



WWF

GREATER
MEKONG

REPORT

Extra Terrestrial

Extraordinary new species discoveries in 2011
from the Greater Mekong

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Front cover photo: A visually stunning 'yin-yang' frog (*Leptobrachium leucops*), just one of five new amphibian species discovered in the region in 2011 © Jodi J. L. Rowley/Australian Museum.

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WWF is one of the world's largest and most experienced independent conservation organizations, with over 5 million supporters and a global network active in more than 100 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by: conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

EXECUTIVE SUMMARY

126 new species have been discovered in the Greater Mekong in the past year. The total newly identified by scientists in 2011 includes 82 plants, 21 reptiles, 13 fish, 5 amphibians, and 5 mammals [See Appendix].



**126 SPECIES
DISCOVERED IN 2011
IN THE GREATER
MEKONG**



© Peter Maguire

Adding to an already fantastic collection of creatures living in the Greater Mekong are new characters such as a pygmy python, a walking catfish, a subterranean blind fish, a ruby-eyed pit viper, a bat with a devilish appearance, and a frog that sings like a bird. These discoveries, compiled by WWF-Greater Mekong, further cement the region's reputation as a final frontier for scientific exploration and new encounters.

The Greater Mekong (GM) region of Southeast Asia, through which the Mekong River flows, consists of Cambodia, Laos, Myanmar, Thailand, Vietnam and Yunnan in southern China. The region is home to some of the planet's most charismatic and endangered wild species, including the Indochinese tiger, Asian elephant, Mekong dolphin, and Mekong giant catfish—and between 1997 and 2011 an incredible 1,710 new organisms were described¹ by science in these landscapes^{1,2,3,4}.

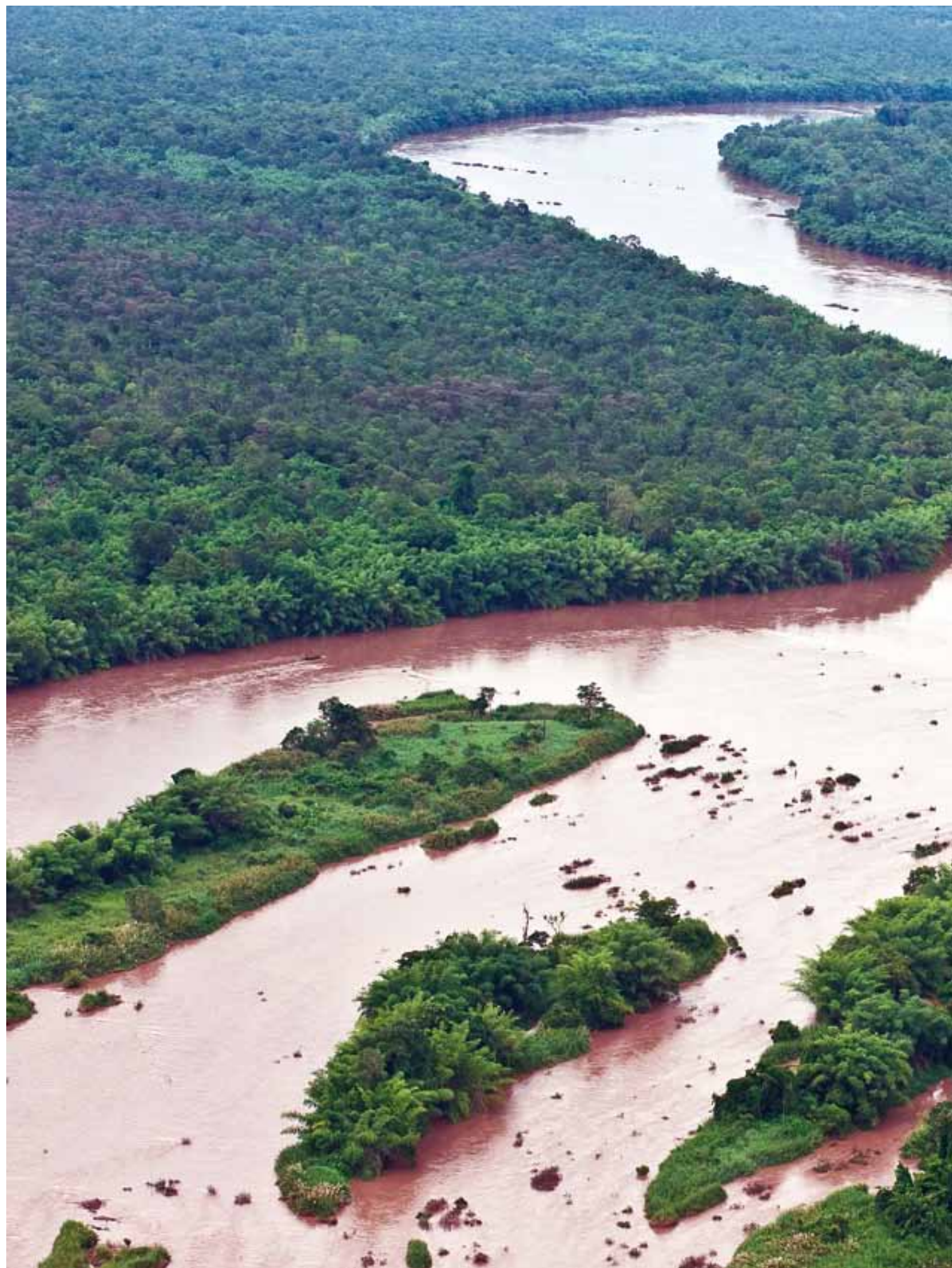
While this year's 126 new discoveries continue to showcase the region's stunning biodiversity, they also reveal intricacy and fragility among Greater Mekong species and their habitats. The terrifying drop in the number of wild tigers—70 percent in just over a decade⁵—and the recent local extinction of the Javan rhino in Vietnam in 2010⁶ are urgent reminders that unique creatures are being lost at an alarming rate due to human pressures. The illegal trade in wildlife remains a major threat to many species and shows no signs of declining. As the region's financial wealth increases, the culture of ownership, consumption, and gifting of wildlife products remains ever present. The global illegal wildlife trade is now estimated to be worth at least USD19 billion annually⁷.

