

AN IDENTIFICATION KEY TO THE GECKOS OF THE SEYCHELLES, WITH BRIEF NOTES ON THEIR DISTRIBUTIONS AND HABITS

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INTRODUCTION

The Republic of Seychelles, lying in the western Indian Ocean consists of a group of mountainous, granitic islands, and a large number of outlying coral atolls and sand cays, distributed over 400,000 km² of sea. There are over a hundred islands, ranging in size from Mahé, at 148 km² to islands little more than emergent rocks. A total of eighteen species of lizard, from three families are recorded from the Seychelles (Gardner, 1984). The best represented family is the Gekkonidae with eleven species, four of which are endemic to the islands. The identification key presented here should enable interested naturalists to identify any gecko encountered in the Seychelles to the species level, and where there are clearly defined races, to the subspecies level.

In the past there has been frequent confusion of the forms, particularly amongst the "house geckos" and between the races of green day-geckos (*Phelsuma* species) (e.g. Gaymer, 1968; High, 1976; Temple, 1977). The classification of the *Phelsuma* forms presented here is that of Gardner (1984) and differs in several aspects from the classifications given by Cheke (1982) and Meier (1983). That of Gardner (1984) is based on a multivariate morphometric analysis of many body proportion, scalation and colour pattern characters, using large samples taken over the complete range of the taxa. The species *Urocotyledon inexpectata* was transferred to that genus from *Phyllodactylus* by Kluge (1983).

THE KEY

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| <p>1. Digits gradually dilated distally, with more than 2 adhesive lamellae on the undersurface. 2.</p> <p style="padding-left: 2em;">Digits only dilated at apex, with only a single pair of adhesive lamellae on the undersurface (Fig. 1a). <i>Urocotyledon inexpectata</i> Stejneger.</p> | <p>4. Scales on chest and at least anterior of belly keeled. Underside white. <i>Phelsuma astriata</i> Tornier. 5.</p> |
| <p>2. Subdigital lamellae straight and undivided medially. 3.</p> <p style="padding-left: 2em;">Subdigital lamellae obliquely set and medially divided. 11.</p> | <p>5. Scales on chest and belly not keeled. 6.</p> |
| <p>3. Digits clawed; all digits with a dilated apex. Pupil vertical. <i>Ailuronyx sechellensis</i> Dumeril and Bibron.</p> <p style="padding-left: 2em;">Digits clawless; thumb and inner toe vestigial. Remaining digits each with a dilated apex. Pupil circular. Genus <i>Phelsuma</i> Gray. 4.</p> | <p>5. Subcaudal scales keeled and not transversely enlarged in original tails. Ground colour of rump and tail usually bright blue, and of flanks, green. Tail unmarked or spotted with red. Red transverse neck bars of ten reduced or absent. <i>Phelsuma astriata astriata</i> Tornier 1901.</p> <p style="padding-left: 2em;">Subcaudal scales unkeeled and transversely enlarged in original tails. Ground colour of rump and tail usually green, and of flanks, grey-brown. Tail usually with a narrow transverse red band on each segment. Usually two distinct red, transverse bars across neck. <i>Phelsuma astriata semicarinata</i> Cheke 1982.</p> |
| | <p>6. Eye ring bright blue. Three red bars across snout and back of head. Otherwise red marking restricted to a pattern of 3 large red spots anterior to a number of small red speckles on the lower back. Underside of chin white. Yellow scales dusting neck and upper back. <i>Phelsuma laticauda</i> Boettger.</p> <p style="padding-left: 2em;">Not as above. A dark chevron or chevrons under the chin, at least in preserved specimens and geckos in dark phase. 7.</p> |
| | <p>7. Ground colour of live geckos a dull grey-blue, with mottled flanks and legs. Head marking usually consists of a median red spot behind the internasals, red spots above the eye rings, and a rather variable pattern on the forehead and in the interocular region. Eye ring whitish. Basal tail segments with 5 rows of scales on the dorsal surface. <i>Phelsuma abbotti</i> Stejneger. 8.</p> <p style="padding-left: 2em;">Ground colour of live geckos bright green. Usually a red chevron mark on the head, at least in young geckos. Eye ring green or yellow. Basal tail segments with 7 or 8 rows of scales on the dorsal surface. <i>Phelsuma sundbergi</i> Rendahl. 9.</p> |
| | <p>8. Snout to vent length to 58 mm. Slender build. Ground colour of back usually a dull grey-green, with heavy flank and leg mottling. Continuous, red, vertebral line up back.</p> |

Underside white, other than a few yellow scale rows anterior to the preano-femoral row. *Phelsuma abbotti abbotti* Stejneger 1893.

