

A Brief Herpetological Excursion To Wai Ling Ding, Wanshan Islands, South China Sea

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Abstract. - Two frogs and three lizards are recorded from Wai Ling Ding, one of the larger Wanshan Islands southwest of Hong Kong, in Guangdong Province, China (the number of additional unpublished records for islands within Hong Kong Territory for both frogs in parentheses): *Kaloula p. pulchra* (7), *Rhacophorus leucomystax* or "*Polypedates megacephalus*" (7), *Hemidactylus bowringi*, *Eumeces quadrilineatus*, and *Scincella modesta*. Ours is the first record for *S. modesta* in Guangdong Province; ontogenetic and elevational data are presented for this species.

Key words: Biogeography, Wanshan, Hong Kong, Anura, *Kaloula*, *Rhacophorus*, *Polypedates*, Squamata, *Hemidactylus*, *Eumeces*, *Scincella modesta*.

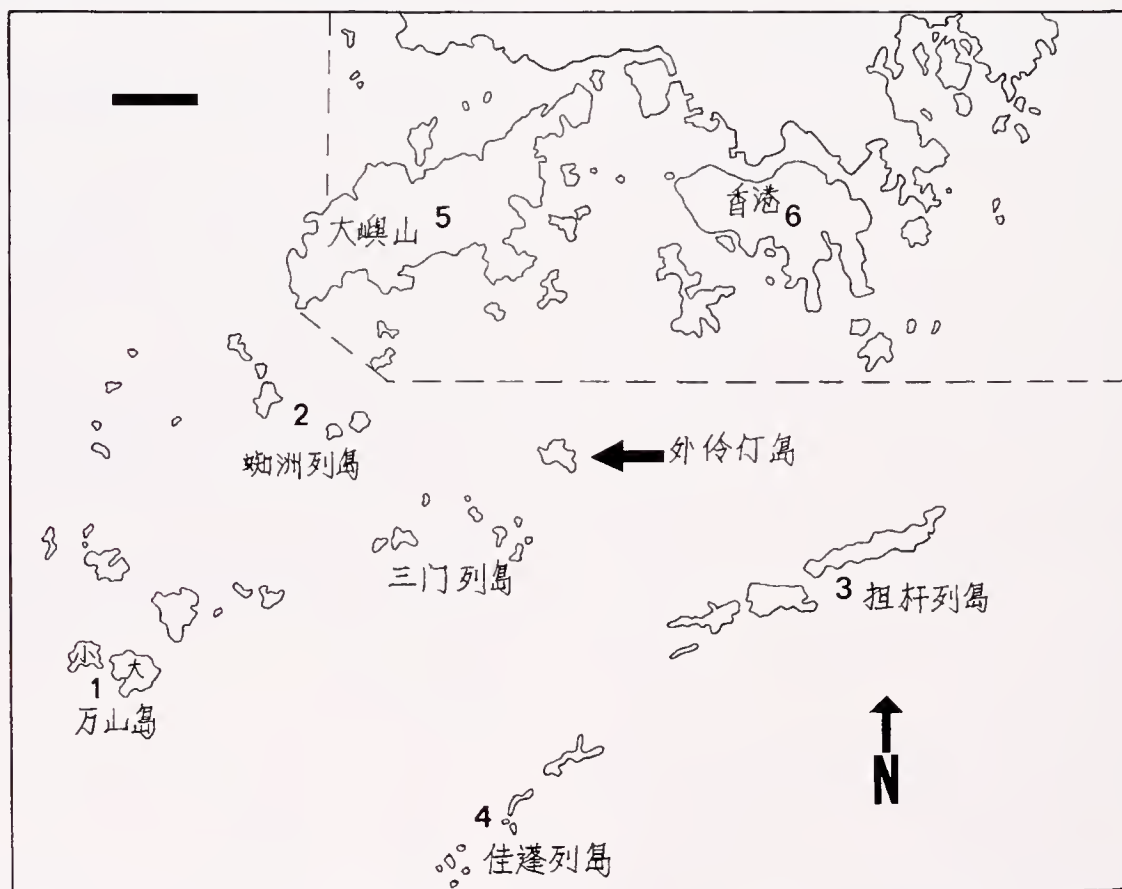


Figure 1. The Wanshan Islands and adjacent portions of Hong Kong Territory. 1, Da and Xiao Wanshan (the "Ladrones"); 2, Zhizhou; 3, Dangan; 4, Jiapeng; 5, Lantau (Tai Yue Shan); and 6, Hong Kong Island. Arrow indicates Wai Ling Ding. Dashed line indicates part of the southern and western border of Hong Kong Territory. Bar, top left, is 5 km.

