

## BOOK REVIEWS

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**Checklist of Amphibians and Reptiles in Thailand**, by Jarujin Nabhitabhata, Tanya Chan-ard, and Yodchaiy Chuaynkern. “2000” [2004]. Office of Environmental Policy and Planning (OEPP), Bangkok, Biodiversity Series, Volume 9. 152 pp., color plates, map. Softcover. Free. ISBN 974-87704-3-5.

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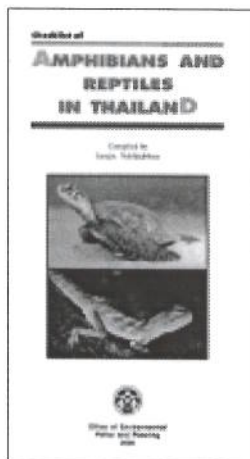
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This new publication, co-authored by three experienced herpetologists from the Thai National Science Museum (Pathum Thani) is the first comprehensive list of Thai reptiles and amphibians giving details on their distribution within the country and aiming to list all provinces from which each taxon has been recorded so far. Before describing the contents of this new and welcome addition to the herpetological bibliography on Thailand, a remark should be made about its publication date. Although “September, 2000” is indicated in the book, it was actually not printed before 2004 (T. Chan-ard and Y. Chuaynkern, pers. comm.).

The practically-conceived, pocket-sized book includes a) an administrative map of Thailand (p. 3), with different colors grouping the provinces in five divisions, corresponding to north, west, center, east, southeast and south regions; b) a foreword by the Secretary General of the Thai Office of Environmental Policy and Planning (p. 4); c) a “compilers’ note” (pp. 5–6); d) a table of contents, showing the orders and families of the taxa treated (pp. 7–8); e) two colour plates of amphibians (19 species) and four of reptiles (34 species), showing, among others, some rarely illustrated taxa like *Caluella guttulata* and *Glyphoglossus molossus* (Microhylidae), *Gehyra lacerata* (Gekkonidae) and *Tropidophorus microlepis* (Scincidae) (pp. 9–14), although with photographs of small size and average quality; f) a table of amphibian species (pp. 15–48); g) a table of reptile species (pp. 49–143); h) a short bibliography with 126 references (pp. 144–151). The tables are divided into four columns: 1) taxon/species; 2) common names (in English, and in Thai with transliteration into English); 3) “locality”, giving the Thai regions and provinces of occurrence, often with indication of the district or locality – distribution outside Thailand is not given; 4) “reference”, detailing the sources for the



species records.

In the locality column, the provinces of occurrence are grouped in geographical areas: north, northeast, east, southeast, central, southwest, and south, i.e. more divisions than the six appearing on the map. Moreover, the grouping of provinces in the two tables does not correspond to that in the map (see for example the distribution of *Leptobrachium smithi* on pp. 16–17, where the provinces of Kanchanaburi, Phetchaburi, Prachuap Khiri Khan and Uthai Thani are referred to a “southwest” area). Another example, among many, is the placement of Hua Hin (Prachuap Khiri Khan Province) in southwestern Thailand on p. 104 and in southern Thailand on p. 105.

The amphibian table lists 132 species, which is lower than the number of species actually recorded in 2004. Chan-ard (2003), in his excellent photographic field guide on Thai amphibians, indeed included 141 species. Although the compilers’ note indicates a total of 325 reptile species, the table actually includes 326. The most recent herpetological works included in the bibliography date back from 2001, so all recent major works and additions to the amphibian and reptile faunas were not included. Since 2000, many gecko species have been added to the fauna of Thailand: *Cnemaspis phuketensis* Das & Leong, 2004, *Cyrtodactylus chanhomeae* Bauer, Sumontha & Pauwels, 2003, *C. sumonthai* Bauer, Pauwels & Chanhome, 2002, *C. thirakhupti* Pauwels, Bauer, Sumontha & Chanhome, 2004 and *C. tigroides* Bauer, Sumontha & Pauwels, 2003, and *Dixonius hangseesom* Bauer, Sumontha, Grossmann, Pauwels & Vogel, 2004, as well as two skinks, *Tropidophorus laticutatus* Hikida, Orlov, Nabhitabhata & Ota, 2002 and *T. matsuii* Hikida, Orlov, Nabhitabhata & Ota, 2002. Asian skinks long placed in the genus *Mabuya* are now referred to the genus *Eutropis* Fitzinger, 1843 following Mausfeld et al. (2002) and Mausfeld and Schmitz (2003). The snake list includes 177 species, while 181 species (and in total 185 species and subspecies) were listed by David et al. (2004). Three additional species and one genus have been added since: *Lycodon cardamomensis* (Pauwels et al. 2005), *Macrocalamus lateralis* (Chan-ard et al. 2002; David and Pauwels 2004) (Colubridae) and *Trimeresurus fucatus* (Vogel et al. 2004; all peninsular localities of *T. popeiorum* seem in fact referable to *T. fucatus*) (Crotalidae). It should also be noted that the binomen *Boiga ocellata* Kroon, 1973 is a junior subjective synonym of *Boiga siamensis* Nootpand, 1971 (Pauwels et al. 2005), that Thai *Trimeresurus* “*stejnegeri*” were shown to be in fact *T. gumprechtii* and *T. vogeli* (David et al. 2001, 2002), and that *Trimeresurus venustus* was clearly shown to be specifically distinct from *T. kanburiensis* (David et al. 2004). Thai populations of *Psammophis condanarus* (sic) (Merrem, 1820) should be better regarded as *Psammophis indochinensis* Smith, 1943 (Pauwels et al. 2003).

