Genus 109. *Arachnopegma*,[1] Haeckel, 1881, Prodromus, p. 454.

Definition.—A s t r o s p h æ r i d a with five to ten or more cortical, concentric, polyhedral, or spherical lattice-shells, composed of a very thin, cobweb-like network; innermost shell with hexagonal or ' polygonal meshes; other shells with simple triangular meshes, connected to one another by diagonal threads between them.

The genus *Arachnopegma* differs from its ancestral form, *Arachnopila*, in the possession of peculiar diagonal threads, which connect the verticils or nodal-points of every two neighbouring radial spines in two different neighbouring concentric shells. In this case, therefore, not only do triangular meshes lie in the spherical faces of the concentric spheres, but also between them, in numerous oblique diagonal planes; a very rare and remarkable structure, and forming a transition to spongy shells.

1. *Arachnopegma verticillatum*, n. sp.

Innermost shell with regular, hexagonal meshes; its diameter is the same as the equal distance between each of the two shells. Threads of the network smooth. Radial spines twenty to forty, each with fifteen to twenty verticils.

Dimensions.—Diameter of the innermost shell 0·04, distance between the concentric shells 0·03 to 0·04.

Habitat.—Central Pacific, Station 266, surface.

2. *Arachnopegma longispinum*, n. sp.

Innermost shell with regular, hexagonal meshes; its diameter half as large as the equal distance between every two shells. Threads of the network dentated or with small knots. Radial spines fifty to sixty, each with twenty to twenty-five verticils.

Dimensions.—Diameter of the innermost shell 0·02; distance between the concentric shells 0·04 to 0·05.

Habitat.—Central Pacific, Station 272, surface.

3. *Arachnopegma increscens*, n. sp.

Innermost shell with regular, hexagonal meshes; its diameter quite as large as the distance between it and the second shell; only half as large as the distance between the fourth and fifth shells. Forty to fifty radial spines, each with fifteen to twenty verticils.

Dimensions.—Diameter of the innermost shell (A) 0·025; distance between the following shells—A, B = 0·025, B, C = 0·03, C, D = 0·04, D, E = 0·048, E, F = 0·056, F, G = 0·064, &c.

Habitat.—Central Pacific, Station 274, surface.

[1] *Arachnopegma* = Cobweb-building; ἀράχνη, πῖγμα.