Snout to vent length to 73 mm. Heavy build. Ground colour of back bright grey-blue, with a broken, red vertebral line. Underside orange-yellow with a reddish gular chevron. *Phelsuma abbotti sumptio* Cheke 1982.

9. Adult snout to vent length from 55 to 68 mm. Eye ring yellow or yellow-green. Back pattern highly variable, but often comprises three longitudinal rows of red spots, with the median ones sometimes coalescing into a sinuous vertebral line. Tail often barred with red. No orange or yellow on underside. Some populations have very reduced red markings. Chin shields flat, and white or grey. *Phelsuma sundbergi longinsulae* Rendahl 1939 *n. comb.*
Adult snout to vent length from 60 to 95 mm. Back pattern consists of a fine vermiculation of red spots. Tails rarely barred. Chin shields raised and tend to be greenish. Often yellow or orange on throat and around vent.
10. Adult snout to vent length from 75 to 95 mm. Keeling on throat scales extending from the chin shields to the level of the forelimbs, and extending down the sides of the belly. Gular scales and chin shields well raised. Edges of mental scale strongly angled. Fourth toe lamellae numbering 18 to 21 on the hind foot. Preano-femoral pores numbering 32 to 37 in males. Eye ring always green. *Phelsuma sundbergi sundbergi* Rendahl 1939.
Adult snout to vent length from 60 to 78 mm. Keeling on throat scales restricted to a band across the posterior throat region. Gular scales and chin shields slightly raised. Edges of mental scale usually straight. Fourth toe lamellae numbering 16 to 18 on the hind foot. 28 to 34 preano-femoral pores in males. Eye ring often yellow or green-yellow. *Phelsuma sundbergi ladiguensis* Bohme and Meier 1982.
11. Postmentals well developed, standing out sharply from the small gular scales.
Postmentals not distinct, but a number of polygonal scales merging gradually into the smaller gular scales. Tail with sharp lateral edges. *Lepidodactylus lugubris* Dumeril and Bibron.
12. First digit without free terminal phalange and only minutely clawed. Subdigital lamellae only present on the distal half of the digit (Fig. 1b). Mental much shorter than the inner postmentals (Fig. 1e). No tubercles on tail. *Gehyra mutilata* Wiegmann.
First digit with free, clawed terminal phalange. Subdigital lamellae run the whole length of the digit (Fig. 1c,d). Mental and inner postmentals nearly equal in length (Fig. 1f). Original tails with rings of tubercles. Genus *Hemidactylus* Oken.
13. Inner digit with short phalanx, whose tip does not extend far beyond the tip of the lamellae (Fig. 1c). Back not tuberculate, or very feebly so, and uniformly grey, sometimes with small black speckles. *Hemidactylus frenatus* Dumeril and Bibron.
Inner digit with phalanx well developed, extending far beyond the tip of the lamellae (Fig. 1d). Back distinctly tuberculate, often conspicuously marked with black.
14. Body tubercles very large and strongly keeled. Back with dark blotches, but without transverse stripes. Tail barred on every second segment. 8 to 10 upper labial scales on each side. *Hemidactylus brookii* Gray.
Body tubercles small, only slightly keeled. Back with distinct transverse stripes. Tail barred on every 3rd or 4th segment. 10 to 14 upper labial scales on each side. *Hemidactylus mercatorius* Gray.

NOTES ON THE DISTRIBUTIONS AND HABITS OF THE SPECIES

1. *Urocotyledon inexpectata*. Endemic. Nocturnal. Widely distributed in the granitic islands, where it may be found under loose bark or stones. The eggs are laid communally under flakes of granite. The smallest gecko species in the Seychelles.

2. *Ailuronyx sechellensis*. Endemic. Nocturnal. Widely distributed in the granitic Seychelles, but most abundant on the seabird islands of Cousin, Cousine, Aride and Frigate. A very large species, it is found both in buildings and on trees on the seabird islands, but is restricted to forest and coconut plantations on the other islands. Rare on Mahé, but frequently seen in the Vallée de Mai on Praslin.

3. *Phelsuma astriata astriata*. Endemic. Diurnal. Occurs on Silhouette, and Mahé and its associated islets in the granitic group and on Astove in the outer islands. Abundant on forest trees, coconut plantations and bananas.

4. *Phelsuma astriata semicarinata*. Endemic. Diurnal. Occurs on Praslin, La Digue and all the wooded islands associated with them. On the non-granitic islands, it is found on Denis, D'Arros and St. Joseph. Abundant on trees, rocks and in houses.

5. *Phelsuma laticauda*. Indigenous. Diurnal. Found only in the Farquhar Group of Farquhar, Providence and Cerf in the outer islands, where it is abundant on coconut and banana trees.