Rapid unsustainable development, including poorly planned infrastructure, uncontrolled and non-transparent extractive activities, and agricultural expansion, as well as the rampant wildlife trade, are profoundly degrading the health of ecosystems—and consequently millions of people who directly depend on natural resources. Warmer temperatures and more extreme floods, droughts, and storms as a result of climate change only exacerbate these pressures.

Today the Greater Mekong region forms part of one of the five most threatened biodiversity hotspots in the world⁸.

Thorough and consistent management of ecosystems across the Greater Mekong region will help nations adequately address complex, challenging, and regional-scale issues like habitat loss and fragmentation, unsustainable natural resource use, poaching, and climate change.

¹ Refers to the official process by which a species is described in the peer-reviewed scientific literature once discovered and therefore formally determined as 'new'.





The Srepok river, a tributary of the mighty Mekong river, flowing through flooded forest in Cambodia.

Marvels of the Mekong region New finds in focus

ELUSIVE PYGMY PYTHON

(*Python kyaiktiyo*, Myanmar)

This short-tailed python was found in a small dry streambed in the Kyaiktiyo Wildlife Sanctuary in Myanmar⁹. Its mountainous habitat, straddling the Thai-Myanmar border, is known as the Dawna-Tenasserim landscape—one of the highest priority conservation areas for tigers and Asian elephants globally. This 58,000km² area also shelters one of the last breeding populations of the critically endangered Siamese crocodile, as well as Asian tapir, Asiatic black bear, sun bear, gaur, Rufous-necked hornbill, and one of just two water buffalo populations left in the wild.

The specific name given to this new python species derives from the Kyaiktiyo Pagoda (Golden Rock) area. Legend has it this balancing rock owes its stability to a strand of Buddha's hair, which Buddha gave to the hermit Taik Tha during one of the Bodhisattva's many visits to earth. The hair is enshrined in a miniature pagoda built atop the balancing rock.

This 1.5 metre-long python faces the same key threats as all pythons: habitat loss from agricultural and urban development, hunting for meat and skins, collection for the exotic pet trade, and harvesting for food, leather, and traditional medicines. Given the high value of pythons in the international pet trade, and the beauty and rarity of this new species, *Python kyaiktiyo* is very likely to be at immediate risk.

Scientists say that efforts should be made at once to curb exploitation in the international pet trade, which can have a devastating effect on newly described species of herpetofauna¹⁰. Exporting snakes from Myanmar is forbidden, so any international trade in *Python kyaiktiyo* is illegal¹¹.

Python kyaiktiyo is the latest addition to the *Python* genus, which includes the reticulated python (*Python reticulatus*), the largest snake in the world, capable of growing 10 metres in length and weighing 160kg. The large size and distinctive scale pattern of reticulated pythons have led to its heavy exploitation for belts, wallets and boots.

That only a single specimen of the pygmy python has been found suggests this species is already rare and possibly highly endangered.

