

Eleutherodactylus planirostris

System: Freshwater_terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Amphibia	Anura	Leptodactylidae

Common name rana-ladrona de invernadero (Spanish), greenhouse frog (English)

Synonym *Hylodes planirostris*
Euhyas planirostris

Similar species

Summary *Eleutherodactylus planirostris*, the greenhouse frog, is a small anuran native to the Caribbean which has invaded non-native Caribbean locations, the United States, and Mexico. Most commonly spread through infested plants transported by nursery trade, it has potential for rapid colonization and represents a threat to native fauna in introduced ranges.



[view this species on IUCN Red List](#)

Species Description

Eleutherodactylus planirostris is a very small frog, about 1-3 cm long. It may have light longitudinal stripes or a mottled coloration with light and dark patches. It is brown with orange or reddish tones and has reddish eyes. Its toes are not webbed and are long and thin with well developed tubercles. Its call is a soft, melodious series of irregular chirps (Somma, 2008; GSMFC, 2007; USGS-NWRC, 2007; NatureServe, 2008).

Lifecycle Stages

Greenhouse frogs lack a larval stage, hatchlings emerge fully developed measuring about 0.5 cm (GSMFC, 2007).

Uses

Some people intentionally introduce *Eleutherodactylus planirostris* to their gardens because they find them and/or their call appealing (Bomford *et al.*, 2005).

Habitat Description

A terrestrial, nocturnal amphibian, the greenhouse frog typically inhabits forests, riparian zones, and other areas that offer shelter and moisture. They are commonly found among husk piles and thrive in human altered areas such as junk yards, greenhouses, nurseries, lawns, and gardens. They are also resilient to hot and dry conditions making them a formidable colonist species. *Eleutherodactylus planirostris* is generally observed only at night or in rain. They do not depend on standing freshwater as they are a direct-developing frog species and have no larval stage (NatureServe, 2008; GSMFC, 2007; USGS-NWRC, 2007; Rice *et al.*, 2007; Pough *et al.*, 1977).

Reproduction

Sexual, oviparous. Breeding in greenhouse frogs occurs in the summer. Clutches of 3-26 eggs are laid on the ground under moist vegetation, rocks, or debris. Hatching occurs approximately 2 weeks later. Development takes place within the egg and hatchlings emerge fully developed at about 0.5 cm in length. Increased reproduction and dispersal can be facilitated by large storms (GSMFC, 2007; Somma, 2008)



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FULL ACCOUNT FOR: *Eleutherodactylus planirostris*

Nutrition

Eleutherodactylus planirostris commonly feeds on invertebrates, insects, and arthropods. Ants, beetles, spiders, copepods and earthworms comprise most common prey (GSMFC, 2007).

General Impacts

Eleutherodactylus planirostris' potential for rapid colonization and population explosion make it a potential threat to trophically similar endemic species in introduced ranges. Because these habitats lack disease and predators to control their populations, greenhouse frogs can cause ecological detriment. They prey heavily on invertebrates including insects, spiders, and snails some of which are threatened. In addition to invertebrates themselves, greenhouse frogs threaten bird and fish species by competing for their prey as in the case of Hawaii's endangered Oahu 'elepaio (see [Chasiempis sandwichensis in IUCN Red List of Threatened Species](#)) (MISC, 2007).

Management Info

Preventative measures: Control of horticulture trade would be the most effective means of mitigating the spread of *Eleutherodactylus planirostris*. However enforcement of such policies has proven difficult (Kraus & Campbell, 2002).

Cultural: Hawaii has published pest alerts informing the public of greenhouse frogs and their negative effects on the environment. It gives a physical description and a description of their call as well as urges the public to reports sightings and even hand capture and dispose the frogs humanely (PestAlert, undated).

Chemical: Chemical treatment appears to be the only practical and cost effective means of controlling *E. planirostris* once established. Hawaii legalized and advocates the use of Ash Grove Kemilime and/or Graymont Hydrated Lime on outdoor ornamentals in nurseries, residential areas, parks, resorts, forest habitats and other natural areas to control *E. planirostris* under an EPA approved Quarantine Exemption. Also, spray application of 2.0% concentration caffeine solution has been demonstrated to eliminate greenhouse frogs (Kraus & Campbell, 2002; USFS, 2006).