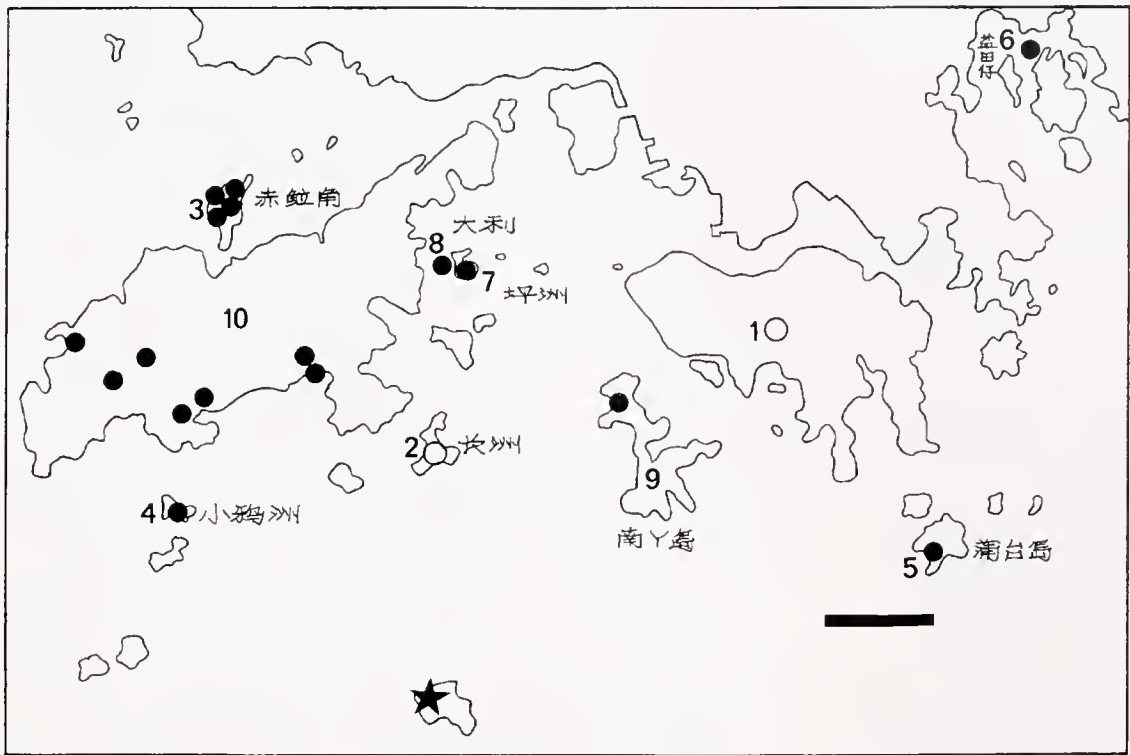


Figure 2. Island localities for *Kaloula p. pulchra* vouchered by MCZ specimens (solid dots) or from Karsen et al., 1986 (open circles). 1, Hong Kong; 2, Cheung Chau; 3, Chek Lap Kok (now blasted away); 4, Siu-A-Chau, Soko Islands; 5, Po Toi; 6, Yim Tin Tsai; 7, Peng Chau; 8, Tai Lei; 9, Lamma; and 10, Lantau (Tai Yue Shan). Star is Wai Ling Ding. Bar, bottom right, is 5 km.

