Batrachochytrium dendrobatidis 简体中文 正體中文

System: Undefined

Kingdom	Phylum	Class	Order	Family
Fungi	Chytridiomycota	Chytridiomycetes	Chytridiales	

Common name chytrid frog fungi (English), Chytrid-Pilz (German), chytridiomycosis (English), frog chytrid fungus (English)

Synonym

Similar species

Summary

Batrachochytrium dendrobatidis is a non-hyphal parasitic chytrid fungus that has been associated with population declines in endemic amphibian species in upland montane rain forests in Australia and Panama. It causes cutaneous mycosis (fungal infection of the skin), or more specifically chytridiomycosis, in wild and captive amphibians. First described in 1998, the fungus is the only chytrid known to parasitise vertebrates. *B. dendrobatidis* can remain viable in the environment (especially aquatic environments) for weeks on its own, and may persist in latent infections.

view this species on IUCN Red List

Species Description

Fungal Morphology: *Batrachochytrium dendrobatidis* is a zoosporic chytrid fungus that causes chytridiomycosis (a fungal infection of the skin) in amphibians and grows solely within keratinised cells. Diagnosis is by identification of characteristic intracellular flask-shaped sporangia (spore containing bodies) and septate thalli. The fungus grows in the superficial keratinised layers of the epidermis (known as the stratum corneum and stratum granulosum). The normal thickness of the stratum corneum is between 2µm to 5µm, but a heavy infection by the chytrid parasite may cause it to thicken to up to 60 µm. The fungus also infects the mouthparts of tadpoles (which are keratinised) but does not infect the epidermis of tadpoles (which lacks keratin).
The fungus produces inoperculate, smooth-walled zoosporangia (zoospore containing bodies), which are spherical to subspherical in shape. Each zoosporangium (10µm to 40µm in diameter) produces a single discharge tube, which penetrates (and protrudes out of) the skin. Eventually the plug that blocks the release of immature zoospores is shed and the mature zoospores are released. The zoospores (0.7µm to 6µm in diameter) are elongate to ovoid in shape. Each possesses a single posterior flagellum, rendering it motile in water (Mazzoni *et al.* 2003; Daszak *et al.* 1999; Berger, *et al.* 1998; Berger *et al.* 1998, Berger, Speare and Hyatt, 2000, in Daszak *et al.* 1999; Speare *et al.* 2001; Weldon *et al.* 2003).\r\n
To view a scanning electron micrograph of infected skin of a wild frog (*Litoria lesueuri*) please see: \r\n *Daszak et al. 1999. Emerging Infectious Diseases and Amphibian Population Declines*.\r\n
To view histological sections of infected skin of *Bufo haematiticus* and *Atelopus varius* (showing the sporangia and discharge tubes of the fungus) please see: *Daszak et al. 1999. Emerging Infectious Diseases and Amphibian Population Declines*.\r\n
To view a histological section of severely infected skin of a wild frog (*Litoria caerulea*) please see:\r\n *Berger et al. 1998. Chytridiomycosis causes amphibian mortality* .
\r\nClick here to see information about Symptoms of the disease caused by *Batrachochytrium dendrobatidis*.
Pathogenesis of chytridiomycosis: Authors of a recent study, Voyles *et al*. (2009) have found that *B. dendrobatidis*, causes such severe electrolyte imbalances that the frog’s heart stops. The skin of amphibians maintain proper osmotic balance inside the animal and regulate respiration. The authors found that the skin of infected frogs was less adept at transporting sodium and chloride ions. Sodium and potassium concentrations in the blood of infected frogs dropped, more so as the infection intensified and the animals’hearts began to beat irregularly and ultimately stopped.

Notes

Salamanders can act as host reservoirs of chytrid infection in frogs, and vice versa (Davidson *et al.* 2003).

