The Tree Gecko, *Hemiphyllodactylus typus typus* (Lacertilia: Gekkonidae): an Addition to the Herpetofauna of Japan

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Abstract: One female of a gekkonid lizard, *Hemiphyllodactylus typus typus*, was collected from Iriomotejima Island of the Yaeyama Group, Ryukyu Archipelago. This is the first record of this species from Japan. External characteristics of the present specimen are described and discussed. This animal seems to represent a recent colonization of Iriomotejima Island by *H. t. typus*.

Key words: *Hemiphyllodactylus typus typus*; Gekkonidae; Iriomotejima Island; Ryukyu Archipelago; colonization

It has been pointed out that many reptilian species can extend their distribution over oceanic islands rapidly by artificial transportation or rafting across the sea. Many insular populations of geckos offer good examples for such mode of dispersal (e.g., Hunsaker, 1967; Brown and Alcala, 1970). In East Asia, recent distributional expansion of a parthenogenetic gecko, *Lepidodactylus lugubris*, is regarded as being attributable to human activities involving transportation of wood and other goods to which this lizard may attach itself or its eggs (Ota, 1986).

During a recent survey on Iriomotejima Island of the southern Ryukus, I collected one specimen of the tree gecko *Hemiphyllodactylus typus typus*, a subspecies known from Oceania, and South and Southeast Asia including Taiwan, but formerly unknown from Japan (Wermuth, 1965; Ota, 1989; Ota and Ross, 1990). The present specimen seems to represent a recent colonization of this lizard from outside Japan by means of artificial transportation.

**MATERIALS AND METHODS**

The specimen was collected from O-hara, eastern part of Iriomotejima Island, Yaeyama Group, Ryukyu Archipelago, on 22 October 1989 by H. Ota, and was deposited in the herpetological collection of the Department of Zoology, Kyoto University (catalogued as KUZ 13216).

Hindlimb length was measured in life. The other measurements were taken after fixation in 10% formalin, and preservation in 70% ethanol. Terminology for the description of external characters follows that of Brown and Alcala (1978).

**RESULTS**

Morphological features.—An adult female (Fig. 1); snout to vent length 37.5 mm; body much elongated, not much depressed; head length 8.3 mm, head breadth 5.2 mm, head depth 3.6 mm; snout tapering, rounded at tip, its length 3.7 mm; eye diameter 2.2 mm; rostral quadrangular, 1.5 mm in breadth and 0.9 mm in height, deeply notched and grooved to the midway dorsomedially; nostril surrounded by rostral, first supralabial, supranasal, and two small scales posteriorly; supranasals separated from each other by three scales bordering rostral; 14 supralabials, 9th and 10th beneath center of eye; 12 infralabials; mental triangular, almost as large as adjacent labials; scales in postmental region not much enlarged, graded into granular scales in gular region; axilla to groin length 22.0 mm; dorsal and lateral surfaces of body covered with small granular scales, lacking enlarged tubercles; scales on venter of body flat, cycloid, slightly larger than those on dorsum.

Limbs short; hind limbs 12.0 mm when extended laterally, but not reaching halfway between axilla and groin when adpressed forward; digit I vestigial, not clawed; the other digits well-developed, clawed, with subterminal phalanges moderately dilated, most strongly distally; subdigital scanners occupying distal one third to one half of dilated portion, 5–5 (left-right) on fingers I, II, III, and V, 5–6 on finger IV, 6–5 on toe I, 5–5 on toe II, and 6–6 on toes III, IV and V; scanners on digit I entire; terminal scanners on the other digits small, triangular, also entire, the other scanners more or less curved to base of digits ("V" or "U"-shaped) and divided medially; distal, compressed claw-bearing phalanges arising from within dilated portion; interdigital webs absent.