The subspecific level is not considered in the tables. However, it would have stressed the existence of some endemic subspecies (endemic species are marked with an asterisk and, according to the foreword, this list is aimed to contribute to biodiversity conservation), notably *Draco maculatus divergens* Taylor, 1934 (known only from Chiang Mai Province), *Eutropis macularia malcolmi* (Taylor & Elbel, 1958), *E. m. postnasalis* (Taylor & Elbel, 1958) and *E. m. quadrifasciata* (Taylor & Elbel, 1958) (all three of doubtful but unresolved taxonomic status; still to be conservatively considered endemic to Loei Province), *Elaphe porphyracea*



*coxi* Schulz & Helfenberger, 1998 (Chaiyaphum and Loei provinces), and *Gongylosoma baliodeirum cochranae* (Taylor, 1962) (Chanthaburi Province).

The main weakness of this opus is the lack of documentation for the species records. For 75 of the 132 amphibian species, one finds "per. com." sources, by the three authors (!) and six other persons. The records of 28 amphibian species (21% of all 132 species) are even exclusively based on "personal communications", thus without any reference to a published work or museum collection material. In addition, the source for *Leptotalax gracilis* is a reference that is not listed in the bibliography. For some of these 28 species, Thai material was however published, and all 28 except *Rana andersonii* were treated and illustrated by Chan-ard (2003). The only source indicated for *Chaperina fusca* is "Taksinham (per. com.)"; the species was mentioned as *Chaperina* cf. *fusca* by Chan-ard (2003), thus expressing some doubt as to its identity. The source for *Kaloula baleata* is indicated as "Chan-ard (per. com.); Nabhitabhata (per. com.)" and the species is said to occur in the provinces of Krabi, Phuket, Ratchaburi, Surat Thani, Trang and Yala. One of the authors however co-authored a paper studying specimens from the provinces of Phang-Nga, Phuket and Trang (Pauwels et al. 1999). The records of *Rana milleti* from Chanthaburi, Chachoengsao, Nakhon Nayok and Nakhon Ratchasima provinces are indicated as originating from "per. com." by the three authors, without any other reference, but Chan-ard (2003) and Chuaynkern et al. (2004) reported specimens from the provinces of Chachoengsao, Nakhon Ratchasima and Ubon Ratchathani. What is called *Huia nasica* from Kanchanaburi Province was recently shown to be a distinct species, *Huia melasma* Stuart & Chan-ard, 2005. The problem of undocumented records is slightly less dramatic in reptile species. There are 271 species at least in part recorded on the basis of "per. com."; this is in fact the only source for 18 reptile species (by the authors or by a certain Damman), which represents 6% of the total of 326 reptiles. Again, if literature had been better exploited, some published references could have been mentioned to justify many records. For instance, *Dogania subplana* is said to be based on a "per. com.", but among other references, Chan-ard et al. (1999) illustrated specimens from Surat Thani and Satun provinces. *Cyclemys tcheponensis*, listed on the basis of "Nabhitabhata (per. com.)", was however listed from Thailand, including Chiang Mai Province, on the basis of several specimens studied by Fritz and Ziegler (1999). The agamid *Pseudocalotes microlepis* is mentioned from three provinces, based on "per. com." but was already recorded from Thailand by Hallermann and Böhme (2000) (see also Pauwels et al. 2003). The record of *Fordonia leucobalia* is based only on "per. com.", but the species was already mentioned from Thailand by Frith and MacIver (1978). Idem for *Ahaetulla mycterizans*, listed, among others, by Chan-ard et al. (1999). The source for the record of *Lycodon butleri* is indicated as "Nabhitabhata (per. com.)"; however the species was mentioned twice by Cox (1991a-b), who indicated that the identification had been verified by J. Nabhitabhata. The record of *Ptyas fusca* is presented as known from "South (from animal dealer); Chan-ard (per. com.)", although the species was recorded from a precise locality by Pauwels et al. (2000). The records of the agamid *Bronchocela smaragdina*, the geckos *Cnemaspis flavolineata* and *Cyrtodactylus feae*, the skinks *Lipinia surda* and *Lygosoma corpulentum*, the colubrids *Oligodon*

