

## SUPPLEMENTS PUBLISHED

1. Wee, D. P. C. & P. K. L. Ng, 1995. Swimming crabs of the genera *Charybdis* De Haan, 1883 and *Thalamita* Latreille, 1829 (Crustacea: Decapoda: Brachyura: Portunidae) from Peninsular Malaysia and Singapore. *Raffles Bulletin of Zoology*, Supplement 1: 1–128.
2. Deeleman-Reinhold, C. L., 1995. The Ochyroceratidae of the Indo-Pacific region (Araneae). *Raffles Bulletin of Zoology*, Supplement 2: 1–103.
3. Ng, P. K. L. & C. T. N. Chuang, 1996. The Hymenosomatidae (Brachyura) of Southern Asia, with notes on other species. *Raffles Bulletin of Zoology*, Supplement 3: 1–82.
4. Morioka, H. & C. M. Yang, 1996. A catalogue of the bird specimens in the Singapore Zoological Reference Collection Part I. Struthioniformes–Charadriiformes. *Raffles Bulletin of Zoology*, Supplement 4: 1–141.
5. Kurahashi, H., N. Benjaphong & B. Omar, 1997. Blow flies (Insecta: Diptera: Calliphoridae) of Malaysia and Singapore. *Raffles Bulletin of Zoology*, Supplement 5: 1–88.
6. Sodhi, N. S., H. S. Yong & P. K. L. Ng (eds.), 1999. The biodiversity of Pulau Tioman, Peninsular Malaysia. *Raffles Bulletin of Zoology*, Supplement 6: 1–288.
7. Allwood, A. J., A. Chinajariyawong, R. A. I. Drew, E. L. Hamacek, D. L. Hancock, C. Hengsawad, J. C. Jipanin, M. Jirasurat, C. Kong Krong, S. Kritsaneepaiboon, C. T. S. Leong & S. Vijaysegaran, 1999. Host plant records for fruit flies (Diptera: Tephritidae) in Southeast Asia. *Raffles Bulletin of Zoology*, Supplement 7: 1–92.
8. Ng, P. K. L. & K. S. Tan (eds.), 2000. The biodiversity of South China Sea. *Raffles Bulletin of Zoology*, Supplement 8: 1–673.
9. Kurahashi, H. & F. R. Magpayo, 2000. Blow flies (Insecta: Diptera: Calliphoridae) of the Philippines. *Raffles Bulletin of Zoology*, Supplement 9: 1–78.
10. Jefferson, T. A. & B. D. Smith (eds.), 2002. Facultative freshwater cetaceans of Asia: Their ecology and conservation. *Raffles Bulletin of Zoology*, Supplement 10: 1–187.
11. Ng, P. K. L., D. Wowor, D. & D. C. J. Yeo (eds.), 2002. Scientific results of the Anambas Expedition 2002. *Raffles Bulletin of Zoology*, Supplement 11: 1–130.
12. Yeo, D. C. J., P. K. L. Ng & R. Pethiyagoda (eds.), 2005. Contributions to biodiversity exploration and research in Sri Lanka. *Raffles Bulletin of Zoology*, Supplement 12: 1–434.
