
NEWS AND NOTES

A new species of amphibian discovered on Sulawesi

A team of researchers have discovered a new species of fanged frog. It was named *Limnonectes larvaepartus* and is unique among anurans in having both internal fertilization and birth of tadpoles. The new species is endemic to Sulawesi Island, Indonesia. This is the fourth valid species of *Limnonectes* described from Sulawesi despite that the radiation includes at least 15 species and possibly many more. Fewer than a dozen of the 6455 species of frogs in the world are known to have internal fertilization, and of these, all but the new species either deposit fertilized eggs or give birth to froglets.

Iskandar DT, Evans BJ, McGuire JA (2014) A Novel Reproductive Mode in Frogs: A New Species of Fanged Frog with Internal Fertilization and Birth of Tadpoles. *PLoS ONE* **9**(12): e115884. doi:10.1371/journal.pone.0115884

A welcome arrest of a wildlife criminal

One of the most serious impact on species population in Indonesia is illegal poaching and trade. In February, 2015, the South Sumatra Military Police, South Sumatra Provincial Natural Resource Conservation Office (BKSDA), and the Wildlife Conservation Society's Wildlife Crimes Unit (WCU) announced the recent arrest of a major wildlife trafficker illegally trading in tiger parts and other protected wildlife in Indonesia. The suspect had allegedly sold more than 100 stuffed tigers over a ten-year period.

The trafficker allegedly utilized an extensive trade network, that included providing illegal wildlife products to buyers in Southern Sumatra, Kalimantan, Sulawesi and Jakarta. The origin of the skins, however, appears to have been from Lampung, Bengkulu, Jambi, and North Sumatra to supply demand in Jakarta and Java --- and possibly China and Vietnam. The arrest followed an extensive and long investigation that began in 2009 with the arrest of a middleman by the Criminal Investigation Division (CID) of the Indonesian National police assisted by WCU.

Sumatran tigers (*Panthera tigris sumatrae*) is listed as "critically endangered" on the IUCN red-list. It is the only remaining tiger-species in Indonesia, following the

extinction of the Javan tiger (*Panthera tigris sundaica*) in the 1970s. It is also one of the BKSDA's priority species listed for increased protection and conservation intervention. It is yet to be seen to what extent a major wildlife criminal will be prosecuted, and if the proposed penalty will be sufficiently serious to act as a deterrent for other wildlife criminals.

Bawean warty pig survey

Indonesia is the most species rich nation when it comes to wild pigs. There are currently eight recognised species, *Sus scrofa vittatus*, *Sus verrucosus*, *Babirussa babyrousa togeanensis*, *Babyrousa babyrousa*, *Babyrousa celebensis*, *Sus b. barbatus*, *Sus celebensis* and *Sus blouchi*. Unfortunately, six of these species are either listed as Endangered or Vulnerable on the IUCN red-list. Two of these, the Javan warty hog (*Sus verrucosus*) and the Bawean warty hog (*Sus blouchi*) are likely going to be elevated to "Critically endangered" in the near future.

The Bawean warty hog (*Sus blouchi*) is endemic to Bawean island, a small island with a total land area of 200 km² located 150 km north of East Java. Based on morphological measurements, Bawean warty hogs are considered a separate species from the Javan warty hog (*Sus verrucosus*) that is endemic to Java.

The recent survey is a long overdue welcome initiative to throw more focus on the conservation plight of Indonesia's suids. Since the Bawean warty hog's distribution range is extremely limited, small external disturbances such as poaching and/or further reduction in habitat can have enormous and rapid negative impact on the remaining population.

Rode-Margono, J. and M. Rademaker (2015). Preliminary results of the first ecological study on Bawean warty pigs *Sus blouchi*. *Suiform soundings* **13**(2): 16-18.

Rare new species of mammal discovered on Sulawesi

A new rodent was discovered by a team of scientists from Museum Victoria, Louisiana State University and the Dutch Museum Zoologicum Bogoriense in a remote, mountainous forest of Mount Dako, on Sulawesi Island in Indonesia. The creature is a new genus and species of shrew rat and is now known as the hog-nosed shrew rat, *Hyorhinomys stuempkei*. The new taxon is known

only from the type locality at 1,600m elevation on Mt. Dako, in the district of Tolitoli. It was captured by the team of scientists during a field expedition in 2013. The hog-nosed rat is distinguished from all other Indonesian murines by its large, flat, pink nose with forward-facing nares. Relative to other Sulawesi murines, the species has extremely large ears (~21% of head and body length), very long urogenital hairs, prominent and medially bowing hamular processes on the pterygoid bones, extremely long and procumbent lower incisors, and unusually long articular surfaces on the mandibular condyles. Morphologically, the new taxon is most similar to a group of endemic Sulawesi rats known commonly as “shrew rats.” DNA sequences analyses put the new shrew rat as sister to the Sulawesi water rat, *Waiomys mamasae*. Sulawesi is known for its biogeographic complexity and more scientific expeditions will likely disclose even more new charismatic species in the future.

