointed; basal ray straight, length inconstant, not exceeding 0·425 mm.; lateral rays curved, each forming with basal ray an angle of about 120°; average length, 0·25 mm.

*Acerate spicules*.—Usually spindle-shaped, often lanceolate, sharp-pointed; the lanceolate straight, the spindle-shaped either straight or slightly curved; attaining a length of 1 mm., and a diameter of 0·05 mm.; a few much shorter and stouter, the proportion between the length and the thickness being 6 : 1. Sparsely scattered in the parenchyma, their free

<sup>1</sup> *Jenaische Zeitschr.*, Bd. xi. p. 420, 1877.