

# A New Gecko from Malpelo Island (Sauria: Gekkonidae: *Phyllodactylus*)

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## ABSTRACT

*Phyllodactylus transversalis*, a new gecko from Malpelo Island, Colombia, is characterized by absence of tubercles on arms, legs, rear of head, and tail; absence of ear denticulation; absence of abdominal plaque; slight enlargement of dorsal tubercles, which form only two distinct paravertebral rows; terminal lamellae of digits distinctly widened and truncate; 13 to 15 fourth toe lamellae; ground color medium gray-brown with dark chocolate bands. Source of this species is uncertain.

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## Introduction

The gekkonid genus *Phyllodactylus* is widely distributed in the western hemisphere. Recent reviews by Dixon (1962, 1964a, 1964b) and Dixon and Huey (1970) have revised all New World members of the genus except species from the Galapagos Islands. Some 45 species are currently recognized.

The collection of lizards from the Smithsonian-U. S. Navy Expedition to Malpelo Island, Colombia, included two specimens of *Phyllodactylus*, a genus not collected by the few previous expeditions to the island. Morphological characteristics indicate distinctness of these specimens, which I here describe following the methodology of Dixon (1964a).

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## *Phyllodactylus transversalis* (new species)

FIGURE 18

HOLOTYPE.—Adult female, Museum of Comparative Zoology (MCZ 130042), collected by A. Stanley Rand from under a rock near the first collecting area on Malpelo Island, Colombia, February 1972.

PARATYPE.—Immature specimen (MCZ 130043) collected from under a rock on Malpelo Island by Hendrik Wolda, February 1972.

DIAGNOSIS.—Differs from the Central American *tuberculosis* group, the Mexican *delcampi* group, and most South American groups by having small and scattered dorsal tubercles forming only two paravertebral rows; differs from *unctus* group in possessing dorsal tubercles; differs from *gerrhopygus* group by absence of abdominal plaque; from the species *microphyllus* by having expanded terminal lamellae and a small nostril; and from *inaequalis* in having dark chocolate dorsal bars, more fourth toe lamellae (13 to 15 vs. 10 to 12), smaller head scales (third labial snout scales 32 vs. 20 to 24; scales between eye and nostril 14 to 15 vs. 11 to 12).

DESCRIPTION OF HOLOTYPE.—Rostral twice as wide as high, its dorsal edge almost straight with a dorsal vertical groove one-half depth of rostral; 2 internasals, somewhat rounded, their median edges in broad contact, bordered posteriorly by 7 small granules and a postnasal on each side; nostril

surrounded by rostral, labial, internasal, and 2 postnasals; first supralabial in narrow contact with ventral edge of nostril; shallow depression between internasals, slight depression in frontal region; 15 scales on line between nostril and eye; scales in posterior loreal region slightly larger than scales in mid-orbital region; 32 scales across snout at level of third labial; 22 interorbital scales; eye large, its diameter contained in snout length about 1.5 times; eyelid with 2 inner rows of granules, a median row of larger scales, and 1 row of large scales on the edge, the last 8 to 9 are pointed; ear large, its diameter contained in the eye diameter 2.7 times; scales on anterior edge of ear opening



FIGURE 18.—Holotype of *Phyllodactylus transversalis*, adult female, MCZ 130042, dorsal view.

flattened, overlapping, those on posterior edge smaller and granular; rear of head granular without intermixed tubercles; 5 supralabials and 4 infralabials to a point below center of eye; mental bell-shaped with posterior median edge sharply angular, as wide as long, bordered posteriorly by 2 postmentals; postmentals slightly longer than wide, their median edges in broad contact, followed by transverse row of 5 flattened scales.

Dorsum with scattered, small, conical tubercles; only 2 paravertebral rows evident, extending onto neck; paravertebral rows separated by 3 to 5 irregular rows of small granules; 40 paravertebral tubercles between axilla and groin, separated by 0 to 2 granules; remaining dorsal tubercles not in distinct rows; dorsal granules irregular; postanal tubercles 3 on each side, not distinct; enlarged abdominal plaque absent; venter with 27 scales across belly, from throat to vent 69.

