

## BOOK REVIEW

### *A Field Guide to the Reptiles of South-East Asia*

2010. Indraneil Das.

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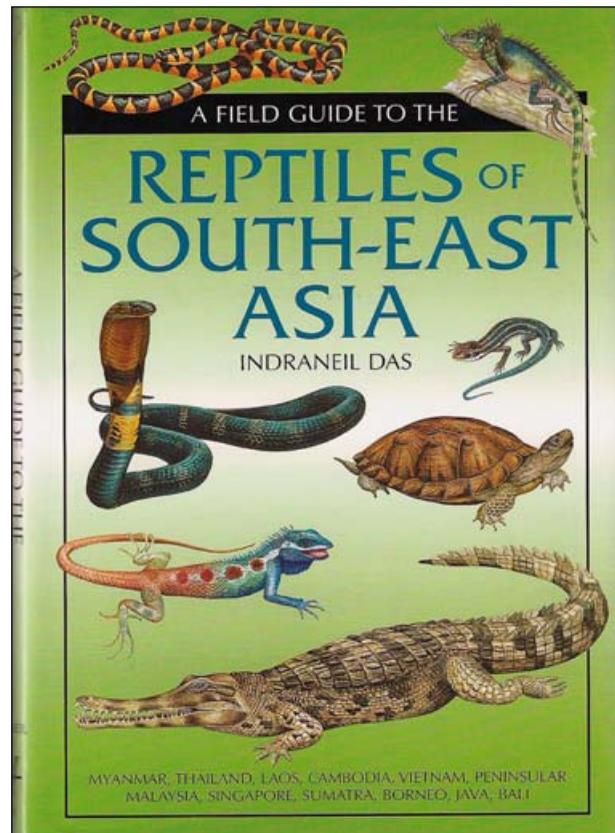
A number of books on Southeast Asian reptiles have been recently published, covering various geographical areas or taxonomic groups (mostly snakes or turtles), but this new guide encompasses an area and a diversity of taxa much larger than any else ever treated so far in a single book on that region. It indeed covers the whole reptile fauna of Bali, Borneo, Cambodia, Java, Laos, Myanmar, Peninsular Malaysia, Singapore, Sumatra, Thailand and Vietnam. The inclusion of Myanmar is particularly welcome because that country was much neglected so far in herpetological literature. The author of this new opus is an authority on the Southeast Asian reptile fauna and has already produced various books on several portions of this vast region (Das, 2004, 2007, etc.). His knowledge and experience in the field are remarkable, and he has among others already (co-) described 35 reptile species (including a fossil one) from the region covered by the guide, and traveled to most countries covered (Indonesia, Malaysia, Myanmar, Singapore, Thailand and Vietnam, Das, personal communication, June 2011).

This hardcover, tightly bound book is printed on glossy high quality paper. Its main sections are an introduction (pp. 7 – 17), color plates and their captions on the opposite page (pp. 18 – 165), species accounts (pp. 166 – 353), a glossary of technical terms (pp. 354 – 355), a literature section and internet links (pp. 356 – 368) and an index (pp. 369 – 376). Front and back covers are nicely illustrated with reptile drawings and inner covers show useful physical and political maps of the area. The text is clear and informative and mistypings are nearly absent. The layout of the book is very pleasant and practical.

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The introduction provides general morphological and biological data on reptiles and a brief discussion on their conservation, a short introduction to each country covered and advises on snake bite. The morphological section includes 17 black and white drawings that illustrate scalation, a few body measurements and snake dentitional types. One of the most important drawings, showing the snake head scales in lateral view, thus crucial for snake identification, is not only wrongly shown head down, but the scale captions are pointing at scales as if



