

Squamata, Gekkonidae, *Ptychozoon trinotaterra* Brown, 1999: Rediscovery in Thailand

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ABSTRACT: The parachute gecko *Ptychozoon trinotaterra*, known so far only from its type series which includes specimens from two geographically distant localities in northeastern Thailand and central Vietnam, has been rediscovered in Thailand. The morphological observations made on the new specimens confirm that the Vietnamese and Thai populations are conspecific.

The rare *Ptychozoon trinotaterra* Brown, 1999 is still known to date only from its type series, *i.e.*, an adult female holotype collected in 1969 in Sakaerat, Nakhon Ratchasima Province in northeastern Thailand, and three paratypes (an adult and two juvenile males) collected in 1996 and 1997 in Gia Lai and Yok Don provinces, central Vietnam (Brown 1999; Nabhitabhata and Chan-ard 2005). It was also mentioned from Cat Tien, Dong Nai Province in southern Vietnam (Nguyen and Ho 2002; Nguyen et al. 2009), but without any photograph or reference to voucher material. The species is easily recognizable from its congeners, by its three dark transverse bands in the axilla-groin region, versus four in all remaining species but the Philippine *Ptychozoon intermedium* (otherwise clearly distinguishable by several scalation characters). The Thai and Vietnamese specimens were considered in the original description (Brown 1999) to belong to a single species, with one reservation concerning a possibly significant character, *i.e.*, the presence in the Thai specimen of a midvertebral series of flat tubercles versus the absence of such tubercles in all three Vietnamese specimens.

During herpetological surveys in Ubon Ratchathani Province, northeastern Thailand, on 25 August 2009, two of us (KK and AT), found a population of *Ptychozoon* showing three dark transverse bands in the axilla-groin region. The exact locality (15°17.56' N, 104°47.808' E) is in the Ubon Ratchathani Zoo compound, Amphoe (= District) Muang. One specimen (CUMZ-R-S-1) was collected, preserved in 70% ethanol, and deposited in the herpetological collections of Chulalongkorn University Museum of Zoology, Bangkok, Thailand. It is described here.

Adult male, snout-vent length 69.5 mm; tail length 63.0 mm (tail original); total length 132.5 mm. Head and body flattened, with a skin-flap on side of head below ear; a lateral skin-flap extending on side from axilla to groin; other skin flaps on front and posterior parts of arms and legs, and on sides of tail (Figures 1 and 2). Tail depressed,

subcylindrical, ventrally flattened. Dorsal cephalic scales round to oval, non-imbricate, strongly granular. Undifferentiated head scales irregularly convex, reducing in size posteriorly by interorbital region and becoming smaller and less granular in the temporal and parietal regions. Palpebrals larger than scales in adjacent frontal region. Nuchals granular, weakly to strongly convex, continuously grading into enlarged dorsals. Rostral nearly quadrangular without groove or suture; rostral borders first supralabial, nostril, and a pair of widened supranasals. Supranasals in slight contact between nostrils. Nostril surrounded by rostral, anterior supranasal, a posterior supranasal, first supralabial and a postnasal. Scales on head variable in size, largest on frontal region and in front of orbit; smallest scales on occiput, without intermixed enlarged scales. Scales above ear-flaps about size of, or a little larger than, ventral scales, with smaller scales on under surface of flap. Twelve (left) / 11 (right) supralabials differentiated from lateral head scales; 10 (left) / 11 (right) differentiated infralabials. Mental scale triangular. First pair of chinshields more than twice as long as broad, in contact with each other on their whole length, in contact with mental and first infralabial. Small throat and chin scales greatly increasing in size, becoming strongly imbricate in posterior gular region, and continuing to increase in size through ventral abdomen. Dorsal scales small, slightly varying in size, round to hexagonal, non-imbricate. A single midvertebral row of flat, rounded dorsal tubercles (about 16 tubercles on a discontinuous line between arm and leg insertions, with 2 to 8 undifferentiated midvertebrals between each); a few additional flat tubercles irregularly disposed on the paravertebral area. Eighty transverse dorsals above midbody parachute. Width of midbody skin-flaps 11.5 mm. Maximal width when midbody skin-flaps are extended 39.5 mm. Ventral body scales strongly imbricate, with rounded caudal edge, conspicuously larger than non-imbricate dorsals, uniform in size along antero-posterior body axis until nuchal region where