+ 21 in 2011

TWENTY-ONE NEW REPTILE
SPECIES WERE DISCOVERED
IN THE GREATER MEKONG
IN 2011



© George Zug, Division of Amphibians & Reptiles, National Museum of Natural History-Smithsonian

A MYSTERIOUS SUBTERRANEAN BLIND FISH

(*Bangana musaei*, Laos)

From the carp family of fish, and measuring 7.7cm, this species was found in the Xe Bangfai catchment, a Mekong tributary in central Laos that runs 7km underground through limestone karst¹². Explorations of Laos' karst landscapes are still relatively new, yet a number of caves have already been discovered - several of them with endemic, specialised animals. Only two other fish species have been described from such caves in the country¹³.

Bangana musaei was found in "Grotte des Nuares" and "Tham Pong" caves. Because of its subterranean nature, this fish is totally blind. *Bangana musaei* was immediately assessed as

Vulnerable due to its restricted range; however, its cave system occurs within a protected area, and local custom forbids fishing at the entrance of this underground stretch. Disturbance from tourism activities and demand from the international aquarium trade could pressure *Bangana musaei* in the future.

Around 850 kinds of fish call the waters of the Mekong home¹⁴ —and among this marvelous bestiary are true giants: a quarter of the known giant fish species found on Earth, including the Mekong giant catfish and the giant freshwater stingray, the world's largest freshwater fish, glide through these waters.

The Mekong River, the longest in Southeast Asia, unites 320 million people along its course—over 60 million of whom directly depend on the river for subsistence. The Mekong provides a means of transport, vital nutrients for agriculture, and one of the largest freshwater fisheries in the world. The Greater Mekong region includes 95 distinct ethnic and indigenous groups; and ethnic diversity per square km is believed to be among the highest in the world. This great river and its mosaic of tributaries nurture and sustain an extraordinary diversity of life—a vital web, where new biological findings still occur.

+ 13 in 2011

THIRTEEN NEW FISH SPECIES
WERE DISCOVERED IN THE
GREATER MEKONG IN 2011



© Helmut Steiner



© Helmut Steiner

The Greater Mekong region is a permanent home to about 850 freshwater fish, with an approximate total of 1,100 including the coastal and marine 'visitors'¹¹.

¹¹ A total that includes some species that have yet to be officially described by scientists.

A 'YIN AND YANG' FROG

(*Leptobrachium leucops*, Vietnam)

“Southeast Asian amphibians are both poorly known and highly threatened. That’s the biggest reason that my colleagues and I spend weeks searching the montane forests of the region, discovering and documenting the amazing diversity of the amphibians found there. It’s a vital first step towards amphibian conservation in the region.”

– Dr Jodi Rowley, Herptologist,
Australian Museum

+ 5 in 2011

FIVE NEW AMPHIBIAN
SPECIES WERE DISCOVERED
IN THE GREATER MEKONG
IN 2011

This new species of *Leptobrachium* was discovered on the Langbian plateau in southern Vietnam¹⁵. Its striking black and white eyes are unique in the genus.

Leptobrachium leucops measures between 3.8–4.5cm and is known only at elevations 1,558–1,900m above sea level in wet evergreen and cloud forest —habitats where males call from shallow burrows under leaf litter.

The eclipsing eyes of *Leptobrachium leucops* are what set this species apart from other frogs: the upper one-third to one-half of its iris is white, while the rest is black, akin to a yin-yang symbol in Chinese philosophy.

Yin-yang (or yin and yang) translates to “shadow and light,” and describes how opposing forces are interconnected and interdependent in the natural world.



© Jodi J. L. Rowley/Australian Museum

A NEW BAT FROM THE UNDERWORLD

(*Murina beelzebub*, Vietnam)

Three new *Murina* bat species, one resembling the lord of the underworld, have been discovered in the tropical forests of southern Indochina¹⁶.

This tiny ‘demon,’ referred to as Beelzebub’s tube-nosed bat, has only been seen in Vietnam. All three new *Murina* bat species were found by biologists and conservationists from the Hungarian Natural History Museum and Fauna & Flora International. “We chose the name Beelzebub to reflect the dark ‘diabolic’ colouration of the new species and its fierce protective behaviour in the field,” described Gabor Csorba, from the

Hungarian Natural History Museum.

Bats represent nearly a third of the known mammal species in Southeast Asia—but the true number of bats in the region may be twice the current count, based on recent genetic research¹⁷.

Beelzebub’s tube-nosed bat, like other tube-nosed bats, depends on tropical forest for its survival. Researchers warn these bats are especially vulnerable to ongoing deforestation, which has been rampant across the region. In just four decades, huge swaths of forests have disappeared—and countless plants and animals within them.

Yet despite this degradation, new mammals continue to be discovered in the Greater Mekong each year. Since 2000, new monkeys¹⁸, rabbits¹⁹, shrews²⁰, bats²¹, and rats²², have been described.