Introduction

More than 40 vegetated islands lie south and west of the British Territory of Hong Kong, on the inundated continental shelf of the South China Sea, within Guangdong Province. Collectively, the group is called Wanshan; two of the larger islands, in the extreme southwest, were well known historically as the Ladrões; DaWanshan and XiaoWanshan today (Empson 1992). To the north lies the Zhizhou cluster, and to the east and southeast lie the Dangan and Jiapeng groups, respectively. Centrally located is the Sanmen complex, the largest of which is Wai Ling Ding, ca 3.3 km² and 310 m above sealevel, some 25 km southwest of Hong Kong (Fig. 1).

Access to these islands has heretofore been very limited (Pan et al., 1985), while the 100 or more islands within Hong Kong Territory have received considerable attention (Karsen et al., 1986; Zhao and Adler 1993). In an attempt to develop commerce, Chinese authorities now permit regular tourist access to at least Wai Ling Ding from Hong Kong. We made the trip on 20 July 1994.

Results

We were able to collect for only two hours during overcast weather with intermittent showers. Heavy rain developed at midday and soon terminated our efforts. Only five species were vouchered. All specimens are in the Museum of Comparative Zoology (MCZ).

1. *Kaloula p. pulchra* (Anura: Microhylidae), MCZ 116225. Found under debris on a hillside, ca 60 m above sealevel. A second individual was not collected. This abundant species is widespread on coastal islands including Hong Kong and Cheung Chau (Karsen et al., 1986), Chek Lap Kok (MCZ 115497-502; population now extirpated by destruction of the island), Siu-A-Chau in the Soko Islands (Lazell 1988a; MCZ 109400), Po Toi (MCZ 116089), Yim Tin Tsai (MCZ 117716-8), Peng Chau (MCZ 109403), Lamma (MCZ 109402), many localities on Lantau (e.g. MCZ 116081-8, Shui Hau), and even tiny Tai Lei off Peng Chau, area 2.9 ha (MCZ 110964-5). See Fig. 2.

2. *Rhacophorus leucomystax* ("Polypedates megacephalus") (Anura: Ranidae or "Rhacophoridae"),

