



UPPER RIVER TORRENS
LANDCARE GROUP



Data Sheet

Frogs

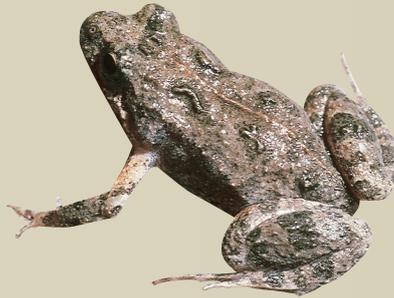
of the Mount Lofty Ranges

This sheet aims to:

1. Help you identify and understand the seven frog species in the Mount Lofty Ranges.
2. Alert you to the role of frogs as an indicator of the health of our environment and the economy.
3. Point you in the right direction for more information.

Six of the seven frogs in this data sheet lay their eggs in an aquatic environment and all live their early life as tadpoles in the water. Their adult life is on land but never far from water or damp shelters. **Note:** The Southern Bell Frog was released into the Mt Lofty region in the 1960s but have not been recorded since the 1980s so this species has been removed from the datasheet and replaced with the Peron's Tree Frog.

In catchments, the accumulation of numerous environmentally negative factors may be shown initially in the decline or deformation of frog species. We should be alert to this and avoid compounding imbalances in our natural systems. These imbalances impact on the viability of our rural and urban economies.



Their life cycle...

Seasonal rain usually brings frogs to our attention in autumn and spring. As the eggs and tadpoles develop in water, they are vulnerable to the effects of any toxins present in the watery environment.

In keeping with the principles stated through-out *Watercourse Management - a Field Guide* we know that you realise how interdependent are the many habitats that constitute our aquatic and terrestrial environments.

So the question is ...what to do?

- The first priority should be protective fencing. (In rural areas use versatile electric fencing.)
- Protect wetland areas – dams, rivers, drainage lines, creeks, streamside waterholes, swamps and even garden ponds (fish free) are important.
- Keep stock out of these areas.
- Leave fallen and dead timber and rocks for protection and to provide habitat or food sources.
- Revegetate with local watercourse plants e.g. sedges, rushes and reed. Refer to the data sheets in: *Watercourse Management - a Field Guide* available from PO Box 418, Birdwood 5234.
- Use weed control herbicides* with great care. Only spray small areas at a time

when frogs and invertebrates are not breeding.

Avoid run-off. *Roundup®

Biactive registered for use in aquatic areas.

- Learn to recognise local frog calls. Tape your own. Cross check with our call descriptions or download a Frog ID app.
- Don't ignore the tadpoles and egg mass. With practice older tadpoles can be identified according to species.
- To participate in frog surveys to assist in better understanding the health of wetland environments, contact FrogWatch SA: <https://www.frogwatchsa.com.au/>.

Features

Different frogs exhibit different features. These help to identify species and also tell us something about where they are to be found and what they do in their environment. Most frogs also share certain characteristics:

- Fully grown males are generally slightly smaller than females, the exception being the Painted Frog and the Eastern Banjo Frog.
- Secretions from mucous glands keep their skin moist.
- Breathing is through the skin, the lining of the roof of the mouth and lungs.
- They drink through their skin.
- They only eat live food.
- Some of these frogs can change their colour by moving pigments within skin cells (e.g. the Brown Tree-frog shown bottom centre).
- Their limbs, toes and fingers are adapted for various purposes e.g. burrowing, climbing, production of egg mass.

The food web

Frogs and tadpoles are food for:

- wading birds, diving birds, birds of prey, night birds, fish, long-necked tortoises, snakes, aquatic insects and water rats.

Frogs eat

- vegetation e.g. algae when they are tadpoles
- molluscs (snails), insects, e.g. mosquitoes and smaller frogs.



2 Identification and Characteristics of

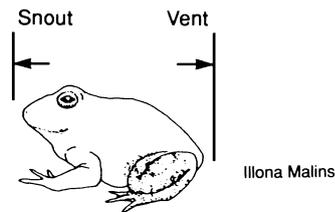
(These species can also be found elsewhere in the State.)

If you cannot identify the frog from the colour photo you may need to use this simple key as a questionnaire to check off the basic characteristics.

