

Cooloola sedgefrog

Litoria cooloolensis

Near Threatened (*Nature Conservation Act 1992*) | Ecological Sciences, Queensland Herbarium

Identification

A small arboreal frog with a snout-vent length (SVL) up to approximately 30 mm.

The dorsal surface colouration is usually green, sometimes yellow or beige, and is usually peppered with fine dark spots and blotches. The venter is granular and cream or white in colour, the throat is yellow or orange-yellow in breeding males.

The hidden parts of the thighs are usually orange in colour, with a purple-brown stripe along the upper edge of the thigh. While the stripe is considered a diagnostic feature, it may be difficult to see or absent in some animals. The toes are fully webbed, and both toe pads and finger discs are distinct (Barker et al. 1995; Meyer et al. 2006; Meyer 2012).

Litoria cooloolensis may be confused with eastern sedgefrog *L. fallax* and wallum sedgefrog *L. olongburensis*. It can be distinguished from these two species by the body pattern, green tympanum, purple-brown stripe on the edge of the posterior thigh (if present) and, in most cases, the lack of white stripe extending from below the eye to the shoulder (Barker et al. 1995).

Tadpoles

Total length is up to approximately 45 mm. Deep-bodied with an angular snout when viewed side-on, eyes are laterodorsal. Dorsum colouration is uniform pale yellow-brown colour or marked with irregular dark splotches and reticulations.

Venter colouration is silver-white with the intestinal mass difficult to discern. Tail fins are moderately high and are a similar pattern to the dorsum (Meyer et al. 2006; Meyer 2012).

Call

Similar to the call of *L. fallax*, described as a high pitched, loud 'wrek kik', 'kik kik' or simple 'kik' (Barker et al. 1995; Meyer et al. 2006; Meyer 2012).



Photo by Ed Meyer

Distribution

Confined to lowland coastal wallum areas north of the Noosa River and sand islands of south-east Queensland.

Significant populations are known to occur from Great Sandy National Park, south to the Noosa River. Also occurs on North Stradbroke Island, but appears to be absent from the other sand islands (i.e. Moreton, Bribie and South Stradbroke Island) (Meyer et al. 2006; Hines and Meyer 2011; Meyer 2012).

Habitat

Litoria cooloolensis inhabits coastal wallum swamps and freshwater lakes with a pH of < 5.5. Animals have also been recorded a considerable distance from water in rainforest and dry eucalypt forest (Meyer et al. 2006; Meyer 2012).

Seasonal and timing considerations

The optimal time to survey for *L. cooloolensis* is during the spring, summer and autumn months, after rainfall and up to two weeks after suitable habitat has been inundated with water. Undertaking surveys later in the evening (e.g. after 2200 hours) during windless humid nights will also increase the likelihood of detecting *L. cooloolensis* (H. Hines pers. comm. 2012).

Recommended survey approach

The following survey method is recommended:

