Glass sponges of the class Hexactinellida, such as *Euplectella aspergillum* (Venus' flower basket), frequently act as hosts to other organisms. One of the most intriguing of these symbiotic relationships concerns decapod shrimps of the family Spongicolidae, known as 'wedding shrimps'. These shrimps enter the sponge at a pre-reproductive stage and eventually form sexual pairs that remain entrapped within the sponge for the rest of their lives.

Although they are widely distributed in the Atlantic and Pacific Oceans, they have been most frequently recorded in the West Pacific. It has long been the custom in this region, particularly in Japan, to present the dried skeleton of a glass sponge containing the pair of shrimps as a wedding gift. This is to celebrate the lifetime bond that will hopefully exist between the bride and groom, although the cynical might equally suggest that it symbolises a life of entrapment. The Japanese name for hexactinellid sponges, Kairou-Douketsu (meaning 'together for eternity'), reflects this long term involvement.

The spongocoel offers a secure environment for the shrimps, with its constant circulation of clean water, a continuous supply of food particles and relative safety from many predators. This commensal association may date back to the Jurassic era and the shrimps have shown many adaptations to their unusual habitat, such as having fewer gills and exopods and a reduction in the number of spines on various appendages associated with grooming.

My own contribution to the story of the wedding shrimps consists of a description of their unusual eyes. In contrast to the sensitive superposition optics used in the eyes of almost all other decapod shrimps, spongicolids retain the apposition optics used by larval decapods. These eyes are derived by neoteny, possibly reflecting the limited value of more specialised eyes within the body cavity of the sponge at depths of 100 – 1500 m.

Ted Gaten
Department of Biology, University of Leicester, Leicester UK
E-mail: gat@le.ac.uk

---

**Also Published in JMB**

Gaten, E., 2007. Apposition compound eyes of *Spongicoloidea koehleri* (Crustacea: Spongicolidae) are derived by neoteny. *JMB*.  