+ 5 in 2011

FIVE NEW MAMMAL
SPECIES WERE DISCOVERED
IN THE GREATER MEKONG
IN 2011



© Gabor Csorba/Hungarian Natural History Museum

AN ELEGANT ORCHID WITH A THORNY NAME

(*Coelogyne pachystachya*, Thailand)

In 2011 scientists discovered a new bounty of plants in the Greater Mekong from families as diverse as custard apple, dogbane, palms, fern, daisy or sunflower, balsam, begonia, boxwood, honeysuckle, gourd, heather, magnolia, banana, pepper, true grasses, primrose, rose, coffee, greenbrier, nettle and ginger.

Among these new findings were a number of orchids, including the Thick-spiked *Coelogyne*²³. Despite its thorny name, this organism is pure-white, elegant, and majestic.

The discovery of *Coelogyne pachystachya* is a truly international story. Native to Thailand, the first flowering specimen was imported into Australia as an unknown species about

four years ago. Its name was first published in the German **Orchideen Journal**, by Elisabeth George. George had seen photos of *Coelogyne pachystachya* from an American grower but waited for a particular plant to flower at the Leiden Botanic Gardens, Netherlands, to confirm this new species²⁴.



+ 82 in 2011

EIGHTY-TWO NEW PLANTS WERE
DISCOVERED IN THE
GREATER MEKONG IN 2011



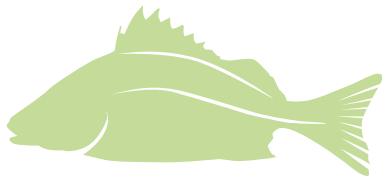
© John Varigos

“I regularly travel to Borneo and have seen firsthand the total indiscriminate destruction of the rainforests by legal and illegal logging activities ... I am planning my next orchid trip to include the Laos and Vietnam border area - I want to get there before too much is lost.”

- John Varigos, orchid expert

A FANTASTICALLY COLOURED MINIATURE FISH

(*Boraras naevus*, Thailand)



A dazzling new miniature fish was recently discovered 83km north of Surat Thani in southern Thailand²⁵. Measuring just 15 – 20mm, the species has been recorded at several spots within the lower Tapi river catchment.

Like others in its genus, *Boraras naevus* prefers thick, submerged vegetation and inhabits shallow swamps and marshes—although many potential habitats have

been converted to rice paddies.

The fish is named after the large blotch on its body (the Latin *naevus* means blemish). Males and the females have different marking patterns: females are rounder-bellied, a little larger, and less-intensively coloured than males. Males have a noticeably larger front dark blotch, a feature unique to this species.

As with other *Boraras* species, this one is likely to be a micropredator, feeding on small insects, worms, crustaceans and other zooplankton.

The new fish, a cyprinid or carp, is already occasionally exported for the aquarium trade under the names *Boraras* sp. “South Thailand” or “Strawberry rasbora” (rasbora being an anagram of *Boraras*).



© Peter Maguire

A RUBY-EYED PIT VIPER

(*Trimeresurus rubeus*,
Cambodia and Vietnam)



A new species of snake called the ruby-eyed green pit viper (*Trimeresurus rubeus*) has been discovered²⁶ in forests near Ho Chi Minh City. This new jewel of the jungle winds its way along the low hills of southern Vietnam and through eastern Cambodia's Langbian plateau.

"Very few people in the world have seen this snake," according to Anita Malhotra, a molecular ecologist at Bangor University in the U.K. "We know very little about what it does."

Scientists do know
Vietnam's Cat Tien

National Park is a stronghold for *Trimeresurus rubeus*, which inhabits a rather small geographic range, where pressures on forests are high. The ruby-eyed green pit viper spends most of its time in the trees, although it also forages on the ground, moving near streams, where it's likely to consume a high proportion of frogs. *Trimeresurus rubeus* is closely related to other pit viper species that eat small mammals.

It is not known how well this snake would adapt to other habitats, and thus scientists disagree if the ruby-eyed green pit viper

should be considered endangered. All experts, however, hope this striking snake does not fall victim to illegal collectors of wildlife. Two further species of pit viper, *Trimeresurus cardamomensis* and *Trimeresurus phuketensis*, were also discovered in 2011 in the Greater Mekong region^{27, 28}.



© Peter Paul van Dijk / Durvin Initiative

A RARE TWO-LEGGED LIZARD

(*Jarujinia bipedalis*, Thailand)

It seems evolution has decided that two legs are better than four for *Jarujinia bipedalis*. This extraordinary two-legged skink²⁹ was discovered in Suan Pung District, Ratchaburi Province in central Thailand. It is the first skink (and only the

second species of terrestrial reptile in the world) to have forelimbs but no hind limbs³⁰.

