

Defying the Status Quo: Introducing the Notion of Frog Rehabilitation

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ABSTRACT: As a lower animal, amphibians still have not crept into the mainstream consciousness of people helping wildlife in trouble. No-one would think twice about picking up a baby bird that has fallen out of its nest, but very few finders would drive across town to drop off a frog with a broken leg or one which is found looking skinny and lethargic, sitting in the middle of the driveway on a hot sunny afternoon. But the bar is being shifted slowly and one of the reasons driving the desire to know more about helping frogs is the fact that, as a group, they are being subjected to one of the worst onslaughts and species extinction rates on the planet.

Now that you are converted and would like to know what you can do to help injured and sick frogs in your area, *Who ya gonna call?* Very few carers and conservationists in Australia have ventured down the rocky path to amphibian know-how. Accurate information about treatment procedures and identifying currently known diseases (much less the new, undescribed diseases) is hard to find. As a small, non-profit operation struggling to survive in tropical regional Australia, the Cairns Frog Hospital began receiving local frogs for care back in 1998, initially as a means of learning what was actually happening to wild frogs and then finding out how to fix those problems. As a result, our organisation stumbled onto the presence of several new diseases and parasitic conditions which were previously unknown and unstudied. This presentation is to present the concepts and considerations for rehabilitating amphibians and to introduce our organisation as a source of information for this important but little known area.

Its Just a Frog!

Empathy for wildlife is gradually extending to the smallest creatures, and frogs deserve the same attention as koalas, wallabies and birds

Frogs are very important in the food chain and are depended upon by many other animals - a decline in frogs has impacts up the line, and a DISEASED frog may have even more impact!


Injured or diseased frogs may soon arrive on your doorstep. Become aware of the issues involved in their handling - they are very different, mostly because of diseases.

Why is frog rescue important?

Helps us learn what's really happening out there:

- identify real threats and management options
- vigilance for new disease problems
- chance to document little known problems
- learn and refine care techniques

Important tool when frogs are disappearing

- habitat loss and degradation part of problem
 - environmental stress leads to disease susceptibility
 - need to know how to save these animals before endangered individuals arrive at the door
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Most injuries are fixable

Frogs have amazing healing properties if they get the right help

- broken limbs can be fixed
- severe gashes can close over quickly
- liquid burns and deep ulcers can heal
- amputated rear legs can be easily compensated for but missing arms mean life in captivity

Some things can't be fixed - euthanasia is needed

- both eyes permanently damaged
- spinal breaks causing loss of limb control or head tilt
- some types of heat burns
- broken jaw

What tells me it is sick?

A rule of thumb for most frog species is, “No matter how good a frog/toad looks, if it is sitting in an open, exposed spot during the day, it is ill.”

Other signs could be:

- weight loss
- body colour is wrong (too pale or dark) or blotchy
- ulcers or other imperfections in the skin

With chytrid fungus: seen in water during the daytime; if away from water: depressed demeanour (doesn't move, tucked in body posture, slowed breathing)

See our website for lots more info

I was told it's just chytrid fungus

NO! Much of southern Australia does have chytrid, but there are at least six new disease problems getting around the country. If you don't know their symptoms, you won't know when they arrive in your area. New problems include cancer, immune deficiency, a virus which causes sudden death and deformities, flesh-eating disorders, hyperbilirubinemia, several fungal problems and several bacterial toxins. And if it was just chytrid, we have treatment instructions in our website!

I was told sick frogs can't be helped

NO again! We have recovered frogs from chytrid fungus, “Red leg”, other bacterial infections, “skin rot”, fungal ulcers, parasite infestations, “respiratory” disease (a fungal toxin), poisoning, as well as injuries caused by the frog being sick. For diseases which are terminal, these cases are needed for science to identify their pathogens but also for disease surveillance so that we will know which diseases need to be controlled where!



What do I need to receive frogs?

Notes appended to this paper list required supplies A friendly local vet is essential to provide medications, xrays, surgeries and euthanasia (frogs can only be humanely euth. with drugs - MS222 is the best)

We can help you if you have a digital camera/webcam to “see” your cases

Always collect detailed info about frog's behaviour when found, exactly where from, time of day seen, and local factors (such as neighbour using chemicals, drought, dead frogs seen previously, etc.)

