

ISSN : 0082 - 6340
E-ISSN : 2337 - 876X
Accredited : No. 727/AU3/P2MI-LIPI/04/2016

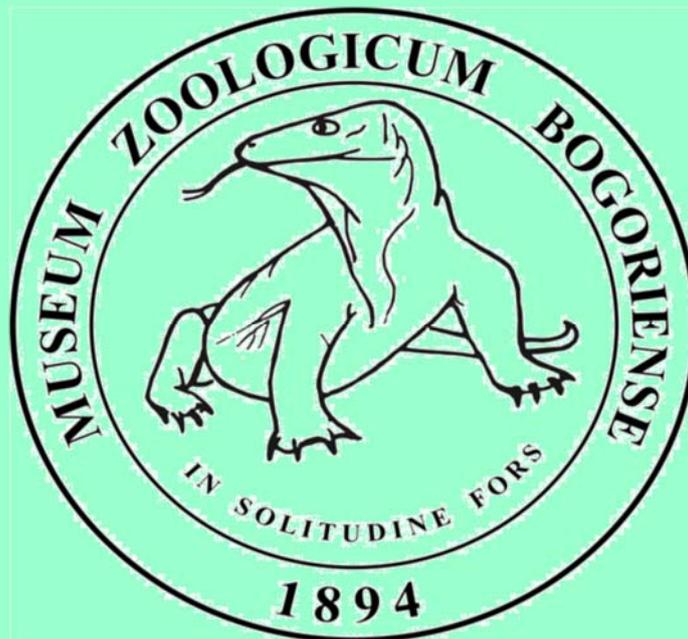


TREUBIA

*A JOURNAL ON ZOOLOGY
OF THE INDO-AUSTRALIAN ARCHIPELAGO*

Vol. 45, pp. 1-102

December 2018



Published by

RESEARCH CENTER FOR BIOLOGY
INDONESIAN INSTITUTE OF SCIENCES
BOGOR, INDONESIA

ISSN : 0082 - 6340
E-ISSN : 2337 - 876X
Accredited : No. 727/AU3/P2MI-LIPI/04/2016



TREUBIA

*A JOURNAL ON ZOOLOGY
OF THE INDO-AUSTRALIAN ARCHIPELAGO*

Vol. 45, pp. 1–102

December 2018



Published by

RESEARCH CENTER FOR BIOLOGY
INDONESIAN INSTITUTE OF SCIENCES
BOGOR, INDONESIA

ISSN : 0082 - 6340
E-ISSN : 2337 - 876X
Accredited : No. 727/AU3/P2MI-LIPI/04/2016

TREUBIA

A JOURNAL ON ZOOLOGY OF THE INDO-AUSTRALIAN ARCHIPELAGO
Vol. 45, pp. 1–102, December 2018

Board of Editors:

Prof. Dr. Rosichon Ubaidillah, M.Phil. (Chief Editor)
Dr. Djunijanti Peggie, M.Sc. (Managing Editor)
Dr. Dewi Malia Prawiradilaga, M.Rur.Sc.
Dr. Daisy Wowor, M.Sc.
Dr. Kartika Dewi
Dr. Dhian Dwibadra
Dr. Conni Margaretha Sidabalok, M.App.Sc.

International Editors:

Dr. Paul Bates, M.A. Harrison Institute Bowerwood House 15 Botolph's Road Sevenoaks,
Kent, TN13 3AQ, UK
Dr. Thomas von Rintelen Museum für Naturkunde Leibniz - Institut für Evolutions und
Biodiversität sforschung an der Humboldt-University zu Berlin,
Invaliden straße 43, 10115 Berlin, Germany
Dr. Alan T. Hitch University of California, Davis, CA 95616, USA

Referees:

Dr. Tomohiko Shimada Department of Science (Biology), Faculty of Education, Aichi
University of Education, 1 Hirosawa, Igaya, Kariya, Aichi 448-8542
Japan
Dr. Frank Erwin Rheindt Department of Biological Sciences, Faculty of Science, National
University of Singapore
Dr. Colin R Trainor Department School of Environment, Charles Darwin University
Dr. Sebastian van Ballen Basilornis Consults, The Nederland
Panupong Thammachoti, Ph.D. Amphibian and Reptile Diversity Research Center, University of
Texas at Arlington, USA
Herpetology Laboratory, Chulalongkorn University, Bangkok,
Thailand
Nguyen Thien Tao, Ph.D. Vietnam National Museum of Nature, Vietnam Academy of
Science and Technology, Vietnam
Dr. Mochamad Indrawan Fakultas Matematik dan Ilmu Pengetahuan, Universitas Indonesia,
Indonesia
Dr. Ign. Pramana Yuda Fakultas Teknobiologi, Universitas Atma Jaya, Yogyakarta,
Indonesia
Dr. Claus Rasmussen Department of Bioscience, Aarhus Universitet, Ny Munkegade 114,
bldg 1540, 8000 Aarhus C, Denmark
Dr. Mohamed A. Shebl Department of Plant Protection, Faculty of Agriculture, Suez Canal
University, Ismailia 41522, Egypt
Dr. Siti Nuramaliati Prijono Zoology Division (Museum Zoologicum Bogoriense), Research
Center for Biology, Indonesian Institute of Sciences, Indonesia
Dr. Patrick Neilands School of Psychology, University of Auckland, Auckland, New
Zealand

Managing Editor E-Journal:
Deden Sumirat Hidayat, M.Kom.