the drawing was in the correct position! So for instance, the second supralabial is named the prefrontal, the 4<sup>th</sup> supralabial is named the supraocular, the 7<sup>th</sup> infralabial the parietal, etc. That mistake will unfortunately certainly generate much confusion in snake identification using this guide. Moreover, we feel that too little explanation is provided on scale counting methods. For example, the drawing illustrating the midbody scale rows gives the impression that the counting has to be made between the ventrals and the vertebral row, not across the whole dorsum. We strongly regret the absence of two major sections in the introduction that would have much improved the value of the guide. First, the book does not include a single identification key, not even to reptile orders or families, not to mention species and subspecies. Second, although the guide is alleged to provide species accounts for every species known from the area at the time it went to press (the introduction specifies that all species described till 31 December 2008 were included, a very important and useful information), there is no indication of the number of taxa for the whole region nor per country. We were very interested in this information, so we extracted it ourselves by reading every species account (see Table 1). A number of species have been described between the time the book text was finalized in 2008 and its publication in 2010, especially among geckos (including multiple descriptions like the seven *Cnemaspis* species described by Grismer et al., 2010), but that does not dramatically change the global figure of species treated, and it is unavoidable because of the editing and printing process. A list of species per country would have also greatly helped for identification purposes, since it would have allowed avoiding comparisons with the accounts of all similar species from all over the region.

Species are illustrated by color drawings; the book does not include any photograph. Seven illustrators shared the work to realize the 74 plates. Most plates are beautiful, but the various styles used (varying with the respective artists) give them various levels of utility for identification purposes. Some plates deserve a special mention for a field guide, because they clearly show both color and scale patterns (plates 49–58, by Sandra Doyle), others are more basic if not crude, too much in our opinion (especially plates 39–40, genera *Ahaetulla*

and *Boiga*, on which the drawings of *Ahaetulla nasuta* (Bonnaterre, 1790) and *Boiga bengkulensis* Orlov, Kudryavtzev, Ryabov et Shumakov, 2003 are really ugly, and plates 65–70, homalopsid and natricid plates are particularly poor). Compared to drawings, we feel that color photographs would have been more informative, for the color patterns as well as for the scalation. The subtleties of color patterns are indeed not adequately rendered by color drawings, because the variety of colors available to the artist's palette is much poorer than the one existing in reality, without even mentioning the details of the scalation. Color photographs in field guides are also often accompanied by a locality, adding informational value on distribution and local variability, while no locality was associated with the drawings in the present guide. We counted an amazing total of 887 drawings on the 74 color plates, which represents an incredibly huge amount of work. Five of the six crocodylian species of the region are illustrated (i.e., not *Crocodylus raninus* Müller et Schlegel, 1844). All but three of the region's chelonian species are illustrated, all chelonian genera are illustrated. Among the Squamata, several skink genera (*Davewakeum*, *Leptoseps*, *Livorimica*, *Vietnascincus*) and snake genera (*Collorhabdium*, *Cryptophidion*, *Etheridgeum*, *Pararhabdophis*, *Rhabdops*, *Amphiesmoides*, *Anoplohydrus*, *Iguanognathus*, *Paratapinophis*) were not illustrated. We certainly do not regret that *Cryptophidion annamense* Wallach et Jones, 1992 — a taxon described based on three poorly focused photographs, without any actual specimen available nor seen by the authors — was not illustrated, since Pauwels et Meirte, 1997 have shown long ago that it was a synonym of *Xenopeltis unicolor* Reinwardt, 1827, an opinion since adopted by most authors (see a. o. Nguyen et al., 2009). Das's choice was however to make others aware of that description, “hopefully leading to more investigations on *Xenopeltis* and other snakes in SE Asia” (Das, personal communication, June 2011). Unfortunately, the genus being not illustrated, the guide will be of little help for the public to make their own idea on its distinctiveness from/resemblance to *Xenopeltis unicolor*, or to find one in the wild, would it be different from *Xenopeltis unicolor*, a hypothesis that we categorically refute for reasons clearly demonstrated in Pauwels and Meirte (1997). Among lacertilians, 283 out of the 441 species and subspecies treated, thus 64%, were illustrated; among snakes, we have 360 out of 510, thus 71%. Non-illustrated taxa are mostly very rare or geographically localized or taxa known only by preserved museum specimens and whose color in life is unknown (with a few notable exceptions, like for *Japalura chapaensis* Bourret, 1937, for which live color is said to be unknown, but which is however illustrated on plate 160, or for *Macrocalamus vogeli* David et Pauwels,

