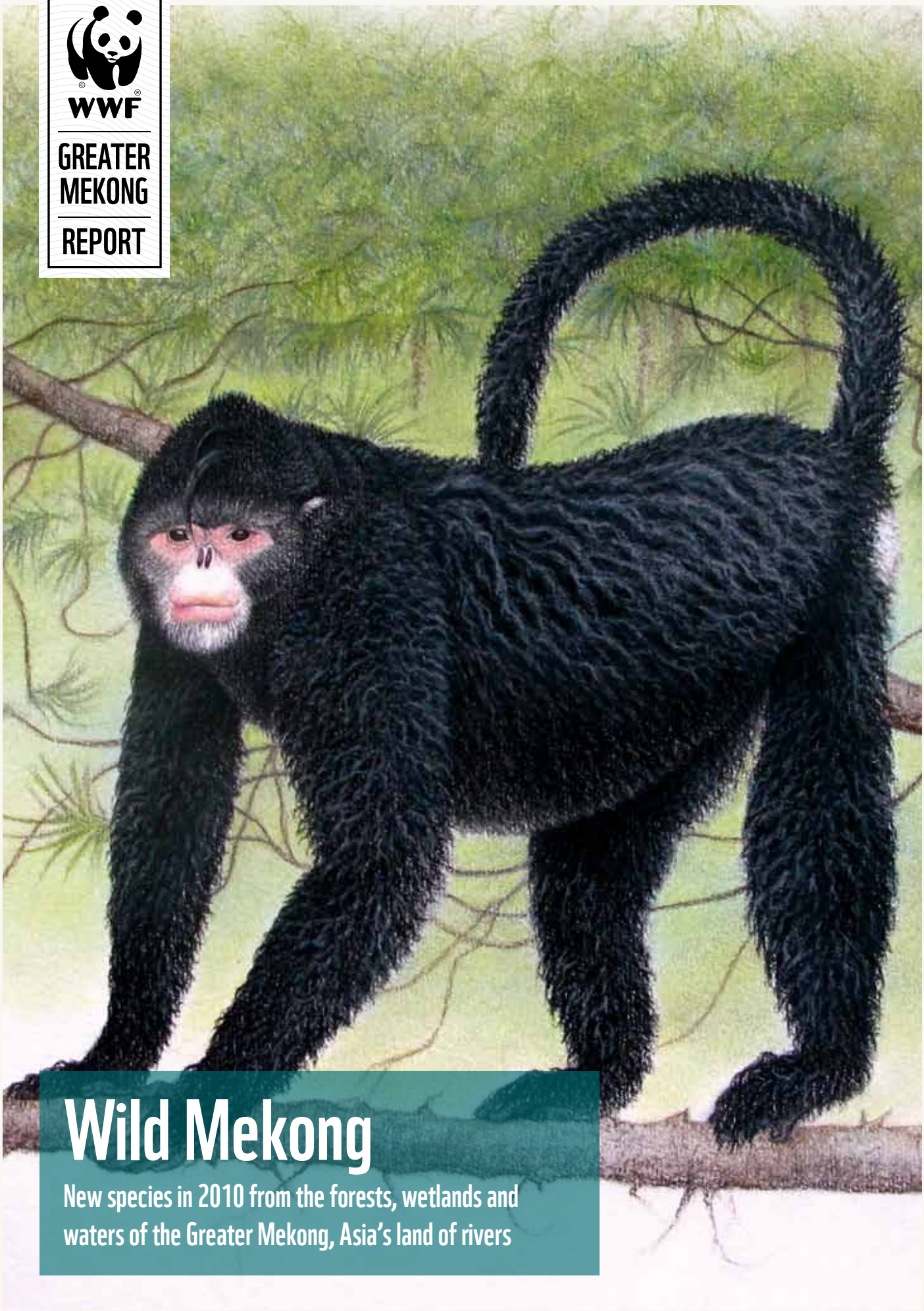
WWF

GREATER MEKONG REPORT



Wild Mekong

New species in 2010 from the forests, wetlands and waters of the Greater Mekong, Asia's land of rivers

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Front cover photo: New monkey species, *Rhinopithecus strykeri* ©
Martin Aveling/Fauna & Flora International.

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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

A new monkey, a self-cloning skink, five carnivorous plants, and a unique leaf warbler are among the 208 species newly described by science in the Greater Mekong region during 2010. In total 145 plants, 28 reptiles, 25 fish, 7 amphibians, 2 mammals and 1 bird have been discovered in the last year.

208 SPECIES DISCOVERED IN 2010 IN THE GREATER MEKONG

This rate of discovery marks Asia's land of rivers as one of the last frontiers for new species discoveries on our planet.

The Greater Mekong region of Southeast Asia through which the Mekong river flows comprises the countries of Cambodia, Laos, Myanmar, Thailand, Vietnam and China (including Yunnan province). The region is home to some of the planet's most endangered and charismatic wild species including tiger, Asian elephant, Mekong dolphin and Mekong giant catfish, in addition to hundreds of newly discovered species. Between 1997 and 2009 an incredible 1,376 species were discovered by science across this region alone[1,2,3].