SIMPLE KEY TO FROGS OF MT LOFTY RANGES

1. Back toes webbed (Figure 4B)refer to Key 2
Back toes not webbed (see Figure 4C and 4D)refer to Key 3-7
2. Brown body/large pads on toes and fingers **Brown Tree Frog**
Green body/small pads on toes and fingers**Southern Bell Frog**
3. Frog mainly walks/short back legs, orange upper arms, belly blotched, striking black and white pattern **Bibron's Toadlet**
Frog makes large jumps when it moves refer to Key 4
4. Large oval lumps (glands) on lower back legs and golden stripe under eye, often dug up **Bullfrog**
No large glands on back legs refer to Key 5
5. Hard black ridge (spade) on back foot, greenish blotches on yellowish background **Painted Frog**
No black spade on foot refer to Key 6
6. Upper body dark blotches on paler background, sometimes white stripe along midline; belly, pale and smooth **Spotted Grass Frog**
Underside freckled black & white refer to Key 7
7. Small frog with very pointed snout, freckled belly, upperside very variable pattern and colour **Common Froglet**
8. Fingers and toes with pads, line forms cross-shaped pupil **Peron's Tree Frog**
(refer to Frogs from the Mount Lofty Ranges 2017, AMLR NRM)

SV = Maximum adult size range snout to vent



Litoria ewingi - Brown Tree Frog MH

Size: Males 22-40 mm; Females 32-46 mm.

A slender athletic frog, pale brown or greyish-brown with broad central stripe along length of body and head. Narrow, dark brown stripe runs from tip of snout (through nostril and eye) to shoulder. Thin whitish stripe runs along bottom edge of eye stripe. Belly smooth and pale. Orange and black flash pattern on inside of thighs. Fingers and toes have distinct discs or pads on tips and hands and feet are heavily webbed (see Figure 4A). Male has nuptial pad at base of thumb (see Figure 4E).

Habitat: Forest, woodland and inundated shrubland, on low vegetation, under bark or leaf litter on edge of creeks and dams. In gardens, verandah planter boxes, etc.

Breeding: Call an ascending, rapid, *Cree, cree, cree, cree, cree*, *cree*, (*cicada* like) from ground, low vegetation or floating in water. Eggs laid in still water and attached in clumps of 10-40, to submerged stems or leaves of plants. Tadpoles are pale.

Note restricted distribution
Introduced into the AMLR region and is now quite common in some locations.

Image & data from NRM frog ID mini-poster (2017).

Litoria peronii - Peron's Tree Frog

Size: Males 44-53 mm; Females 46-65 mm.

Peron's Tree Frog was found throughout the swamps of the Murray Valley and the South East but it has now become established in the Mount Lofty Ranges, probably as a result of the pet trade. Characterised by a cross-shaped pupil, emerald spots and bright yellow and black markings in the groin and armpits. It has a black along the edge of the ear drum. It has large pads on the fingers and toes. The fingers are not webbed, but the toes are almost fully webbed.

Habitat: In the Mount Lofty Ranges it has been found around ponds, dams and wetlands, and in well-vegetated garden areas.

Breeding: Male frogs commonly call from the ground or in vegetation which may be two metres or more above the water. The tadpoles are yellow with dark brown lateral stripes.

Mating call: A series of separated rattling notes resembling laughter. Commonly described as a 'maniacal cackle'.



Pseudophryne bibronii - Bibron's Toadlet SD

Size: Males 22-30 mm; Females 25-32 mm.

A small squat frog, with short legs that usually walks rather than jumps. Don't confuse with a 'warty' Crinia. Back is warty, blotched pinkish-brown to chocolate-brown with small pinkish to orange spots. Upper arms have pale, orangy patches. Belly slightly granular with bold black and white pattern.

Habitat: Dry forest, woodland, shrubland, or grassland, under damp grass, leaf litter, moss and rocks.

Breeding: Calls from land in shallow burrows or in leaf litter, a single, drawn-out *cree-ee-ek* or squelching sound. Up to 200 large, greyish eggs laid in a moist spot on the ground under rocks, logs, moss etc. Male often stays with eggs. Tadpoles continue to develop inside eggs until the stage when hind limbs occur. Tadpoles released only when eggs are inundated with rain or flooding, and they wriggle and slither down rivulets to the nearest water body.

the 7 frogs of the Mt Lofty Ranges

(This material has been referenced and adapted with permission from Michael Tyler, Janet Pedler and Frogwatch)



Limnodynastes dumerilii - Eastern Banjo Frog LP

Size: Males 52-90 mm; Females 52-83 mm.

A large robust frog, dark brown and warty on upper surface with golden ridge extending from eye towards shoulder. Golden on upper arms and legs with huge, prominent gland on hind leg calf. Large, hardened ridge on foot used for burrowing (see Figure 4D). Underside pale and smooth.

Habitat: Dry forest, woodland, shrubland, swamps, rivers, or dams. Lives in a small burrow and may aestivate in a sealed burrow during the summer months. Gardeners often dig them up.

Breeding: A loud call 'bonk' indicates a single frog and 'Pob-bonk' are two individuals. Usually hidden by vegetation in water, sometimes using overhangs for extra amplification of sound. Eggs, up to 1000, laid in spring in floating foam nest, often attached to edge of vegetation or rocks.



