



12. Amphibious and Terrestrial Vertebrates

12.1 Frogs

Apart from fish, frogs are the only ground dwelling vertebrate animals in the arid NT with a dependence on wetlands. Most frog species, but possibly not all, need surface water to lay eggs in, and as habitat for their tadpole stage. Any such water is a wetland under our broad definition, although some may be too small and ephemeral to be mapped or commonly perceived as wetlands. Tyler and Davies (1986) report that tadpoles of *Litoria rubella* can complete their tadpole stage in as little as 14 days. Some species are more closely associated with wetlands than others. For example, *Neobatrachus sutor* often breeds in claypans (Tyler & Davies 1986). Overviews of the adaptations to aridity in desert frogs can be found in Williams and Calaby (1985), in Tyler (1989), in Heatwole (1984) and in van Beurden (1984), and include burrowing and dormancy in desiccation resistant cocoons. Frogs were not included in the survey component of this inventory. The following list of frog species in the arid NT was created from pre-existing distribution records in the NT Fauna Atlas (a vertebrate fauna records database maintained by the Parks and Wildlife Service of the NT) from across the arid NT and not just from wetlands.

Table 32. Frog species known from the arid NT

Scientific Name	Common Name	No. of arid NT records in Fauna Atlas
<i>Cyclorana australis</i>	Giant Frog	19
<i>Cyclorana cryptotis</i>	Hidden-ear Frog	1
<i>Cyclorana cultripes</i>	Knife-footed Frog	112
<i>Cyclorana maculosa</i>	Daly Waters Frog	1
<i>Cyclorana maini</i>	Main's Frog	145
<i>Cyclorana platycephala</i>	Water-holding Frog	18
<i>Limnodynastes ornatus</i>	Ornate Burrowing Frog	2
<i>Limnodynastes spenceri</i>	Spencer's Frog	618
<i>Litoria caerulea</i>	Green Tree-frog	251
<i>Litoria coplandi</i>	Copland's Rock Frog	2
<i>Litoria gilleni</i>	Centralian Tree Frog	24
<i>Litoria rubella</i>	Red Tree-frog	455
<i>Neobatrachus aquilonius</i>	Northern Burrowing Frog	94
<i>Neobatrachus centralis</i>	Trilling Frog	123
<i>Neobatrachus sutor</i>	Shoemaker Frog	63
<i>Notaden nichollsi</i>	Desert Spadefoot Toad	230
<i>Uperoleia micromeles</i>	Tanami Toadlet	30

There are several identification guides to frogs including: *Frogs of the Northern Territory* by Tyler and Davies (1986) and *Reptiles and Amphibians of Australia* by Cogger (1992).

12.2 Mammals

Of the arid NT native mammals, bats have the closest association with wetlands but their ecology has not been systematically studied in arid Australia. Some species may require surface water for drinking. If

this is true then prior to the creation of stock watering points over the past 100 years they would have been reliant on the scarce permanent waterholes during droughts. Certainly the abundance of flying insects over wetlands is important as a food source for bats and the episodic inundation of temporary wetlands may accordingly be important in maintaining populations by creating breeding pulses. Bat sampling in the Finke Floodout forest in 2001, following the cessation of waters after large river flows in 2000, recorded most of the species known for central Australia as present there (D. Matthews pers. comm.).

The following list of bat species in the arid NT was created from pre-existing distribution records in the NT Fauna Atlas from across the arid NT and not just from wetlands. Two useful identification guides are *A Field Guide to bats of the Northern Territory* by Thomson (1989) and *Australian Bats* by Churchill (1998).

Table 33. Bat species known from the arid NT

Scientific Name	Common Name	No. of arid NT records in NT Fauna Atlas
<i>Chaerophon jobensis</i>	Northern Freetail-bat	1
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	299
<i>Chalinolobus morio</i>	Chocolate Wattled Bat	196
<i>Hipposideros ater</i>	Dusky Horseshoe-bat	?4
<i>Macroderma gigas</i>	Ghost Bat	?38
<i>Mormopterus planiceps</i>	Southern Freetail-bat	86
<i>Nyctinomus australis</i>	White-striped Freetail-bat	59
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	115
<i>Pteropus scapulatus</i>	Little Red Flying-fox	5
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail Bat	26
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat	140
<i>Scotorepens greyii</i>	Little Broad-nosed Bat	15
<i>Taphozous hilli</i>	Hill's Sheathtail-Bat	64
<i>Vespadelus baverstocki</i>	Inland Forest Eptesicus	36
<i>Vespadelus finlaysoni</i>	Finlayson's Cave Bat	77
<i>Vespadelus pumilus</i>	Eastern Forest Bat	120
<i>Vespadelus vulturnus</i>	Little Forest Eptesicus	?8

Numbers of records are preceded by a question mark for species which are considered unlikely to occur in the study area.

None of Australia's three species of mammal that rely on wetlands occurs in the arid NT. The Platypus (*Ornithorhynchus anatinus*), a monotreme, is restricted to streams of the east coast, south-east coast and Tasmania. The False Water-rat (*Xeromys myoides*) is only known from coastal areas in the Top End of the NT and Queensland. In contrast, the Water Rat (*Hydromys chrysogaster*) is widespread, occurring more extensively in the Top End of the NT and from quite close to the arid NT in north-east South Australia and western Queensland (Olsen 1995 in *The Mammals of Australia*), including the Coongie Lakes area of South Australia (Reid & Puckridge 1990). Consequently, it might be possible that it could occur in the arid NT, most probably at long-term waterholes along the Georgina River. It is almost entirely restricted to permanent waterbodies, occasionally being a vagrant of temporary waters (Olsen 1995). It is highly unlikely to occur in the lower Finke River under the current climate, due to the lack of long-term waterholes and the isolation by the Simpson Desert dunefields.

12.3 Reptiles

There are no species of reptiles that are only found in the vicinity of wet areas although wetlands may be of occasional importance in generating food sources. Some snakes and lizards may experience breeding pulses in wetland areas following inundation events, in the same way as bats; and some snake species are known to hunt frogs along river beds following flows.

There are no native turtles (or tortoises) in the arid NT. Several species occur on the margins of the Australian arid zone. To the north of the arid NT are two species: Northern Snappy Turtle (*Elseya dentata*) and the Northern Snake-necked Turtle (*Chelodina rugosa*). There are various species to the east and south-east, notably in the Murray-Darling River system. One species, *Emydura krefftii*, extends from coastal Queensland into the arid interior (interpreted from the distribution map in Cogger 1992). A species of uncertain taxonomy, *Emydura sp.*, occurs in the north-east of South Australia (Tyler *et al.* 1990), including Coongie Lakes, which Reid and Puckridge (1990) refer to as the Cooper Creek short-necked tortoise.