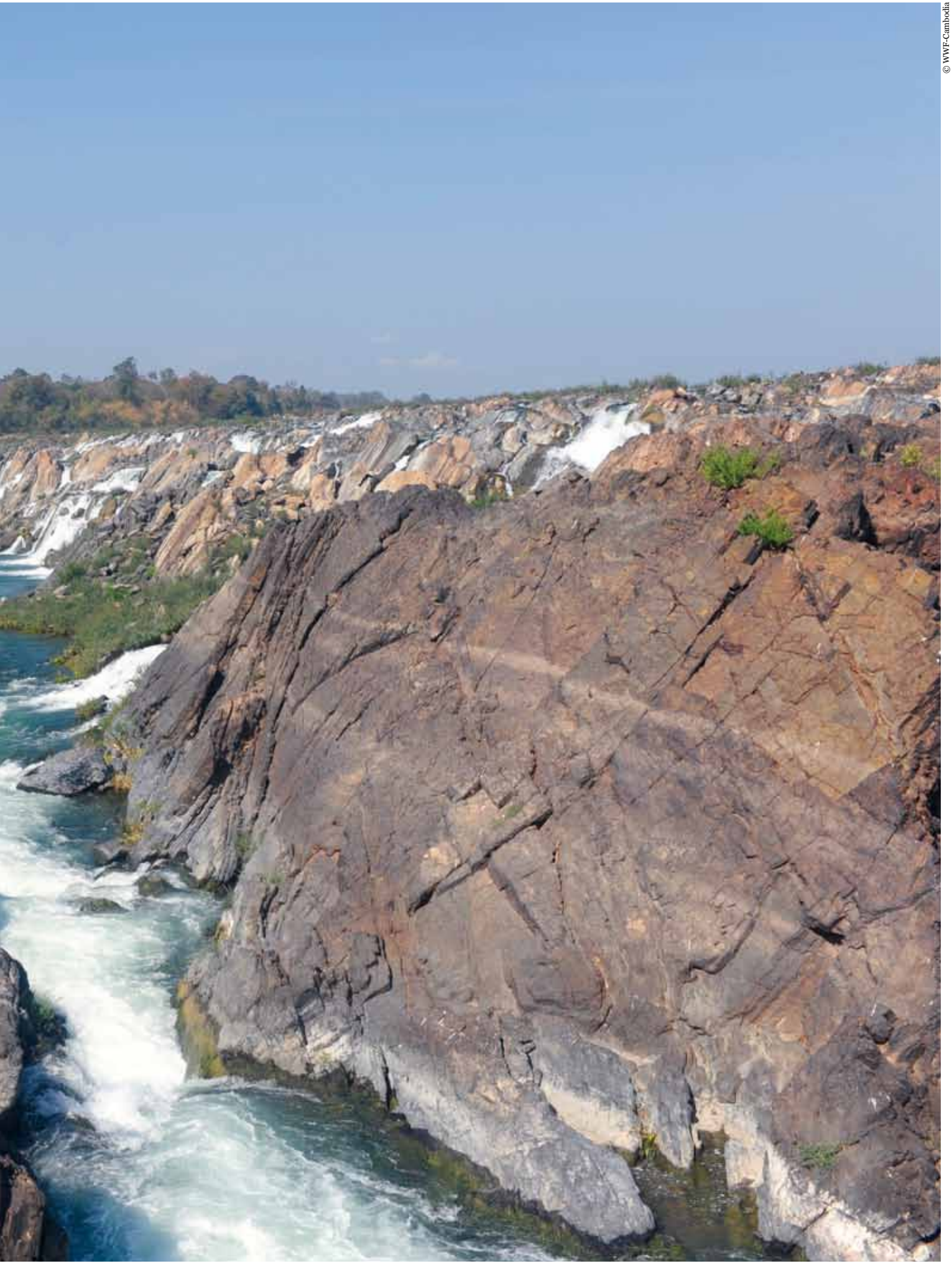
However, while these discoveries highlight the unique biodiversity of the Greater Mekong they also reveal the fragility of this region's diverse species and habitats. The plight of the wild tiger, whose numbers have dropped by a dramatic 70 percent in a little over a decade, and the extinction of the Javan rhino in Vietnam during 2010 are urgent reminders that biodiversity is still being lost at an alarming rate from man-made pressures.

Rapid, unsustainable development and climate change impacts are profoundly affecting biodiversity and ecosystem services and consequently the millions of people who depend on them. The Greater Mekong region is warming and experiencing more extreme floods, droughts and storms as a result of shifting rainfall patterns. These changes are exacerbating agricultural expansion and unsustainable infrastructure pressures on natural ecosystems and the services they provide.

Today the Greater Mekong region is an integral part of one of the top five most threatened biodiversity hotspots in the world[4].

The central importance of the region's shared natural resources cannot be overstated. The economic and social development of the Greater Mekong depends on the continued productivity of its inter-connected ecological systems. Only intact, healthy, and diverse natural ecosystems can provide the resilience to ensuing climate change while ensuring continued access to water, energy, food, commodities, and livelihoods for over 300 million people.

Sound regulatory frameworks implemented via harmonized policies across the Greater Mekong will help the region's countries adequately address complex, challenging, regional-scale issues like habitat loss and fragmentation, unsustainable natural resource use, and climate change. Addressing these challenges requires stronger regional collaboration at the broader, ecosystem scale; countries cannot effectively solve these problems thinking only within their own borders. Regional collaboration needs high levels of political support. It also needs to be formalized through a regional agreement that is supported by an effective institutional framework mechanism. Only this can ensure future security for the millions of people that rely upon the Greater Mekong system.



Spectacular Khone Falls, Laos, in the Mekong river ecoregion. Throughout its journey, from the Himalayas to the Delta, the Mekong river takes on many forms: active, extreme and truly epic.

NEW EXTRAORDINARY SPECIES OF THE MEKONG REGION

The Greater Mekong region has yielded 145 plants, 28 reptiles, 25 fish, 7 amphibians, 2 mammals and 1 bird in just the last year. A closer look at the new discoveries reveal...

