

The Search Continues...

The Latest Remarkable Species
Discoveries from Borneo
July 2005 to September 2006



This document provides details of species identified as being described from Borneo during the period July 2005 to September 2006. This list has been compiled through web-based research and correspondence with the academic professionals listed, and should not be treated as an exhaustive or comprehensive list of newly discovered species on Borneo.

Species discovered within the Heart of Borneo Boundary

01

A new species of tree frog *Polypedates chlorophthalmus* (December 2005)

[Journal & jpeg on Connect]

Name: *Polypedates chlorophthalmus* (Anura:Rhacophoridae)

Description: A new species of treefrog, measuring 62.1 mm long. It has a rounded snout, bright green eyes and a thin dark gray line at back of its forehead. The species is named for its strikingly coloured eyes, its name coming from the Greek for 'green eyed'.

Location: Discovered within the **Heart of Borneo** boundary, at Gunung Murid Sarawak, the highest mountain in the state of Sarawak, Northwestern Borneo. The genus *Polypedates* is known to contain 16 nominal species, of which 10 occur in southeast Asia. The members of the genus are distributed from southern China, Sri Lanka and south-western and north-eastern India south to Indo-China and Indo-Malaya (Frost, 1985). Of these, four species have been reported from Borneo (Inger & Stuebing, 1997; Inger & Tan, 1996).

Source(s): The Raffles Bulletin of Zoology 2005 53(2): Pp. 265-270. National University of Singapore. Date of Publication: 31 Dec. 2005

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02

A new species of catfish *Glyptothorax exodon* (December 2005)

[Journal & jpeg on Connect]

Name: *Glyptothorax exodon*, (Teleostei: Sisoridae).

Description: A new species of catfish with a pretty mottled colour pattern. The catfish newly identified is 57.2mm in length and has a flattened body with a thoracic adhesive organ, which allows it to literally stick to rocks and maintain its position in turbulent waters. The species is named from the latin *exo*, meaning 'out' and *odontos* meaning 'tooth' in reference to its protruding teeth which can be seen even when its mouth is closed.

Location: Discovered within the **Heart of Borneo** boundary in the Kapuas River system, West Kalimantan, Indonesia. These catfish typically inhabit fast flowing clear streams with beds made of gravel, cobbles or large rocks. The *Glyptothorax* genus currently contains 87 nominal species, which are widely distributed across Asia.

Source(s): The Raffles Bulletin of Zoology 2005 53(2): Pp. 251-255. National University of Singapore. Date of Publication: 31 Dec. 2005

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03 - 08

Six new species of Siamese fighting fish from genus *Betta* (2006) ***NB: 3 of these species were identified from within HOB***

Names: *Betta antoni*, *Betta mandor*, *Betta uberis*, *Betta compuncta*, *Betta ideii* and *Betta krataios*

Description: *Betta antoni* is a member of the akarensis group and is distinguished by its black lower lip and black chin bar, and slim body profile. *Betta mandor* is a member of the foerschi group and can be identified by its slim shape and presence of two red bars on the gill cover.

Betta krataios is believed to be a member of the *Betta dimidiata* group and has a distinctive iridescent blue operculum, and more predorsal and lateral scales than other members of the group, as well as lacking the extended fin rays seen in some other species in the complex.

Betta ideii differs from other species in the *Betta unimaculata* group in having a characteristic orange marking between the front of the eye and the upper jaw.

Betta compuncta has a distinctive black reticulated pattern above the base of the anal fins of females and young fish, or a black patch in males. There is also a yellow-orange marking on the tail of females of this species.

Betta uberis is a member of the coccina group and has distinctive green streaks on the dorsal, anal and tail fins as well as an iridescent blue-green mid-lateral spot.

Location: All of the fishes have been described from the freshwaters of Borneo. Three of the genus; *Betta antoni*, *Betta krataios* and *Betta mandor*, were found in the Kapuas River basin at Kalimantan Barat in the **Heart of Borneo**. *Betta uberis* was found in Central Kalimantan, *Betta ideii* was found in South Kalimantan, while *Betta compuncta* was discovered recently on an expedition to East Kalimantan.

Source(s): Tan, HH and P Ng (2006) - Six new species of fighting fish (Teleostei: Osphronemidae: Betta) from Borneo. Ichthyological Exploration of Freshwaters. Vol. 17. No. 2. pp. 97-114.

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09 - 10

Two new species of riverine catfish *Leiocassis* (June 2006)

[Journal & jpegs on Connect]

Name: *Leiocassis collinus* and *Leiocassis tenebricus*.

Descriptions: *Leiocassis collinus* is 179mm in length and has a colour pattern of faint light patches on a darker background body colouring. This species was found in a forested hill stream habitat and derives its name from the latin for 'hill'. *Leiocassis tenebricus*, is 65mm long with a uniform medium brown body coloration and was discovered in a fast-flowing forest stream with an 80% forest canopy cover. This species derives its name from the Latin for 'dark' referring to its uniform brown colouration.