Disinfection is essential

Protect the frogs and yourself! Always handle with disposable gloves Only put one frog per tank and use full disinfection before using tank, bowl, etc. again Wash all tanks, bowls, etc. with bleach (or F10 or Virkon), rinse well, then soak in a strong betadine bath (colour of coffee) for at least ten minutes and rinse well; towel dry immediately

What is the Cairns Frog Hospital?

Rescue activity of the Inc./DGR group Frog Decline Reversal Project; started in 1998 (formalized in 2000) Volunteer only; have received nearly 1,900 adult frogs/toads for treatment plus many thousands of tadpoles Vet clinics handle any invasive procedures - we do diagnosis and long term care Involved in 2 govt disease research projects Limited operation due to insufficient support but substantial knowledge acquired to assist frogs and their carers nationwide

We can help you

Consult our website for heaps of info. We may be under-resourced but the promotion of frog rehab, case diagnosis, education of carers, and disease surveillance are our priorities

Email/webcam us with your cases

CONTACT:

Frog Decline Reversal Project, Inc.

Cairns Frog Hospital

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Ph: (07) 4053-4367

mob: (0428) 114 266

Closed mornings; open afternoons and evenings

If you need fast info for a burns case or severe injury, please phone - don't wait for email We will be relocating in Aug/Sept so watch website for new details; our cdma mobile ends in Feb.



Introduction to Frog Rehabilitation Supplies and Set-up Considerations

Amphibians worldwide are in crisis. In the past individuals which befell injuries or illness were left where they were found ~ on the grounds that the effort to help them was redundant in view of their numbers and breeding rates. This is no longer the case as populations have dwindled and disappeared all around the world. We are now trying to catch up and quickly acquire the knowledge required to save what's left.

If you are considering taking up the activity of amphibian rehabilitation, this will help you identify what will be needed in the way of supplies and set-up. It is not meant to train you in the recovery of sick or injured frogs as this training needs to be tailored to the types of problems you have in your local area, and the species involved.

The first recommendation we need to stress is that you must be a healthy person to begin with. If you suffer from any sort of immune disorder, we recommend that you should consider avoiding being involved with the rehabilitation of ANY diseased wildlife, not just frogs. Many new disease problems, about which very little is known, are surfacing in wildlife. In frogs, in particular, many of the pathogens turning up in our laboratory results are those normally attacking immuno-compromised people. You can't help anyone if you become sick yourself, so err on the side of caution and always use proper protection such as gloves when handling wildlife which might be diseased.

The following lists some of the basic items we recommend and which we use in Far North Queensland and which should be on hand at all times for rescuing frogs. Other useful products may become available which will treat specific problems but, at this stage, there are far more new problems surfacing in frogs than have been investigated. Much of the treatment is still trial and error which takes time to work out a treatment for each new problem.

No matter how experienced you might become with frogs, you will need a friendly local vet to assist with invasive procedures such as surgery, x-rays, prolapsed vents, euthanasia, etc

Here is a list of supplies to begin collecting:


- Betadine Solution (10% povidone iodine)
 - Aqua Master's Rapid White-spot remedy (has formaldehyde and malachite green)
 - Multicure aquarium antifungal (has malachite green, acriflavine and methylene blue)
 - Calcium Sandoz syrup (keep in the fridge once opened)
 - Aquarium charcoal which is pulverized using a mortar and pestle and stored in a dry container
 - Panadeine tablets (8 or 10mg Codeine – NOT forte) which are pulverized in a mortar and pestle and stored in a dry container with a desiccant pack (from one of your vitamin bottles). Do NOT attempt to use Panadeine until you have been given specific instructions
 - 1ml syringes (without needles) in sealed wrappings
 - Disposable gloves (vinyl, latex or nitrile)
 - Laminated pouches used for curries (these are foil lined and after washing can be cut up into pieces and stored in a plastic container for use when force-feeding a frog)
 - Bleach of F10 SC is needed for proper disinfection as well as Betadine
 - Plastic pet tanks of various sizes. Opaque plastic cups for each tank
 - Portable fan-forced heater and a mercury thermometer in case you should encounter Chytrid fungus
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Frogs only eat live, moving insects. You will need to find a commercial supplier of crickets or wood roaches. These can be set-up in containers so that you have an uncontaminated supply of food for your frogs. Mealworms are NOT suitable for frogs. You can also catch bugs from your garden but you will need an awful lot of them and there is always the risk they may be contaminated by a neighbour's use of herbicides and pesticides. Check with your nearest zoo to find out where they source their insects.