'The King' is alive it seems. While this species, sporting an Elvis-like hairstyle, is new to science[5], the local people of Myanmar know it well. Scientists first learned of "Snubby" - as they nicknamed the species - from hunters in Myanmar's forested, remote, and mountainous (Himalayan) Kachin state in early 2010.

Locals claim that the black and white monkey is very easy to find when it is raining because the monkeys often get rainwater in their upturned noses causing them to sneeze. To avoid this evolutionary inconvenience, snub-nosed monkeys spend rainy days sitting with their heads tucked between their knees.

'ELVIS' MONKEY WITH NO NOSE

(Rhinopithecus strykeri)

Only recently encountered by a team of conservationists[1], little is known about the monkey's behaviour in the wild, its distribution range, or its value to local communities. Not surprisingly, this species is likely to be classified as critically endangered due to its restricted range and significant hunting pressures. The illustration below is the only representation of a scientifically observed specimen to this date.

The species is one of two mammals discovered in the region in the past year.

+ 2 in 2010

TWO NEW MAMMAL SPECIES WERE DISCOVERED IN THE GREATER MEKONG IN 2010

[1] Fauna & Flora International (FFI) and People Resources and Conservation Foundation (PRCF)

'GHERKIN' FISH

(Schistura udomritthiruji)

A loach that looks like a gherkin was officially described in Southern Thailand[6]. This particular new species, one of 25 new fish discoveries in 2010, is only known to be found in two clear gravel-bed streams flowing into the Andaman Sea between Takua Pa and Ranong. Discovered and described by loach experts Jörg Bohlen and Vendula Šlechtová, the new species was named after Thai aquarist and fish exporter Kamphol Udomritthiruj. Based on the best available data, experts estimate that the Greater Mekong region is a permanent home to about 850 freshwater fish[II], with an approximate total of 1,100 including the coastal and marine 'visitors' (from the South China Sea that seasonally frequent the Mekong river and its tributaries)[7]. This figure includes some of the most amazing freshwater fish species found anywhere in the world today, such as the Mekong giant catfish (that can reach up to 350kg, 3m in length) and Giant freshwater stingray (up to 600kg, 5m in length, with a 2.4m disc width). Over 300 new fish species have been discovered in the region since 1997 - **it is truly Asia's land of rivers.**

© Jörg Bohlen

+ 25 in 2010

TWENTY-FIVE NEW FISH SPECIES WERE DISCOVERED IN THE GREATER MEKONG IN 2010

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'[7].

[II] A total that includes some species that have yet to be officially described by scientists.

SELF-CLONING LIZARD:
NEW BUT NOT UNKNOWN
(Leiolepis ngovantrii)

A staggering array of reptile diversity was also newly discovered in 2010 - 28 reptiles in total including the newfound *Leiolepis ngovantrii*[8] - an all-female species that reproduces via cloning, without the need for male lizards. Dr. Lee Grismer's Vietnamese colleague Ngo Van Tri of the Vietnam Academy of Science and Technology found live lizards for sale in a restaurant in Ba Ria-Vung Tau Province. Noting that the reptiles all looked strangely similar, Ngo sent pictures to Grismer and his son Jesse Grismer, a herpetology doctoral student at the University of Kansas. "In this part of southern Vietnam, restaurants have been serving this undescribed species, and we just stumbled across it", said Dr. Lee Grismer. The team of experts suspected that they may be looking at an all-female species. Knowing that the lizard likely belonged to the *Leiolepis* genus, in which male and female lizards have distinct colour differences - no males could be identified. Scientists examined almost 70 of the lizards - and all turned out to be females.

The new-found reptile also had rows of enlarged scales on its arms as well as lamellae (bone layers) under its toes that set it apart from other species. The lizard's home, the Binh Chau-Phuoc Buu Nature Reserve, sits between scrub woodland and coastal sand dunes.

Being all female, the newly discovered species may already be at a disadvantage because of its lack of genetic diversity. Even though it doesn't seem to be rare in the wild, low levels of genetic diversity could compromise the robustness of the species, making it less resilient to changes in the climate and habitat over time.

© L. Lee Grismer

+ 28 in 2010

TWENTY-EIGHT NEW REPTILES WERE DISCOVERED IN THE GREATER MEKONG IN 2010

A "WOLF" SNAKE

(Lycodon synaptor)

Among the new reptile discoveries is the wolf snake, *Lycodon synaptor*[9] or Boehme's wolf snake, from Dongchuan, a mountainous region of Yunnan Province, China. The black snake with white bands is a member of the Colubridae family, the largest family of snakes classified by science. There are more than 40 species of Asian wolf Snakes in the genus *Lycodon*. Wolf snakes are so-called because of their large fangs in both jaws.

Wolf snakes are often nocturnal[10], can grow to lengths of about 50 cm (20 inches), and prey chiefly on frogs, geckos, and other lizards.

© Vampire

SPECTACULAR ORCHID FIND

(Dendrobium daklakense)

145 plants were discovered in the Greater Mekong in 2010. A beautiful orchid, with thick glossy white and orange flowers, was newly identified after being collected by a local plant hunter and handed to orchid experts at Kew Botanical Gardens in London, England[11]. Known to locals as one of the most striking species, this orchid was first discovered in a remote area in the Dak Lak province of Vietnam. Scientists are working toward tracking the actual origin of this elegant species and its current conservation status.