Lifecycle Stages
Batrachochytrium dendrobatidis has two life stages: a spherical reproductive sessile zoosporangium and a motile zoospore. The motile zoospore directs itself and attaches to the keratinised outer layers of its host. It then absorbs its tail and buries itself below the surface of the skin. It matures into a zoosporangia with rhizoids within about four days and produces and releases up to 300 zoospores into the external environment (*via* a discharge tube). The cycle is initiated again once a suitable substrate (in the same or a different host) is found. The presence of the fungus in the keratinised mouthparts of frog tadpoles (without actually killing them) supports the role of larvae as reservoirs for the pathogen. (The larvae of amphibian species may survive for as long as 3 years before metamorphosing.) Syntopic salamanders and frogs may also act as reciprocal pathogen reservoirs for chytrid infections. It has been suggested that *B. dendrobatidis* may not be an obligate amphibian parasite, possibly living in other non-amphibian hosts or even sapropytically (off dead tissue) (Michigan Frog Survey, 2003; Speare *et al.* 2001; Daszak *et al.* 1999; Davidson *et al.* 2003).\n
As of yet, no resting structures (either asexual or sexual) have been identified for *B. dendrobatidis*. The fact that sexual reproduction in chytrid fungi has been associated with the production of resistant, thick-walled resting spores has lead to the hypothesis that the production of airborne spores explains the widespread distribution of *B. dendrobatidis* in relatively pristine areas. However recent research has found evidence that shows that the population structure of *B. dendrobatidis* is largely clonal, supporting the hypothesis that the fungus lacks a sexual stage (as is the case for many chytrid fungi). This suggests that dispersal by human (or perhaps other long distance travellers, such as birds), rather than natural causes, are more likely to be the cause of the pathogen's entry into pristine areas (Morehouse *et al.* 2003; Berger *et al.* 1999, Daszak *et al.* 1999, in Morehouse *et al.* 2003).\"

Habitat Description
Chytridiomycosis has now been reported from 38 amphibian species in 12 families, including ranid and hylid frogs, bufonid toads, and plethodontid salamanders. Although chytridiomycosis is found in a range of species and habitats (including African frogs in lowland regions in Africa) it has caused population declines of amphibians species confined to montane rain forests (Weldon *et al.* 2004; Daszak *et al.* 1999). The fungus prefers lower temperatures which may explain the high precedence of the fungus in high elevations in the tropics. In culture conditions optimum growth occurred at 23°C, with slower growth occuring at 28°C and (reversible) cessation of growth occuring at 29°C (Longcore, Pessier, Nichols, 1999, in Daszak *et al.* 1999).

Reproduction
Batrachochytrium dendrobatidis is diploid and primarily reproduces asexually (and clonally) by producing aquatic uniflagellated zoospores in a zoosporangium (Johnson and Speare, 2003).

Nutrition
Its occurrence solely in keratinised tissues suggests that it uses amphibian keratin as a nutrient. *Batrachochytrium dendrobatidis* will grow for at least one generation on cleaned epidermal keratin or on amphibians that have died of the infection. The fungus may also be cultured *in vitro* on tryptone agar without the addition of keratin or its derivatives (Daszak *et al.* 1999; Longcore, Pessier and Nichols, 1999, Pessier *et al.* 1999, in Daszak *et al.* 1999).

General Impacts
Batrachochytrium dendrobatidis has been found to affect at least 93 amphibian species from the orders Anura (frogs and toads) and Caudata (salamanders) in all the continents except Asia. It is thought to be one of the main causes of the global decline in frog populations since the 1960s, and the dramatic population crashes from the 1970s onwards (Parris and Beaudoin, 2004). The chytrid fungus kills frogs within 10 to 18 days (Michigan Frog Survey, 2003), although it is not known how. It may be physical, affecting respiration by altering the frog’s skin, or the fungus may give off a toxin (Michigan Frog Survey, 2003). Tadpoles are not affected, although the fungus may infect the keratinised mouthparts (Berger *et al.* 1999).
For a summary on the impacts of *B. dendrobatidis* please follow this link *impacts*.
Key findings of the *The Global Amphibian Assessment* has revealed that one-third (32%) of the world’s amphibian species are threatened, representing 1,896 species. Threats include viral diseases, habitat loss, drought, pollution, and hunting for food. The biggest single threat appears to be *B. dendrobatidis*.
A *search* on the database using \"diseases\" as a keyword in \"all\" habitat types, biogeographic realm and countries results in a list of 547 species impacted by diseases (IUCN, Conservation International, and NatureServe. 2006).