Principal source: [Somma, Louis A., 2008. *Eleutherodactylus planirostris*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL.](#)
[Gulf States Marine Fisheries Commission \(GSMFC\), 2007. *Eleutherodactylus planirostris* \(Cope, 1862\).](#)

Compiler: National Biological Information Infrastructure (NBII) & IUCN SSC Invasive Species Specialist Group (ISSG)

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ALIEN RANGE

[1] GRENADA

[1] JAMAICA

[1] TURKS AND CAICOS ISLANDS

[1] GUAM

[1] MEXICO

[9] UNITED STATES

Red List assessed species 1: VU = 1;

[Chasiempis sandwichensis](#) VU

BIBLIOGRAPHY

45 references found for *Eleutherodactylus planirostris*

Managment information

[Bomford, Mary; Fred Kraus; Mike Braysher; Liz Walter & Leanne Brown, 2005. Risk assessment model for the import and keeping of exotic reptiles and amphibians. A report produced by the Bureau of Rural Sciences for The Department of Environment and Heritage](#)

Summary: Available from: <http://www.feral.org.au/wp-content/uploads/2010/03/RepAmphRisk.pdf> [Accessed 19 August 2010]

Global Invasive Species Database (GISD) 2025. Species profile *Eleutherodactylus planirostris*.

Available from: <https://iucngisd.org/gisd/species.php?sc=606> [Accessed 31 March 2025]



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Eleutherodactylus planirostris*

Christy, Michelle T; Savidge, Julie A; Rodda, Gordon H., 2007. Multiple pathways for invasion of anurans on a Pacific island. Diversity & Distributions. 13(5). SEP 2007. 598-607.

[Hawaii Department of Land and Natural Resources \(DLNR\), 1999. *Eleutherodactylus* Factsheet](#)

Summary: Available from: <http://www.state.hi.us/dlnr/dofaw/pubs/frogfact.pdf> [Accessed 6 September 2008]

[Hawaiian Ecosystems At Risk \(HEAR\), 2006. *Eleutherodactylus planirostris* \(Amphibians-Frogs\) greenhouse frog](#)

Summary: Available from: http://www.hear.org/species/eleutherodactylus_planirostris/ [Accessed 6 September 2008]

[Henderson, Robert, W & Robert Powell., 2001. Responses by the West Indian Herpetofauna to Human-Influenced Resources. *Caribbean Journal of Science*, Vol. 37, No. 1-2, 41-54, 2001](#)

Summary: Available from: http://academic.uprm.edu/publications/cjs/Vol37a/37_41-54.pdf [Accessed 6 September 2008]

[Kraus, Fred & Earl W. Campbell III., 2002b. Neotropical Frogs in Hawaii: Status and Management Options for an Unusual Introduced Pest. *Proc. 20th Vertebrate Pest Conference* \(R.M. Timm & R.H. Schmidt \(eds.\)\) Published at University of California Davis \(2002\) Pp 316-318](#)

Summary: Available from: http://cofcs66.aphis.usda.gov/wildlife_damage/nwrc/publications/02pubs/camp022.pdf [Accessed 6 September 2008]

[Maui Invasive Species Committee \(MISC\), 2007. MISC target species Caribbean frogs](#)

Summary: Available from: http://www.hear.org/MISC/misc_target_species/coqui.htm [Accessed 6 September 2008]

Olson, C.A., K.H. Beard, and W.C. Pitt., 2012. Biology and Impacts of Pacific Island Invasive Species: 8. *Eleutherodactylus planirostris*, the Greenhouse Frog (Anura: Eleutherodactylidae). *Pacific Science* 66(3):255-270. 2012

[Pest Alert Stop the Spread of Caribbean Frogs](#)

Summary: Available from: <http://www.hear.org/alienspeciesinhawaii/species/frogs/frogalert20000404.pdf> [Accessed 6 September 2008]

[Rice, Kenneth G.; J. Hardin Waddle; Marquette E. Crockett; Christopher D. Bugbee; Brian M. Jeffery; and H. Franklin Percival., 2007. Herpetofaunal Inventories of the National Parks of South Florida and the Caribbean: Volume IV. Biscayne National Park. Open-File Report 2007-1057 U.S. Department of the Interior U.S. Geological Survey](#)

Summary: Available from: <http://pubs.usgs.gov/of/2007/1057/pdf/ofr2007-1057.pdf> [Accessed 6 September 2008]

[Somma, Louis A., 2008. *Eleutherodactylus planirostris*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL.](#)

Summary: Available from: <http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=61> [Accessed 6 September 2008]

Stewart, M. M & Martin G. E., 1980. Coconot Husk Piles a Unique Habitat for Jamaican Terrestrial Frogs. *Biotropica*. 12(2). 1980. 107-116.

