

Penzance B.S.A.C. Conservation Officer's Report October 2011

A thriving undersea wildlife park has been established at Cabo Pulmo near the southern tip of Mexico's Baja peninsula and has proved to be the most robust marine reserve in the world. Citizens living around Cabo Pulmo's previously depleted fishing area, established the park in 1995 and have strictly enforced its no-take restrictions. Results of a 10 year analysis of Cabo Pulmo National Park (CPNP) revealed that the total amount of fish in the reserve ecosystem (the biomass) boomed more than 400 percent from 1999 to 2009. The citizens, just a few families, who set up the reserve never dreamt of such an extraordinary recovery of marine life. They said that in 1999 there were only medium size fish in the area, but ten years later it's full of large parrotfish, groupers, snappers and even sharks. The most striking result is that fish communities at a depleted site can recover up to a level comparable to remote, pristine sites that have never been fished by humans. A biomass increase of 463 percent in a reserve as large as Cabo Pulmo (71 square kilometres) represents tons of new fish produced every year. No other marine reserve in the world has shown such a fish recovery.



Scientists have discovered a remarkably primitive eel in a fringing reef off the coast of the Republic of Palau. This fish exhibits many primitive features unknown in the other 19 families and more than 800 species of living eels, resulting in its classification as a new species belonging to a new genus and family. The equivalent of this primitive eel, in fishes, has perhaps not been seen since the discovery of the coelacanth in the late 1930s. It is believed that such a long, independent evolutionary history, dating back to the early Mesozoic (about 200 million years ago) retention of several primitive anatomical features and apparently restricted distribution,

Protoanguilla palau



warrants *Protoanguilla palau* recognition as a living fossil. The discovery of this extraordinary and beautiful new species of eel underscores how much more there is to learn about our planet, and it brings home the critical importance of future conservation efforts—currently this species is known from only 10 specimens collected from a single cave in Palau.

Research has provided extraordinary insights into the origin of feathers. In particular, it helps to resolve a long-standing debate about the original function of feathers—whether they were used for flight, insulation or display. Researchers found that the theropod dinosaur *Sinosauropteryx* had simple bristles – precursors of feathers and that other dinosaurs had feathers, so we know that feathers came before wings, so feathers did not originate as flight structures. It is therefore suggested that feathers arose first as agents for colour display and only later in their evolutionary history did they become useful for flight and insulation. Melanosomes are colour bearing organelles buried within the structure of feathers, and because melanosomes are an integral part of the tough protein structure of the feather, they survive when a feather survives, even for hundreds of millions of years and so the colour of some feathers on dinosaurs and early birds have been identified for the first time and researchers found that *Sinosauropteryx* had alternate orange and white rings down its tail.



There were 6 reports of Bottlenose Dolphin during September, from Padstow down to Gwennap Head. .4 other reports of small pods of unidentified dolphins were probably also Bottlenose. 11 sightings of Common Dolphins were all from the Gwennap Head area or sighted from the Scillonian. 14 reports of Harbour Porpoises were from Cape Cornwall, Hella Point and Gwennap. 4 reports of Risso's Dolphins were from Porthcurno and Gwennap. 8 Minke Whale were seen during the month, 7 from Gwennap and 1 from the Scillonian. Only 7 Basking Sharks were seen, 6 from Gwennap and 1 from the Scillonian. 5 Ocean Sunfish were seen off St Ives during the month and another off Gwennap There were 21 reported sightings of Grey Seals, all off Gwennap, and often being disturbed from haul out by kayakers. The 2nd Leatherback Turtle of the Year was seen off Pendeen on the 18th.