

endangered

by John Blyth and Kirsten Pearce



Ningbing land snails

The family Camaenidae is widespread and is the dominant family of land snails in all but the wetter south-east and south-west of Australia. However, many species are very restricted in range. For example, 23 species and two subspecies of camaenid snails are found only in the Devonian limestone of the Ningbing Range and Jeremiah Hills, north of Kununurra. Here, 25 threatened Camaenid species are known to occur in an area of about 115 square kilometres.

The three genera that these species belong to are also restricted to the same small area. None of the threatened species has a range greater than 5.6 square kilometres, and one is known only from about 100 square metres! Such small living areas make them very susceptible to threatening processes, and 19 are critically endangered, four are endangered and two vulnerable.

These large attractive snails, up to 30 millimetres in diameter, have a flattened shell and varying degrees of ornamentation. They prefer areas

within open deciduous vine thickets on rugged limestone, incorporating unstable boulders and rocky slopes. They typically occur in shaded limestone crevices, under rocks or in leaf litter, and feed on decaying leaves and grass. Even a few tens of metres of unsuitable habitat appears to be sufficient to prevent movement away from favoured areas, and to separate different species.

Each known population faces various threats, particularly inappropriate fire regimes, cattle grazing and trampling, and introduced weeds. Some areas with extensive rugged limestone outcrops are naturally protected from the primary threats of cattle and fire. Sites on less challenging landscapes, with cattle often grazing and sheltering in and around the vine thickets, appear to be under significant threat.

A draft interim recovery plan has been written for the 25 known threatened snails of the Ningbing Range and Jeremiah Hills. The recovery plan aims to conserve all known existing populations in the two ranges, based on a whole-of-landscape approach, in preference to managing individual species.

It also aims to ensure the traditional owners and pastoral managers are supportive of and, where possible, actively involved in management decisions and on-ground actions. Appropriate fire regimes around limestone areas are needed, so controlled, slow burns will be carried out in the late wet/early dry season. The plan also indicates that areas vulnerable to the effects of cattle grazing will be fenced where possible. Work will also be done to maintain the health of vegetation associated with the snail's limestone habitat, particularly monsoon vine thickets.

Many areas within these limestone ranges have not been surveyed and many additional species of endemic snails may remain to be discovered. It is recommended that conservation measures are taken to protect entire occurrences of limestone-associated habitat, to conserve both known and yet to be found species of these remarkable snails.

**Photo by Norm McKenzie
Illustration by Linnea Lahium, from
Solem (1984), *Records of WA
Museum* (17).**

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