Giant Squid FAQs

Is this the "real" giant squid?

The specimens we're examining this week are *Architeuthis dux*, the true "giant" squid, not to be confused with the colossal squid (*Mesonychoteuthis hamiltoni*), or the "jumbo" or Humboldt squid (*Dosidicus gigas*). Giant squid are found throughout the world's temperate oceans, while the colossal squid is so far known only from Antarctica. The colossal and giant squids are not even closely related, being from different families—the giant squid is the only species in the family Architeuthidae (supported by recent genetic evidence; see Winkelmann et al. [2013]), while the colossal squid is the largest member of the family Cranchiidae, or "glass" squids.

How big does it get?

Architeuthis appears to attain a maximum mantle length of about 2.25m (7.4 feet), or a total length of 13m (42 feet); the largest specimens known to date have been females, and males appear to reach slightly smaller maximum sizes. Giant squid beaks recovered from the stomachs of sperm whales are smaller than, or comparable in size to, beaks recovered from large specimens trawled in New Zealand waters. Since we believe sperm whales to be capable of catching even the largest giant squid, no evidence exists for recognising larger specimens than those that are currently known.

What does it eat?

Although gut contents are rare in captured giant squid specimens, the diet of *Architeuthis* has been reported in several studies and was recently summarised by Regueira et al. (2014). Giant squid appear to eat relatively small prey (generally smaller than 60cm) including fish, crustaceans and other squid. At least one case of cannibalism has been reported (Bolstad & O'Shea, 2004). We will be examining these specimens carefully for additional information we might be able to gain on the giant squid's diet and trophic ecology.

How smart is it?

Sadly, the answer to this question is probably "not very." While octopuses are very intelligent, perhaps on a level with some parrot species, a giant squid weighing 220kg has about a 20g brain, of which about 2/3 is dedicated to visual control and processing. These animals are quite interesting… but not (as far as we know so far) for any extreme intelligence.

Where did these specimens come from?

These specimens were collected from New Zealand waters, and have been donated for research by NIWA's Invertebrate Collections and the Scientific Observer Programme, funded

by the New Zealand Ministry for Primary Industries and New Zealand Department of Conservation.

Where will the specimens go after they're examined?

The best specimen will be fixed and prepared for display at Auckland Museum. The remaining specimens, which are not in display-worthy condition, will be sampled so that we can gain as much information from them as possible. Parts of them will be saved for display and educational purposes.

What kinds of analyses are you doing?

We are collecting information for these specimens for a wide range of projects, including trophic ecology (how the giant squid fits into marine food webs), possible effects of ocean acidification on this species, genetic information, and gaining a better understanding of vision in large squids. We are also trialling some new sampling techniques for obtaining different kinds of information from large specimens such as these.

Can I see the eye?

Hopefully, yes! If any of the eyes in these specimens are in good condition, we'll try to give you a good look at them.

Is it edible?

Giant squid are not palatable to humans—their tissues are full of ammonium. So far they appear most tasty to sperm whales.

Where can I find out more?

Try these resources if you're keen on more information about giant squid:

- The Giant and Colossal Squid Fact Sheet at The Octopus News Magazine Online (www.TONMO.com)
- The documentary *Discovering the Giant Squid*
- The book *Search for the Giant Squid* by Richard Ellis
- The memoir *The marine fauna of New Zealand: Cephalopoda: Oegopsida: Architeuthidae (giant squid)*. by Ellen Förch (National Institute of Water and Atmospheric Research).