Management Info
Preventative measures: Knowledge of the infectiveness and spread of *Batrachochytrium dendrobatidis* is relevant to all control strategies, particularly in the development of preventative measures. The infective unit of the fungus is the zoospore. Infection by the fungus (and thus spread of the disease) requires water because the zoospore does not tolerate dehydration. *B. dendrobatidis* remains viable for up to 3 weeks in tap water, up to 4 weeks in deionised water and even longer in lake water. Infection by an extremely small inoculum (100 zoospores) is sufficient to cause a fatal infection (Berger *et al.* in Speare *et al.* 2001; Johnson and Speare, 2003; Berger, Speare and Hyatt, 2000, in Daszak *et al.* 1999).
Please see *main preventative management strategies* for a summary under the following headings: improving diagnostics and knowledge of epidemiology, developing trade and quarantine regulations, raising awareness and control options.
The Amphibian Conservation Action Plan (ACAP) is designed to provide guidance for implementing amphibian conservation and research initiatives at all scales from global down to local. Chapter 4 outlines action steps relating to the detection and control of chytridiomycosis.

Principal source: Berger *et al.* 1999. Chytrid fungi and amphibian declines: Overview, Implications and Future Directions.
Berger *et al.* 1998. Chytridiomycosis Causes Amphibian Mortality Associated With Population Declines in the Rain Forests of Australia and Central America.
Daszak *et al.* 1999. Emerging Infectious Diseases and Amphibian Population Declines

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG) with support from the Terrestrial and Freshwater Biodiversity Information System (TFBIS) Programme (Copyright statement)

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Pubblication date: 2006-08-14

ALIEN RANGE
[85] AUSTRALIA
[2] CANADA
[4] COSTA RICA
[4] ECUADOR
[2] GERMANY
[1] GHANA
[1] ITALY
[2] KENYA
[3] MEXICO
[5] NEW ZEALAND

[3] PANAMA
[1] SPAIN
[14] UNITED STATES
[1] VENEZUELA
[9] SOUTH AFRICA
[1] SWAZILAND
[2] URUGUAY
[1] WEST AFRICA

Red List assessed species 512: EX = 8; CR = 196; EN = 126; VU = 63; NT = 29; DD = 36; LC = 54;

Adelotus brevis **NT**
Agalychnis annae **EN**
Agalychnis moreletii **CR**
Allobates olfersioides **VU**
Alytes cisternasii **NT**
Anaxyrus canorus **EN**
Aplastodiscus callipygius **LC**
Aplastodiscus flumineus **DD**
Aromobates alboguttatus **EN**
Aromobates leopardalis **CR**
Aromobates nocturnus **CR**
Atelopus andinus **CR**
Atelopus angelito **CR**
Atelopus arsyecue **CR**
Atelopus arthuri **CR**
Atelopus balios **CR**
Atelopus bomolochos **CR**
Atelopus boulengeri **CR**
Atelopus carauta **CR**
Atelopus carbonerensis **CR**
Atelopus carrikeri **CR**
Atelopus certus **EN**
Atelopus chiriquiensis **CR**
Atelopus chocoensis **CR**
Atelopus chrysocorallus **CR**
Atelopus coynei **CR**
Atelopus cruciger **CR**
Atelopus dimorphus **EN**
Atelopus ebenoides **CR**
Atelopus elegans **CR**
Atelopus epikeisthos **CR**
Atelopus erythropus **CR**
Atelopus eusebianus **CR**
Atelopus exiguus **CR**
Atelopus famelicus **CR**
Atelopus farci **CR**
Atelopus flavescens **VU**
Atelopus franciscus **VU**
Atelopus galactogaster **CR**
Atelopus glyphus **CR**
Atelopus guanujo **CR**
Atelopus guitarraensis **CR**
Atelopus halihelos **CR**
Atelopus ignescens **EX**
Atelopus laetissimus **CR**
Atelopus limosus **EN**
Atelopus longibrachius **EN**
Atelopus longirostris **EX**
Atelopus lozanoi **CR**
Atelopus lynchi **CR**
Atelopus mandingues **CR**
Atelopus mindoensis **CR**
Atelopus minutulus **CR**
Atelopus mittermeieri **EN**
Atelopus monohernandezii **CR**
Atelopus mucubajiensis **CR**
Atelopus muisca **CR**
Atelopus nahumae **CR**
Atelopus nanay **CR**
Atelopus nepiozomus **CR**
Atelopus nicefori **CR**
Atelopus onorei **CR**
Atelopus oxapampae **EN**
Atelopus oxyrhynchus **CR**
Atelopus pachydermus **CR**
Atelopus palmatus **DD**
Atelopus patazensis **CR**
Atelopus pedimarmoratus **CR**
Atelopus peruensis **CR**
Atelopus petersi **CR**
Atelopus petriruizi **CR**
Atelopus pictiventris **CR**
Atelopus pinangoi **CR**
Atelopus planispina **CR**
Atelopus pulcher **CR**
Atelopus quimbaya **CR**
Atelopus reticulatus **CR**
Atelopus sanjosei **DD**
Atelopus seminiferus **CR**
Atelopus senex **CR**
Atelopus sernai **CR**
Atelopus simulatus **CR**
Atelopus siranus **DD**
Atelopus sonsonensis **CR**
Atelopus sorianoi **CR**
Atelopus spumarius **VU**
Atelopus spurrelli **VU**
Atelopus subornatus **CR**
Atelopus tamaense **CR**
Atelopus tricolor **VU**
Atelopus varius **CR**
Atelopus walkeri **CR**
Atelopus zeteki **CR**
Bokermannohyla circumdata **LC**
Bokermannohyla claresignata **DD**
Bokermannohyla hylax **LC**

