

species; usually each of the three longitudinal rows bears six to nine branches, often twelve to twenty or more (Pl. L. figs. 1-6).

Ontogeny.—The individual development of the Porpitidæ has hitherto been unknown. I conclude, however, from the comparative morphology of the new Porpitidæ and Discalidæ here described, that all members of these two families pass through a larval stage very similar to *Discalia*. This is subject to a shorter or longer metamorphosis, and passes through a stage similar to *Disconalia*. The transition from this to *Porpalia*, the simplest form of Porpitidæ, is easy to conceive. The gonostyles acquire a mouth, and so the sexual palpons of the former are replaced by the sexual siphons of the latter.

The medusiform gonophores, which are produced from these gonostyles by budding, have the same form and structure as the well-known *Discomitra* (afterwards *Chrysomitra*) larvæ of the Velellidæ.¹ They become sexually mature in the free medusoid state, after having been detached from the gonophores. The larvæ which arise from the fertilised egg have not yet been observed.

Phylogeny.—The comparative morphology of the Porpitidæ and Discalidæ admits the phylogenetic hypothesis that the former have arisen from the latter. When *Disconalia* acquires a terminal mouth on the distal end of each blastostyle, it passes over into *Porpalia*.

Synopsis of the Genera of Porpitidæ.

<p>I. Subfamily PORPALIDÆ.</p> <p>Umbrella highly vaulted. Pneumatocyst campanulate, with a radially lobate margin.</p>	{	<p>Tentacles arranged in eight radial bunches, the eight primary more prominent,</p> <p>Tentacles very numerous, in a circular corona, the eight primary not prominent,</p>	<p>3. <i>Porpalia</i>.</p> <p>4. <i>Porpema</i>.</p>
<p>II. Subfamily PORPITELLIDÆ.</p> <p>Umbrella flat, slightly vaulted. Pneumatocyst discoidal, without prominent radial marginal lobes.</p>	{	<p>Tentacles arranged in sixteen radial bunches, the eight primary and the eight secondary prominent,</p> <p>Tentacles very numerous, in a circular corona, the eight primary not prominent,</p>	<p>5. <i>Porpitella</i>.</p> <p>6. <i>Porpita</i>.</p>

Subfamily 1. PORPALIDÆ, Haeckel.

Genus 3. *Porpalia*,² Haeckel, 1888.

Porpalia, Hkl., System der Siphonophoren, p. 30.

Definition.—Porpitidæ with a lenticular or subglobular strongly vaulted umbrella, including a campanulate pneumatocyst with radial marginal lobes. Tentacles numerous, arranged into eight or sixteen prominent radial bunches.

¹ 57, pl. x.

² *Porpalia* = Marine ring of a buckle, *πόρπη*, *άλις*.