Managing Assistant:
Sri Wulan, S. Ikom.

Layout:
Sri Handayani, S.Si.

Distribution:
Rustan Nawawi

Subscription and Exchange

TREUBIA

RESEARCH CENTER FOR BIOLOGY - INDONESIAN INSTITUTE OF SCIENCES (LIPI)

Jl. Raya Jakarta-Bogor Km 46, Cibinong-Bogor 16911, Indonesia

e-mail: treubia@gmail.com

<http://e-journal.biologi.lipi.go.id/index.php/treubia>

CONTENT

Ni Luh Putu Rischa Phadmacanty, Amir Hamidy and Gono Semiadi Skeletochronology of Asian grass frog <i>Fejervarya limnocharis</i> (Gravenhorst, 1829) from Java to support management conservation	1–10
Ryan C. Burner, Subir B. Shakya, Tri Haryoko, M. Irham, Dewi M. Prawiradilaga and Frederick H. Sheldon Ornithological observations from Maratua and Bawean Islands, Indonesia	11–24
Vestidhia Y. Atmaja, Amir Hamidy, Tuty Arisuryanti, Masafumi Matsui and Eric N. Smith A new species of <i>Microhyla</i> (Anura: Microhylidae) from Sumatra, Indonesia	25–46
Hidayat Ashari, Dewi M. Prawiradilaga, James A. Eaton, Suparno and Frank E. Rheindt New records and range extensions of birds from Timor, Alor and Rote	47–64
Michael S. Engel, Sih Kahono and Djunijanti Peggie A key to the genera and subgenera of stingless bees in Indonesia (Hymenoptera: Apidae)	65–84
Berenika Mioduszewska, Mark O’Hara, Tri Haryoko, Alice Auersperg, Ludwig Huber and Dewi M. Prawiradilaga Notes on ecology of wild goffin’s cockatoo in the late dry season with emphasis on feeding ecology	85–102

TREUBIA

(A JOURNAL ON ZOOLOGY OF THE INDO-AUSTRALIAN ARCHIPELAGO)

ISSN : 0082 - 6340
E-ISSN : 2337 - 876X

Date of issue: DECEMBER 2018

This abstract sheet may be reproduced without permission or charge

UDC: 597.82:624.94(594.5)

Ni Luh Putu Rischa Phadmacanty

Skeletochronology of Asian grass frog *Fejervarya limnocharis* (Gravenhorst, 1829) from Java to support management conservation

TREUBIA, December 2018, Vol. 45, pp. 1–10.

Asian grass frog *Fejervarya limnocharis* is being utilized as pets, for laboratory experiments, for a mixture of traditional medicine and for cuisine. The harvest of *F. limnocharis* in high volume can threaten its population. Biological data such as the age when the specimens are harvested is valuable information to manage the harvesting system in a sustainable way. We conducted the skeletochronology technique using paraffin methods and hematoxylin staining from 69 samples (46 males, 21 females, 2 juveniles). The results showed that the age of harvested males ranged from 1 to 3 years old, while the female ranged from 2 to 3 years old. The snout-vent length (SVL) of harvested specimens ranges between 39.84–52.37 mm for both sexes. We propose an intervention in the harvesting system by limitation of the size for harvested specimens to at least 46 mm. In this minimum size, individuals of *F. limnocharis* have reproduced several times and have contributed to the population in the wild.

(Ni Luh Putu Rischa Phadmacanty, Amir Hamidy and Gono Semiadi)

Keywords: Age determination, Asian grass frog, *Fejervarya limnocharis*, Java, skeletochronology

UDC: 582.2:502.2(594.5)

Ryan C. Burner

Ornithological observations from Maratua and Bawean Islands, Indonesia

TREUBIA, December 2018, Vol. 45, pp. 11–24.

Indonesia's many islands, large and small, make it an important center of avian diversity and endemism. Current biogeographic understanding, however, is limited by the lack of modern genetic samples for comparative analyses from most of these islands, and conservation efforts are hampered by the paucity of recent information from small islands peripheral to major, more commonly visited islands. In November and December 2016, we visited Maratua, an oceanic coral atoll 50 km east of Borneo, and Bawean, a volcanic island on the Sunda continental shelf 150 km north of Java, to survey birds and collect specimens for morphological and genetic analysis. We detected many of the birds on Maratua's historical lists and added several new resident and migratory species. Notably, we did not detect the Maratua White-rumped Shama (*Copsychus malabaricus barbouri*). On Bawean, we found the forests to be nearly silent and detected remarkably few resident land-bird species overall. The severe population reduction of *C. m. barbouri* on Maratua and the drastic reduction of forest birds on Bawean probably result from overexploitation by the cage-bird trade in the first case and a combination of the cage-bird trade and pellet-gun hunting in the second.

