

The IUCN Red List of Threatened Species™ 2009 update

Mollusc Facts



Samoana attenuata

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	< CRITICALLY ENDANGERED >	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

Total species assessed in = 2,306 (up by 94 since last year)

Total EX or EW = 310 (13%) [EX = 296; EW = 14]

Total threatened = 1,036 (45%) [CR = 291; EN = 245; VU = 500]

Total NT = 246 (11%)

Total LR/cd = 18 (1%) *[an old Red List Category that is gradually being phased out]*

Total DD = 582 (25%)

Total LC = 114 (5%)

Lake Dianchi

From Lake Dianchi in Yunnan Province, China, and its surrounding area. All of these freshwater snails are new to the Red List this year and all are assessed as threatened. These join 13 freshwater fishes from Lake Dianchi that were assessed for the Red List last year, 12 of which are threatened (the other species is DD). The main threats affecting species in the Lake Dianchi area are pollution (from agriculture and human settlements), and introduced fish species (introduced for commercial fisheries). For the molluscs, overharvesting is also an issue. For further information on the threats affecting Lake Dianchi species, please contact David Aldridge for molluscs (email: da113@cam.ac.uk) or Tony Whitten for fish (Twhitten@worldbank.org).



Margarya monodi – CR

This freshwater snail is apparently endemic to Lake Dianchi. It is not abundant in the lake, and only occurs in the part of the lake that is near the outflow (a total area of around 50 km²). The main threats affecting this snail are organic and inorganic pollution within the lake, potentially overharvesting (the species is harvested for food and medicine), and introduced predatory fish species. Before the 1980s, *Margarya* species were the main commercial snails collected from Lake Dianchi and Lake Er-hai: one person could collect 20 kg of snails per day. In recent years, only around 2 kg per day can be collected per person during the open fishing season. Ten years ago people collected snails in the east of the lake, but there are no longer any snails remaining there.



Margarya mansuyi – EN

This species occurs in Lake Xingyun and Lake Qilu in Yunnan Province, China. In past years, this snail also occurred in Lake Yilong, Lake Dianchi, and Lake Datunhai (also called Lake Datun). Relatively recently it was still known from Lakes Yilong and Datunhai, but in 1983, Lake Yilong dried up for about two months, and Lake Datunhai became very shallow. Both of these lakes were surveyed in 2006, and Lake Datunhai was surveyed again in 2008 (along with Lake Dianchi); this snail was not found in any of these lakes, so it is probably no longer present there. Lake Yilong is used to irrigate farmland and water abstraction is a major problem here; the drying up of the lake in 1983 is the likely cause of the species being extirpated from there. Pollution is an ongoing problem. Lake Datunhai is very small and becomes green each year so it is probably eutrophic; the water level also changes quickly. The small size of these lakes makes them very vulnerable to drying out, and if the entire lake dries out the snail population dies. Fish harvesting in the lakes also results in this species being taken as bycatch, although the snails themselves are not used.

Partulid Snails

72 species of partulid snails (Polynesian tree snails) were assessed for this year (most of these are reassessments of species that were already on the Red List). 54 of these species (75%) are EX or EW; another 14 are threatened (19%); the rest are DD. The main problem for these snails is the introduction of the predatory snail species *Euglandina rosea* into their native islands in French Polynesia. This snail was introduced into many Pacific islands in an attempt to control another invasive species, the African Giant Land Snail (*Achatina fulica*), which is a threat to crops and native vegetation in the areas where it has been introduced. However, it transpired that *Euglandina rosea* is a major predator of smaller native snail species and has been causing extinctions in these islands ever since. For further information, please contact Trevor Coote (email: partula2003@yahoo.co.uk) Some examples:



***Partula labrusca* – EX**

In 1996, this species was assessed as EW as individuals still existed in a captive breeding programme, but not in the wild. This year its Red List status was revised to Extinct, although it was actually recorded as going extinct in 2002. This species was endemic to Raiatea, in the Society Islands. After the introduction of the carnivorous snail *Euglandina rosea* in the late 1980s, native partulid species began disappearing rapidly. By 1992 there were few left and no live individuals were found during surveys in 1994 and 2000 or during subsequent scientific expeditions to high altitudes. The last *Partula labrusca* snail died in the breeding programme in 2002.