Bolitoglossa conanti **EN**
Bolitoglossa dofleini **NT**
Bolitoglossa pesrubra **VU**
Bolitoglossa sooyorum **EN**
Bombina pachypus **EN**
Bromeliohyla dendroscarta **CR**
Centrolene audax **EN**
Centrolene buckleyi **VU**
Centrolene gemmatum **CR**
Centrolene lynchi **EN**
Centrolene peristictum **VU**
Centrolene scirtetes **DD**
Charadrahyla nephila **VU**
Chiropterotriton cracens **EN**
Craugastor anciano **CR**
Craugastor angelicus **CR**
Craugastor berkenbuschii **NT**
Craugastor catalinae **CR**
Craugastor chrysozetetes **EX**
Craugastor daryi **EN**
Craugastor emleni **CR**
Craugastor escoces **EX**
Craugastor fleischmanni **CR**
Craugastor guerreroensis **CR**
Craugastor laevissimus **EN**
Craugastor lineatus **CR**
Craugastor merendonensis **CR**
Craugastor milesi **CR**
Craugastor olanchano **CR**
Craugastor pechorum **EN**
Craugastor podiciferus **NT**
Craugastor punctariolus **EN**
Craugastor rhyacobatrachus **EN**
Craugastor rugulosus **LC**
Craugastor sabrinus **EN**
Craugastor sandersoni **EN**
Craugastor tabasarae **CR**
Craugastor trachydermus **CR**
Crinia pseudinsignifera **LC**
Crossodactylus gaudichaudii **LC**
Cycloramphus ohausi **DD**
Duellmanohyla chamulae **EN**
Duellmanohyla lythrodes **EN**
Duellmanohyla schmidtorum **VU**
Duellmanohyla uranochroa **CR**
Ecnomiohyla rabborum **CR**
Eleutherodactylus cooki **VU**
Eleutherodactylus hedricki **EN**
Eleutherodactylus karlschmidti **CR**
Eleutherodactylus orcutti **CR**
Eleutherodactylus portoricensis **EN**
Eleutherodactylus ruthae **EN**
Eleutherodactylus semipalmatus **CR**
Eleutherodactylus turquinensis **CR**

Bolitoglossa copia **DD**
Bolitoglossa magnifica **EN**
Bolitoglossa sombra **VU**
Bolitoglossa subpalmata **EN**
Bromeliohyla bromeliacia **EN**
Bufo bufo **LC**
Centrolene ballux **CR**
Centrolene geckoideum **VU**
Centrolene heloderma **CR**
Centrolene medemi **DD**
Centrolene pipilatum **EN**
Charadrahyla altipotens **CR**
Charadrahyla trux **CR**
Chiropterotriton multidentatus **EN**
Craugastor andi **CR**
Craugastor azueroensis **EN**
Craugastor brocchi **VU**
Craugastor charadra **EN**
Craugastor cruzi **CR**
Craugastor emcelae **CR**
Craugastor epochthidius **CR**
Craugastor fecundus **CR**
Craugastor greggi **CR**
Craugastor inachus **EN**
Craugastor laticeps **NT**
Craugastor melanostictus **LC**
Craugastor mexicanus **LC**
Craugastor obesus **EN**
Craugastor omoaensis **CR**
Craugastor phasma **DD**
Craugastor polymniae **CR**
Craugastor ranoides **CR**
Craugastor rostralis **NT**
Craugastor rupinius **LC**
Craugastor saltuarius **CR**
Craugastor stadelmani **CR**
Craugastor taurus **CR**
Crinia georgiana **LC**
Crossodactylus dispar **DD**
Cycloramphus boraceiensis **LC**
Cycloramphus semipalmatus **NT**
Duellmanohyla ignicolor **EN**
Duellmanohyla salvavida **CR**
Duellmanohyla soralia **CR**
Ecnomiohyla echinata **CR**
Eleutherodactylus barlagnei **EN**
Eleutherodactylus gryllus **EN**
Eleutherodactylus jasperi **CR**
Eleutherodactylus longipes **VU**
Eleutherodactylus patriciae **EN**
Eleutherodactylus richmondi **CR**
Eleutherodactylus schmidti **CR**
Eleutherodactylus symingtoni **CR**
Eleutherodactylus unicolor **VU**