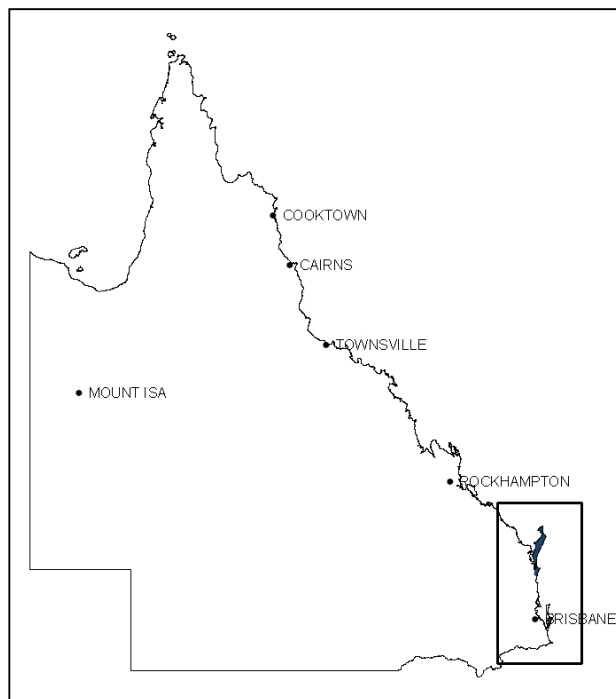
Thorough visual survey

This survey technique involves observer/s walking through suitable wallum habitat systematically searching for frogs and tadpoles and listening out for calls. Length of transect, weather conditions and time spent conducting the survey should be recorded. Any individuals that are detected aurally should be visually confirmed due to the call of the species being very similar to that of *L. fallax*. Thorough searches targeting adult *L. cooloolensis* should focus on shelter sites such as sedges, reeds and trees, over or near water (Meyer et al. 2006; Meyer 2012).

Tadpoles may be found in water bodies with emergent sedge cover. The most effective way to capture tadpoles is with a small hand-held dip net. For identification purposes, tadpoles can be held in a sealable plastic bag filled with water from where it was captured (Meyer et al. 2001). *Note: tadpoles can be very difficult to identify to species-level and usually require highly specialised skills for positive identification, or housing tadpoles for a period of time to allow them to metamorphose into adult frogs, under the appropriate state government permits.

Survey effort guide

Although there is no published information on detection rates for *L. cooloolensis*, the recommended effort below, when implemented in appropriate habitat, weather conditions and season(s), should provide a high likelihood of detecting *L. cooloolensis*. If suitable habitat is limited within the project area, transects should be repeated multiple times over the same section(s) of breeding habitat.



Minimum effort within suitable breeding habitat during optimal conditions

Survey technique	Effort per survey period	Effort per survey	Number of survey periods
Thorough visual survey	Two 50 m transects per ha or if ≤ 1 ha 2 transects; at least 30 minutes per 50 m of transect.	Spread over 2 or more nights	3 surveys

Ethical and handling considerations

- Minimise habitat disturbance at breeding sites. If transects are established in wet wallum habitat, care should be taken not to deviate from transects at any time.
- Strict hygiene protocols should be implemented to minimise disease and pathogen (e.g. chytrid fungus) spread (for further information see www.ehp.qld.gov.au).
- Avoid prolonged exposure of animals to the spotlight beam (i.e. < 2 minutes). For longer observation periods, dim the light or use an infrared beam or a red filter.
- Handling of individuals should be avoided as it may affect their behaviour and/or health, but if necessary, appropriate handling methods for examination should be used (i.e. holding frogs by their back legs).
- Any captured animals should be released at the site of capture as soon as possible after identification.

Acknowledgements

These guidelines were prepared by Jesse Rowland in October 2012. Advice and comments on drafts for *Litoria cooloolensis* were provided by Harry Hines and Ed Meyer.

Citation

Rowland, J. 2012. Cooloola sedgefrog, *Litoria cooloolensis*. Targeted species survey guidelines. Queensland Herbarium, Department of Environment and Science, Brisbane.

Key references

- Barker, J., Grigg, G.C. and Tyler, M. J. (1995). 'A field guide to Australian frogs'. Surrey Beatty and Sons: Chipping Norton.
- Cogger, H. G. (2000). 'Reptiles and amphibians of Australia'. Reed New Holland: Sydney.
- DEWHA (2010). 'Survey Guidelines for Australia's Threatened Frogs'. Department of Environment, Water, Heritage and the Arts: Canberra, Australia.
- Hines, H. B. and Meyer, E. A. (2011). The frog fauna of Bribie Island: an annotated list and comparison with other Queensland dune islands. *Proceedings of the Royal Society of Queensland*, 261-274.
- Meyer, E. (2012). Cooloola sedgefrog, *Litoria cooloolensis*. In 'Queensland's Threatened Animals' (Eds L. K. Curtis, A. J. Dennis, K. R. McDonald, P. M. Kyne and S. J. S. Debus) pp. 150-151. CSIRO Publishing: Collingwood.
- Meyer, E., Hero, J-M., Shoo, L. and Lewis, B. (2006). 'National recovery plan for the wallum sedgefrog and other wallum-dependent frog species'. Report to Department of the Environment and Water Resources, Canberra. Queensland Parks and Wildlife Service: Brisbane.