[U.S. Fish & Wildlife Service, 2006. Section 18 Quarantine Exemption For the Use of Ash Grove Kemilime \(97.0% a.i.\) And/Or Graymont Hydrated Lime \(96.0% a.i.\) To Control Coqui and Greenhouse Frogs \(*Eleutherodactylus coqui* and *E. planirostris*\) In Outdoor Ornamental Plants in Nurseries and Residential Areas, Parks, Hotels & Resorts, Forest Habitats and Natural Areas*](#)

Summary: Available from: <http://www.hear.org/alienspeciesinhawaii/species/frogs/frogalert20000404.pdf> [Accessed 6 September 2008]

[Western Micronesia Regional Invasive Species Council \(WM-RISC Wiki\), 2007. *Eleutherodactylus planirostris*](#)

Summary: Available from: http://www.guaminsects.net/gisac/index.php?title=Eleutherodactylus_planirostris [Accessed 6 September 2008]

[Witmer, Gary W., Patrick W. Burke, Will C. Pitt, Michael L. Avery., 2007. Management of Invasive Vertebrates in the United States: An overview. USDA National Wildlife Research Center Symposia: Managing Vertebrate Invasive Species. University of Nebraska Lincoln](#)

Summary: Available from: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1055&context=nwrcinvasive> [Accessed 6 September 2008]

General information

Boundy, Jeff., 1998. Distributional records for Louisiana amphibians. *Herpetological Review*. 29(4). Dec., 1998. 251-252.

Brandt, Laura A; Montgomery, Kent L; Saunders, Arthur A; Mazzotti, Frank J., 1993. *Gopherus polyphemus* (gopher tortoise): Burrows. *Herpetological Review*. 24(4). 1993. 149.

[Cayman Wildlife Connection., 2004. Amphibians and Reptiles in the Cayman Islands](#)

Summary: Available from: <http://www.caymanwildlife.org/docs/Amphib-Reptiles.doc> [Accessed 4 September 2008]

Christman, Steven P; Young, Cameron A; Gonzalez, Shannon; Hill, Karen; Navratil, George; Delis, Pablo., 2000. New records of amphibians and reptiles from Hardee County, Florida. *Herpetological Review*. 31(2). June, 2000. 116.

[Christy MT, Clark CS, Gee DE, Vice D, Vice DS, Warner MP, Tyrrell CL, Rodda GH, Savidge JA \(2007\) Recent records of alien anurans on the Pacific Island of Guam. *Pacific Science* 61\(4\): 469-483.](#)

Summary: Abstract and link to full text.

Available from: <http://uhpjournal.wordpress.com/2007/09/01/pacific-science-vol-61-no-4-2007/> [Accessed 6 September 2008]

Daudin, Jacques & Mark de Silva, 2007. An annotated checklist of the amphibians and terrestrial reptiles of the Grenadines with notes on their local natural history and conservation. *Applied Herpetology*, Volume 4, Number 2, 2007, pp. 163-175(13)

[Eldredge, Lucius G. 2000. Non-indigenous freshwater fishes, amphibians, and crustaceans of the Pacific and Hawaiian islands In: *Invasive species in the Pacific: A technical review and draft regional strategy*. SPREP South Pacific Regional Environment Programme.](#)

Summary: Available from: http://sprep.org/att/publication/000159_Invasive_strategy_and_species.pdf#page=180 [Accessed 6 September 2008]

[Florida Fish and Wildlife Conservation Commission., Herpetofauna of Florida: *Eleutherodactylus planirostris*: A searchable bibliography of reptiles and amphibians](#)

Summary: Available from: <http://myfwc.com/herpbib/resultstopic.asp?Species=EPLA> [Accessed 6 September 2008]

Franz, Richard, C; Kenneth Dodd Jr.; & Donald W. Buden., 1993. Distributional Records of Amphibians and Reptiles from the Exuma Islands, Bahamas, Including the First Reports of a Freshwater Turtle and an Introduced Gecko. *Caribbean Journal of Science*, Vol. 29, No. 3-4, 165-173, 1993

[Gulf States Marine Fisheries Commission \(GSMFC\), 2007. *Eleutherodactylus planirostris* \(Cope, 1862\).](#)

Summary: Available from: http://nis.gsmfc.org/nis_factsheet.php?toc_id=205 [Accessed 6 September 2008]



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[ITIS \(Integrated Taxonomic Information System\), 2008. Online Database *Eleutherodactylus planirostris* \(Cope, 1862\)](#)

Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.

Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=173568 [Accessed 6 September 2008]

[Kraus, Fred; Campbell, Earl W; Allison, Allen; Pratt, Thane., 1999. *Eleutherodactylus* frog introductions to Hawaii. *Herpetological Review*. 30\(1\). March, 1999. 21-25.](#)

Summary: Available from: http://www.hear.org/articles/pdfs/herp_review_frogs_1999v30n1.pdf [Accessed 6 September 2008]

[Kraus, Fred, Campbell, Earl W. III., 2002a. Human-mediated escalation of a formerly eradicable problem: The invasion of Caribbean frogs in the Hawaiian Islands. *Biological Invasions*. 4\(3\). 2002. 327-332.](#)

Summary: Available from: http://www.ctahr.hawaii.edu/coqui/documents/kraus_campbell_2002.pdf [Accessed 6 September 2008]

[Krysko, Kenneth L; King, F. Wayne., 2000. *Eleutherodactylus planirostris* \(greenhouse frog\). *Herpetological Review*. 31\(2\). June, 2000. 109.](#)
[Lillywhite, Harvey B; Sheehy, Coleman M. III., 2004. *Eleutherodactylus planirostris* \(greenhouse frog\). *Herpetological Review*. 35\(1\). March 2004. 78](#)

[Meshaka, Walter E., Jr., 1999. The herpetofauna of the Doc Thomas House in South Miami, Florida. *Florida Field Naturalist*. 27\(3\). Aug., 1999. 121-123.](#)

[Meshaka, Walter E., Jr., 1999. The herpetofauna of the Kampong. *Florida Scientist*. 62\(3-4\). Summer-Autumn, 1999. 153-157.](#)

Summary: Fourteen reptile and three amphibian species were present at the Kampong, a four ha tropical garden in Coconut Grove, Dade County, Florida. Only four species were native, indicating that the herpetofauna of the Kampong was an artifact assemblage dominated by exotic species, mostly small-bodied lizards. Eleven of the 13 exotic species present were established and comprised 42% of the terrestrial and arboreal exotic herpetofauna of Dade County. A new species for North America, *Mabuya multifasciata* (Lacertilia: Scincidae) of southeast Asia was recorded at the Kampong. The herpetofauna of the Kampong reflected the changing herpetofaunal community of southern Florida. The protected nature of the Kampong and recent acquisitions of adjacent land favor the persistence of both native and exotic herpetofauna.

[Meshaka, Walter E. Jr; Layne, James N., 2005. Sect Zool and Bot, State Museum Pennsylvania, 300 N St, Harrisburg, PA, 17120, USA. Habitat relationships and seasonal activity of the greenhouse frog \(*Eleutherodactylus planirostris*\) in southern Florida. *Florida Scientist*. 68\(1\). Winter 2005. 35-43.](#)

Summary: Abstract: Habitat relationships and seasonal activity of the greenhouse frog, *Eleutherodactylus planirostris*, were studied at Archbold Biological Station in south-central Florida and Everglades National Park in south Florida. In addition to its occurrence in developed areas, the species is well established in natural habitats in both study areas, occurring in mesic habitats in ENP and both mesic and xeric habitats, particularly long-unburned sites with well-developed tree canopy and a dense understory, on the ABS. The prevalence of *E. planirostris* in long-unburned sandy uplands of south-central Florida historically subject to relatively frequent (e.g. sandhill) or infrequent but intense (e.g. sand pine scrub) wildfires is in contrast to the negative effect of fire exclusion on the xeric-adapted native plant and animal species characteristic of these associations. In both study areas, this species is nearly active year-round, with a September-December peak in numbers that included the appearance of young individuals. Calling is seasonal and correlated with warm and humid conditions defined by monthly temperature minima and rainfall. Based on threshold values of temperature and rainfall, predicted calling seasons in different geographic regions are longest (7-10 months) in extreme southern Florida and the West Indies, shorter (6-7 months) in southern, central, and much of northern Florida, and shortest (5 months) in extreme northern Florida and Mobile, Alabama, a coastal community where we expect the species to colonize.