***Partula rosea* – EW**

In 1996, this species was assessed as CR. This year it is formally declared Extinct in the Wild. This species was endemic to Huahine, in the Society Islands. The carnivorous snail *Euglandina rosea* was introduced onto the island in the early 1990s and extinctions of endemic partulid species began immediately. *Partula rosea* snails were collected for the captive breeding programme during subsequent surveys. In 2000, no live individuals were found during surveys in the islands and it has not been recorded in the wild since then.



***Samoana attenuata* – CR**

In 1996, this species was assessed as Endangered. Population declines since then have now pushed the species up into the CR category. The species occurs on Tahiti, Moorea and Raiatea, in the Society Islands. However, it is now extinct on Bora Bora. The introduction of *Euglandina rosea* onto all the Society Islands has had a dramatic impact on the distribution of this species. No live individuals were found in intensive surveys on Bora Bora in 1991, or on Raiatea in 2000. A small population was found on Moorea in 1996 and a few small populations remained on Tahiti during the surveys of 2003-2005. A few individuals were also found on Raiatea in 2006.

Malaysian molluscs

12 species from Malaysia were added to the Red List this year, all of them as threatened. All of these species have specialist habitat requirements; they are found in vegetation occurring in karst areas (rocky expanses of limestone with little surface water). Limestone quarrying is the main threat to these species. Some examples:



Alycaeus balingensis – CR

This species is only known from the limestone karst at Bukit Baling, Kedah, Peninsular Malaysia, where it occurs in lowland tropical Dipterocarp forest on limestone outcrops. This region is currently being quarried and the destruction of this snail's habitat is resulting in population declines. The quarrying process also increases the dust content in the forest, as well as changing the microclimate with reduction in humidity, causing drying out of the karst forest which can result in population declines.



Hypselostoma megaphonum – VU

This species has a restricted range, found only within small area near Bukit Charas, Pahang, Peninsular Malaysia. It is a small terrestrial snail found in the leaf-litter on the forest floor under moist forest growing on limestone. The karst in this area faces encroachment from oil palm plantations and given the restricted range of the species, future development might impact upon resident populations. Three other karsts in the vicinity are already being quarried.

Western Africa

36 species of freshwater molluscs from Western Africa were assessed for the Red List. This is part of the IUCN Species Programme's Freshwater Biodiversity Unit assessment of Africa's freshwater biodiversity. Please contact Kevin Smith (email: Kevin.smith@iucn.org) and Will Darwall (email: William.darwall@iucn.org) for more information about this.



Biomphalaria tchadiensis – EN

Assessed as VU in 1996, this species was uplisted to EN this year. The species is recorded from Lake Chad only. Lake Chad is drying out; there was a 63% decline in the lake area between 1962 and 1985, and this shrinkage continued at least until 2001. Over this period, irrigation water use increased 4-fold. Habitat quality has also declined through the invasion of species such as water hyacinth in the lake, which now covers 50% of the remaining area. If any water translocation schemes are carried out, these could pose an additional threat to *B. tchadiensis* from incoming species (e.g. potential competitors and predators). Unfortunately, this snail possibly acts as a host for the parasitic disease Schistosomiasis; if snail control measures are carried out in future, this could seriously affect the remaining population.

Seychelles Molluscs

48 mollusc assessments were added for Seychelles species. There are various threats affecting molluscs in the Seychelles, including changing habitat due to invasive plant species (e.g. cinnamon, *Cinnamomum verum*), habitat degradation caused by agriculture and wood plantations, and for some species, sea-level rise. Some examples:



Conturbatia crenata – CR (possibly extinct)

Endemic to the Seychelles, this snail is found only on Fregate Island. It is possible that the species is already extinct, after secondary poisoning caused by rodent eradication using the poison Brodifacoumin in 2000 caused a massive population decline. Further surveys are needed to determine whether the species still exists.



Glabrennea thomasseti – CR

This species is endemic to the Seychelles (Mahé island). It was originally known from Cascade Estate on Mahé island, Seychelles. The species was thought to have been lost after high altitude forest habitat in the area was cleared for cinnamon plantations. However, this snail was rediscovered in 2002 in Grand Bois, Mahé. It is also found in mist forest at Congo Rouge, Mahé. Currently, the main threat to the species is habitat degradation caused by invasive cinnamon trees (*Cinnamomum verum*). Small-holder farming and small-holder wood plantations caused habitat deterioration in the past, but these threats have since ceased.