**TABLE 1.** Numbers of Reptile Taxa Recognized by Das (2010) for the Area Covered by the Guide

Reptile group	Families	Genera	Species and subspecies
Crocodylians	2	3	6
Chelonians	7	31	59
Lacertilians	11	60	441
Snakes	15	108	510
Total	35	202	1016

2004, known only by its preserved type but shown on plate 48). Besides this, a number of species are shown on several drawings to illustrate variation within taxa (such as sexual dimorphism) or specific characters useful for identification (like dorsal and ventral views of turtle carapaces). Some remarkable drawings show individuals with their egg clutch or with their hatchlings, etc., and a superb combat of male *Ptyas mucosa* (Linnaeus, 1758) on plate 52. We noted contradictions in some species between the description of the coloration and the drawings, maybe because the illustrators used preserved specimens rather than live specimens or photographs.

We noted a few mistakes in the species identifications on the plates. On plate 36, the name *Tropidophorus laotus* Smith, 1923 is wrongly associated to a drawing of *T. hangman* Chuaynkern, Nabhitabhata, Inthara, Kamsook et Somsri, 2005, and vice and versa. On plate 38, python names are messed up, a. o., the name *Python molurus* (Linnaeus, 1758) is applied to *Broghammerus reticulatus* (Schneider, 1801), etc. The existence of a lineated phase of *Dryocalamus subannulatus* (Duméril, Bibrion et Duméril, 1854) (see Pauwels et al., 2006) was omitted; this might lead to wrong identifications of lineated individuals as *D. tristriatus* Günther, 1858.

Species accounts include a scientific name (without authors and date of publication), an English common name, a reference to a plate when the species is illustrated, a single measurement (straight carapace length for turtles, SVL for lacertilians and total length for snakes), and brief sections on identification, coloration, habitat and behavior, distribution and conservation status. Common English names are sometimes confusing because they are not consistent with systematics or not the most appropriate. Among many examples the genus *Bronchocela* is called Green Lizard or Forest Lizard depending on the species, but Forest Lizard is also used for some *Calotes*, and other *Calotes* are called Crested Lizards, etc. *Draco* spp. are called Flying Lizards, but their capacity to glide (and not to fly) is only mentioned once, briefly, in the biology section of the 8<sup>th</sup> species account, while this remarkable adaptation would have certainly deserved more explanation. The common English name Gecko or Giant Gecko is used for the genus *Gekko*, but *G. scienti-adventura* Rösler, Ziegler, Vu, Herrmann et Böhme, 2004 is said to be a Bent-toed Gecko (a name otherwise applied to *Cyrtodactylus* in the guide). All *Eutropis* are called Ground Skinks, except *E. multifasciata* (Kuhl, 1820) that is indicated as a Sun Skink. We find the English common name Giant Blind Snake, applied to the genus *Anomochilus*, unfortunate, since on one hand they are not blind, and on the other hand they are not related to the Typhlopidae, called Blind Snakes in the guide. Precision in measurements is not consistent among species (for ex-

ample a SVL of 42.12 mm is given for *Dixonius hangsee-som* Bauer, Sumontha, Grossmann, Pauwels et Vogel, 2004 and of 50 mm for the next species *D. siamensis* (Boulenger, 1899)). Ratio tail length/total length for Squamata is given for only a handful of species, although it would have been very useful for identification, especially for all the species that are illustrated only by a drawing of their head and neck, not the whole body. The tail is sometimes mentioned as short or long, but without comparison mean. Presence or absence of apical pits is mentioned for a number of species (although not consistently in the genera of these species), but apical pits are not defined in the guide. Genial, paraparietal and presubocular scales are mentioned in some snake species accounts' identification sections, but these terms are not defined in the guide, so these characters are not usable for non-specialists. Temporal formula ("1+1," "1+2") is mentioned for a few species, but there is no explanation on how to write or read temporal formulas. Snake species accounts' identification sections often mention modified and unmodified maxillary teeth, without explaining what these modifications mean. Hemipenes character states are mentioned for some species ("deeply forked hemipenes," "spines on proximal part of hemipenes not enlarged," "hemipenes long"), but hemipenes anatomy is not explained, and these characters states are not mentioned consistently within genera, only occasionally for given species. Within a given genus, character states are often given for some species (for example "dorsals smooth," "lacking apical pits") but not for others, thus not allowing intrageneric comparisons and making identification more difficult. We moreover noted a few dozens of cases where the scalation described in the text does not correspond with the one illustrated on the corresponding drawings, especially regarding the supralabials in contact with the eye and the numbers of pre- and post-oculars.

