

## Humans as potential disperser of the arboreal snail *Helicarion perfragilis*

**Subject:** *Helicarion perfragilis* (Mollusca: Gastropoda: Helicarionidae).

**Subject identified by:** Contributors.

**Location, date and time:** Singapore Island, Central Catchment Nature Reserve, MacRitchie forest at Upper Thomson; 23 November 2003; morning.

**Habitat:** Found *ex-situ* on the head of a human.

**Observers:** Chan Sow Yan and others.

**Observation:** One sub-adult example with shell length of about 5 mm (such as the one in Fig. 1) was found crawling on the hair of a human (Fig. 2) after hiking through the forest of Upper Thomson.

**Remarks:** Terrestrial snails are generally viewed as low dispersal organisms. This observation of a hitch-hiking *Helicarion perfragilis* highlights the potential for humans as assisted dispersers of snails. Prior to this, birds are the most well-known vertebrate for facilitating dispersal of snails through adherence to feathers (Pearce et al. 2012). The only other case of human assisted dispersal for snails known to the contributors was an anecdote of the microsnail *Diplommatina tweediei* hitch-hiking on a researcher in the rainforests of Malaysia (Davison, 1995a; 1995b). The strong adhesive slime produced by *Helicarion perfragilis* was well-noted (e.g., Tan, 2012; Lim, 2013). This slime may have partly contributed to the ability of *H. perfragilis* to adhere and disperse through agents such as birds (Pearce et al., 2012), wind-blown vegetation (Hall & Hadfield, 2009) and in the present case, humans.

*Helicarion perfragilis* has previously been recorded from frequently-disturbed orchards as well as primary and secondary rainforests (van Benthem Jutting, 1950; Ho, 1990; Tan et al., 2012; Lim, 2013). The presence of *Helicarion perfragilis* in rainforests of various stages of maturity and its coexistence with exotic flora suggests this species may be an ecological generalist. Their ubiquity on Singapore Island also suggests their ability to colonise regenerated rainforests over ecologically short timescales through means such as assisted dispersal.

While this is an isolated observation, it suggests an under-appreciation of humans as assisted dispersers of low mobility organisms such as land snails. This issue is particularly relevant to Southeast Asia given that direct human interaction with wilderness areas is rapidly increasing (Giam et al. 2011).



Fig. 1. An adult example of the arboreal snail *Helicarion perfragilis*. Photograph by Foon Junn Kitt

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Fig. 2. *Helicarion perfragilis* (indicated by arrow) on the hair of a human hiker at Upper Thomson forest. Photograph by Chan Sow Yan

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