*catenatus* and *O. theobaldi*, *Stegonotus borneensis*, and of the sea snakes *Disteira nigrocinctus* and *D. obscurus*, and *Hydrophis inornatus*, based only on personal communications, definitely require confirmation through voucher material. *Hemidactylus b. brookii*, listed without any source from Thailand by Chan-ard et al. (1999) but confirmed from the country by Bauer et al. (2002), is not listed. Many of the records from Kaeng Krachan and Palau, in Phetchaburi and Prachuap Khiri Khan provinces, are based on material and observations gathered during field surveys in December 2002 and July 2004 and published by Pauwels and Chan-ard (2005).

Although we did not check each locality record, we noted some errors. *Cantoria violacea* is cited from Sai Yok, in Kanchanaburi, on the basis of "Gairder and Smith (1915)". These authors did not list *Cantoria violacea*, but *Simotes violaceus* Cantor, a synonym of *Oligodon cyclurus* Cantor, but long used for Thai and Indochinese populations in place of *Oligodon cinereus* (Günther, 1864) (see Smith 1943), which is the valid name for these populations. Many important distributional data on endangered species, such as *Chitra chitra* (Kitimasak and Thirakhupt 2002), *Pelochelys cantorii* (Pauwels et al. 2003), or *Crocodylus siamensis* (Platt et al. 2002), were published between 2000 and 2004.

Some references listed in the text are missing in the bibliography: Bohme (sic) (1982); Chuaynkern (2001) (pp. 45, 93); Cochran (1922) (p. 77); Colwell et al. (1977) (p. 105); Fritz and Bbst (sic) (1999) (p. 53); Grossmann (1992) (p. 235); Grossmann and Tillack (2001) (pp. 98, 111); Lauhajinda et al. (1999) (p. 17); Lauprasert and Thirakhupt (2001) (p. 93); Nutaphand (1990) (p. 50); Schaffer (sic) (1991) (pp. 60-61); Steiof et al. (1991) (p. 69); Welch (1980) (p. 116); Welch et al. (1990) (p. 151); and Wuster (sic) et al. (1997) (p. 132). Listing the works done by Thai authors is of special importance, since these references, often in Thai language, are regularly overlooked by Occidental researchers. Some references are wrongly indicated in the main text: "Gunther (sic) (1961)" on p. 91; "Inger and Elbel (1977)" on p. 92 (Inger and Colwell, 1977); Manthey and Grossmann "(1977)" on p. 55 (1997); Taylor and Elbel "(1950)" on p. 25 (1958). The literature section is largely incomplete. One would have hoped to find a complete list of the numerous herpetological publications of the three authors, but, as two examples among many others, the intensive surveys of the second and third authors (Chan-ard 1996; Chan-ard et al. 2002) in Hala-Bala Wildlife Sanctuary, an area of great zoogeographical importance, or the first record of the Anguidae from Thailand (Nabhitabhata 1987) are absent.

Many of the undocumented species records concern species of difficult identification, or outside of their previously known range, thus with a special zoogeographical or conservation importance. In some cases new taxa could be involved, and the availability of internationally available voucher specimens is crucial. The high proportion of species partly or entirely recorded on the basis of observations made by the authors of the checklist gives, on the one hand, an idea of the huge field experience of the three authors, and on the other hand it stresses the importance of publishing detailed accounts of herpetological collections, in order to firmly document the listing of taxa. It gives also an idea of the richness of the mostly unpublished collections of the Thai National Science Museum, on which many records are based, as stressed by the authors in the compilers' note. This Museum houses the most



important collection of reptiles in Thailand, more significant than those of Chulalongkorn University and the Queen Saovabab Memorial Institute of the Thai Red Cross in Bangkok.

The present checklist, in spite of the shortcomings listed above, is a very useful work that serves as a perfect companion to the field guide on frogs by Chan-ard (2003) and to the book on amphibians and reptiles of Thailand and Peninsular Malaysia by Chan-ard et al. (1999). Moreover, This checklist, available at the Thai National Science Museum in Pathum Thani and at the OEPP in Bangkok, has an unequaled advantage over all other herpetological books on Thailand: it is free. Although this checklist is a welcome addition to published material on the herpetofauna of Thailand, an updated second edition with more emphasis on voucher specimens and on the source literature would be desirable. Thai amphibian and reptile faunas are far from being adequately known, in spite of the extensive series of investigations made by both Western and Thai herpetologists. A work like this distributional checklist is the right way to present an overview of the Thai fauna, from which taxonomic and biogeographical data can be easily derived. Pending the eventual availability of a more carefully prepared, updated second edition, we highly recommend the prompt acquisition of the present list by all herpetologists and biologists working on the fauna of southeast Asia.

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