Eleutherodactylus wightmanae **EN**
Euproctus platycephalus **EN**
Exerodonta melanomma **VU**
Gastrotheca cornuta **EN**
Gastrotheca guentheri **VU**
Gastrotheca orophylax **EN**
Gastrotheca piperata **LC**
Gastrotheca pseustes **EN**
Gastrotheca splendens **EN**
Heleioporus australiacus **VU**
Hyalinobatrachium fleischmanni **LC**
Hyla bocourti **CR**
Hylodes dactylocinus **DD**
Hylodes meridionalis **LC**
Hylodes phyllodes **LC**
Hyloscirtus armatus **LC**
Hyloscirtus colymba **CR**
Hyloscirtus pantostictus **EN**
Hyloscirtus ptychodactylus **CR**
Hyloscirtus torrenticola **VU**
Hyloxalus bocagei **LC**
Hyloxalus chocoensis **DD**
Hyloxalus elachyhistus **EN**
Hyloxalus pulchellus **VU**
Hypodactylus dolops **VU**
Incilius cycladen **VU**
Incilius holdridgei **EX**
Incilius periglenes **EX**
Incilius porteri **DD**
Incilius tutelarius **EN**
Isthmohyla calypsa **CR**
Isthmohyla graceae **CR**
Isthmohyla tica **CR**
Leiopelma archeyi **CR**
Leiopelma hochstetteri **VU**
Leptodactylus fallax **CR**
Lithobates chiricahuensis **VU**
Lithobates sierramadrensis **VU**
Lithobates tarahumarae **VU**
Lithobates vibicarius **CR**
Lithobates yavapaiensis **LC**
Litoria aurea **VU**
Litoria caerulea **LC**
Litoria chloris **LC**
Litoria ewingii **LC**
Litoria lesueurii **LC**
Litoria moorei **LC**
Litoria nannotis **EN**
Litoria nyakalensis **CR**
Litoria phyllochroa **LC**
Litoria raniformis **EN**
Litoria spenceri **CR**
Mannophryne caquetio **CR**
Mannophryne herminae **NT**
Epipedobates tricolor **EN**
Exerodonta juanitae **VU**
Exerodonta pinorum **VU**
Gastrotheca dendronastes **VU**
Gastrotheca litonedis **EN**
Gastrotheca ovifera **EN**
Gastrotheca plumbea **VU**
Gastrotheca riobambae **EN**
Geocrinia rosea **LC**
Heleioporus eyrei **LC**
Hyalinobatrachium guairarepanense **EN**
Hylarana chalconota **LC**
Hylodes magalhaesi **DD**
Hylodes perplicatus **LC**
Hylomantis lemur **CR**
Hyloscirtus bogotensis **NT**
Hyloscirtus lindae **VU**
Hyloscirtus platydactylus **VU**
Hyloscirtus staufferorum **EN**
Hyloxalus anthracinus **CR**
Hyloxalus breviquartus **DD**
Hyloxalus delatorreae **CR**
Hyloxalus lehmanni **NT**
Hyloxalus vertebralis **CR**
Hypsiboas cymbalum **CR**
Incilius fastidiosus **CR**
Incilius melanochlorus **LC**
Incilius peripatetes **CR**
Incilius tacanensis **EN**
Isthmohyla angustilineata **CR**
Isthmohyla debilis **CR**
Isthmohyla pictipes **EN**
Isthmohyla xanthosticta **DD**
Leiopelma hamiltoni **EN**
Leptobrachium hasseltii **LC**
Limnodynastes dumerilii **LC**
Lithobates omiltemanus **CR**
Lithobates subaquavocalis **CR**
Lithobates taylori **LC**
Lithobates warszewitschii **LC**
Litoria adelaidensis **LC**
Litoria booroolongensis **CR**
Litoria castanea **CR**
Litoria dayi **EN**
Litoria genimaculata **LC**
Litoria lorica **CR**
Litoria myola **CR**
Litoria nudidigita **LC**
Litoria pearsoniana **NT**
Litoria piperata **CR**
Litoria rheocola **EN**
Litoria verreauxii **LC**
Mannophryne cordilleriana **CR**
Mannophryne lamarcai **CR**

