

## On the first sinistral land-snail recorded in the Seychelles islands

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In July 2010 a sinistral specimen of the snail *Priondiscus serratus* (Adams, 1868) was collected on Mon Plaisir, Silhouette island (Fig. 1). This small member of the carnivorous family Streptaxidae (Pulmonata) is locally abundant at above 500m above sea level and is believed to be a predator of small soft-bodied invertebrates, such as nematodes and very small snails. Although sinistrality is common in some snail faunas this is the first record from the Seychelles islands. 65 specimens of this species have been examined (giving a sinistrality frequency of 1.5%) and over 3,250 land snail specimens from the islands (0.03% sinistral).

Some snail species may be entirely sinistral (mainly in the families Achatinidae, Bradybaenidae, Buliminidae, Camaenidae, Chondrinidae, Helicidae, Helixarionidae, and Vertiginidae). The arboreal families Achatinellidae, Orthalicidae and Partulidae have the highest frequency of sinistral species, and may also have some species with mixed chirality. The appearance of chirality mutant may create barriers to gene flow (Davidson *et al.* 2005) as normally snails mate in a head-to-head position, allowing alignment of the genitalia on the right side of the body. Courtship between sinistral and dextral snails would not allow alignment of genitalia. It seems that this is more of a problem for low-spired species as high-spired forms may not be restricted to the head-to-head position (Asami *et al.* 1998).

There have been no comprehensive surveys of the frequency of chirality mutants in recent snails. A study of it frequency in Quaternary fossils found that most species and sites showed extremely low frequencies of mutants (much lower than 1%) from all strata and the few reversed forms found persisted for a shorter span of geological time than the normal forms. One species showed a frequency of 10% and to have lasted for some 6,000 years at this level (Preece & White 2008).

In the Western Indian Ocean sinistral shells have been found in Madagascar (*Helicophanta gloriosa*) and in Mauritius in *Achatina fulica* and *A. immaculata* (rarely in both) and one specimen of *Gonospira modiola*, this is the only sinistral Streptaxidae out of more than 2000 examined (O. Griffiths & V. Florens, pers. comm.). Two genera are normally or frequently sinistral in Madagascar (*Fauxulus* spp and *Nesopupa minutalis*) (O. Griffiths pers. comm.).

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## References

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**Fig. 1.** Sinistral (left) and dextral (right) individuals of *Priodiscus serratus* collected within 1m of each other at Mon Plaisir, Silhouette.