[NatureServe Explorer., 2008. *Eleutherodactylus planirostris* - \(Cope, 1862\) Greenhouse Frog](#)

Summary: Available from: <http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Eleutherodactylus+planirostris> [Accessed 6 September 2008]

[NBII Central Southwest/Gulf Coast Information Node. undated. Invasive Species of the Invasive Species of the CSWGC Region: *Eleutherodactylus planirostris* \(Cope, 1862\). Center for Biological Informatics of the U.S. Geological Survey](#)

Summary: Available from: [http://cswgcin.harc.edu/\(ubfhtb45q4dqhq45gek35mz\)/issues/invasives/speciesprofile.aspx?tsn=173568](http://cswgcin.harc.edu/(ubfhtb45q4dqhq45gek35mz)/issues/invasives/speciesprofile.aspx?tsn=173568) [Accessed 6 September 2008]

[Platt, Steven G; Fontenot, Lance W., 1995. Anura: *Eleutherodactylus planirostris* \(Greenhouse frog\). *Herpetological Review*. 26\(4\). 1995. 207.](#)

[Pough F H; Stewart M M; Thomas R G., 1977. Physiological Basis of Habitat Partitioning in Jamaican *Eleutherodactylus*. *Oecologia* \(Berlin\). 27\(4\). 1977. 285-294.](#)

[Raffucci, Félix A. Grana., Junio, 2007. Nomenclatura de los organismos acuáticos y marinos de puerto rico e islas vírgenes. Volumen 8: Vertebrados acuáticos y marinos de Puerto Rico e Islas Vírgenes \(exclusive Peces\). Clase Amphibia Clase Reptilia Clase Mammalia](#)

Summary: Available from: <http://drna.gobierno.pr/biblioteca/publicaciones/tecnicas/vertebrados01.pdf> [Accessed 4 September 2008]

[Smith, Hobart M. & Anthony J. Kohler., 1977. A Survey of Herpetological Introductions in the United States and Canada. *Transactions of the Kansas Academy of Science* \(1903-\), Vol. 80, No. 1/2 \(Spring - Summer, 1977\), pp. 1-24](#)

[Smith, Kevin G., 2006. Patterns of nonindigenous herpetofaunal richness and biotic homogenization among Florida counties. *Biological Conservation*. 127\(3\). JAN 2006. 327-335.](#)

[UNEP-WCMC Species Database., undated. *Eleutherodactylus planirostris* \(Cope, 1862\)](#)

Summary: Available from:

<http://www.unep-wcmc.org/isdb/Taxonomy/tax-species-result.cfm?source=animals&genus=Eleutherodactylus&species=planirostris&tabname=names> [Accessed 6 September 2008]

[UniProt, 2008. Species *Eleutherodactylus planirostris* \(greenhouse frog\). \[www.uniprot.org\]\(http://www.uniprot.org\)](#)

Summary: Available from: <http://www.uniprot.org/taxonomy/356180> [Accessed 4 December 2008]

[USGS- National Wetlands Research Center \(NWRC\), 2008. South Central ARMI Guide to Louisiana Amphibians: Greenhouse frog \(*Eleutherodactylus planirostris*\). \[www.nwrc.usgs.gov\]\(http://www.nwrc.usgs.gov\)](#)

Summary: Available from: http://www.nwrc.usgs.gov/sc_armi/frogs_and_toads/eleutherodactylus_planirostris.htm [Accessed 2 December 2008]



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Eleutherodactylus planirostris*

Wray, Kenneth; Owen, Rick., 1999. New records of amphibians and reptiles for Nassau County, Florida. *Herpetological Review*. 30(4). Dec., 1999. 237-238.

Zippel, Kevin C; Snider, Andrew T; Gaines, Leslie; Blanchard, David., 2005. *Eleutherodactylus planirostris* (Greenhouse frog). Cold tolerance. *Herpetological Review*. 36(3). SEP 2005. 299-300.