Mannophryne neblina **CR**
Mannophryne oblitterata **DD**
Mannophryne olmonae **CR**
Mannophryne riveroi **EN**
Megaelosia massarti **DD**
Megastomatohyla pellita **CR**
Mesotriton alpestris **LC**
Mixophyes balbus **VU**
Mixophyes fasciolatus **LC**
Mixophyes fleayi **EN**
Nymphargus griffithsi **VU**
Nymphargus megacheirus **EN**
Oedipina **EN**
Oophaga arborea **EN**
Osteopilus pulchrilineatus **EN**
Osteopilus vastus **EN**
Paratelmatobius lutzii **DD**
Paratelmatobius mantiqueira **DD**
Pelobates fuscus **LC**
Philoria frosti **CR**
Phrynomedusa appendiculata **NT**
Phyllobates bicolor **NT**
Phyllomedusa ecuatoriana **EN**
Physalaemus barrioi **DD**
Physalaemus moreirae **DD**
Plectrohyla acanthodes **CR**
Plectrohyla ameibothalame **DD**
Plectrohyla arborescandens **EN**
Plectrohyla avia **CR**
Plectrohyla bistincta **LC**
Plectrohyla calthula **CR**
Plectrohyla calvicollina **CR**
Plectrohyla celata **CR**
Plectrohyla cembra **CR**
Plectrohyla charadricola **EN**
Plectrohyla chryses **CR**
Plectrohyla chrysopleura **CR**
Plectrohyla crassa **CR**
Plectrohyla cyanomma **CR**
Plectrohyla cyclada **EN**
Plectrohyla dasypus **CR**
Plectrohyla ephemera **CR**
Plectrohyla exquisita **CR**
Plectrohyla glandulosa **EN**
Plectrohyla guatemalensis **CR**
Plectrohyla hartwegi **CR**
Plectrohyla hazelae **CR**
Plectrohyla ixil **CR**
Plectrohyla lacertosa **EN**
Plectrohyla matudai **VU**
Plectrohyla mykter **EN**
Plectrohyla pachyderma **CR**
Plectrohyla pentheter **EN**
Plectrohyla pokomchi **CR**
Plectrohyla psiloderma **EN**
Plectrohyla pycnochila **CR**
Plectrohyla quecchi **CR**
Plectrohyla robertsorum **EN**
Plectrohyla sabrina **CR**
Plectrohyla sagorum **EN**
Plectrohyla siopela **CR**
Plectrohyla tecunumani **CR**
Plectrohyla teuchestes **CR**
Plectrohyla thorectes **CR**
Pleurodema marmoratum **LC**
Pristimantis albericoi **CR**
Pristimantis anotis **DD**
Pristimantis bicolor **VU**
Pristimantis calcarulatus **VU**
Pristimantis caprifer **LC**
Pristimantis caryophyllaceus **NT**
Pristimantis chalceus **LC**
Pristimantis cremnobates **EN**
Pristimantis crenunguis **EN**
Pristimantis crucifer **VU**
Pristimantis diaphonus **VU**
Pristimantis diogenes **VU**
Pristimantis duellmani **VU**
Pristimantis fallax **EN**
Pristimantis fetosus **EN**
Pristimantis ginesi **EN**
Pristimantis gracilis **VU**
Pristimantis ignicolor **EN**
Pristimantis incanus **EN**
Pristimantis jorgevelosai **EN**
Pristimantis labiosus **LC**
Pristimantis lancinii **EN**
Pristimantis lichenoides **CR**
Pristimantis lymani **LC**
Pristimantis molybrignus **NT**
Pristimantis nigrogriseus **VU**
Pristimantis penelopus **VU**
Pristimantis prolatus **EN**
Pristimantis quinquagesimus **VU**
Pristimantis ruedai **VU**
Pristimantis sanctaemartae **NT**
Pristimantis sanguineus **NT**
Pristimantis savagei **NT**
Pristimantis scoloblepharus **EN**
Pristimantis scolodiscus **EN**
Pristimantis signifer **VU**
Pristimantis sulculus **EN**
Pristimantis tamsitti **NT**
Pristimantis uranobates **LC**
Pristimantis urichi **EN**
Pristimantis verecundus **VU**
Pristimantis vicarius **NT**
Pristimantis zophus **EN**