This skink represents a new genus and appears to be an evolutionary link between the *Lygosomine* genera of *Larutia* and

Isopachys—yet still distinct from both.

Named after Dr. Jarujin Nabhitabhata (1950-2008), first Director of the Thailand Natural History Museum, the species is encountered at mid altitudes.



© Michael Cota

A SWEET-SINGING FROG

(*Gracixalus quangii*, Vietnam)

This frog certainly has style. While most male frogs attract females with repetitive croaks, Quang's tree frog spins a new tune each time³¹. No two calls are the same, and each individual mixes clicks, whistles and chirps in a unique order.

Found in the high-altitude forests of northern Vietnam in a proposed nature reserve, Quang's tree frog belongs to the *Rhacophoridae* family, which currently contains over 300 species. A few of these have also evolved more elaborate communication—though none as complex as Quang's. Researchers are

unsure why these frogs make so many sounds.

The find is great news for amphibians worldwide as these creatures face an extinction crisis. It is believed that at least 120 amphibians have gone extinct in the last 30 years, while 41 percent of the world's 7,000 known amphibians are considered threatened with extinction, according to the IUCN Red List. Deforestation, wetland loss, pollution, overexploitation, the pet trade, invasive species, and climate change have all taken a toll on these sensitive beings. Indeed, many ecologists have dubbed amphibians

“canaries in a coal mine” for their environmental degradation early warning ability. In addition, a deadly fungal disease called chytridiomycosis has wiped out whole species even in pristine environments.



© Jodi J. L. Rowley/Australian Museum

A FISH THAT CAN WALK

(*Clarias gracilentus*, Vietnam)

Clarias gracilentus has a small tail, a big head, and was discovered in Vietnam in 2011³². Also known as the Phu Quoc catfish, this species lives in freshwater streams on the island of Phu Quoc off the Mekong Delta province of Kien Giang. It is fiercer and more agile than the commonly known species of catfish. Indeed, its name *Clarias* refers to the Greek *chlaros*, meaning lively.

The species is so active that it can “walk” across dry land, to find food or suitable environments. While it does not truly walk, *Clarias gracilentus* has the ability to use its

pectoral fins to stay upright while it wiggles forward with snakelike movements. Using this locomotion, *Clarias gracilentus* will survive as long as it stays moist.

Walking catfish normally live in slow-moving and often stagnant waters, such as ponds, swamps, streams and rivers, flooded rice paddies and temporary pools. If these pools dry up, its “walking” skill allows *Clarias gracilentus* to move to another water source.

Species of the *Clarias* genus are omnivorous, feeding on smaller fish,

molluscs and other invertebrates, as well as detritus and aquatic weeds. They are voracious eaters.

At present numbers of the new species *Clarias gracilentus* are small because of overfishing, and their natural fertility is poor. To support the remaining populations, Kien Giang Province’s Department of Science and Technology recently signed an agreement to provide more than VND200 million (USD9,500) for study of the species for breeding³³.



© Photographed by N.V.Tu



© Photographed by N.V.Tu

RECOMMENDATIONS: THE WAY FORWARD

Only by developing a greener economy in the Greater Mekong region—one based on policies that conserve natural capital as a means to spur development—will we see these new species conserved and maintain the possibility of finding other, equally intriguing species in the years to come.

“Over the next 20 years, hundreds of millions of new consumers will be added to those already living in Asia and the Pacific today – driving up demand for energy, food, metals, and water. We need to create mechanisms that make protecting those resources the right economic choice for the communities that use and depend on them.”

– WWF’s Director General
Jim Leape

The Greater Mekong is one of the most biologically diverse places on the planet, home to many rare and threatened species. The Mekong River is also the largest inland fishery in the world, with more fish biodiversity per unit area than even the Amazon. 60 million rural people depend on the Mekong’s consistent, extraordinary productivity. Recognizing the enormous importance of the region’s natural capital, the six countries of the GMS – Cambodia, China, Laos, Myanmar, Thailand and Vietnam – have pledged to work together to better integrate conservation into development planning.

Yet maintaining a rich biological heritage while helping millions out of poverty is no easy task for GM nations. The lure of quick financial returns from conversion of forestland to agriculture, consuming and gifting of wildlife, large-scale mining projects, and the construction of hydropower dams on the main stem of the Mekong river should not outshine the enduring economic benefits of vibrant, intact ecosystems in helping buffer nations from the impacts of climate change and ensuring residents continued access to water, energy, food, and export commodities.

To encourage and maintain lasting populations of the species presented in this report, WWF works closely with governments and key partners to find practical and sustainable long-term solutions to the region’s natural resource challenges.

