

Friends of Penzance B.S.A.C. Conservation Officer's Report, December 2015



Thermal camera colour footage has revealed how hummingbirds avoid overheating as they beat their wings up to 70 times a second. The birds have “windows” for heat loss around their eyes, shoulder joints, feet and legs. This study is a part of a Nasa funded project to uncover the effects of climate change on the birds. Dissipating heat is complex in birds because feathers are effective insulators. Many nest birds formed bare “brood patches” when sitting on eggs, so that the eggs are not insulated from their warm skin by the feathers. The Nasa project wanted to understand how hummingbirds, and birds in general, get rid of extra heat. As flight power requirement increases—it is highest when hummingbirds hover - the amount of heat generated increases, but these ‘windows’ are sufficient at moderate temperatures to dissipate all excess heat across the full range of flight speeds in hummingbirds. The researchers are currently investigating whether these nimble, nectar-feeding birds will be able to avoid overheating as temperatures increase.

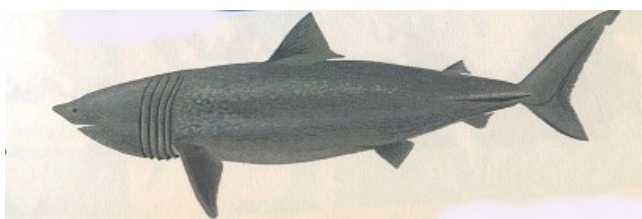


Marine scientists studying life around deep-sea vents have discovered that some hardy species can survive the extreme change in pressure that occurs when a research submersible rises to the surface. The team's findings reveals how a species can be inadvertently carried by submersibles to new areas, with potentially damaging effects on marine ecosystems. Using the manned submersible Alvin the team collected species from the Juan de Fuca Ridge, in the northeastern Pacific Ocean and they discovered 38 deep-sea limpet (*Lepetodrilus gordensis*) but this species is believed to occur only in the vents around Gorda Ridge which is over 635km south of the dive site. The big question was “how did they get over 600 km from their habitat?” The team came to the conclusion that the individuals must have been transported by their submersible even though the submersible is cleaned after every sampling, and had assumed that the extreme pressure changes would kill any species which were missed. The introduction of a new species to an ecosystem by humans, often inadvertently, is a big challenge to conservation. How a new species will react to new surroundings, and the effect it could have, is unpredictable. Until now hydrothermal vents have been considered too extreme and too isolated to be a source of introduced species.



Deep-sea limpets

The weather and sea conditions were not conducive for sea watching and marine creature spotting during December so there were very few reports. There was however a Basking Shark seen off Perranporth on the 3rd of the month. The only other reports were of Harbour Porpoises. 3 were seen off Towan Head Newquay on the 6th. A few were seen in St Ives Bay on the 8th 2 were seen off Gwennap Head on the 12th and singles were seen off Porthgwarra on the 17th and in St Ives Bay on the 31st



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