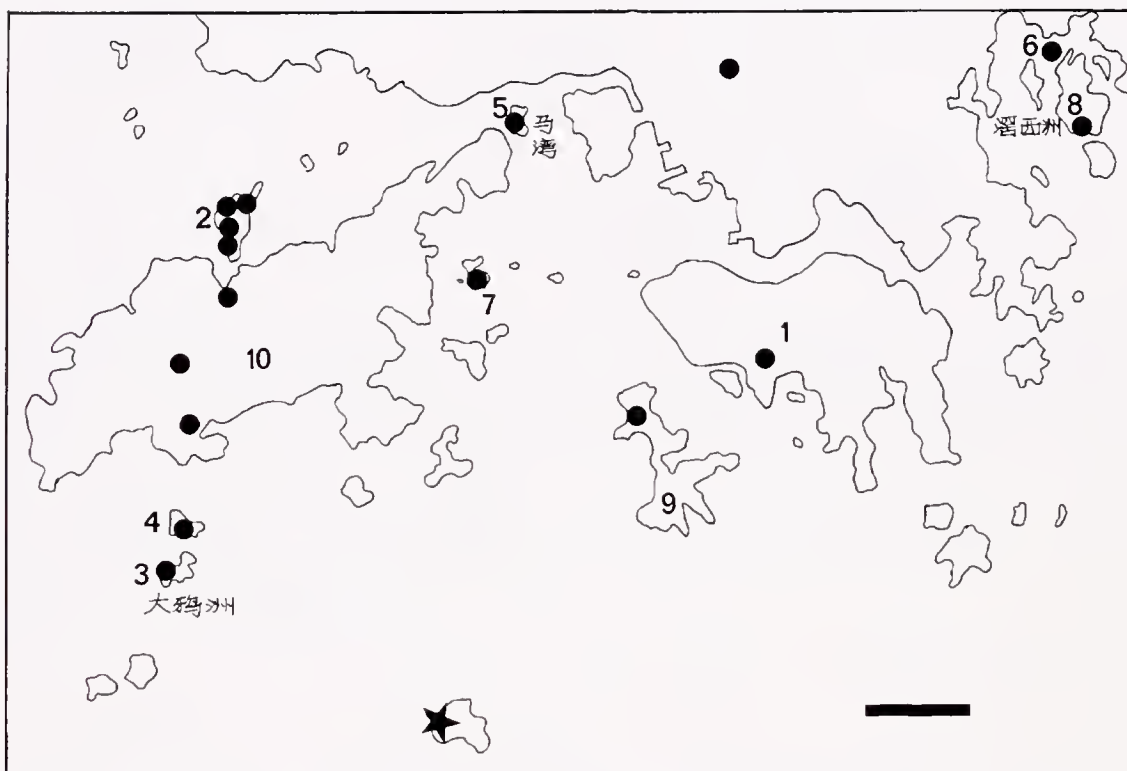


Figure 3. Localities for *Rhacophorus leucomystax* or "*Polypedates megacephalus*" vouchered by MCZ specimens (solid dots). 1, Hong Kong; 2, Chek Lap Kok (now blasted away); 3, Tai-A-Chau, and 4, Siu-A-Chau, Soko Islands; 5, Ma Wan; 6 Yim Tin Tsai; 7, Peng Chau; 8, Kau Sai Chau; 9, Lamma; and 10, Lantau (Tai Yue Shan). Star is Wai Ling Ding. Bar, bottom right, is 5 km.

MCZ 116226. Tadpoles were also collected for the Department of Zoology, University of Hong Kong. The voucher is a metamorph. All specimens were found in rain water pools on the hillside above the village at about 70 m elevation.

The nomenclature for this frog is unsettled. Zhao and Adler (1993: 74) notwithstanding, the sole consistent character given by Liem (1970) separating "*Polypedates*" from *Rhacophorus* is the diplasio-coelous vertebra of the former. One of us (JL) finds this character prone to individual variation in adult frogs and questions whether any genus founded on such a single character could be monophyletic. Zhao and Adler (1993: 156) accepted the notion of Matsui et al. (1986) that Chinese specimens should be called *megacephalus* (type locality Hong Kong: Hallowell, 1861) "based on comparisons of Taiwanese and Bornean specimens." Taiwan and Borneo are both continental shelf islands. Borneo is more than twice as far from Wai Ling Ding (and Hong Kong) as is Taiwan, but we see no rationale for assigning populations on that basis, and opine that this species, abundant at Hong Kong (Karsen et al., 1986: 31), should be

judged on evaluation of topotypic material. Nor do we believe the minor differences noted by Matsui et al. (1986) necessarily imply species-level distinction. Karyotypes often vary within species (e.g. Schmid et al., 1994). A demonstration of sympatry would be convincing.

In addition to the New Territories mainland and Hong Kong Island, noted by Karsen et al. (1986), this species has been vouchered on Chek Lap Kok (MCZ 115709-36; population now extirpated by destruction of the island), Siu-A-Chau (Lazell 1988a; MCZ 109426-30) and Tai-A-Chau (Lazell 1988a; MCZ 110969-71) in the Soko Islands, Peng Chau (MCZ 109425), Ma Wan (MCZ 115737-40), Lamma (MCZ 109437), Yim Tin Tsai (MCZ 109437) and Kau Sai Chau (MCZ 116227) in the Port Shelter Islands, and several localities on Lantau (e.g. Shui Hau, MCZ 115742-4). See Fig. 3.

3. *Hemidactylus bowringi* (Squamata: Gekkonidae). MCZ 179462-3. Both were collected under debris in the village area at the northwest of the Island. Several others were seen. This is probably the most ubiquitous and widespread member of the Hong Kong

Table 1. MCZ specimens of *Scincella modesta* from Hong Kong and Guangdong, tropical China.