The forests of the Greater Mekong harbour a rich variety of flowering plants. Orchids are the prime example of this plant diversity: 16 new orchid species from the Greater Mekong were officially described in 2010. These endemic[III] plants all have limited distributions, highlighting their vulnerability to forest loss and habitat change. Scientists estimate that around 70 species of orchid that once existed in the forests of nearby Indonesia have become extinct because of illegal logging activity[12].

© Duong Toan

+ 145 in 2010

ONE HUNDRED AND FORTY-FIVE NEW PLANTS WERE DISCOVERED IN THE GREATER MEKONG IN 2010

> *"It is remarkable that such a distinct and showy species could have escaped detection until recently.*
>
> *Dr Andre Schuiteman, orchid expert at Kew Gardens, London, England.*

[III] Endemic refers to a species that is exclusively native to a specific place and found nowhere else. For example, the kiwi is a bird endemic to New Zealand.

LIMESTONE LEAF-WARBLER DISCOVERED IN LAOS

(Phylloscopus calciatilis)

In January 2010, a small, distinctive bird living in the rocky forests of the Annamite mountain range in Laos and Vietnam was described for the first time. Named the "limestone leaf warbler" because it breeds in Laos' limestone karst environments - a region known for unusual wildlife[13] - it is similar to other warblers in this area of Southeast Asia, except for its distinct vocalizations and slight morphological differences. The tiny bird is greenish-olive with a yellow breast and striped crown. It has a loud and unique call, which is what first alerted the researchers that the bird may be new to science.

Scientists presume there are many limestone leaf warblers in this region, but its habitat isn't without threats. Many parts of the species' native forests have been cleared as a result of wood collection. NGOs are continuing to work with the Lao Government in an effort to reduce the threats to wildlife in this region.

© Ulf Johansson/Swedish Museum of Natural History

+ 1 in 2010

ONE NEW BIRD SPECIES WAS DISCOVERED IN THE GREATER MEKONG IN 2010

PSYCHEDELIC GECKO

(Cnemaspis psychedelica)

A new psychedelic gecko species was discovered this past year on Hon Khoai Island, Ca Mau Province, Ngoc Hien District, 18 km off the southern tip of the Ca Mu Peninsula in southern Vietnam[14].

The new species is unique in that it displays a remarkable psychedelic pattern of bright orange appendages; a dense, yellow neck overlying thick, black, lines; and a blue-gray body bearing yellow bars on its bright-orange sides. It also differs from all other species of *Cnemaspis* in size.

Cnemaspis psychedelica is the third endemic species of *Cnemaspis* from Vietnam and brings the total number of species in Vietnam to six. Its occurrence on one of 92 islands in Rach Gia Bay highlights the necessity for further surveys of these little known islands according to scientists, who are just beginning to reveal the surprising degree of endemism and diversity in the area. This further emphasises that the full extent of the Greater Mekong's biological diversity remains unknown to science.

Cnemaspis psychedelica is known only from the tiny (roughly 8 km^2) Hon Khoai Island. The island reaches approximately 320m at its highest point, with thick forest cover sloping gently down to a mangrove-lined coast. Scattered across the lowlands of the island are small to massive boulders that provide the habitat for *Cnemaspis psychedelica*.

Some 75 species from the *Cnemaspis* are now found across Asia.

WWF treats priority species as "ecologically, economically and culturally important species". We are working to ensure such species can live and thrive in their natural habitats.

© L. Lee Grismer

FIVE SPECIES OF CARNIVOROUS PITCHER PLANT

The new plant discoveries in the region cover an eclectic mix of species, including 16 orchids, 9 palms, 8 species of ginger, 7 species from the rose family, 4 members of the coffee family, 4 nettles, 2 species from the beech family, 1 fern and numerous other flowering plants.

Perhaps the most interesting are the five species of pitcher plants discovered. Four are from Thailand and one was found in Cambodia.

As carnivorous plants, pitchers eat pretty much anything they can entice into their cavernous bellies. Some species of *Nepenthes* can grow to a maximum height of 100 cm with vines exceeding 25 cm high. Botanical experts say that they can actually lure in and consume small rats, mice, lizards and even birds.

Nepenthes andamana is from Phang Nga Province, Thailand[15], where it grows at sea level in coastal savannah and grassland habitats. *Nepenthes chang* is from the Banthad Mountains of central Thailand[16], where it grows at elevations of 300–600m above sea level.

Nepenthes holdenii is known to exist on two peaks in the Cardamom Mountains of western Cambodia[17], where it grows at elevations of 600–800 m above sea level. *Nepenthes kerrii* was found in Tarutao National Marine Park in southern Thailand[18], at elevations of 400–500 m above sea level. *Nepenthes suratensis* was discovered in Surat Thani Province, Thailand[19], where it grows at sea level in coastal savannah and grassland habitats. All are endemic with limited distributions.

© Marcello Catalano

Nepenthes andamana

© François Mey

Nepenthes holdenii

NEW FROG SPECIES

(Amolops akhaorum)

Seven new frog species from the Greater Mekong region were discovered in 2010, including three from Laos, three from Vietnam and one from Thailand. The species *Amolops akhaorum* was found in Luang Namtha Province, Nam Ha National Protected Area, northwestern Laos[20].

The new discoveries are particularly welcome as amphibians worldwide are in decline. A few years ago more than 500 concerned scientists from over 60 nations contributed to the Global Amphibian Assessment. They analysed the distribution and conservation status of all 5,743 known amphibian species at the time.

Amphibians include frogs and toads, salamanders, and caecilians.