(Ryan C. Burner, Subir B. Shakya, Tri Haryoko, M. Irham, Dewi M. Prawiradilaga and Frederick H. Sheldon)

Keywords: Avifauna, Borneo, cage-bird trade, extirpation, Sundaland

UDC: 597.824:592/599(594.4)

Vestidhia Y. Atmaja

A new species of *Microhyla* (Anura: Microhylidae) from Sumatra, Indonesia

TREUBIA, December 2018, Vol. 45, pp. 25–46.

A new species of frog in the genus *Microhyla* is described from Sumatra, Indonesia based on molecular and morphological characters. This new species was previously confused with *M. achatina*, a Javan endemic. This new species is diagnosable from its congeners by possessing a medium size (SVL in adult males 18.20–21.32 mm, in adult females 20.37–25.51 mm), a stout body, a nostril–eyelid length being about half of the snout length, having a single outer palmar tubercle, a tibiotarsal articulation reaching the center of the eye (when the hindlimbs are stretched and adpressed to the body), having finger and toe tips dilated, having the dorsum with medial longitudinal grooves, and exhibiting a very thin and short dark stripe on the temporal region above a wider cream stripe, extending from the postorbital area to insertion of forelimb. Additionally, the new species is characterized by possessing relatively little foot webbing. Uncorrected 16S rRNA sequence divergences between the new taxon and sequences for other congeneric species available ranged from 4.8 to 15.0%.

(Vestidhia Y. Atmaja, Amir Hamidy, Tuty Arisuryanti, Masafumi Matsui and Eric N. Smith)

Keywords: cryptic species, mitochondrial DNA, phylogeny, taxonomy

UDC: 598.2(594.73)

Hidayat Ashari

New records and range extensions of birds from Timor, Alor and Rote

TREUBIA, December 2018, Vol. 45, pp. 47–64.

The Lesser Sundas Region continues to be widely unexplored even in such relatively well-known animal groups as birds (Aves). We report the results of an ornithological expedition from November through December 2015 to Timor, Alor and Rote islands along with some opportunistic observations made in that area between 2006 to 2015, providing details on numerous first records of bird species outside their previously known geographic or elevational ranges observed or otherwise recorded during this expedition. Our results underscore the fragmentary nature of our knowledge of the composition of the avifauna of the Lesser Sunda Islands, and demonstrate that there continues to be a large volume of significant new records and range extensions of birds on these islands.

(Hidayat Ashari, Dewi M. Prawiradilaga, James A. Eaton, Suparno and Frank E. Rheindt)

Keywords: Alor, new island records, range extensions, Rote, Timor

UDC: 595.799(594)

Michael S. Engel

A key to the genera and subgenera of stingless bees in Indonesia (Hymenoptera: Apidae)

TREUBIA, December 2018, Vol. 45, pp. 65–84.

Indonesia harbors the greatest diversity of social bees in all of Asia, particularly of the stingless bees (Apidae: Apinae: Meliponini). Presently, 46 species of stingless bees are known across Indonesia although records are not comprehensive and additional diversity is likely present across the region. All of the known Asiatic genera of Meliponini occur in Indonesia, making this region a critical center of modern stingless bee biodiversity in Asia. Presented here is an illustrated key to the genera and subgenera of Indonesian stingless bees, as an aid to the general identification, study, and conservation of these critical pollinators.

(Michael S. Engel, Sih Kahono and Djunijanti Peggie)

Keywords: Apoidea, biodiversity, identification keys, Meliponini, stingless bees

UDC: 598.715:591.131.1”322”

Berenika Mioduszezwska

Notes on ecology of wild goffin’s cockatoo in the late dry season with emphasis on feeding ecology

TREUBIA, December 2018, Vol. 45, pp. 85–102.

Experimental work on captive Goffin’s cockatoos (*Cacatua goffiniana*) has highlighted the remarkable cognitive abilities of this species. However, little is known about its behavior in the natural habitat on the Tanimbar Archipelago in Indonesia. In order to fully understand the evolutionary roots leading to cognitively advanced skills, such as multi-step problem solving or flexible tool use and manufacture, it is crucial to study the ecological challenges faced by the respective species in the wild. The three-month expedition presented here aimed at gaining first insights into the cockatoos’ feeding ecology and breeding behavior. We could confirm previous predictions that Goffin’s cockatoos are opportunistic foragers and consume a variety of resources (seeds, fruit, inflorescence, roots). Their breeding season may be estimated to start between June and early July and they face potential predation from ground and aerial predators. Additionally, the observational data provide indications that Goffin’s cockatoos are extractive foragers, which together with relying on multiple food sources might be considered a prerequisite of tool use.

(Berenika Mioduszezwska, Mark O’Hara, Tri Haryoko, Alice Auersperg, Ludwig Huber and Dewi M. Prawiradilaga)

Keywords: breeding, *Cacatua goffiniana*, extractive foraging, feeding ecology, predation

