

# ***Limnodynastes convexiusculus***

Elizabeth Booth, 2002

Authority: Macleay, 1877

**Common Name:** Marbled frog

**Description** (Cogger, 1994; Frith & Frith, 1987; Davies & Watson, 1994): *Limnodynastes convexiusculus* can be identified by its dorsal colouring, which is usually grey, brown or dark olive green with darker, raised blotches; a darkly coloured band running from the snout and eye to the tympanum and the base of the front legs, and a dark mark below the eyes. Apart from “dark reticulations on the throat” (Cogger, 1994) the underside of *L. convexiusculus* is pale and unadorned. There are some glands on the dorsal surface, although they are fairly flat. The tibial gland is absent and the tympanum is reduced and not clearly defined. Identifying features of the limbs and digits are: a shovel-shaped tubercle on the inner metatarsal; a single metatarsal tubercle, little webbing between the toes and equally sized first and second fingers and relatively short hind legs. Males have nuptial pads in the form of fine spines in a large ovoid cluster on the medial surface of the thumb. Females have flanges on the first and second fingers. A burrowing, ground dwelling frog, *L. convexiusculus* is relatively large and robust with an arciferal pectoral girdle. The head is longer than it is wide and the eye has a vertical pupil slit.

**Similar species** (Roberts & Maxon, 1986; Schauble et al., 2000; Davies & Watson, 1994): Part of the *Limnodynastes peronii* group which also contains *L. tasmaniensis*, *L. peronii* and *L. fletcheri*. Also one of the closest known relatives of *L. depressus* and *Megistolotis lignarius*. Physical features distinguishing *M. lignarius* from *L. convexiusculus*: *M. lignarius* has a well defined tympanum almost the same size as the eye and the first finger is longer than the second. Female *M. lignarius* have a “moderately developed flange on the medial side of the second finger” (Davies & Watson 1994). Like *L. convexiusculus*, *M. lignarius* deposits its eggs in a foam nest. *L. salmini* is also closely related to *L. convexiusculus* and the two species live in similar habitats.

**Range** (Cogger, 1994): *L. convexiusculus* can be found along coastal areas of far north Queensland and along the northern coast of Australia from Queensland to Western Australia as well as southern parts of New Guinea.

**Ecology and behaviour** (Tyler & Davies, 1986; Tyler et al., 2002; Davies & Watson, 1994): *L. convexiusculus* is known to inhabit lowlands seasonally exposed to flooding. It may inhabit existing holes in or near savannah woodlands of the tropics, or create its own by burrowing. Little else is known about the ecology and behaviour of this species at this time.

**Breeding biology** (Heatwole, 1995; Tyler & Davies, 1986; Tyler et al., 2002; Davies & Watson, 1994; Frith & Frith, 1987): Males of the genus *Limnodynastes* show some nest protecting behaviour and may watch a clutch while also calling to females. The call of *L. convexiusculus* can be described as a repetitive “unk” sound. Males call from grass swampland vegetation or flooded holes of the crab *Holthuisiana*. Eggs are laid in a foam nest created while in amplexus. Females use their thumbs to push air under their bodies to help create the nest. *L. convexiusculus* have lentic larvae. Tadpoles are unusual from other species as they are totally black.

## Literature cited:

- Cogger, H. G. 1994. *Reptiles and Amphibians of Australia*. Reed International Books, Chatswood, NSW.
- Davies, M. and Watson, G. F. 1994. Morphology and Reproductive Biology of *Limnodynastes salmini*, *L. convexiusculus* and *Megistolotis lignarius* (Anura: Leptodactylidae: Limnodynastinae). *Transactions of the Royal Society of South Australia* **118** (3): 149-169.
- Frith, Clifford & Frith, Dawn. 1987. *Australian Tropical Reptiles and Frogs*. Tropical Australian Graphics, Townsville QLD.
- Heatwole, Harold (ed). 1995. *Amphibian Biology*. Surrey Beatty and Sons, Chipping Norton, NSW.
- Roberts, J. D., and Maxon, R. 1986. Phylogenetic Relationships in the Genus *Limnodynastes* (Anura: Myobatrachidae): A Molecular Perspective. *Australian Journal of Zoology* **34**: 561-573.
- Schauble, C.S., Moritz, C. and Slade, R.W. 2000. A molecular phylogeny for the frog genus *Limnodynastes* (Anura: Myobatrachidae). *Molecular Phylogeny and Evolution* **10** (3): 379-391.
- Tyler, M. J, and Davies, M. 1986. *Frogs of the Northern Territory*. G.L. Duffield, Government Printer of the Northern Territory.
- Tyler, M. J., Smith, L. A., and Johnstone, R. E. 2002. *Frogs of Western Australia* (revised ed.) Western Australian Museum.