For more information, please visit:
panda.org/greatermekong



© Howard Check







A further new species discovered in 2011 was the vibrant iridescent blue skink, *Larutia nubisilvicola*, from Thailand.

APPENDIX

Greater Mekong new species 2011

At a glance, by country...

Cambodia	9
China	46
(Yunnan)	
Laos	5
Myanmar	8
Thailand	28
Vietnam	36

Note: The sum of the above figures does not equal the total number of new species discovered, as some species have a distribution spanning more than one country.

PLANTS

Species	Scientist(s)	Location
<i>Areca riparia</i>	Heatubun	Cambodia
<i>Arundinella kerrii</i>	Teerawat. & Sungkaew	Thailand
<i>Begonia afromigrata</i>	J.J.de Wilde	Thailand
<i>Begonia kachinensis</i>	Nob.Tanaka	Myanmar
<i>Calanthe yaoshanensis</i>	Z.X.Ren & H.Wang	China (Yunnan)
<i>Casearia gallifera</i>	Tathana	Thailand
<i>Casearia parvistipula</i>	Tathana	Thailand
<i>Cayratia emarginata</i>	Trias-Blasi & J.Parn.	Thailand
<i>Cephalanthera humilis</i>	X.H.Jin	China (Yunnan)
<i>Coelogyne pachystachya</i>	Elis.George & J.-C.George	Thailand
<i>Coelogyne ruidianensis</i>	Ormerod	China (Yunnan)
<i>Dendrobium hekouense</i>	Z.J.Liu & L.J.Chen	China (Yunnan)
<i>Dendrocalamus parvigemma</i>	N.H.Xia, V.T.Nguyen & V.L.Le	Vietnam
<i>Dendrokingstonia gardneri</i>	Chaowasku	Thailand
<i>Dimeria kerrii</i>	Teerawat. & Sungkaew	Thailand
<i>Elaeocarpus dianxiensis</i>	Y.Tang & H.Li	China (Yunnan)
<i>Elaeocarpus gaoligongshanensis</i>	Y.Tang & Z.L.Dao	China (Yunnan)
<i>Elatostema adenophorum</i>	W.T.Wang	China (Yunnan)
<i>Elatostema cikaiense</i>	W.T.Wang	China (Yunnan)
<i>Elatostema dactylocephalum</i>	W.T.Wang	China (Yunnan)
<i>Elatostema densistriolatum</i>	W.T.Wang & Z.Y.Wu	China (Yunnan)
<i>Elatostema huanglianshanicum</i>	W.T.Wang	China (Yunnan)
<i>Elatostema malipoense</i>	W.T.Wang & Z.Y.Wu	China (Yunnan)
<i>Elatostema multicaule</i>	W.T.Wang, Y.G.Wei & A.K.Monro	China (Yunnan)
<i>Elatostema oppositum</i>	Q.Lin & Y.M.Shui	China (Yunnan)
<i>Elatostema paucifolium</i>	W.T.Wang	China (Yunnan)
<i>Elatostema pianmaense</i>	W.T.Wang	China (Yunnan)
<i>Elatostema pleiophlebium</i>	W.T.Wang & Z.Y.Wu	China (Yunnan)
<i>Elatostema pseudoplatyphyllum</i>	W.T.Wang	China (Yunnan)
<i>Elatostema tricaule</i>	W.T.Wang	China (Yunnan)
<i>Elatostema vietnamense</i>	Q.Lin & L.D.Duan	Vietnam
<i>Fargesia huizensis</i>	M.S.Sun, Yu M.Yang & H.Q.Yang	China (Yunnan)
<i>Geostachys tratensis</i>	Picheans. & Mayoe	Thailand
<i>Gomphogyne stenocarpa</i>	W.J.de Wilde & Duyffes	Thailand
<i>Habenaria wangii</i>	Ormerod	China (Yunnan)
<i>Hedychium siamense</i>	Picheans. & Wongsuwan	Thailand
<i>Helicia falcata</i>	C.Y.Wu	China (Yunnan)
<i>Hiepia corymbosa</i>	V.T.Pharm & Aver.	Vietnam
<i>Holcoglossum linearifolium</i>	Z.J.Liu, S.C.Chen & L.J.Chen	China (Yunnan)
<i>Hoya ignorata</i>	T.B.Tran, Rodda, Simonsson & Joongku Lee	Thailand / Vietnam
<i>Hoya rotundiflora</i>	Rodda & Simonsson	Myanmar
<i>Hoya sapaensis</i>	T.B.Tran & Rodda	Vietnam
<i>Impatiens aconitoides</i>	Y.M.Shui & W.H.Chen	China (Yunnan)
<i>Impatiens jinpingensis</i>	Y.M.Shui & G.F.Li	China (Yunnan)
<i>Impatiens purpureifolia</i>	S.H.Huang & Y.M.Shui	China (Yunnan)
<i>Impatiens rugata</i>	S.H.Huang & Y.M.Shui	China (Yunnan)
<i>Kaempferia koratensis</i>	Picheans.	Thailand
<i>Kaempferia saraburiensis</i>	Picheans.	Thailand
<i>Lecanorchis betongensis</i>	Suddee & H.A.Pedersen	Thailand
<i>Leptodermis coriaceifolia</i>	Tao Chen	China (Yunnan)
<i>Lysimachia verbascifolia</i>	C.M.Hu & P.K.Lóc	Vietnam
<i>Lysimachia vietnamensis</i>	P.K.Lóc & C.M.Hu	Vietnam
<i>Magnolia bidoupensis</i>	Q.N.Vu	Vietnam
<i>Manglietia crassifolia</i>	Q.N.Vu, N.H.Xia & Sima	Vietnam
<i>Manglietia kaifu</i>	Q.W.Zeng & X.M.Hu	China (Yunnan)
<i>Microlepidia ravenii</i>	J.Moore	Vietnam
<i>Monomeria fengiana</i>	Ormerod	China (Yunnan)
<i>Musa serpentina</i>	Swangpol & Somana	Thailand
<i>Neo-uvaria sparsistellata</i>	Chaowasku	Thailand
<i>Neo-uvaria telopea</i>	Chaowasku	Thailand
<i>Nervilia gracilis</i>	Aver.	Vietnam
<i>Newmania orthostachys</i>	N.S.Lý & Škorničk.	Vietnam