13. Kottelat, M. & D. C. J. Yeo (eds.), 2005. Southeast Asian freshwater fish diversity. *Raffles Bulletin of Zoology*, Supplement 13: 1–208.
14. Tan, H. & R.-Q. Jan (eds.), 2007. Proceedings of the 7<sup>th</sup> Indo-Pacific Fish Conference. *Raffles Bulletin of Zoology*, Supplement 14: 1–434.
15. Wang, L. K. & C. J. Hails, 2007. An annotated checklist of birds of Singapore. *Raffles Bulletin of Zoology*, Supplement 15: 1–179.
16. Tan, S. H. & P. K. L. Ng (eds.), 2007. Crustacean Supplement 1. *Raffles Bulletin of Zoology*, Supplement 16: 1–357.
17. Ng, P. K. L., D. Guinot & P. J. F. Davie, 2008. Systema Brachyurorum: Part 1. An annotated checklist of extant brachyuran crabs of the world. *Raffles Bulletin of Zoology*, Supplement 17: 1–286.
18. Bieler, R., K. Chalermwat, P. M. Mikkelsen, K. S. Tan & E. Wells (eds.), 2008. Molluscs of Eastern Thailand: Proceedings of the International Marine Bivalve Workshop, Chantaburi, Thailand, August–September 2005, with contributions on other molluscan groups. *Raffles Bulletin of Zoology*, Supplement 18: 1–264.
19. Tan, S. H. & I-S. Chen (eds.), 2008. Aquatic biodiversity of the South China Sea. *Raffles Bulletin of Zoology*, Supplement 19: 1–292.
20. Tan, S. H. & M. E. Y. Low (eds.), 2009. Crustacean Supplement II. *Raffles Bulletin of Zoology*, Supplement 20: 1–307.
21. De Grave, S., N. D. Pentcheff, S. T. Ahyong, T.-Y. Chan, K. A. Crandall, P. C. Dworschak, D. L. Felder, R. M. Feldmann, C. H. J. M. Fransen, L. Y. D. Goulding, R. Lemaitre, M. E. Y. Low, J. W. Martin, P. K. L. Ng, C. E. Schweitzer, S. H. Tan, D. Tshudy & R. Wetzer, 2009. A classification of living and fossil genera of decapod crustaceans. *Raffles Bulletin of Zoology*, Supplement 21: 1–109.
22. Tan, K. S. (ed.), 2009. Fourteenth International Marine Biology Workshop 2006: The marine flora and fauna of Singapore. *Raffles Bulletin of Zoology*, Supplement 22: 1–294.
23. Low, M. E. Y. & S. H. Tan (eds.), 2010. Checklists of anomuran decapod crustaceans of the world (exclusive of the Kiwaoidea and families Chirostylidae and Galatheidae of the Galatheoidea) and marine lobsters of the world. *Raffles Bulletin of Zoology*, Supplement 23: 1–181.
24. Davison, G. W. H. & C. S. W. Chia (eds.), 2011. Proceedings of the fifth International Hornbill Conference, Singapore, 22–25 March 2009. *Raffles Bulletin of Zoology*, Supplement 24: 1–176.