There are no distribution maps. For widespread species, distribution is given per country; for geographically restricted species, more specific localities are provided. Unfortunately, a lot of published localities have been ignored, and detailed distributions are often incomplete. Each species account lists all recognized subspecies, even those occurring outside the area of the guide, and the distribution of each is given. Considering only the subspecies of the area treated would have saved much space and increased clarity, although it is useful, on a taxonomic basis, to know the whole list of currently recognized subspecies. We would have actually preferred to see all taxa treated separately, i.e., an account for each species and each subspecies, especially since the status of subspecies is often unclear and subjective, often regarded as of species level by some authors.

The literature section is non-exhaustive and includes a subjective selection of 351 references whose choice criteria is unclear to us. The most recent references date back from 2008 (there are many from that year). The index lists English and scientific names of genera by alphabetical order, and within them, species by alphabetical order. It is thus not easy to search species in the index without knowing the scientific or English name of their respective genera.

To conclude, our main criticisms bear on two different major points. The first one bears on the nearly complete lack of taxonomic information, at the exception of the list of the subspecies. On a taxonomic basis, we regret that names of describers and dates of descriptions are not indicated. This shortcoming is obviously a requirement of the publisher for which the author should not be blamed. However, it should be mentioned as author(s) and date of description of a taxon are primary references. Another point is even more annoying and makes this book more delicate to use. Some species, described well before 2008, are missing, not on plates, but in the text itself. This is the case, for example, of *Oligodon signatus* (Günther, 1864), a valid species. Another point is the lack of justifications in the adopted taxonomy. This absence of discussion makes the reader wondering if the author did not notice or did not accept a recent taxonomic modification. This is the case of *Oligodon annulifer*. The author does not recognize any subspecies, whereas two subspecies, both endemic to Sumatra were previously recognized (*Oligodon annulifer annulata* (Van Lidth de Jeude, 1922) and *Oligodon annulifer confluens* Werner, 1924; see David et Vogel 1996). Subsequently, Tillack and Günther (2010) placed these two subspecies in the synonymy of two other species but we do not know if the author of the book overlooked these subspecies, or was aware of the future results of Tillack and Günther (2010), or arrived at the same conclusion. Another case (p. 293) is the case of *Oligodon quadrilineatus* (Jan et Sordelli, 1865). David et al. (2008) have shown that this species was a junior synonym of *Oligodon taeniatus* (Günther, 1861). Obviously, Das saw this paper as *O. pseudotaeniatus* David, Vogel et van Rooijen is cited in the book. However, as there is no taxonomic discussion in the accounts, the reader cannot know if the author did not accept a taxonomic conclusion published by other authors or merely overlooked it. This lack of taxonomic indication is a major and real shortcoming in such a book intended to be a general, complete overview of the herpetofauna of a large tropical region.

The second major shortcoming is that we find it difficult to use this guide for identification purposes in the field, because in the absence of keys, for each species one wishes to identify, it is necessary to compare it with all

similar species of the whole region, and read all species accounts because of the numerous species that were not illustrated. Furthermore, the descriptions being short, one can bet that it will really be difficult to identify a species with so few morphological descriptions in highly difficult genera such as *Cyrtodactylus*.

However, we see this new guide as an excellent complement to more local guides. In spite of the few shortcomings detailed above, this book remains an absolutely remarkable contribution to Asian herpetology and natural history and a very pleasant opus to consult. In our opinion, the main interest of this new book is to provide an illustration of the extreme reptile biodiversity of the region, in a scale that was never reached in a single opus so far, and that is certainly a reason good enough to recommend buying it to all naturalists, herpetologists and scientific libraries.

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