Amphibians are widely regarded as "canaries in the coal mine," since their highly permeable skin is more immediately sensitive to changes in the environment, including changes to freshwater and air quality. "Amphibians are one of nature's best indicators of overall environmental health," said Russell A. Mittermeier, president of Conservation International. "Their catastrophic decline serves as a warning that we are in a period of significant environmental degradation."

According to the IUCN Red List of Threatened Species, at least 1,856 amphibian species are threatened with extinction[IV], representing 32 percent of all amphibian species. By comparison, only 12 percent of all bird species and 23 percent of all mammal species are threatened.

At least nine species of amphibian have gone extinct since 1980, when the most dramatic declines began. Another 113 species have not been reported in the wild in recent years, and are considered possibly extinct.

© Bryan Stuart

+ 7 in 2010

SEVEN NEW AMPHIBIAN SPECIES WERE DISCOVERED IN THE GREATER MEKONG IN 2010

[IV] At the time of the assessment, 427 species were considered Critically Endangered (CR), 761 were Endangered (EN), and 668 were Vulnerable (VU).

VIBRANTLY-SPOTTED NEWT SPECIES

(Tylototriton notialis)

A new species of newt was discovered in Laos in 2010[21]. The new species is particularly significant as it represents the first record of a species from the genus *Tylototriton* from Laos, and is the southernmost known member of the *Tylototriton asperrimus* group in the world. The Latin name for the species, *notialis* meaning "southern", refers to this.

The genus also occurs in adjacent parts of Thailand, China, and Vietnam.

The new species was discovered in Khammouan Province, Laos, Nakai-Nam Theun National Protected Area, Nam On river catchment.

Distinct rib nodules and unique vibrant orange dots distinguish Laos' population of the newly discovered species from other members of the *T. asperrimus* group. The species is known only from the location at which it was discovered.

Scientists fear that over-harvesting for traditional medicine and the international pet trade may put the species at heightened risk[22]. The formal description of other Asian salamandrids in the past (*Laotrian laoensis*; Stuart and Papenfuss 2002) has inadvertently led to exploitation for the international pet trade[23].

Hopefully the Theun National Protected Area, one of Laos' largest and best-funded national protected areas[24], will afford this endemic species some protection.

© Bryan Stuart

© Adam Cathro

GREATER MEKONG, GREAT FUTURE?

A REGION HANGING IN THE BALANCE

The Mekong is at a crossroads. Governments can decide whether to follow the current path towards a brown economy or take an alternative path towards greener, more sustainable economic development.

The central importance of the region's shared natural resources cannot be overstated. The economic and social development of the Greater Mekong region depends on the continued productivity of its inter-connected ecological systems. Only intact, healthy, and diverse natural ecosystems can provide resilience to ensuing climate change while ensuring continued access to water, energy, food, commodities and livelihoods for over 300 million people.

One important step the governments of the region can take is to transition into a "green economy". The concept of a green economy is a fundamentally new model for sustainable development that takes into account the global economic benefits of biodiversity more than ever before. It represents a major economic transformation[25] and a paradigm shift in how we think about sustainable economic development.

It is already happening in the Greater Mekong region, but not fast enough. Governments must step up their investments into green sectors, create the necessary national regulatory frameworks, and implement these via policies across the Greater Mekong. Only this can allow the region's countries to address complex, regional-scale issues like habitat loss and fragmentation, unsustainable natural resource use, and climate change.

Addressing these challenges requires stronger regional collaboration at the broader, ecosystem scale; countries cannot effectively solve these problems thinking only within their own borders. Regional collaboration needs high levels of political support. It also needs to be formalized through a regional agreement that is supported by integrated, effective policy. Such an agreement should seek to bring countries closer together around a common vision for conservation and sustainable use of biodiversity and natural resources. It should seek to achieve a balance between conserving what is unquestionably some of the world's most important biodiversity and ensuring that natural resources are used sustainably to support economic development.

WWF is actively involved in helping the countries of the Greater Mekong region progress towards a green economy, one that values ecosystems and the services they provide to the millions of people in the region. Through approaches such as sustainable hydropower, landscape and species conservation, climate change adaptation, and sustainable financing mechanisms, WWF will continue to develop and support programmes in the region that help secure a brighter future for the region's biodiversity, including its rich array of species – those that we already know, and those still waiting to be discovered.

Cleared forest in ĐaKrông district, Quang Tri province, Vietnam.
Habitat destruction and fragmentation is a key threat
to the remaining species in the Greater Mekong.

The mighty Mekong river flowing through flooded forest in Cambodia.

