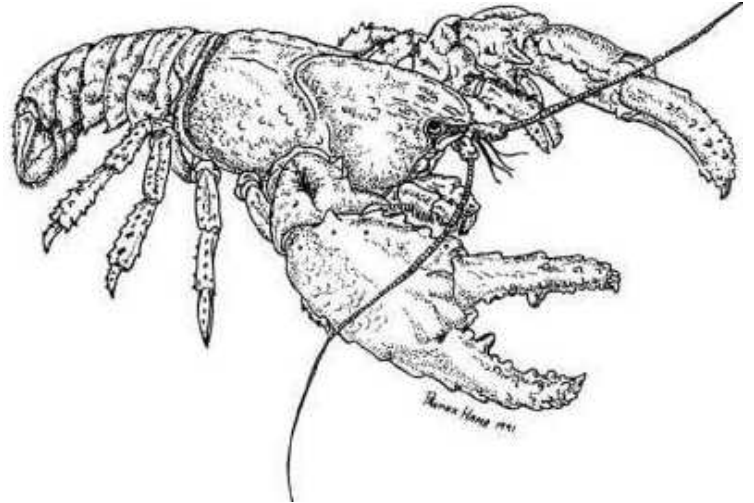


Disjunct Naturalists

WEBSITE OF THE CENTRAL NORTH FIELD NATURALISTS



Back to Birchs

by **Jim Nelson**



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Litoria burrowsae

Birchs Inlet lies at the southwest end of Macquarie Harbour, near the entrance to the Gordon River in western Tasmania. Following the Inlet south, you enter the Birch's River which drains a large section of the South West Conservation Area.

The Birchs River area became of interest to an intrepid group of field naturalists and frog enthusiasts during the early 1990s because of reports of good populations of Burrow's tree frogs (*Litoria burrowsae*). In 1993, several field nats assisted by Tasmania's Parks & Wildlife service (P&W) made 3 trips to Birchs to increase the knowledge of the natural history of Tasmania's only endemic tree frog. We published the results in the Deloraine Field Naturalists Bulletin, which I can make available to anyone who is interested.

Following the CNFN's Commonwealth funded investigation last year into the chytrid fungus in Tasmania, we became worried that *L. burrowsae* might be under threat. Known distributions of the frog, such as the Cradle Mountain area (where the frog was first discovered), seemed to be absent of the wonderful, distinct 'quanking' call of the species. We decided to return to Birchs to see what was happening there, and hopefully once again soothe our senses with the unique sound of the frog's call, and to drink in the wonderful solitude of the moorlands.

We arrived at Strahan on a blustery, grey morning to catch our charter across

the harbour. An hour before, the skipper had decided it was too rough to go. Then, just as we pulled in there was a lull, and we made a run for it. It all seemed pretty crazy to even think of going with that kind of weather about, but Paul Swiatkowski, Steve Cronin and I were all keen to get there and find out what the frogs do during some real West Coast autumn weather.

We arrived at the dock at Birchs River just ahead of some more bad weather in the harbour, and I imagine the skipper, Mario, must have had a nasty trip back. The Birchs river was running full and fast, and the ferrying of our gear, along with the table, chairs, mattresses, gas, stove and lantern supplied by Parks and Wildlife for the Orange Bellied Parrot hut made the trip pretty interesting.

[The Orange-Bellied Parrot, one of Australia's rarest birds, breeds only in the southwest of Tasmania. After breeding it heads north to spend winter in coastal areas of southern Victoria and South Australia. The hut at Birchs Inlet provides researchers with accommodation during summer when monitoring programs are undertaken. Ed]

You have to be a bit crazy to do this stuff, and I have been in some similar situations with Steve in the past, such as being stranded on Three Hummock Island during bad weather. We made the best of it and had a great time catching fish to eat and gathering New Zealand spinach for salads, then travelling to the Emerald Swamp on mountain bikes in bucketing rain with the track under water. Similarly, I had been stuck at Birchs in the past with Paul due to bad weather, and we managed to catch eels to augment our dwindling food stocks. Thus, I felt the three of us would make the best of it whatever the circumstances, so we didn't even hesitate. Anyone going to the southwest needs to be prepared to cop it from the weather, so the only question was whether it would be worth it or whether the frogs head for cover at such times.