Published by the Department of Biological Sciences, National University of Singapore

Articles appearing in this journal are indexed in: SCIENCE CITATION INDEX® CURRENT CONTENTS® AGRICULTURE, BIOLOGY & ENVIRONMENTAL SCIENCE; SCISEARCH® RESEARCH ALERT® BIOLOGICAL ABSTRACTS® CAMBRIDGE SCIENTIFIC ABSTRACTS® AQUATIC SCIENCES & FISHERIES ABSTRACTS

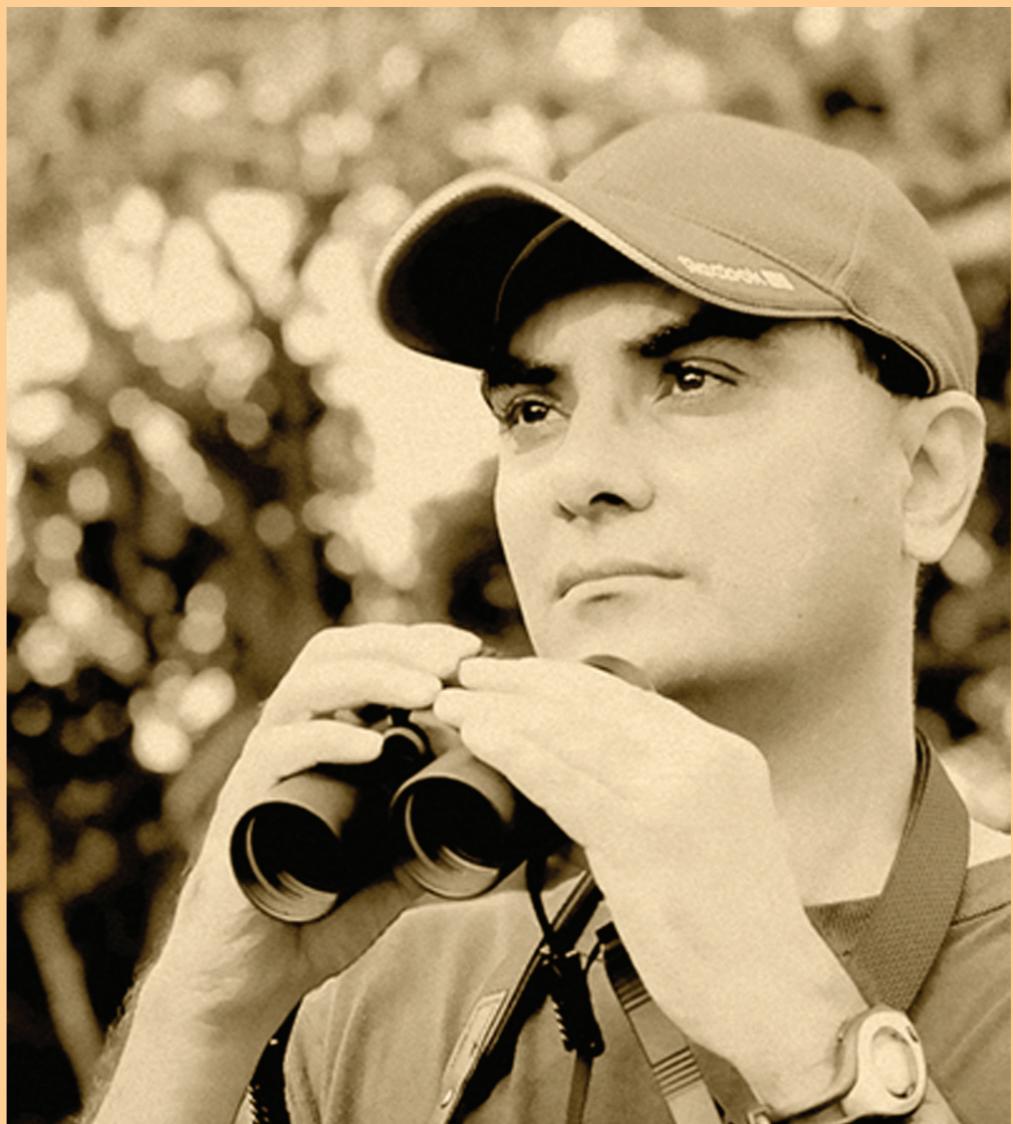
## THE RAFFLES BULLETIN OF ZOOLOGY 2012

## SUPPLEMENT NO. 25

# The Raffles Bulletin of Zoology

An International Journal of Southeast Asian Zoology

Special Memorial Issue  
Navjot S. Sodhi (1962–2011)



L. P. Koh, T. M. Lee & Matthew L. M. Lim  
(Editors)

Supplement No. 25

30 JUNE 2012

# The Raffles Bulletin of Zoology | R B Z | rmbr.nus.edu.sg/rbz/

The **Raffles Bulletin of Zoology** (RBZ) is an online, peer-reviewed journal which publishes high quality papers in Taxonomy, Systematics, Ecology, and Conservation Biology of animals from Southeast Asia and its adjacent areas. The Journal aims to build up quality information on the “animal diversity” of Southeast Asia in particular. Papers from outside the stated geographic range that deal with material deposited in the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR), National University of Singapore (NUS) will also be published. Both descriptive and experimental papers will be considered. Single species descriptions and ecosystem studies will be considered for publication. Papers outside the stated policy will be accepted at the discretion of the Editors/Editorial Board.