PLANTS

Species	Scientist(s)	Location
<i>Newmania serpens</i>	N.S.Lý & Škorníček.	Vietnam
<i>Osmunda hybrida</i>	Tsutsumi, S.Matsumoto, Y.Yatabe, Y.Hiray. & M.Kato	Laos / Myanmar
<i>Paphiopedilum cornuatum</i>	Z.J.Liu, O.Gruss & L.J.Chen	China (Yunnan)
<i>Peristylus tenuicallus</i>	Ormerod	Vietnam
<i>Piper chiangdaoense</i>	Suwanph. & Chantar.	Thailand
<i>Primula fenghwaiana</i>	C.M.Hu & G.Hao	China (Yunnan)
<i>Sarcococca bleddynii</i>	J.M.H.Shaw & V.D.Nguyen	Vietnam
<i>Saussurea acutisquama</i>	Raab-Straube	China (Yunnan)
<i>Schisandra macrocarpa</i>	Q.Lin & Y.M.Shui	China (Yunnan)
<i>Selliguea pui</i>	Hovenkamp	Thailand
<i>Smilax ligneoriparia</i>	C.X.Fu & P.Li	China (Yunnan)
<i>Spiraea adiantoides</i>	Businsky	China (Yunnan)
<i>Taraxacum atropurpureum</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Taraxacum mutatum</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Taraxacum russum</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Taraxacum suavisissimum</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Taraxacum turrutum</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Taraxacum vendibile</i>	Kirschner & Štěpánek	China (Yunnan)
<i>Viburnum fansipanense</i>	J.M.H.Shaw, Wynn-Jones & V.D.Nguyen	Vietnam
<i>Viburnum hoanglienense</i>	J.M.H.Shaw, Wynn-Jones & V.D.Nguyen	Vietnam

Subtotal: 82

FISH

Species	Scientist(s)	Location
<i>Akysis bilustris</i>	Ng, H.H.	Laos
<i>Bangana musaei</i>	Kottelat, M. and H. Steiner	Laos
<i>Bathycorpus parviporus</i>	Karmovskaya, E.S.	Vietnam
<i>Boraras naevus</i>	Conway, K. W. and M. Kottelat	Thailand
<i>Clarias gracilentus</i>	Ng, H.H., D.K. Hong and N.V. Tu	Cambodia / Vietnam
<i>Creteuchiloglanis brachypterus</i>	Zhou, W., Li, X. and A.W. Thomson	China (Yunnan)
<i>Creteuchiloglanis longipectoralis</i>	Zhou, W., Li, X. and A.W. Thomson	China (Yunnan)
<i>Physochistura yunnaniloides</i>	Chen, X.-Y., M. Kottelat and D.A. Neely	China (Yunnan) / Myanmar
<i>Pseudeutropius indigens</i>	Ng, H.H. and C. Vidthayanon	Thailand
<i>Pteronemacheilus lucidorsum</i>	Bohlen, J. and V. Slechtová	Myanmar
<i>Schistura aurantiaca</i>	Plongsesthee, R., L.M. Page and W. Beamish	Thailand
<i>Schistura callidora</i>	Bohlen, J. and V. Slechtová	Myanmar
<i>Schistura diminuta</i>	Ou, C., C.G. Montaña, K.O. Winemiller and K.W. Conway	Cambodia