MCZ number	Locality	Elevation, m
39207	Hong Kong: The Peak	550
172779	Lantau: Tei Tong Tsai	360
172780	Lantau: Tei Tong Tsai	360
172781	Lantau: Keung Shan	100
176240	Lantau: Ngong Ping	420
176241	Lantau: Ngong Ping	420
176242	Lantau: Ngong Ping	490
176243	Lantau: Tai Tung Shan	320
176244	Lantau: Keung Shan	100
176245	Hong Kong: Pokfulam	190
176246	Mainland New Territories: Pat Sin Leng	200
176746	Guangdong: Wanshan: Wai Ling Ding	60

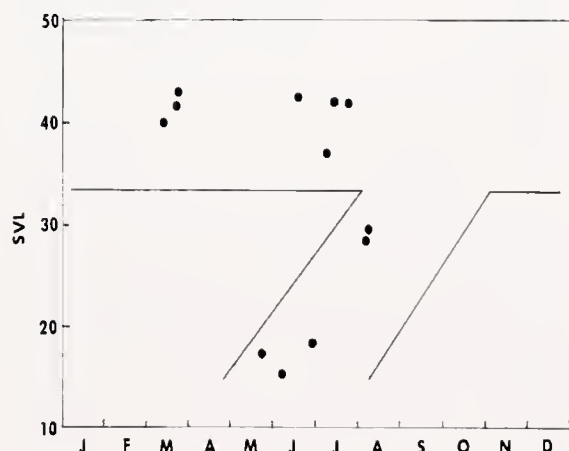


Figure 4. Ontograph of MCZ specimens of *Scincella modesta* from Guangdong and Hong Kong. Lines indicate the size/time zone in which we expect specimens to occur in this tropical, monsoonal region.

herpetofauna (Karsen et al., 1986; Lazell 1988a) and is to be expected on all continental shelf islands with more than herb stage vegetation in the South China Sea.

4. *Eumeces quadrilineatus* (Squamata: Scincidae), MCZ 179461. This, the only individual seen, was found under debris inside an abandoned hut at the vil-

lage periphery at about 60 m. This spectacular species is widespread but not especially common in the region. Karsen et al. (1986) record it from Hong Kong, Lantau, and Cheung Chau islands; Lazell (1988a) added Tai-A-Chau in the Soko group (MCZ 173399-100). An ontogenetic and biogeographic study of this species is underway (JL).

5. *Scincella modesta* (Squamata: Scincidae), MCZ 176746. This individual was found under debris inside an abandoned hut above the village at ca 60 m. *S. modesta* on Wai Ling Ding is our most notable find. Nowhere common in this region, the species has heretofore been recorded only on Hong Kong, Lantau, and Cheung Chau islands off the mainland, and is usually encountered at moderate to high elevation (Karsen et al., 1986; Table 1). Karsen (pers. comm.) informs us that the Cheung Chau record is not based on a specimen, but sight only. He suspects it may have been *Scincella reevesi*.

Zhao and Adler (1993) recognized two subspecies of *S. modesta* but did not admit to either occurring in South China, Hong Kong, or on any islands. The identity of these tropical skinks, widely disjunct from their relatives to the north, was not considered by Zhao and Adler and remains open to question. Ontogenetic data are provided in Fig. 4.

Discussion

In addition to our five species, Pan et al. (1985) record three species of frogs: *Rana guentheri*, *R. limncharis*, and *R. rugulosa*. Li and Pan (1995) added *Kaloula pulchra*.

We saw only the extreme northwest portion of Wai Ling Ding. The village where we landed had all the appearances and aromas of a typical, impoverished, fishing community burdened by an influx of workers attempting to construct a facade attractive to tourists. This community was called simply "Ling Ding Tsuen" (Nowhere Alone Town). The area we saw was extremely ecologically degraded with vast areas of barren rock interspersed with cutgrass (*Panicum* sp.). There were clumps and strips of scrub vegetation largely consisting of native species such as *Melastoma* sp., *Dicranopteris* sp., and *Rhodomyrtus tomentosa*. The trees, however, were exotic species: *Acacia confusa*, *Casaurina* sp., and unidentified eucalypts.

In view of the number of endemic species known from Hong Kong islands, including some found at low elevation such as *Philautus romeri*, *Megophrys brachykolos*, and *Dibamus bogadeki*, the Wanshan Islands will repay a thorough investigation.

Acknowledgments

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