6. *Phelsuma abbotti abbotti*. Endemic subspecies restricted to Aldabra. Diurnal. Abundant in all wooded habitats.

7. *Phelsuma abbotti sumptio*. Endemic subspecies restricted to Assumption Island. Diurnal and abundant in the coconut plantation.

8. *Phelsuma sundbergi longinsulae*. Endemic. Diurnal. Occurs on Mahé, Silhouette, North and Frigate, and the smaller islands in the Mahé group, and on Cosmoledo, Remire and Bird Island in the non-granitic islands. Abundant on trees. Often enters houses on Mahé.

9. *Phelsuma sundbergi sundbergi*. Endemic. Diurnal. Occurs on Praslin, Curieuse and Chauve Souris in the north-west granitic islands, and on Denis, Marie-Louise, Poivre and Platte in the outer islands. Abundant on forest trees and in coconut plantations.

10. *Phelsuma sundbergi ladiguensis*. Endemic. Diurnal. Occurs on La Digue, Felicité, The Sisters, Coco and Marianne in the north eastern granitic islands. Abundant on forest trees and in coconut plantation.

11. *Lepidodactylus lugubris*. Indigenous. Nocturnal. Occurs only on Coëtivy in the Seychelles, where it is apparently parthenogenetic, the population consisting of females only.

12. *Gehyra mutilata*. Introduced. Nocturnal. Occurs on most of the inhabited granitic islands, and on Denis, Bird Island, Farquhar and Coëtivy in the outer islands. This common gecko is usually associated with houses.

13. *Hemidactylus frenatus*. Probably indigenous. Nocturnal. Occurs on most islands in the Amirantes Group and on Platte and Bird Island, living both in houses and in trees and rocks.

14. *Hemidactylus brookii*. Introduced. Nocturnal. A single population of the Asian subspecies, *H. b. brookii*, exists on Desroches Island in the Amirantes, where it coexists with *Hemidactylus frenatus*.

15. *Hemidactylus mercatorius*. Probably indigenous. Nocturnal. Distribution is non-overlapping with *H. frenatus*, occurring on the islands of the Aldabra and Farquhar Groups. Lives both in houses and in rocks and trees.

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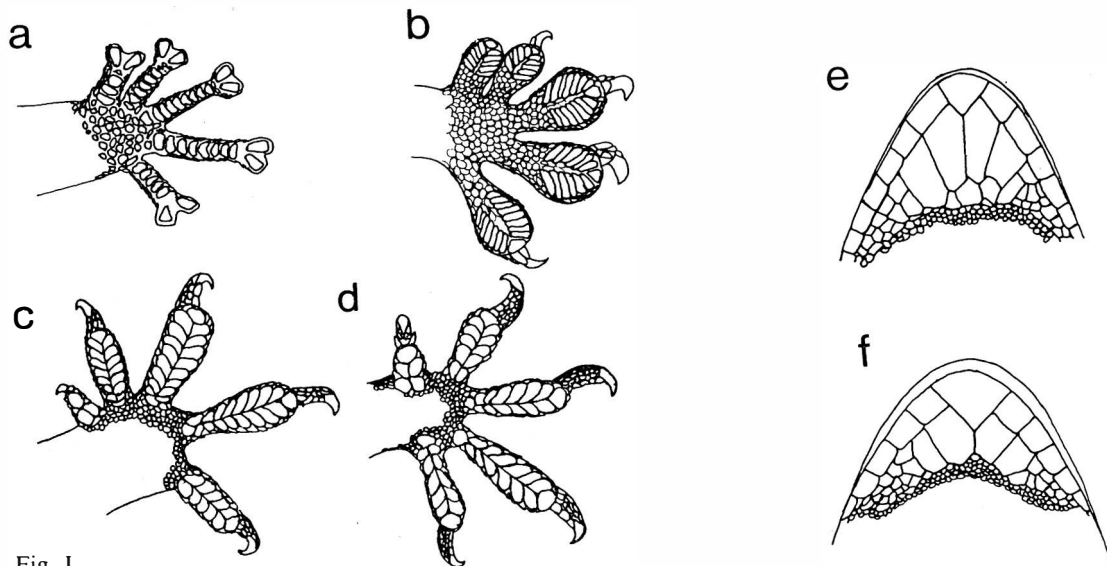


Fig. 1.
a-d. Left forefoot, ventral views of: (a) *Urocotyledon inexpectata*; (b) *Gehyra mutilata*; (c) *Hemidactylus frenatus*; (d) *Hemidactylus mercatorius*.

e-f. Ventral view of chin of: (e) *Gehyra mutilata*; (f) *Hemidactylus frenatus*.