## EDITORIAL BOARD

**Barry W. Brook** (Charles Darwin University, Australia) • **Chou Loke Ming** (NUS, Singapore) • **Indraneil Das** (Universiti Malaysia Sarawak, Malaysia) • **R. A. I. Drew** (Griffith University, Australia) • **Hugh A. Ford** (University of New England, Australia) • **Fabian Herder** (Zoologisches Forschungsmuseum Alexander Koenig, Germany) • **Michel Jangoux** (University of Brussels, Belgium) • **Maurice Kottelat** (Cornell, Switzerland) • **Damir Kovac** (Senckenberg Museum, Germany) • **Kelvin K. P. Lim** (NUS, Singapore) • **John T. Polhemus** (Colorado University Museum, USA) • **John E. Randall** (Bernice P. Bishop Museum, USA) • **Fred Sheldon** (Louisiana State University, USA) • **Daniel Simberloff** (University of Tennessee, USA) • **S. H. Tan** (NUS, Singapore) • **Y. Tsubaki** (Center for Ecological Research, Kyoto University, Japan) • **E. O. Wilson** (Harvard University, USA) • **S. Yamagishi** (Kyoto University, Japan) • **H. S. Yong** (University of Malaya, Malaysia)

## MANAGING EDITORIAL BOARD

**EDITOR-IN-CHIEF:** **Peter K. L. Ng** (NUS, Singapore)

**MANAGING EDITOR:** **Tan Heok Hui** (NUS, Singapore)

**ASSOCIATE EDITORS:** **Kevin Conway** (Texas A&M University, USA) • **Li Daiqin** (NUS, Singapore) • **Zeehan Jaafar** (NUS, Singapore) • **Leong Tzi Ming** (NUS, Singapore) • **Rudolf Meier** (NUS, Singapore) • **Tohru Naruse** (University of Ryukyus, Japan) • **Tan Koh Siang** (TMSI, Singapore) • **Peter A. Todd** (NUS, Singapore) • **Tran Anh Duc** (Hanoi University of Science, Vietnam) • **Darren C. J. Yeo** (NUS, Singapore)

**COPY EDITOR:** **Hazelina H. T. Yeo** (NUS, Singapore)

**EDITORIAL ADMINISTRATOR:** **Greasim Simon** (NUS, Singapore)

**WEBMASTER:** **Chua Keng Soon** (NUS, Singapore)

## PUBLICATION DETAILS

The **Raffles Bulletin of Zoology** will consist of a single volume (two issues) each year, continuing the sequence of its two predecessors, **Bulletin of the Raffles Museum** (1928–1960) and **Bulletin of the National Museum of Singapore** (1961–1970). A separately numbered supplement series will be published as and when manuscripts and funding permit. About 14 hard-copies of the Journal will be deposited in major publicly accessible libraries to satisfy Article 8.6 of the Fourth Edition of the International Code of Zoological Nomenclature (1999) so that all new names published in the RBZ are considered to be published and available.

## COPYRIGHT AND EXCHANGES

All articles published by the RBZ may be downloaded from <http://rmbr.nus.edu.sg/rbz/biblio/> for research purposes. A condition of publication is that authors assign publication rights to **The Raffles Bulletin of Zoology**. After publication, authors may use the article without prior permission from the Journal provided acknowledgement is given to the Journal as the original source of publication. It is the responsibility of authors to obtain permission to use copyright material from other sources. For permissions and copyright matters, please contact the Managing Editor at [heokhui@nus.edu.sg](mailto:heokhui@nus.edu.sg). For queries on the purchase of back issues or journal exchanges, please contact the Editorial Administrator at [dbsgs@nus.edu.sg](mailto:dbsgs@nus.edu.sg).

## PUBLISHER'S ADDRESS

**The Raffles Bulletin of Zoology** • Raffles Museum of Biodiversity Research • Department of Biological Sciences • National University of Singapore • Block S6 : Level 3 • Science Drive 2 • Singapore 117546 • Republic of Singapore

The **Raffles Bulletin of Zoology** is online at <http://rmbr.nus.edu.sg/rbz/>

## INSTRUCTIONS TO AUTHORS

**Submission of manuscripts.** — All manuscripts are to be submitted via email to the Managing Editor, Dr. Tan Heok Hui ([dbsth@nus.edu.sg](mailto:dbsth@nus.edu.sg)). Where possible, authors are encouraged to deposit representative material from papers published in this journal with the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR), National University of Singapore. A recommended list of up to three potential referees will be greatly appreciated..