Subtotal: 13

AMPHIBIANS

Species	Scientist(s)	Location
<i>Gracixalus quangi</i>	Rowley J.J.L., Dau V.Q., Nguyen T.T., Cao T.T., Nguyen S.V.	Vietnam
<i>Leptobranchium leucops</i>	Stuart, B. L., Rowley, J. J. L., Tran, D. T. A., Le, D. T. T., Hoang, D. H.	Vietnam
<i>Leptolalax bidoupensis</i>	Rowley, J. J. L., Le, D. T. T., Tran, D. T. A. & Hoang, D. Y	Vietnam
<i>Theloderma nebulosum</i>	Rowley, Le, Hoang, Dau & Cao	Vietnam
<i>Theloderma palliatum</i>	Rowley, Le, Hoang, Dau & Cao & Trung	Vietnam

Subtotal: 5

REPTILES

Species	Scientist(s)	Location
<i>Acanthosaura brachypoda</i>	Ananjeva, Orlov, Nguyen & Ryabov	Vietnam
<i>Cyrtodactylus cucphuongensis</i>	Ngo & Onn	Vietnam
<i>Cyrtodactylus huongsonensis</i>	Luu, Nguyen, Do & Ziegler	Vietnam
<i>Cyrtodactylus martini</i>	Ngo Van Tri	Vietnam
<i>Cyrtodactylus pageli</i>	Schneider, Nguyen, Schmitz, Kingsada, Auer & Ziegler	Laos
<i>Cyrtodactylus surin</i>	Chan-Ard & Makchai	Thailand
<i>Cyrtodactylus teyngiei</i>	David, Nguyen, Schneider & Ziegler	Laos
<i>Dendrelaphis walli</i>	Vogel & Van Rooijen	Myanmar
<i>Dibamus dalaiensis</i>	Neang, Holden, Eastoe, Seng, Ith & Grismer	Cambodia
<i>Emydocephalus szczerbaki</i>	Dotsenko	Vietnam
<i>Gekko canaensis</i>	Ngo & Gamble	Vietnam
<i>Gekko truongi</i>	Phung & Ziegler	Vietnam
<i>Jarujinia bipedalis</i>	Chan-Ard, Makchai & Cota	Thailand
<i>Larutia nubisilvicola</i>	Chan-Ard, Cota, Makchai & Lhaotaew	Thailand
<i>Lycodon gongshan</i>	Vogel & Luo	China (Yunnan)
<i>Opisthotropis cucae</i>	David, Cuong The Pham, Truong Quang Nguyen & Ziegler	Vietnam
<i>Python kyaiktiyo</i>	Zug, Gotte & Jacobs	Myanmar
<i>Sphenomorphus tonkinensis</i>	Nguyen, Schmitz, Nguyen, Orlov, Böhme & Ziegler	Vietnam
<i>Trimeresurus cardamomensis</i>	Malhotra, Thorpe, Mrinalini & Stuart	Cambodia / Thailand
<i>Trimeresurus phuketensis</i>	Sumontha, Kunya, Pauwels, Nitikul & Punnadee	Thailand
<i>Trimeresurus rubeus</i>	Malhotra, Thorpe, Mrinalini & Stuart	Cambodia / Vietnam

Subtotal: 21

MAMMALS

Species	Scientist(s)	Location
<i>Crociodura sp.</i>	A.A. Bannikova, A.V. Abramov, A.V. Borisenko, V.S. Lebedev & V.V. Rozhnov	Vietnam
<i>Glischropus bucephalus</i>	Gábor Csorba	Cambodia
<i>Murina beelzebub</i>	Gábor Csorba, Nguyen Truong Son, Ith Saveng, and Neil M. Furey	Vietnam
<i>Murina cineracea</i>	Gábor Csorba, Nguyen Truong Son, Ith Saveng, and Neil M. Furey	Cambodia
<i>Murina walstoni</i>	Gábor Csorba, Nguyen Truong Son, Ith Saveng, and Neil M. Furey	Cambodia / Vietnam

Subtotal: 5

GRAND TOTAL: 126

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Greater Mekong in numbers

100%
RECYCLED



Today the Greater Mekong region is an integral part of one of the top five most threatened biodiversity hotspots in the world

126

new species discovered in 2011, adding to the 1,584 newly identified since 1997



300 million

people depend on healthy natural systems such as rivers, forests and wetlands for their food security, livelihoods and customs

850

freshwater fish species live in the Mekong and its tributaries



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To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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