Dorsal surface of upper arm with rounded, slightly elevated scales; forearm with slightly smaller scales of similar shape; dorsal surface of thigh and tibia with granular scales; claw long, visible from above and below; terminal toepad greatly enlarged, longer than wide, truncate; fourth toe lamellae 13 to 14; tail partially regenerated, original tail stub with a few wide median scales on ventral surface, devoid of tubercles on dorsal surface, but with scattered, flattened tubercles at base.

*Measurements* (in mm): Snout-vent length 57, axilla-groin length 26, length of leg 25, length of arm 17, length of tail 22 + 18, length of head 15.5, depth of head 5.7, width of head 11.2, length of snout 6.4, diameter of eye 4.3, diameter of ear 1.6, distance from eye to ear 5.7.

*Color in Alcohol:* Dorsum medium gray-brown ground color with white speckles; 8 distinct broad chocolate brown transverse bars from base of head to base of tail, somewhat broken along midline; width of bars slightly larger than ground interspaces; lateral area of trunk as dorsal ground; arms and legs with dark chocolate ground suffused with light scales and small light spots, without definite pattern; top of head with suffusion of dark brown and small light blotches, no definite pattern; dark chocolate brown stripe from nostril to eye, blending with head color posterior to eye, bordered below by a pale whitish line from first infralabial through ear; belly pale yellow.

VARIATION (based on paratype).—Similar to holotype except in the following characters: 14 scales between nostril and eye; 24 interorbital scales; 6 supralabial and 5 infralabial scales to a point below center of eye; mental nearly triangular; no contact between postmentals, followed posteriorly by transverse row of 6 flattened scales; venter with 30 scales across belly, from throat to vent 67; 39 tubercles in paravertebral row between axilla and groin; fourth toe lamellae 15–14; tail regenerated 3 + 19; snout-vent length 36 mm.

NATURAL HISTORY.—Both geckos were collected during the day under rocks. Because of the topography of Malpelo, these geckos are necessarily scansorial. Dixon and Huey (1970:66) have shown that scansorial *Phyllodactylus* have expanded toe-pads, a characteristic of *P. transversalis*.

Two large diurnal lizards are also present on Malpelo (*Diploglossus millepunctatus* and *Anolis agassizi*) and eat crustaceans as well as booby regurgitations and feces. Ants and crickets were found in the stomachs of *P. transversalis* (A. S. Rand, pers. comm.).

Accompanying papers in this volume describe Malpelo Island (Kiester and Hoffman, pp. 13–16) and the biology of the diurnal lizards (*D. millepunctatus*, Kiester; *A. agassizi*, Rand, Gorman, and Rand).

ZOOGEOGRAPHIC RELATIONSHIPS.—The dorsal cross-banding and the two rows of dorsal tubercles of *P. transversalis* are distinctive. These unique char-

acters suggest long isolation from source areas and hinder analysis of affinities.

*Phyllodactylus transversalis* shares many external morphological characters with the *inaequalis* group of Peru (Dixon and Huey, 1970:69). After examining the type and paratype, however, J. R. Dixon (pers. comm.) suggested that *P. transversalis* may be closer to certain Mexican species (*P. paucituberculatus*, *P. unctus*, and *P. delcampi*). There are no obvious affinities with *Phyllodactylus* from the Galapagos. The source of this gecko is thus equivocal.

ETYMOLOGY.—The specific name refers to the distinctive dorsal cross-bands (Figure 18).

#### Literature Cited

- Dixon, J. R.  
 1962. The Leaf-toed Geckos, Genus *Phyllodactylus*, of Northeastern South America. *Southwestern Naturalist*, 7:211–226.  
 1964a. Further Data on the Geckos (*Phyllodactylus*) of Islands of the Extreme Southern Caribbean. *Southwestern Naturalist*, 9:203–206.  
 1964b. The Systematics and Distribution of the Lizard Genus *Phyllodactylus* of North and Central America. *New Mexico State University Science Bulletin*, 64:1–139.
- Dixon, J. R., and R. B. Huey  
 1970. Systematics of the Lizards of the Gekkonid Genus *Phyllodactylus* of Mainland South America. *Contributions in Science of the Los Angeles County Museum*, 192:1–78, 14 figures.