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No preanal or femoral pores observed; tail subcylindrical, depth 1.8 mm, breadth 2.3 mm at base; total length of tail 20.2 mm, with distal 16.0 mm regenerated; scales in regenerated portion somewhat enlarged and irregularly arranged when compared with those in original portion; subcaudal scales in both original and regenerated portions almost as large as scales on dorsal and lateral surfaces.

Color.—Dorsal ground color of head, body, and limbs reddish brown, and original portion of tail creamy yellow in life, all fading to grayish tan in ethanol; regenerated portion of tail dark gray both in life and in ethanol; supra- and infralabial regions dark with several white spots; an indistinct dark stripe from posterior margin of nostril through eye and upper margin of ear opening to shoulder, followed by a longitudinal row of dark spots reaching midst of axilla-groin region; another longitudinal row of dark spots in dorsolateral region of neck and body, reaching above vent; many white spots scattered in middorsal and dorsolateral regions; ventral surface light gray, darker in subdigital regions and regenerated portion of tail, with numerous dark dots.

Habitat.—The present specimen was collected from between the trunk and the leaf sheath (ca. 1.5 m above the ground) of a coconut palm, Cocos nucifera, planted along a path in the vicinity of human houses (Fig. 2). Two other gekkonids, Hemidactylus frenatus and Lepidodactylus lugubris, were observed in the same tree. The path was bordered on both sides by secondary vegetation chiefly consisting of Leucaena glauca (Leguminosae) and Pinus luchuenensis (Pinaceae).

Another individual was observed beneath the bark of a tree, Casuarina equisetifolia, about 200 m northeast of the present sampling site. This animal fell into the grass around the base of that tree immediately after the bark was rinded, and was not captured.

DISCUSSION

Three subspecies are presently recognized for Hemiphyllodactylus typus—H. t. typus Bleeker, 1860, from Oceania, South and Southeast Asia,
and Taiwan, *H. t. aurantiacus* (Beddome, 1870) from South Asia, and *H. t. chapaensis* Bourret, 1937, from Vietnam (see Wermuth, 1965). The present specimen differs from the latter two in having six scanners on toe IV (two or three in *H. t. aurantiacus*: Smith, 1935), small scales in the chin region, and hindlimbs not reaching halfway between the axilla and groin (more or less enlarged chin shields, and hindlimb reaching more than halfway between the axilla and groin in *H. t. chapaensis*: Bourret, 1937). All these characteristics are identical with those in the nominotypical subspecies (Smith, 1935; Brown and Alcala, 1978; Ota and Ross, 1990), and, therefore, it is evident that the specimen from Iriomotejima Island belongs to *H. t. typus*.

*H. t. typus* has a wide range of distribution, and many insular populations are considered as nonnative and artificially introduced (e.g., several Philippine populations: Brown and Alcala, 1970). Despite previous intensive surveys in the Yaeyama Group, this lizard has never been recorded from Iriomotejima or other islands (Ota, 1983; Toyama, 1985). To these islands, many nonnative plants such as the coconut palm have recently been imported from Southeast Asia and Taiwan, where *H. t. typus* occurs, as roadside trees. Since *H. t. typus* is essentially arboreal and lives under the bark or leaf sheath (Oliver and Shaw, 1953; Brown and Alcala, 1978; McCoy, 1980), it is highly probable that this gecko has been introduced into the southern Ryukyus with those trees. The present specimen seems to represent such recent artificial entry rather than an undiscovered native population. Since another individual was observed in a different place, it is highly probable that *H. t. typus* has already established a local population on Iriomotejima Island.

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**LITERATURE CITED**


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要 旨 キノポリヤモリ（新称）、Hemiphylodactylus typus typus: 日本の爬虫両
種類相への追加

太田 英利
琉球列島八重山諸島の西表島より、キノポリ
ヤモリ (Hemiphyllodactylus typus typus) の 1 雌
が採集された。これは本種の日本からの最初の
記録である。今回採集された標本の外部形態に
ついて記載し、検討を加えた。この標本は、本
亜種が西表島へ最近移入されたことを示すもの
と思われる。

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