Prostherapis dunni **CR**
Pseudoeurycea unguidentis **CR**
Pseudophryne pengilleyi **EN**
Ptychohyla acrochorda **DD**
Ptychohyla erythromma **EN**
Ptychohyla legleri **EN**
Ptychohyla macrotympanum **CR**
Ptychohyla salvadorensis **EN**
Ptychohyla spinipollex **EN**
Rana muscosa **EN**
Ranitomeya abdita **CR**
Rhaebo haematiticus **LC**
Rhinella amabilis **CR**
Rhinoderma darwinii **VU**
Scinax albicans **LC**
Silverstoneia nubicola **NT**
Strabomantis cheiroplethus **VU**
Strabomantis zygodactylus **LC**
Taudactylus diurnus **EX**
Taudactylus liemi **NT**
Taudactylus rheophilus **CR**
Telmatobius atacamensis **CR**
Telmatobius bolivianus **NT**
Telmatobius brevirostris **EN**
Telmatobius ceiorum **EN**
Telmatobius colanensis **EN**
Telmatobius culeus **CR**
Telmatobius degener **EN**
Telmatobius gigas **CR**
Telmatobius hockingi **VU**
Telmatobius ignavus **EN**
Telmatobius jelskii **NT**
Telmatobius latirostris **EN**
Telmatobius mayoloi **EN**
Telmatobius niger **CR**
Telmatobius peruvianus **VU**
Telmatobius pinguiculus **DD**
Telmatobius platycephalus **EN**
Telmatobius scrocchii **EN**
Telmatobius simonsi **NT**
Telmatobius thompsoni **EN**
Telmatobius truebae **EN**
Telmatobius verrucosus **VU**
Telmatobius yuracare **VU**
Thoropa lutzi **EN**
Thoropa petropolitana **VU**
Pseudacris triseriata **LC**
Pseudophryne corroboree **CR**
Ptychohyla **CR**
Ptychohyla dendrophasma **CR**
Ptychohyla euthysanota **NT**
Ptychohyla leonhardschultzei **EN**
Ptychohyla panchoi **EN**
Ptychohyla sanctaecrucis **CR**
Ptychohyla zophodes **DD**
Rana sierrae **EN**
Rhacophorus margaritifer **LC**
Rheobatrachus vitellinus **EX**
Rhinella chrysophora **EN**
Rhinoderma rufum **CR**
Scinax heyeri **DD**
Smilisca cyanosticta **NT**
Strabomantis necerus **VU**
Taudactylus acutirostris **CR**
Taudactylus eungellensis **CR**
Taudactylus pleione **CR**
Telmatobius arequipensis **VU**
Telmatobius atahualpai **DD**
Telmatobius brevipes **EN**
Telmatobius carrillae **VU**
Telmatobius cirrhacelis **CR**
Telmatobius contrerasi **DD**
Telmatobius dankoi **DD**
Telmatobius edaphonastes **EN**
Telmatobius hauthali **VU**
Telmatobius hypselocephalus **EN**
Telmatobius intermedius **DD**
Telmatobius laticeps **EN**
Telmatobius marmoratus **VU**
Telmatobius necopinus **EN**
Telmatobius pefauri **CR**
Telmatobius philippii **DD**
Telmatobius pisanoi **EN**
Telmatobius schreiteri **EN**
Telmatobius sibiricus **EN**
Telmatobius stephani **EN**
Telmatobius timens **DD**
Telmatobius vellardi **CR**
Telmatobius vilamensis **DD**
Telmatobius zapahuirensis **CR**
Thoropa miliaris **LC**
Thoropa saxatilis **NT**

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