APPENDIX

Greater Mekong new species 2010

At a glance, by country…

Cambodia	7
China (Yunnan)	53
Laos	13
Myanmar	29
Thailand	61
Vietnam	59

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
Acer pseudowilsonii	*Chen*	*Thailand*
Aconitum jin-muratae	*Kadota & Nob.Tanaka*	*Myanmar*
Adiantum membranifolium	*Linds. & Suksathan*	*Thailand*
Alocasia jiewhoei	*V.D.Nguyen*	*Cambodia*
Anoectochilus malipoensis	*Chen & Shui*	*Yunnan*
Areca songthanhensis	*Hend., Ban & Thanh*	*Vietnam*
Argostemma victorianum	*Nob.Tanaka*	*Myanmar*
Arisaema brucei	*Li, Li & Murata*	*Yunnan*
Arisaema linearifolium	*Gusman & Yin*	*Yunnan*
Arisaema quinquelobatum	*Li & Murata*	*Yunnan*
Arisaema rubrirhizomatum	*Li & Murata*	*Yunnan*
Arundinella kokutensis	*Teerawat. & Sungkaew*	*Thailand*
Begonia kachinensis	*Nob.Tanaka*	*Myanmar*
Begonia pteridiformis	*Phutthai*	*Thailand*
Begonia vietnamensis	*Nguyen & Peng*	*Vietnam*
Boehmeria leptostachya	*Friis & Wilmot-Dear*	*Thailand/Yunnan*
Boehmeria listeri	*Friis & Wilmot-Dear*	*Myanmar*
Brachycorythis neglecta	*Pedersen*	*Thailand*
Breynia carnosa	*Welzen & Pruesapan*	*Thailand*
Breynia lithophila	*Welzen & Pruesapan*	*Thailand*
Breynia repens	*Welzen & Pruesapan*	*Thailand*
Calamus parvulus	*Hend. & Dung*	*Vietnam*
Calamus seriatus	*Hend. & Dung*	*Vietnam*
Calamus yentuensis	*Hend. & Dung*	*Vietnam*
Camellia luteocerata	*Orel*	*Vietnam*
Camellia maiana	*Orel*	*Vietnam*
Canscora bidoupensis	*Hul*	*Vietnam*
Castanopsis jinpingensis	*Li & Chen*	*Yunnan*
Caulokaempferia chayaniana	*Tiyaw.*	*Thailand*
Ceratopteris oblongiloba	*Masuyama & Watano*	*Thailand/Cambodia*
Chimonocalamus peregrinus	*Yi & Ma*	*Vietnam*
Chirita auriculata	*Li & Zhu*	*Yunnan*
Chroniochilus sinicus	*Chen & Liu*	*Yunnan*
Clematis pseudopterantha	*Kadota & Nob.Tanaka*	*Myanmar*
Coelogyne alboaurantia	*Elis.George & George*	*Thailand*
Cremanthodium latilobum	*Chen*	*Yunnan*
Croton fluviatilis	*Esser*	*Thailand*
Cryptocoryne loeiensis	*Bastm., Idei & Jacobsen*	*Thailand*
Cryptocoryne mekongensis	*Idei, Bastm. & Jacobsen*	*Laos*
Curcuma pambrosima	*Škorničk. & Lý*	*Vietnam*
Curcuma vitellina	*Škorničk. & Tran*	*Vietnam*
Daemonorops brevicaulis	*Hend. & Dung*	*Vietnam*
Daemonorops ocreata	*Hend. & Dung*	*Vietnam*
Damrongia cyanantha	*Triboun*	*Thailand*
Dendrobium daklakense	*Tich, Schuit. & Verm.*	*Vietnam*
Dendrobium koyamae	*Nob.Tanaka, Yukawa & Murata*	*Myanmar*
Dendrobium roseiodorum	*Sathap., Yukawa & Seelanan*	*Vietnam*
Doritis natmataungensis	*Yukawa, Nob.Tanaka & Murata*	*Myanmar*
Elatostema funingense	*Wang*	*Yunnan*
Epirixanthes compressa	*Pendry*	*Thailand*
Exacum darae	*Hul*	*Thailand/Cambodia*
Galium kunmingense	*Ehrend.*	*Yunnan*
Galium rupifragum	*Ehrend.*	*Yunnan*
Gentiana spathulisepala	*Ho & Liu*	*Yunnan*
Globba ranongensis	*Picheans. & Tiyaw.*	*Thailand*
Habenaria calcicola	*Aver.*	*Vietnam*
Hedychium longipetalum	*Hu & Liu*	*Yunnan*
Hedychium menghaiense	*Hu & Liu*	*Yunnan*
Heterostemma xuansonense	*Tran & Kim*	*Vietnam*
Hoya rotundiflora	*Rodda & Simonsson*	*Myanmar*
Impatiens oblongipetala	*Liu & Cong*	*Yunnan*
Kaempferia lopburiensis	*Picheans.*	*Thailand*
Larsenianthus wardianus	*Kress, Thet Htun & Bordelon*	*Myanmar*

