

# Collaborative conservation effort to save one of SA's smallest frogs

*Several organisations and individuals across South Africa have joined forces in the fight for the survival of the small Pickersgill's Reed Frog. Article by Petro Kotzé.*

Frogs always seem to get the short end of the fairy tale – being as they are depicted as the exact opposite of the handsome prince. Unfortunately, it also appears that the tale of many frog species are dangerously close to an unhappy ending.

Amphibians are the most threatened vertebrates on Earth,

with 32.5% of species currently Red Listed. Locally, the situation is not much different and, to a large extent, the survival of one specific amphibian is now dependent on people taking note of it, and even more so, planning future developments around its heartbreakingly small remaining habitat.

Luckily for this frog, reports Dr Jeanne Tarrant, Manager of the Endangered Wildlife Trust's Threatened Amphibian Programme, they are making good progress, and the private property owners on whose land the remaining habitats of the Pickersgill's Reed Frog occur are coming to the party.



*A male Pickersgill's Reed Frog.*

## A UNIQUE AMPHIBIAN

The Critically Endangered Pickersgill's Reed Frog (*Hyperolius pickersgilli*) is a small hyperoliid frog (a group of sedge and bush frogs). First described in 1982, it is named after the herpetologist Martin Pickersgill, who discovered the species at Mount Edgecombe in 1978. The original specimen was found at Avoca in Durban. Due to extensive urban development and wetland drainage, these two historical sites no longer exist.

These tiny reed frogs only measure up to 29 mm, the maximum size for females. Males and juveniles are usually brown in colour, and are characterised by a dark-edged, light, torso-lateral band running from the snout to the hind quarters on each side. The underside is smooth and pale, while the inner thighs, toes and fingers lack pigmentation. The snout extends only just beyond the nostrils and is slightly pointed. The frog's call is a soft, insect-like chirp.

Pickersgill's Reed Frogs are described as habitat specialists that require perennial wetlands comprising dense reed beds in Coastal Bushveld-Grassveld at low altitudes. The

perfect habitat includes thick vegetation such as Snakeroot, from which males call, and taller broad-leaved vegetation, including the Common Reed, Bulrushes, and sedges on which the frogs lay their eggs.

The wetlands these frogs like to inhabit should not be burnt regularly in order for a layer of decaying vegetation to form over the water surface. They also require perennial standing water of between 20 and 60 cm deep. Outside the breeding season, these frogs can move up to 2 km from these sites for foraging.

The Pickersgill's Reed Frog is endemic to a narrow and extremely fragmented range within 16 km of the KwaZulu-Natal coastline. They are known to still occur in only 20 isolated sites between St Lucia in the north and Sezela in the south. The majority of these sites are located on privately or commercially-owned land, and many are experiencing ongoing decline in habitat quality.

Some sites even face the threat of complete elimination as a result of industrial development. Only two sites are placed within statu-

tory protected areas; the Umlalazi Game Reserve and the iSimangaliso Wetland Park.

Without intervention there is a very real danger that this special amphibian will go extinct. As a result, the plight of the Pickersgill's Reed Frog has been taken up by the EWT's Threatened Amphibian Programme (TAP), which has highlighted this species as a priority species for conservation action.

*Dr Jeanne Tarrant,  
Manager of the EWT's  
Threatened Amphibian  
Programme.*



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## MAKING A PLAN

The TAP Pickersgill's Reed Frog Recovery Project, in conjunction with several partners including Ezemvelo KZN Wildlife, entails a comprehensive plan with a variety of objectives.

Firstly, the team is developing a Biodiversity Management Plan for Species (BMP-S), potentially the first for an amphibian species in South Africa. A BMP is warranted because this species has been provisionally listed as a Threatened or Protected Species (TOPS) under the National Environmental Management Biodiversity Act in 2013.

The BMP for the Pickersgill's Reed Frog will guide management plans for its habitat to ensure the long-term survival of the species. This needs the input and support of all the stakeholders and property owners, of which there are at least 15 that are well-placed to influence the future of this species. Dr Tarrant reports that they have received positive support from these parties and, following a stakeholder meeting at the end of last year, this process is progressing.

While they still have to knuckle down site-specific stipulations, the main threats as well as the concurrent necessary mitigation action have been identified. According to Dr Tarrant, these include the maintenance of a terrestrial buffer zone with natural, indigenous vegetation

*Mount Moreland, one of the few remaining sites where the Pickersgill's Reed Frog can still be found.*



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**Top right:**

Johannesburg Zoo is one of the organisations involved in establishing a captive breeding population of the Pickersgill's Reed Frog.

**Bottom right:**

Facilities such as these at the Johannesburg Zoo are used to breed a captive population of Pickersgill's Reed Frogs.



Pietro Kotzé



surrounding the frogs' core habitats. It further includes the removal and management of alien invasive plants, and the prevention of siltation entering the wetlands that the frogs call home.

The EWT is also aiming to secure at least 30% of the total population of the Pickersgill's Reed Frog in the next three years through habitat management, stewardship and land acquisitions. Dr Tarrant notes that a good example of this is their dealings with the eThekweni Municipality to help them purchase a specific property from the land owner.

The team is also looking at establishing Biodiversity Stewardship Programmes, a key mechanism to secure priority biodiversity on land outside of state-owned protected areas where the landowner is willing to enter into

a voluntary conservation agreement. It is hoped that Mount Moreland, a small village on the North coast of KwaZulu-Natal, next door to the new King Shaka International Airport and Dube Tradeport, will be secured under such an agreement. A freehold property available to prospective investors and developers, it is also home to what is probably the biggest remaining population of Pickersgill's Reed Frogs outside a protected area, explains Tarrant.

