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## NEWS REPORTS

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### DIVERSE NEW HERPETOFAUNA IN THE EASTERN HIMALAYAS REPORTED BY WWF

A report by WWF has revealed more than 350 new species, including a Flying-frog, from the Eastern Himalayas. The report, *The Eastern Himalayas – Where Worlds Collide*, highlights a host of new species found over the last decade in the remote mountain region spanning Bhutan, northeastern India, northern Myanmar (Burma), Nepal and southern parts of Tibet. They include 244 plants, 16 amphibians, 16 reptiles, 14 fish, two birds, two mammals and at least 60 invertebrates. “These exciting finds reinforce just how little we know about the world around us,” said conservation science advisor, Mark Wright. “In the Eastern Himalayas we have a region of extraordinary beauty and with some of the most biologically rich areas on the planet. Ironically, it is also one of the regions most at risk from climate change, as evidenced by the rapid retreat of the glaciers, and only time will tell how well species will be able to adapt – if at all.”

There have been 16 new amphibian discoveries in the Eastern Himalayas over the past 10 years. A caecilian and a diverse chorus of 14 frogs and a toad have revealed themselves for the first time. The eclectic mix of amphibians from Bhutan, India, Myanmar, Nepal and Tibet include a number of high-altitude dwellers, with many found more than 1,000 m a.s.l. The toad, *Pseudepidalea zamdaensis*, belonging to the ‘true toad’ family Bufonidae, was discovered at the extraordinary altitude of 2,900 m. Lowland discoveries include *Hylarana chitwanensis*, the Chitwan Frog of Nepal. Named after the Chitwan National Park, this frog inhabits the terai grasslands, bushes and tropical Shorea forest. Because of the closer proximity of the species to human populations than its cloud-dwelling cousins, populations of the Chitwan Frog in the Eastern Himalayas are decreasing and are already considered at risk by the IUCN, as a result of habitat destruction.

The status of the Chitwan Frog is close to being elevated to ‘Vulnerable’ from ‘Near

Threatened’ according to the IUCN Red List of Threatened Species, on account of the declining quality and extent of habitat in its only known range, which is limited to 20,000 Km<sup>2</sup>.

Most of the new amphibians are endemic to the Eastern Himalayas. Some of them are found only in a specific area. The bright green, red-footed tree frog *Rhacophorus suffry*, a so-called ‘flying-frog’ because long webbed feet allow the species to glide when falling, was described in 2007. The species is mainly found in swampy areas and is known only from five specific sites, including the Suffry tea estate in Assam, where it was originally found, and in neighbouring areas. Other new species from Assam include *Amolops assamensis*, a green and brown species also called named the Assamese Cascade Frog. Cascade Frogs or Torrent Frogs as they are also known as, have adapted to life amongst the torrents, waterfalls and wet boulders that cascade out of Asia’s rainforests.

The species *Philautus sahai* is perhaps the lead contender for the crown of ‘most endemic frog’ in the Eastern Himalayas. This frog was described in 2006 from specimens found in 1988 in a single tree hollow about 3 m above ground, in a dense forest on the bank of the Noa Dihing River, in Arunachal Pradesh. Very little is known about the species and there has been no more information about it since, indicating this elusive frog may be extremely rare.

Also among the new amphibian species discovered was a caecilian, *Ichthyophis garoensis*. These are interesting creatures; although classed as amphibians, they are completely limbless and look more like giant earthworms. As caecilians are subterranean, they are among the least studied of the amphibian species, making the latest species discovery from Assam particularly significant.