**Digital images.** — For initial submission, greyscale, colour photographic images or line drawings are to be submitted in JPEG format (.jpg) embedded in Microsoft® Word documents. Authors should arrange their line drawings in such a way as to fit into an A4-size page (210 × 297 mm).

**Review.** — All manuscripts will be sent to an Associate Editor who will have them reviewed by two referees. The Associate Editor decides on provisional acceptance or rejection based on comments submitted by the referees. After acceptance, the manuscript must be revised and emailed to the Associate Editor for verification.

**Presentation.** — Documents produced with Microsoft® Word (.doc) are preferred. Text must be double-spaced throughout. The title page should contain the full title of the paper, the author's name and professional affiliation, email address, and a short running title of not more than 35 characters. All numbers (except in *Material* section in taxonomic papers) less than 10 should be spelt in full. Italicise all scientific names. All scientific names used or proposed must be in accordance with the Fourth Edition of the International Commission of Zoological Nomenclature (1999). Telegraphic style is recommended for descriptions, diagnoses, and keys in taxonomic papers. The holotype must be clearly designated and depositories for all type specimens must be clearly stated, including catalogue numbers, if possible. The origins of all new names (*Etymology*) must be briefly explained. For new genera, the gender must be stated. Descriptions of new taxa by one author in a paper under another's name are discouraged (e.g., Lim, in Tan & Ong, 1986). Synonyms must be cited in the short form (taxon, author, year, page), with full references at the end of the paper in the LITERATURE CITED. Please refer to the most recent issue of the Bulletin for the detailed format.

**Abstract.** — All articles should be accompanied by an abstract of not more than 300 words, clearly stating the results and conclusions of the paper. Key words (4–8 words) should be listed following the abstract.

**Literature cited.** — All references cited in the text, including taxonomic authorities for any scientific names, should be included in the LITERATURE CITED section. References are to be cited in the text by the author's family name surname and year of publication, e.g., (Chan, 1985). For two authors, both names should be cited, e.g., (Polhemus & Polhemus, 1988). For three or more authors, cite only the first name followed by “et al.”, e.g., (Harrison et al., 1950). Citations are listed at the end of the manuscript in alphabetical and chronological order. Journal references should include year of publication, title of paper, **full title of journal**, volume and issue number, and page numbers. Book references should include author's family name and initials, year of publication, title of book chapter, editor (if any), title of book, publisher, city of publication and the page numbers of the chapter or the book. For example:

King, B., M. Woodcock & E. C. Dickinson, 1975. *A Field Guide to the Birds of South-East Asia*. Collins, London.  
480 pp.

Murphy, D. H., 1990. The natural history of insect herbivory on mangrove trees in and near Singapore. *Raffles Bulletin of Zoology*, **38**: 119–204.

Nakasone, Y. & M. Agena, 1984. Role of crabs as degrader of mangrove litters in the Okinawan mangals, and food habits of some estuarine fishes. In: Ikehara, S. & N. Ikehara (eds.), *Ecology and Physiology of the Mangrove Ecosystem*. College of Science, University of Ryukyus. Pp. 153–167.

**Tables.** — All tables must have their own legends and be self-explanatory. Tables must be typed separately with double spacing, and formatted with no vertical lines and minimal horizontal lines.

**Page and colour page charges.** — There are no page charges. Authors with papers longer than 20 pages are advised to write to the Managing Editor before submission. There will be a charge of S\$200 for each colour plate.

**Proofs and reprints.** — Proofs in PDF format are emailed to authors for correction and approval, together with the copyright transfer and reprint order forms. Reprint orders are taken with returned proofs. Authors will receive an electronic reprint in PDF format for personal use (note that copyright remains with the publisher). Authors may purchase hard copy reprints at a cost of S\$1.00 per page without colour plates and S\$2.00 for a page with colour plates.

**Detailed instructions to authors are available at <http://rmbr.nus.edu.sg/rbz/author.htm>**