Limnodynastes tasmaniensis - Spotted Marsh Frog GP

Size: Males 31-42 mm; Females 32-47 mm.

A slender muscular frog with upper surface boldly spotted with large dark green or brownish spots on a pale grey or green-brown background. **May** have prominent thin cream line from snout to tail. Pale smooth underside. Breeding males have yellow throat and nuptial pads on thumbs (see Figure 4E).

Habitat: From shrubland to open grassy areas, swamps, dams, or rivers. Shelter in cracking clay, or under large rocks, leaf litter and rubbish, especially in summer months.

Breeding: Mt Lofty Ranges call a low-pitched, rapid 3-5 note rattle *uckuckuckuck*, staccato-like. Calls from water or hidden vegetation. Eggs, usually 200-300, are laid in a floating foam nest.



Neobatrachus pictus - Painted Frog LP

Size: Males 46-58 mm; Females 41-55 mm.

A squat toad-like frog with warty upper surface, blotched with dark green or brown on pale yellowish-green background. Sometimes with thin cream stripe from snout to tail. Pale underside, black hardened ridge on hind foot used for digging (see Figure 4D).

Habitat: Near temporary pools and swamps. Aestivates during summer in a sealed burrow, often dug up from several feet below ground level.

Breeding: Call a long, high pitched echoing musical trill (often described as machine-gun-like). Up to 1000 cream eggs laid after autumn rains amongst edge of vegetation. They then sink to the bottom of the pool. The large, pale tadpoles may live in extremely turbid water.



GP *Crinia signifiera* - Common Froglet LP

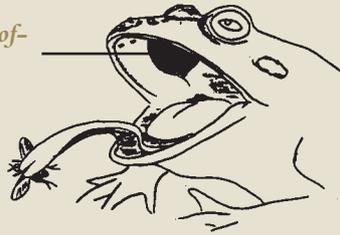
Size: Males 18-25 mm; Females 19-29 mm.

A small agile frog, with very pointed snout and a powerful jumper. All individuals of this species have granular underside, speckled pale dark-grey and white. **Different back patterns** are possible - from broadly contrasting stripes, smooth uniform colour with dark flanks, and raised warty ridges; contrasting with many different colours (ochres, oranges, dark greenish browns to grey browns, black and very pale greys and browns).

Habitat: Near water in swamps, rivers, creeks, pools and damp house gardens, under rocks, leaf litter and in damp vegetation.

Breeding: Call a regularly repeated, rapid *crick, crick, crick*, (3-5 times in series) from damp vegetation on the water's edge. Up to 300 small eggs, in clumps of 6-10, are laid in static or slow moving water attached to submerged parts of vegetation.

Eyes close/contract and the roof-of-mouth eye-bulges press the food to aid swallowing



Tongue can flick food back into the mouth

Science, the economy, frogs and us

Frog populations are a major indicator of the health of our environment and are playing an increasingly important role in the betterment of our health. A range of environmental monitoring studies are reported in *Australian Frogs* (Tyler, 1989). Although our local seven species aren't yet with our scientists at the forefront of discovery, someone else's frogs are contributing greatly.

For example, the antibiotic properties of the skin secretions of some frogs are currently a principal area of pharmaceutical research:

- Peptides (secreted skin chemical extracts) fight golden staph, herpes simplex, and African childhood blindness.
- Mosquito repellent and sunscreen component qualities of frog skin are being investigated.
- Poison and glue extracts are also being analysed.
- Analgesic potential is being studied in the USA.

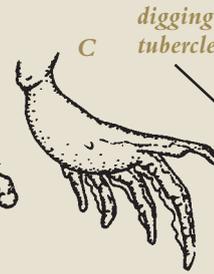
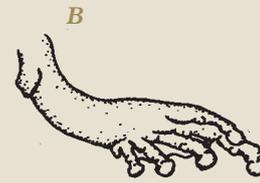
Acknowledgements

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Hands - 4 fingers



Feet- 5 toes



A&B Hand and foot typical of tree frogs with toe pads and heavy webbing

C Hind foot with fringes along each toe (C. signifera)

D Hind foot with no webbing shows enlarged, hardened pad for digging (L. dumerilii, N. pictus)

E Hand showing nuptial pad at base of thumb (L. tasmaniensis)

F Hand showing fringes on female for beating up foam egg nest (L. tasmaniensis)