Esselstyn, J.A., Achmadi, A.S., Handika, H. and K.C. Rowe (2015). A hog-nosed shrew rat (Rodentia: Muridae) from Sulawesi Island, Indonesia. *Journal of Mammalogy* 96(5): 895 - 907

The ongoing saga of *Homo floresiensis* - to be or not to be?

In 2003, hominid fossils were excavated from Liang Bua Cave on Flores, Indonesia. In comparison to modern *Homo sapiens*, the skeletons were exceptionally small, which prompted the popular name as the “hobbit” of Flores. The authors of the original discovery made extensive comparative research and concluded that there was sufficient evidence to place it as a separate species and named it *Homo floresiensis*. This came under heavy criticism, with many scientists proclaiming that it was nothing less than a microcephalic “normal” *Homo sapiens*.

Several follow-up paleoneurological and orthopedic studies were carried, however, none were conclusive, and the debate rages on. Critics of the claim for species status continue to believe that these individuals are *Homo sapiens* possessing pathologies of anatomy and physiology. Several hypotheses in this category have been put forward, including that the individuals were born without a functioning thyroid, resulting in a type of endemic cretinism.

The most recent study published in the *Proceedings of the National Academy of Sciences* focuses on the



The newly discovered hog-nosed shrew rat, *Hyorhinomys stuempkei*, from Sulawesi. Photograph © Museum Victoria

possibility that the hobbit exhibited traits that are consistent with individuals suffering Down syndrome. The study concludes that the human skeletons from Liang Bua Cave are coeval with only *Homo sapiens* populations worldwide and no other previously known hominins. They report that the brain size of LB1, the principal specimen unearthed from Liang Bua Cave, is in the range predicted for an individual with Down syndrome in a normal small-bodied population from the geographic region that includes Flores. Among additional diagnostic signs of Down syndrome and other skeletal dysplasias are abnormally short femora combined with disproportionate flat feet. LB1 femora match interlimb proportions for Down syndrome, and predictions based on corrected LB1 femur lengths show a stature normal for other *H. sapiens* populations in the region. In reality, this means that the Flores hobbit is an “abnormal” modern human that suffered from maladies that stunted its growth and/or reduced its lifespan. In a response to this, Westaway et al. (2015) claims that there remain more than sufficient evidence in the mandibular structures to put the hobbit in its own species category.

This interesting and important debate continues unabated, and one can only hope that more work is being put into excavating more specimens that can possibly bring this case to conclusion.

Henneberg, M., Eckhardt, R.B., Chavanaves, S. and K.J. Hsü (2015). Evolved developmental homeostasis disturbed in LB1 from Flores, Indonesia, denotes Down syndrome and not diagnostic traits of the invalid species *Homo floresiensis*. *PNAS* **111**(33): 11967–11972, doi: 10.1073/pnas.1407382111

Robert B. Eckhardt, Maciej Henneberg, Alex S. Weller and Kenneth J. Hsü (2014). Rare events in earth history include the LB1 human skeleton from Flores, Indonesia, as a developmental singularity, not a unique taxon. *PNAS* **111**(33): 11961–11966

Westaway, M.C., Durband, A.C., Groves, C.P. and M. Collard (2015). Mandibular evidence supports *Homo floresiensis* as a distinct species. *PNAS* **112**(7): E604–E605

Sumatran rhino returning to Indonesia

The Sumatran rhino, *Dicerorhinus sumatrensis*, has been listed as “Critically endangered” on the IUCN red-list since 1996, but the population continues to decline. Already declared “extinct” in West Malaysia, and with nothing but a handful left in captivity in Sabah, East Malaysia (Fig. 1), the World’s hope rests on the few wild individuals that still roam remote areas of Sumatra. Despite costly captive breeding efforts in the late 1990s,



Figure 1. One of the few Sumatran rhinos, *Dicerorhinus sumatrensis*, in captivity in Sabah, East Malaysia.

only one institution enjoyed modest captive breeding success. The Cincinnati Zoo managed to breed the species merely three times. One of these, *Harapan*, is the only Sumatran rhino left in the Western Hemisphere, after its elder brother was returned to Sumatra in 2007, and its sister died from disease in 2014. *Harapan* will be returned to its ancestral origin on Sumatra, Indonesia, where it will be paired with a female and given a chance to mate at the Sumatran rhino centre at Way Kambas National Park.

The decision to return *Harapan* to Sumatra was made, because he could no longer contribute to efforts to breed the species if kept alone in the USA. Earlier, it was believed that Indonesia would send another rhino to pair up with *Harapan*, but recently, Indonesia's authorities made it clear that they never plan to send another Sumatran rhino out of the country again. At the same time, receiving potential mates from Malaysia, the only other country with captive Sumatran rhinos, was not an option, since all the Malaysian females are infertile.