Species	Scientist(s)	Location
Licuala dakrongensis	*Hend., Ban & Thanh*	*Vietnam*
Ligularia qiaojiaensis	*Chen & Dong*	*Yunnan*
Liparis guangxiensis	*Feng & Jin*	*Yunnan*
Litostigma crystallinum	*Shui & Chen*	*Yunnan*
Manglietia sapaensis	*Xia & Vu*	*Vietnam*
Melocalamus blaoensis	*Nguyen & Tran*	*Vietnam*
Melocalamus cucphuongensis	*Nguyen & Tran*	*Vietnam*
Melocalamus kbangensis	*Nguyen & Tran*	*Vietnam*
Melocalamus pacoensis	*Nguyen & Tran*	*Vietnam*
Melocalamus truongsonensis	*Nguyen & Tran*	*Vietnam*
Melocalamus yenbaiensis	*Nguyen & Tran*	*Vietnam*
Microtropis daweishanensis	*Lin & Zhang*	*Yunnan*
Microtropis longicarpa	*Lin & Zhang*	*Yunnan*
Miscanthus villosus	*Liu & Peng*	*Yunnan*
Mnesithea thailandica	*Traiperm & Boonkerd*	*Thailand*
Mucuna hirtipetala	*Wilmot-Dear & Sha*	*Yunnan*
Mucuna incurvata	*Wilmot-Dear & Sha*	*Yunnan*
Muhlenbergia fasciculata	*Phan*	*Myanmar*
Mycetia basiflora	*Puff*	*Thailand*
Nepenthes andamana	*Catal.*	*Thailand*
Nepenthes chang	*Catal.*	*Thailand*
Nepenthes holdenii	*Mey*	*Cambodia*
Nepenthes kerrii	*Catal. & Kruetr.*	*Thailand*
Nepenthes suratensis	*Catal.*	*Thailand*
Nervilia gracilis	*Aver.*	*Vietnam*
Orchidantha stercorea	*Tran & Škorničk*	*Vietnam*
Ostryopsis intermedia	*Tian & Liu*	*Yunnan*
Paphiopedilum canhii	*Aver. & Gruss*	*Vietnam*
Pedicularis obliquigaleata	*Yu & Wang*	*Yunnan*
Peristylus phuwuanensis	*Kurzweil*	*Thailand*
Peristylus rigidus	*Kurzweil*	*Thailand*
Petrocosmea bicolor	*Middleton & Triboun*	*Thailand*
Petrocosmea pubescens	*Middleton & Triboun*	*Thailand*
Petrocosmea shilinensis	*Shui & Zhao*	*Yunnan*
Phaius hekouensis	*Tsukaya, Nakaj. & Wu*	*Yunnan*
Phyllagathis nanakorniana	*Wangwasit, Norsaengsri & Cellin.*	*Thailand*
Pinalia shiuyingiana	*Ormerod & Wood*	*Myanmar*
Pinanga nuichuensis	*Hend., Ban & Thanh*	*Vietnam*
Pinus anemophila	*Businský*	*Laos*
Platostoma tridechii	*Suddee*	*Thailand*
Plectocomiopsis songthanhensis	*Hend. & Dung*	*Vietnam*
Primula nghialoensis	*Rankin*	*Vietnam*
Pseuduvaria fragrans	*Su, Chaowasku & Saunders*	*Thailand*
Pseuduvaria gardneri	*Su, Chaowasku & Saunders Thailand*	*Thailand*
Raphiocarpus maguanensis	*Shui & Chen*	*Yunnan*
Rhododendron trancongii	*Argent & Rushforth*	*Vietnam*
Rubia pseudogalium	*Ehrend.*	*Yunnan*
Schefflera poomae	*Esser & Jebb*	*Thailand*
Schizostachyum ninhthuanense	*Xia, Tran & Nguyen*	*Vietnam*
Schizostachyum yalyense	*Xia, Tran & Nguyen*	*Vietnam*
Siliquamomum oreodoxa	*Lý & Škorničk.*	*Vietnam*
Sorbus burtonsmithiorum	*Rushforth*	*Myanmar/Yunnan*
Sorbus guanii	*Rushforth*	*Yunnan*
Sorbus hudsonii	*Rushforth*	*Yunnan*
Sorbus spongbergii	*Rushforth*	*Yunnan*
Sorbus yondeensis	*Rushforth*	*Yunnan*
Stemona involuta	*Inthachub*	*Thailand*
Stemona rupestris	*Inthachub*	*Thailand*
Strobilanthes atroviridis	*Deng & Wood*	*Yunnan*
Strobilanthes fengiana	*Deng & Wood*	*Yunnan*
Strobilanthes ovata	*Deng & Wood*	*Yunnan*
Strobilanthes rostrata	*Deng & Wood*	*Yunnan*
Strobilanthes spiciformis	*Deng & Wood*	*Yunnan*
Strobilanthes taoana	*Deng & Wood*	*Yunnan*
Strobilanthes wangiana	*Deng & Wood*	*Yunnan*
Swertia lihengiana	*Ho & Liu*	*Yunnan*
Thalictrum tamurae	*Kadota & Nob.Tanaka*	*Myanmar*
Trigonostemon tuberculatus	*Du & He*	*Yunnan*
Tupistra kressii	*Tanaka*	*Thailand*
Tupistra laotica	*Tanaka*	*Laos*
Tupistra malaiana	*Tanaka*	*Thailand*
Tupistra urceolata	*Tanaka & Kress*	*Thailand*
Typhonium neogracile	*Murata*	*Myanmar*
Typhonium praecox	*Murata*	*Myanmar*
Typhonium vermiforme	*Nguyen & Croat*	*Vietnam*
Utricularia inthanonensis	*Suksathan & Parn.*	*Thailand*
Utricularia phusoidaoensis	*Suksathan & Parn.*	*Thailand*
Utricularia spinomarginata	*Suksathan & Parn.*	*Thailand*
Vitis yunnanensis	*Li*	*Yunnan*
Wrightia karaketii	*Middleton*	*Thailand*
Wrightia poomae	*Middleton*	*Thailand*
Wrightia tokiae	*Middleton*	*Thailand*

