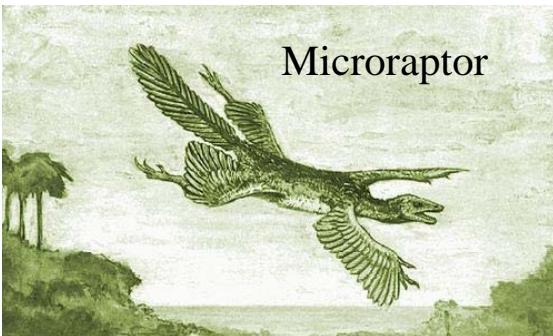


# Penzance B.S.A.C. Conservation Officer's Report March 2010

Like Escape Artists, Rotifers elude enemies by drying up and –Poof!- they are gone with the wind. These tiny animals have evolved a way to avoid parasites and pathogens by drying up and blowing away. A few genera of rotifers occur in the sea, but most are freshwater species and over a 1000 species have been reported from northwest Europe. Some are free swimming, others may cling to plants or live in moist places like mosses or lichen. I find them regularly in my bird bath and if the bird bath dries out Bdelloid (the B is silent) rotifers can shrivel to a cyst like form which can remain in a state of suspended animation and withstand years of desiccation or extremes of temperature (a state known as anabiosis). Rotifers sometime become infected with a deadly fungi, whereupon they dry out and become a cyst and get blown away by the wind . The fungi is far more sensitive to dehydration than the rotifer and the longer they remain dried out the more successful they are at ridding themselves of fungi and escaping death. Once they return to water they can re-establish a parasite free population.



A new study just published in the *Proceedings of the National Academy of Sciences* challenges the decades of accepted theories about the evolution of flight. A new analysis was done of an unusual fossil specimen discovered in 2003 called “microraptor” in which three-dimensional models were used to study its possible flight potential, and it concluded this small, feathered species must have been a “glider” that came down from trees. The research is well done and consistent with a string of studies in recent years that pose increasing challenge to the birds-from-dinosaur theory. The weight of evidence is now suggesting that not only did birds not descend from dinosaurs, but that some species now believed to be dinosaurs, may have descended from birds. Small animals such as velociraptor that had generally been thought to be dinosaurs are more likely flightless birds. Raptors look quite a bit



like dinosaurs but they have much more in common with birds than they do with other theropod dinosaurs such as Tyrannosaurus, and the evidence is finally showing that these animals which are usually considered to be dinosaurs were actually descended from birds, not the other way round. A new type of flying reptile has also been found providing the first clear evidence of an unusual and controversial type of evolution. Pterosaurs, flying reptiles, also known as pterodactyls dominated the skies in the Mesozoic Era, the age of the dinosaurs, 220—65 million years ago. Scientists have long recognised two different groups of pterosaurs, primitive long-tailed forms and advanced short-tailed pterosaurs, some of which reached gigantic size. These groups are separated by a large evolutionary gap , identified in Darwin’s time that looked as if it would never be filled—until now. This new pterosaur has been christened *Darwinopterus*, meaning Darwin’s wing honouring the 200th anniversary of Charles Darwin’s birth and the 150th anniversary of the publication of *On the Origin of Species*. More than 20 fossil skeletons of *Darwinopterus*, some of them complete, were found early last year in north-east China in rocks dated about 160 million years old. This is close to the boundary between the Middle and Late Jurassic and at least 10 million years older than the first bird, *Archaeopterus*



There were very few reported sightings during February. A pod of 6 Bottlenose Dolphins was seen off St Ives on the 7th, and 10 dolphins seen off Carnello Long Rock were probable also Bottlenose, as were 7 dolphins seen off St Agnes Head on the 25th. A pod of 10 Common Dolphins was seen off Cape Cornwall on the 7th and a Grey Seal was seen off St Ives on the 13th. There were 4 other reports of Harbour Porpoises. 1 was seen north of the Runnelstone on the 12th, 3 adults and a baby were seen 1 Km southwest of Gwennap Head on the 17th, An adult with a baby was seen right by the Runnelstone on the 22nd. One was also seen travelling west off Gwennap Head on the 25th