Illustration: J. Pedler

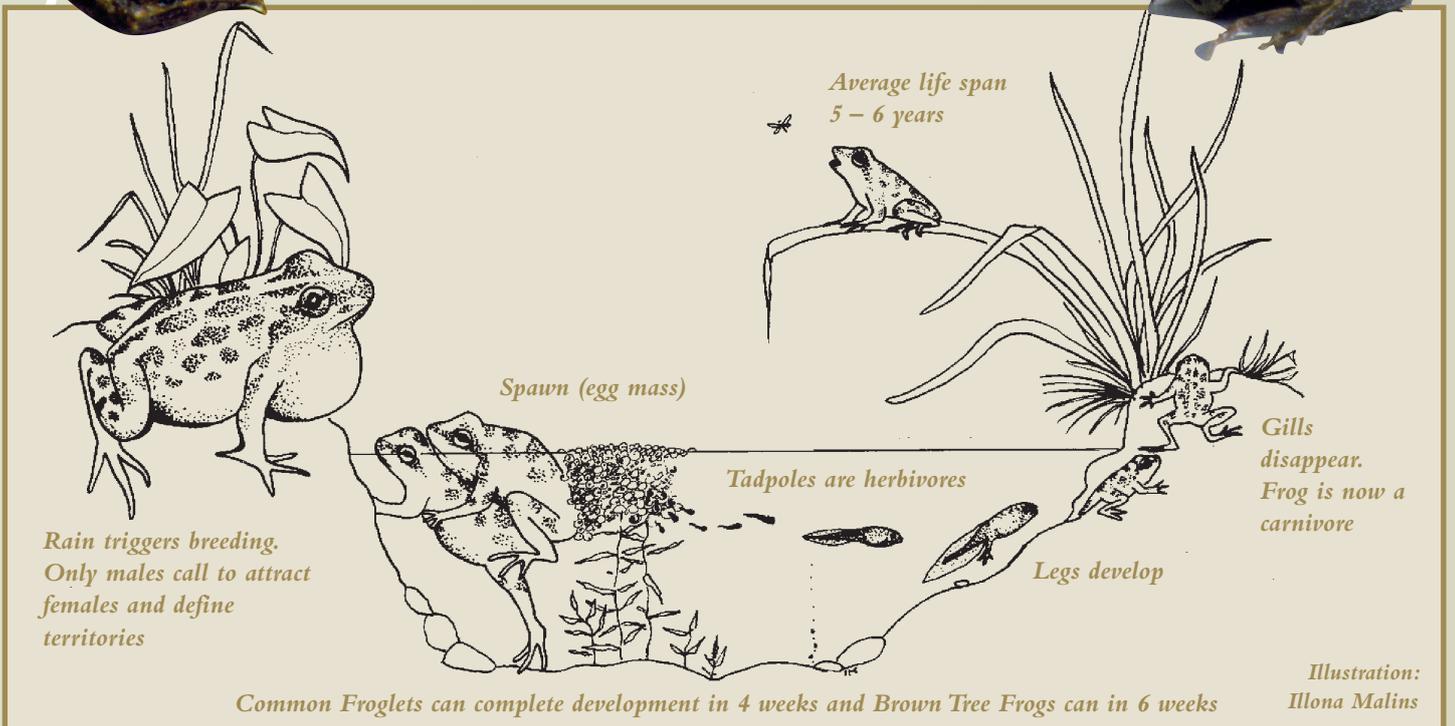


Illustration: Illona Malins

References

AMLR NRM 2017, Frogs from the Mount Lofty Ranges, Frog ID mini-poster, NRM Education. **Tyler, M.J.** 1989, *Australian Frogs*, **Viking O'Neil**, 1992 *Encyclopedia of Australian Animals - Frogs*, **Angus and Robertson**, 1977, *Frogs of South Australia*, SA Museum, **Cowling, S.** 1989 *Wetlands Wildlife*, Gould League of Vic., **Hunwick, J.** et al, 1992, *Frogwatch Field Guide and Resource Kit*. Urrbrae High School and Arbury Park Outdoor School have extensive wetlands and activities.

1st Edition 1994. Reprinted, revised 1995. Reprinted and updated 1998. Editor R. Myers. This Data Sheet is an integral part of *Watercourse Management - a Field Guide*.

Resources

- <https://landscape.sa.gov.au/hf/plants-and-animals/native-plants-animals-and-biodiversity/native-animals/frogs>
- <https://landscape.sa.gov.au/hf/plants-and-animals/native-plants-animals-and-biodiversity/native-animals/frogs/full-frog-listing>

Data ID & Collection Apps:

- [FrogID \(Australian Museum\)](#)
- FrogSpotter (FrogWatchSA): <https://www.frogwatchsa.com.au/learning-resources/frogspotter>
- South Australian Museum Field Guide to South Australian Fauna
- BDBSA Collect (DEW): <https://biocollect.ala.org.au/>
- iNaturalist: <https://www.inaturalist.org/>