they sharply reduce to non-imbricate minute chin scales; imbricate ventrals also reduce laterally to minute before insertion of midbody parachute. Toes webbed; undivided, distally widened, lamellae under digits; terminal joints and claw absent from inner digits. No predigital notch in preantibrachial cutaneous expansion (as shown on page 993 in the original description), but extreme reduction of cutaneous expansion on outer side of manus just before insertion of finger V (not shown on drawing in the original description). Twenty preanofemoral pores in a continuous series. Fifteen cutaneous denticulate lobes on each side of the tail, oriented laterally, one pair of lobes per annulation. Absence of substantive lateral expansion of the straight-edged tail terminus beyond the nearest denticulate caudal lobe. Midvertebral tubercle row on tail dorsum continuing distally onto the tail terminus. Length of tail distal lobe 16 mm. Presence of a lateral swelling of the ventral tail base, and of a cloacal spur on each side of the vent. Subcaudal scales enlarged, about four highly irregular rows to each segment subcaudally.

Dorsum background colour light gray mottled with brown blotches and tiny black dots. The axilla-groin region shows three light brown wavy bands each posteriorly edged by a thin (ca. 1 mm in width) M-shaped black line (see Figure 1). Additional light brown band posteriorly edged with a M-shaped black thin line present above base of tail. Tail dorsal surface shows four more brown bands posteriorly edged with a nearly straight black line. Terminal tail flap black mottled with gray anteriorly, light brown posteriorly. Incomplete light brown wavy band in nuchal region, not posteriorly edged with black. Nape, dorsum and dorsal surface of tail show an irregularly-spaced vertebral series of yellow spots. Fore and hind limbs with three dark bands; dorsal background colour of limbs same as dorsum. Dorsal head surface background same as dorsum background colour. Postorbital brown bar continuing to nuchal region. Light brown interorbital bar. Light brown band on snout. Throat, venter and undersides of limbs yellowish white with scattered gray spots. Palmar regions of manus and pes yellow with dark gray markings; subdigital lamellae of manus and pes gray. Underside of tail yellowish white with five black bands, increasing in width and contrast posteriorly.

All these characters, in particular, the three dark bands in the axilla-groin region, single midvertebral row of flat



FIGURE 1. Live adult male *Ptychozoon trinotaterra* (CUMZ-R-S-1) from Ubon Ratchathani Zoo compounds, northeastern Thailand. Photo. by K. Kunya.



FIGURE 2. Ventral view of preserved adult male *Ptychozoon trinotaterra* (CUMZ-R-S-1) from Ubon Ratchathani Zoo compounds, northeastern Thailand. Photo. by O. S. G. Pauwels.

dorsal tubercles, continuous series of 20 preanofemoral pores, 15/15 laterally oriented denticulate lobes on tail, continuation of caudal tubercles distally on to the dorsal surface of tail terminus, allow us to confidently identify this specimen as *Ptychozoon trinotaterra* (see diagnosis and species comparisons in Brown 1999). It is to be noted that the absence or presence of a midvertebral tubercle row was studied in four other individuals, caught and released, among the sixteen observed in Ubon Ratchathani Province; these were all adult females, showing no tubercle row. Since the holotype of the species was an adult female with a midvertebral tubercle row, the three Vietnamese specimens were males with no midvertebral tubercle row, and four adult females from Ubon Ratchathani Province showed no midvertebral tubercle row, it seems that this character varies from one individual to another, independently of their sex.

A total of 16 individuals was observed during the same evening, all actively hunting insects. This happened just after a rainshower and winged termites were abundant and preyed on by the *Ptychozoon*. They were observed in an old secondary forest, partly along a road. Most *Ptychozoon* were on large trees, from 20 cm to 3 m above the ground, a few in strict syntopy with *Hemidactylus frenatus* Duméril



FIGURE 3. Live adult female *Ptychozoon trinotaterra* from Ubon Ratchathani Zoo compounds, northeastern Thailand. Photo. by O. S. G. Pauwels.

and Bibron, 1836 (Gekkonidae), and several were also observed on street light poles at 2-3 m above the ground. Several individuals were caught for observation, all bit while handled. Once lighted with a torch, they did not attempt to escape and were thus easy to catch. All 16 individuals showed three dark transverse bands in the axilla-groin region (see Figure 3) and we believe they all belonged to the same species. They all had an approximate size close to the one of the individual described above, *i.e.*, adult, and we did not observe any obviously larger individuals nor any juvenile.

The new Thai locality is situated *ca.* 110 km E-NE of the only previously known Thai locality. Being longitudinally situated nearly midway between the earlier Thai locality and the Vietnamese localities, the new locality partly fills an east-west gap in the species' distribution. It is the northernmost record for the species. Its presence in hilly forested areas of northern Cambodia (as also suggested by Nguyen et al. 2009 and Stuart and Emmett 2006) and southern Laos is highly likely and should be confirmed by voucher collecting in those countries.

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