Subtotal: 145

FISH

Species	Scientist(s)	Location
Chaudhuria ritvae	*Britz*	*Myanmar*
Garra bisangularis	*Chen, Wu and Xiao*	*Yunnan*
Glyptothorax obliquimaculatus	*Jiang, Chen and Yang*	*Yunnan*
Grammonus minutus	*Nielsen and Prokofiev*	*Vietnam*
Gymnothorax emmae	*Prokofiev*	*Vietnam*
Lepidocephalichthys alkaia	*Havird and Page*	*Laos, Myanmar, Thailand and Vietnam*
Lepidocephalichthys kranos	*Havird and Page*	*Thailand, Laos, Vietnam and Myanmar*
Macrognathus aureus	*Britz*	*Myanmar*
Macrognathus dorsiocellatus	*Britz*	*Myanmar*
Macrognathus lineatomaculatus	*Britz*	*Myanmar*
Macrognathus obscurus	*Britz*	*Myanmar*
Macrognathus pavo	*Britz*	*Myanmar*
Oryzias songkhramensis	*Magtoon*	*Laos/Thailand*
Pangio longimanus	*Britz and Kottelat,*	*Laos*
Paracobitis nanpanjiangensis	*Min, Chen and Yang*	*Yunnan*
Parapercis bicoloripes	*Prokofiev*	*Vietnam*
Psilorhynchus brachyrhynchus	*Conway and Britz*	*Myanmar*
Psilorhynchus gokkyi	*Conway and Britz*	*Myanmar*
Psilorhynchus melissa	*Conway and Kottelat*	*Myanmar*
Psilorhynchus pavimentatus	*Conway and Kottelat*	*Myanmar*
Psilorhynchus piperatus	*Conway and Britz*	*Myanmar*
Schistura udomritthiruji	*Bohlen and Slechtová*	*Thailand*
Sinogastromyzon lixianjiangensis	*Liu, Chen and Yang*	*Yunnan*
Sinogastromyzon macrostoma	*Liu, Chen and Yang*	*Yunnan*
Triplophysa jianchuanensis	*Zheng, Du, Chen & Yang*	*Yunnan*

Subtotal: 25

AMPHIBIANS

Species	Scientist(s)	Location
Amolops akhaorum	*Stuart, Bain, Phimmachak, & Spence*	*Laos*
Leptolalax aereus	*Rowley, Stuart, Richards, Phimmachak & Sivongxay*	*Laos*
Leptolalax croceus	*Rowley, Huy , Duong , Vinh & Trung*	*Vietnam*

AMPHIBIANS

Species	Scientist(s)	Location
Limnonectes jarujini	*Matsui, Panha, Khonsue & Kuraishi*	*Thailand*
Rhacophorus vampyrus	*Rowley, Duong, Tran, Dao, Stuart & Huy*	*Vietnam*
Tylototriton notialis	*Stuart, Phimmachak, Sivongxay & Robichaud*	*Laos*
Vietnamaptera bogiessa	*Zhang, Bai, Heiss & Cai*	*Vietnam*

Subtotal: 7

REPTILES

Species	Scientist(s)	Location
Acanthosaura cardamomensis	*Wood, Grismer, Grismer, Neang, Chav & Holden*	*Cambodia/ Thailand*
Calamaria concolor	*Orlov, Truong, Tao, Ananjeva & Cuc*	*Vietnam*
Cnemaspis chanardi	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cnemaspis huaseesom	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cnemaspis kamolnorranathi	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cnemaspis laoensis	*Grismer*	*Laos*
Cnemaspis narathiwatensis	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cnemaspis neangthyi	*Grismer, Grismer & Chav*	*Cambodia*
Cnemaspis niyomwanae	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Cambodia/ Thailand*
Cnemaspis psychedelica	*Grismer, Ngo & Grismer*	*Vietnam*
Cnemaspis punctatonuchalis	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cnemaspis vandeventeri	*Grismer, Sumontha, Cota, Grismer, Wood, Pauwels & Kunya*	*Thailand*
Cyrtodactylus auribalteatus	*Sumontha, Panitvong & Deein*	*Thailand*
Cyrtodactylus bichnganae	*Tri & Grismer*	*Vietnam*
Cyrtodactylus dumnuii	*Bauer, Kunya, Sumontha, Niyomwan, Pauwels, Chanhome & Kunya*	*Thailand*
Cyrtodactylus phuquocensis	*Tri, Grismer & Grismer*	*Vietnam*
Cyrtodactylus roesleri	*Ziegler, Nazarov, Orlov, Nguyen, Vu, Dang, Dinh & Schmitz*	*Vietnam*
Cyrtodactylus wayakonei	*Nguyen, Kingsada, Rösler, Auer & Ziegler*	*Laos*
Cyrtodactylus yangbayensis	*Tri & Onn*	*Vietnam*
Gekko canhi	*Rösler, Nguyen, Van Doan, Ho, Nguyen & Ziegler*	*Vietnam*
Gekko lauhachindai	*Panitvong, Sumontha, Konlek & Kunya*	*Thailand*
Gekko takouensis	*Ngo & Gamble*	*Vietnam*
Gekko vietnamensis	*Sang*	*Vietnam*
Leiolepis ngovantrii	*Grismer & Grismer*	*Vietnam*
Lycodon synaptor	*Vogel & David*	*Yunnan*
Pseudocalotes ziegleri	*Hallermann, Truong, Orlov & Ananjeva*	*Vietnam*
Scincella apraefrontalis	*Nguyen, Nguyen, Böhme & Ziegler*	*Vietnam*
Tropidophorus boehmei	*Nguyen, Nguyen, Schmitz, Orlov & Ziegler*	*Vietnam*

Subtotal: 28

BIRDS

Species	Scientist(s)	Location
Phylloscopus calciatilis	*Alström, Davidson, Duckworth, Eames, Le, Nguyen, Olsson, Robson, Timmins*	*Laos/ Vietnam*

Subtotal: 1

MAMMALS

Species	Scientist(s)	Location
Crocidura phanluongi	*Jenkins, Abramov, Rozhnov & Olsson*	*Vietnam*
Rhinopithecus strykeri	*Geissmann, Lwin, Aung, Aung, Aung, Hla, Grindley, Momberg*	*Myanmar*

Subtotal: 2

GRAND TOTAL: 208

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Greater Mekong in numbers

100% RECYCLED

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208
new species discovered in 2010, adding to the 1,345 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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