Harapan is expected to undergo a short adaptation period for his travel crate, before he commences on his

long journey back to Sumatra. He is expected to arrive at Way Kambas National Park in the last quarter of 2015.

NASA predicts high risk of El Niño effect in 2015

After a record warm 2014, NASA climate model forecast shows that 2015 will likely be even worse, with an El Niño effect expected to go “off the charts”. Making use of the world's best-established dynamical climate models, the 2015 El Niño is set to peak in the second and third quarter of 2015, and possibly stretch into the Paris climate summit. Whereas the 2014-2015 El Niño was slow to develop and increased over months, the 2015 version may set to increase to monster proportions, possibly up to +3°C Pacific temperature anomalies. In practice, this means that Southeast Asia will suffer extreme dry conditions (Fig. 2), with elevated risks of wildfires. One can only hope that landuse managers across the region learned from the smoke disaster that engulfed the entire region in 1997-1998 that cost regional nations billions in direct, as well as collateral damages.

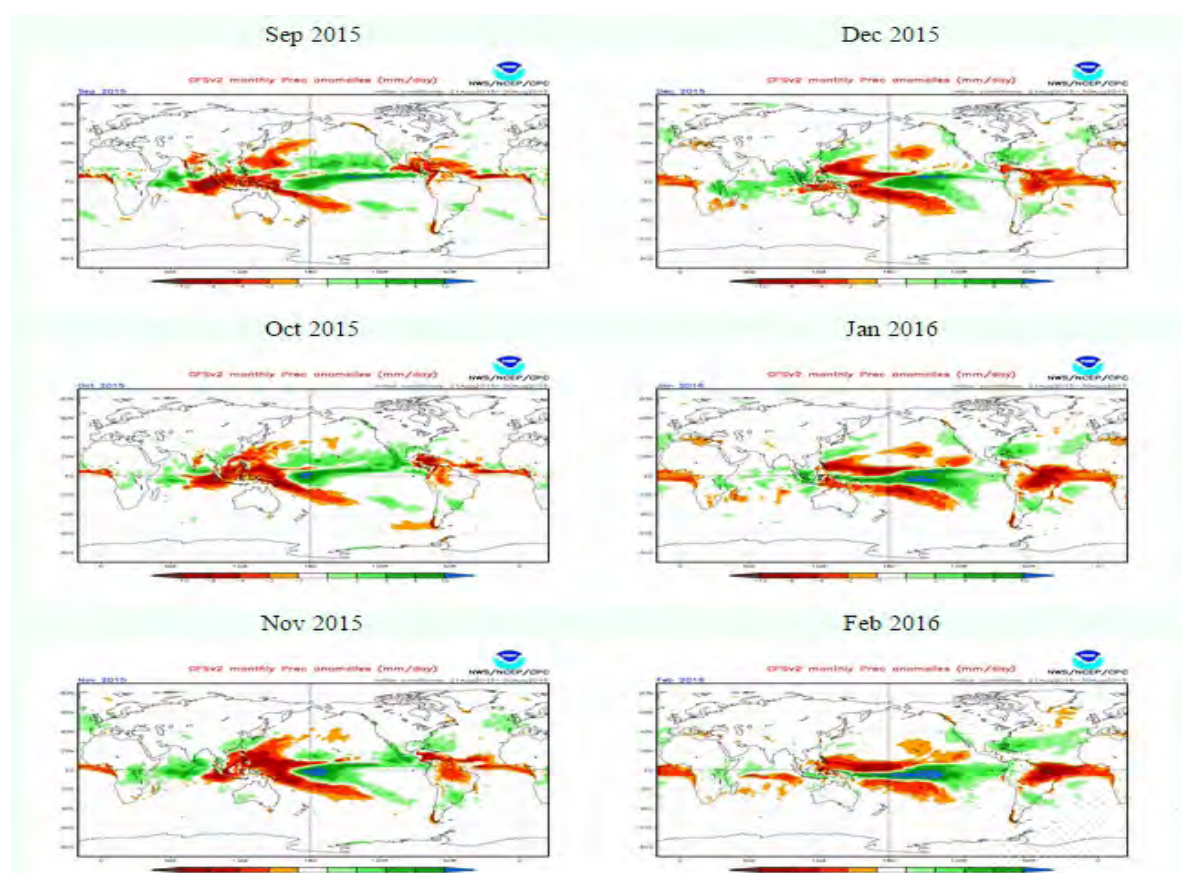


Figure 2. The red areas are likely to experience below-average rainfall during the end-2015 super El Niño. Green areas are likely to experience above-average precipitation © NOAA NCEP