They are also considering relocation and re-introductions where necessary. One of the precious few remaining populations, for example, is on the site of Transnet's proposed digout-port in Durban, set to be the biggest port in Africa on completion. Dr Tarrant says they are working with Transnet to secure this

population, and possibly relocate it to suitable habitat nearby.

While the current existing populations are being kept a close eye on, Dr Tarrant is also on the hunt for any potential new subpopulations. To do this, she has identified 80 wetlands that are suitable for this frog and has visited each to see if they are present. Her team is also engaging with the public, and follow up on any leads from people that think they might have found some of these frogs. Unfortunately, none of the leads have borne any fruit. Dr Tarrant is not deterred, saying that her feeling is that more populations "will be revealed over time."

Another option is the restoration of historical sites, and facilitating restoration with relevant partners where appropriate. Such an example is Simbithi, a 430 hectare eco-estate. Described as a "natural, coastal paradise with indigenous riverine vegetation, lush valley wetlands, undulating hills and distant, breath-taking vistas," the wetland habitat inside the development, but has been badly affected by sugarcane farming in the past, but is now returning to a state that is very suitable to the species. According to Dr Tarrant, the property owners here are excited about conserving the Pickersgill's Reed Frog, and are assisting with monitoring the populations on the estate.

## GETTING A GRIP ON THE POPULATION

Another tier of the Pickersgill's Reed Frog Recovery Project is the development and implementation of a standardised, long-term monitoring protocol at priority sites, in order to ascertain population trends, threats to populations and responses of populations to management interventions.

The team has completed a proposed methodology and were able to implement trials at Mount Moreland throughout the last breeding season from October until mid-February. They are also testing the

methodology at Prospecton, the proposed Dig Out Port site, in order to estimate population size. Dr Tarrant says their attempts “have been very successful over the most recent breeding season” and they were able to learn new, interesting facts about this special creature.

Their methodology includes surveillance by listening for the frogs’ call to count them, and monitoring work. The team divides the wetland into transects through which they then move to complete their work. Except for a better idea of population sizes, they were also able to find out more about which temperature is ideal for the frogs, and how they react to rainfall.

While it sounds easy in theory, the reality is much different. “You are up to your armpits in mud and the reeds are cutting you to bits,” notes Dr Tarrant. “To find two or three frogs every hour or two is very good going.” Eventually, the plan is to train staff at these various sites to do the monitoring and take responsibility for collecting the data.

Now that the collecting season is over, the project is focusing on other aspects like the frogs’ genetics. The team is interested to find out how the frogs have been affected by the fragmentation of their habitat and the resulting isolation of populations. They also need to know what the impact will be on population genetics should they be relocated or reintroduced into the wild.

The frogs to be introduced into the wild will hail from the captive breeding programmes currently on the go in the Johannesburg and Pretoria zoos and, most recently, the uShaka Marine World.

The first collection of 30 adults by Johannesburg Zoo was done in 2012, says Dr Tarrant, and later, ten of these went to the National Zoological Gardens in Pretoria. The programme seems to be progressing well. “Last year we had quite good breeding success,” she says. The adding of uShaka to the mix is a wonderful and logical development, she says. In order for

successful breeding in Pretoria and Johannesburg, the breeding rooms have to be strictly regulated to maintain certain temperatures and climatic conditions. As uShaka is so close to the frogs’ home ground, creating the correct habitat should be somewhat easier.

While the breeding successes in captivity are great news, Dr Tarrant stresses that the ultimate goal is their reintroduction into the wild.

### ARE THEY WINNING THE BATTLE?

Dr Tarrant is positive about the future of this species. One of the most important facets for their survival is to raise public awareness around the precarious position that the Pickersgill’s Reed Frog, and many other amphibian species are finding themselves in. And, this seems to be happening. Frogs don’t always have the best public perception, she says, but this is changing as people are learning more and getting more

excited about the prospect of becoming involved in their conservation.

“For example, frogging, where the public gets to participate in surveillance and monitoring work, is gaining popularity, and we are trying to spread the word and benefits of backyard-conservation,” she says. For frogs, this could be as easy as keeping a pond in your own yard.

The protection of this species is also increasingly getting a stronger legal foot to stand on. While the BMP-S is not legally binding, Dr Tarrant notes that once the Pickersgill’s Reed Frog is included in the revised TOPS list (NEMBA), habitat destruction of this endangered species will be prohibited. If the the necessary TOPS amendment is passed before mining licenses are approved that is set to take place on some of the frogs’ habitats, they will have an uphill battle to get permission to start this activity.

Concludes Dr Tarrant: “I would like to think that the frog crisis is one that we can still remedy.” □

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### TAKE A LEAP FOR FROGS

The EWT Threatened Amphibian Programme (TAP) held an awareness day for South African frogs on Friday, 28 February. The Leap Day for Frogs is the one day of the year when ordinary South Africans can take a leap of actions and do something to appreciate and protect one of the most threatened groups of animals on Earth: Frogs. The EWT TAP also uses the day towards the protection and conservation of three of our most endangered frog species: the Amathole Toad, Pickersgill’s Reed Frog and Western Leopard Toad. For more information, and to learn how you can get involved, visit <http://www.leapdayforfrogs.org.za/>