They certainly don't head for cover! Instead, they went into breeding mode with the rain, and about 3 males were competitively calling in between wind gusts from the pond behind the hut, with another calling from a close by pond. The first day we found only 3 older *L. burrowsae* tadpoles with back legs, but hundreds of recently hatched smaller ones and also spawn and hatching tadpoles. *L. burrowsae* tadpoles hatch out much larger than the *Litoria ewingi* (brown tree frog) also present, and as such are immediately recognisable wriggling in eggs. *L. ewingi* were also gearing up for serious breeding. There were lots of small freshly hatched taddies of *L. ewingi*, but like *L. burrowsae* only a few larger tadpoles. The second night it blew a gale.

Saturday dawned windy with frequent squalls, so in full wet weather gear we set out and surveyed 15 areas of water, mostly containing tadpoles. We took water measurements for pH, salinity, turbidity and temperature. At first it looked as though the *L. burrowsae* were rejecting the water of slightly higher salinity, but in the end it seemed perhaps to just be a matter of opportunity. I have all the records in a very wet notebook which I will soon transcribe into electronic form for anyone's information.

Very few tadpoles were large enough to assess their mouths for the chytrid fungus. The ones that were large enough all looked pristine. However, one of the larger *L. burrowsae* had distorted bottom teeth rows, but the actual teeth looked fine. I did swab it for chytrid, which was the only tadpole swab I did.

Saturday night we spent about 3 freezing hours trying to catch some frogs, and eventually caught two males. We inspected, measured and photographed them, and I swabbed both of them with separate swabs. They looked fine, and at 65mm from snout to vent, one was the largest males we have ever recorded. (The previous record is 62mm, the only female caught measured 71mm.)

Sunday dawned a surprisingly better day, and the sun even appeared. The

frogs went into full competitive calling during the day, and there were about 7 *L. burrowsae* calling close to the hut. We needed to get our gear back to the dock for a 3 pm pickup, so we spent the morning rewarding ourselves by doing a trip into the rainforest. There has always been a question of whether the frogs go into the forest as there is usually a forest association with *L. burrowsae* (according to Paul), with at least patches of bush in sight of breeding areas. Do they use forest? We don't know, because we have never found a frog that wasn't down at the water. The forest was flooded in areas, but no signs of frogs of any sort.

Back in 1993 we caught 63 frogs on one trip to Birchs, all of them male. They were all found in or around the water. We couldn't find them anywhere else, and we couldn't find any females. Dr. Peter Brown finally caught a female later that year at Birchs after we had begun to wonder if they existed! It is the only one I know of that has been seen there. This is a very cryptic frog to study.

One purpose of the current trip was to get to the area at a time of year we hadn't experienced to see what was happening, and to get there with Paul (arguably the world expert on the species) to take advantage of his knowledge of the frog and his experience at Birchs. Steve was a complete novice in terms of looking at *L. burrowsae*, and my experience was pretty limited.

Paul certainly got us up to speed on the tadpoles. He demonstrated how you can tell *L. burrowsae* from *L. ewingi* while they are still in the water by using a discreet but evident nasal stripe on *L. ewingi* tadpoles. It works on all but the smallest of taddies. I was able to confirm the diagnosis in combination with my *L. ewingi* 'copper belly diagnosis' (which can be pretty discreet in high tannin areas when the taddies go very dark) and with the presence of the numerous iridipores (sparkling dots on the skin). The *L. ewingi* nasal stripe works a treat for quick differentiation. It is short and quite far forward on the nasal area, but the beauty of it is that it is visible in the water if you get the right angle.

We also were able to compare the size differences in hatching tadpoles, and the differences in eggs. I think Steve and I are now happy to get amongst some previously recorded *L. burrowsae* breeding sites in Spring to do some meaningful work.

All indications from our trip suggest that about October there will be lots of *L. burrowsae* tadpoles reaching metamorphosis at Birchs and those over-wintering taddies would be the ideal to test for chytrid. Given that the Orange Bellied Parrot releases and monitoring starts there at about the same time, it would probably be a short, sharp trip to check out the frogs because the hut would likely be occupied. A solid day down there would do it, I think. We would like nothing better than to give the frogs there a clean bill of health, and then hope they can stay that way in the face of the terrible chytrid fungal disease that has been killing frogs around the world. Given that the stronghold for *Litoria burrowsae* is in the World Heritage Area, we might hold out some small hope that the disease will not reach them.

The CNFN assisted with the expenses of this trip to Birchs Inlet as part of a commitment to establish the potential threats to Tasmania's only endemic tree frog.

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