The Eastern Himalayas have yielded 16 new reptile species over the past 10 years. These include 13 lizards and three snakes. The most colourful snake discovery has been the emerald green pit-viper, *Trimeresurus gumprechtii*. Officially discovered in 2002, Gumprecht’s Green Pit-viper is venomous and capable of growing to



**Figure 2.** Smith's Litter-frog (*Leptobrachium smithi*).  
© Milivoje Kravac.



**Figure 1.** Flying-frog (*Rhacophorus suffryi*).  
© Totul Bortamuli.

**Figure 3.** Gumprecht's Green Pit-viper (*Trimeresurus gumprechtii*).  
© Gernot Vogel.



130 cm in length. Scientists predict that larger specimens exist. The species is known to occur around Putao, at altitudes above 400 m in the far north of Myanmar. There are some striking differences between the males and females of this species; females reach a greater size, with a thin, white or whitish-blue streak on the head, and deep yellow eyes; males are shorter, have a red stripe on the head, and bright red or deep red eyes. This species is mainly found in rugged, forested areas, often in the vicinity of streams, as well as bamboo thickets. It also occurs near human settlements and along trails. Mostly nocturnal, this snake is arboreal, but can also be found on the ground. The largest known specimens were collected while they were resting on branches near a stream. Rodents and skinks have been recorded as prey, but the species has also been observed killing and eating other pit-vipers of a similar size.

Another nocturnal snake, Zaw's Wolf Snake (*Lycodon zawi*), was discovered dwelling in forests and near streams at elevations of less than 500 m high in Assam, India, including in the Garbhange Reserve Forest and in northern Myanmar. The black snake, with white bands, can grow to half a metre in length, and feeds mainly on geckos. The find increases the diversity of the *Lycodon* genus to four in Myanmar and to five in northeast India. In 1999, a new species of blind snake was officially described from Darjeeling, Assam, near India's border with Nepal. Also called the Darjeeling Worm Snake on account of its appearance, *Typhlops meszoeyli* was discovered in the forest-covered foothills of the Himalayas. As the name suggests, the snake's eyes and body are covered by smooth shiny scales, a sign of its adaptation to a subterranean life, allowing it to move easily through earth. The snake feeds mainly on the eggs and larvae of termites and ants, and can occasionally be found high in trees, having reached these heights by using termite galleries. *Typhlops meszoeyli* belongs to the super family Typhlopidae, which comprises more than 200 different blind-snake species worldwide. According to scientists, several new species of reptiles still await description, including a new species of pit-viper caught after a one-year hunt

in the rainforests of northeast India. The new species can measure longer than two metres and is already the stuff of local legend. "Barta", as the snake is known by the local Nyishi tribesmen, is the most-feared creature among the tribes in Arunachal Pradesh. According to Nyishi folklore, sighting of a Barta, meaning the deadliest of all snakes, is a very bad omen.

One herpetological discovery was anything but new: a 100 million-year-old gecko fossil found in an amber mine in Myanmar. The now-extinct species is the oldest type of gecko known to science. The region harbours a staggering array of species: 10,000 plants, 300 mammals, 977 bird species, 176 reptiles, 105 amphibians and 269 freshwater fish. The Eastern Himalayas are also home to many of the remaining Bengal Tigers and are the last bastion of the Greater One-horned Rhino. Unfortunately, this globally-important hotspot of biological diversity is highly vulnerable to the effects of climate change. WWF have launched a Climate for Life campaign to bring the plight of the Himalayas to the attention of the world and are working with local communities to help them cope with the impacts of climate change. Tackling climate change in the region also depends on significant action from developed countries. WWF are calling on governments attending the climate change talks in Copenhagen this December to commit industrialised countries to a 40 % reduction in greenhouse gas emissions by 2020 (compared to 1990 levels). "There is no room for compromise on this issue," added Wright. "Without these cuts the Himalayas face a precarious future – impacting both the unique wildlife and the 20 % of humanity who rely on the river systems that arise in these mountains." The full report '*The Eastern Himalayas – Where Worlds Collide*' can be read at: [www.wwf.org.uk](http://www.wwf.org.uk)

Adapted from WWF material and;

Salzberg, A. (2009). Hundreds of new species discovered in fragile Eastern Himalayas. *Herp Digest* 9 (37), 5.

Submitted by TODD R. LEWIS (EDITOR).