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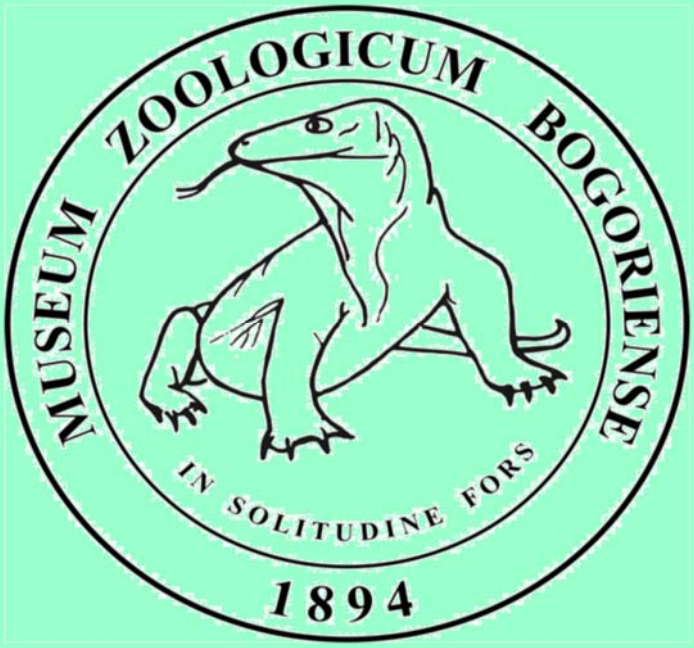
Vol. 45, pp. 1–102 **December 2018**



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CONTENT

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Date of issue: DECEMBER 2018

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 threat its population. Biological data such as the age when the specimens are harvested is valuable information to manage the harvesting system in 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 harvested male 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 excibiting 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 Mioduszewska

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

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