In addition, and before beginning, you should find a source (usually a Vet) that can provide you with the following items quickly in case they are needed:

- Fresh Aloe Vera plant (not the gel in bottles)
- Avitrol bird wormer
- Polyaid bird emergency-supplement
- Praziquantal 50mg tablets
- Baytril antibiotic at a concentration of 25mg/mL
- Optigen (gentamycin) eye ointment (from a vet, for gram negative topical bacterial problems)
- Amphibian ringers (special electrolyte solution ordered through Vet)
- Benzalkonium chloride (in pure form, not from disinfectant)

These items could be acquired by a rescue group and made available in smaller quantities to carers instead of every individual purchasing their own supplies. The reasons it's better to buy in bulk are:

- Avitrol and Polyaid will only occasionally be needed for specific cases and in small amounts so, if individuals purchase these products, they will expire long before being used.
 - Amphibian ringers is ordered in advance through a Vet and is a special product which is used in fluid retention cases to assist the kidneys and to provide electrolytes. This is only ever used in small amounts but the bags are in 1 litre pouches and once ordered by the Vet, can take weeks to arrive. If a group orders a couple of bags, selling to individuals as required, waste is avoided and it means that the ringers is available when it is needed as it is impossible to acquire at short notice.
 - Benzalkonium chloride is sourced from chemical companies and laboratory suppliers. It is diluted down twice to obtain the concentration used on frogs. We've found that is the only antifungal so far which is effective on some of the fungi that have turned up in frogs in Far North Queensland over the past year or more as a result of extreme environmental disturbance (the drought and Cyclone Larry). IF it is recommended for treating the problem you've contacted us about, then you must obtain this to help the frog recover. This is an item which is best ordered by a group and then diluted down into ready-to-sell smaller containers for carers. One bottle is so concentrated that it would probably supply all the frog keepers in Australia !
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Information to collect when a frog is found

One of the *rules of thumb* for knowing a frog is sick is that it is found during the day in open, exposed spots such as on a footpath or driveway, sitting on a rock in the sun, etc

The frog should be carefully picked up and placed in a pet tank with a bowl of water and an opaque plastic cup laying on its side (for hiding). The tank should be kept indoors in a quiet place. If the frog is being transported to a carer, it can be placed in an icecream container with a few holes in the lid for the journey.

As much information as possible should be written down such as the date, exact location where the frog was found (street address) and the local setting – whether on the lawn, on a window-sill, behind a hanging picture, being attacked by another animal. Other information which may be useful is whether the finder has seen this individual before, if they have seen other sick or dead frogs on their property, if they or a neighbour have been using any chemicals lately, etc

A list of clinical symptoms should be recorded. These can include physical and behavioural factors including :

- losing weight or already emaciated
- abnormal colour (too dark, too pale, or has spots or blotches not part of the species' normal markings)
- ulcers, scratches or gouges in the skin, or other patches where the skin has been eaten away or torn open from injury
- skin is slimy or there appear to be stringy bits which are sticking to the skin and collecting dirt
- frog is lethargic when seen but goes ballistic when picked up
- frog is red or pinkish on the underside of the body
- hard or soft lumps anywhere on the body
- shows no interest in food (they only eat live insects which must move in front of them or else the frog won't see them)

A digital camera which can take clear, close-up photos is very helpful. These photos can be quickly emailed to us for help in diagnosing the problems. Take photos from all sides of the frog as well as close-ups of any unusual aspects such as ulcers or lumps.

When you have your photos and observation notes ready, you can contact us for help and guidance on how to treat the frog.

We will be relocating in August-September 2007 so consult our website for updated contact details.



Cairns
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Hospital