Location: *Leiocassis collinus* was discovered within the **Heart of Borneo** boundary in the Kalabakan and Segama River drainages in Sabah. *Leiocassis tenebricus* was discovered in the Kayan River in Kalimantan Timur. Both are from northeastern Borneo.

Source(s): Ichthyol. Explor. Freshwaters, Vol. 17, No. 2, pp. 165-172, 6 figs., 1 tab., June 2006

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**Three new tree species *Beilschmiedia*
(July 2005 and July 2006)**

Name: Three new species of *Beilschmiedia*; *B. oligantha*, *B. crassa* and *B. microcarpa*.

Description: *Beilschmiedia oligantha* differs from the other Bornean *Beilschmiedia* species in the combination of the following characters: long erect trichomes on twigs, six to ten pairs of secondary leaf veins, relatively large pale red flowers, and stamens with short pubescent filaments. *Beilschmiedia crassa* is distinguished from the other Bornean *Beilschmiedia* species by its thick and strongly coriaceous, narrowly ovate leaves and flowers with a thick receptacle. *Beilschmiedia microcarpa* is distinct in the combination of the following characters: its glabrous narrow buds, opposite, elliptic, chartaceous leaves with raised veins on the upper surface, flowers with short filaments, and relatively small fruits.

Location: *B. oligantha* was originally discovered in July 1979 but only described as a new species in July 2005. The plant was found in Kapit, in Sarawak Malaysia within the **Heart of Borneo** boundary. Similarly, *B. crassa* was discovered in Sarawak in March 1970 in the Kalabit Highlands, Bario and also in Kapit, both locations within the **Heart of Borneo** boundary. *B. microcarpa*: was discovered in March 1977 in a variety of locations in North Borneo (tip of Sarawak and Sabah, Malaysia) and East Kalimantan, some of which lie within the **Heart of Borneo** boundary (e.g. Mulu). The last two species have only just this year been described to science - in July 2006.

Source(s):

B. microcarpa, *B. crassa*: Blumea Journal of Plant Taxonomy and Geography, Volume 50 – 3, 2006

B. oligantha: Novon: A Journal for Botanical Nomenclature: Vol. 15, No. 2, pp. 343–345, 13 July 2005

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Species discovered outside of the Heart of Borneo Boundary

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A new species of miniature fish *Paedocypris micromegethes* (January 2006)

[Journal & jpegs on Connect]

Name: *Paedocypris micromegethes*

Description: A *tiny* fish only 8.8mm in length. The new miniature fish is translucent in colour and together with its slightly smaller cousin *P. progenetica* found on Sumatra, measuring 7.9mm, represent the two smallest vertebrates known to science. The fish is highly endemic to the very acidic, threatened, blackwater peat swamps of Southeast Asia, and was found only in shaded forested areas, being notably absent from light exposed open areas. This remarkable fish derives its name from the greek words *paideios* meaning 'children' and *micro* meaning 'small in size'.

Location: The species was discovered in Sarawak, Malaysian Borneo. It lives in slow-flowing blackwater streams or pools in peat swamp forests, where it inhabits the deeper, cooler water layers close to the bottom. Unfortunately, habitat destruction jeopardizes the survival of these fishes and thus opportunities for further research. The structurally complex peat swamp forests are disappearing quickly in Southeast Asia, due to logging, urbanization and conversion for agricultural use, especially oil palm plantations and shrimp farms. Peat swamp forests paid a high toll to the forest fires of Sumatra and Borneo in 1997, which lasted for several months. **Many of the peat swamps this recent research surveyed throughout Southeast Asia no longer exist and their fauna is eradicated.** Populations of all the highly endemic and stenotopic miniature fishes of peat swamps have decreased or collapsed. Many populations have disappeared, potentially dooming any efforts to elucidate the enigmatic reproductive biology of these species. **All the endemic fish species restricted to peat swamp forests of Borneo are thus highly endangered.**

Source(s): Proc. R. Soc. B (2006) 273, 895–899 doi:10.1098/rspb.2005.3419 Published online 24 January 2006

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A new tree frog species *Rhacophorus gadingensis* (December 2005)

[Journal & jpeg on Connect]

Name: *Rhacophorus gadingensis* (Anura:Rhacophoridae)

Description: A new species of tree frog measuring 29.5mm long. It has an obtuse snout, a head slightly wider than it is long and webbed fingers and toes. Its back is brown with dark brown blotches, its flanks have blue blotches and its eyes are large. This new tree frog is named after the Gunung Gading National Park in which it was found.

Location: Discovered in Gunung Gading National Park, Sarawak, western Borneo, near the coast west of Kuching. The genus *Rhacophorus* is known to contain over 60 nominal species of which at least 41 occur in south-east Asia alone. The members of the genus are distributed from southern China, Sri Lanka and south-western and north-eastern India south to Indo-China and Indo-Malaya (Frost, 1985). Of these, as many as 14 species have been reported from Borneo (Inger & Stuebing, 1997; Inger & Tan, 1996).

Source(s): The Raffles Bulletin of Zoology 2005 53(2): Pp. 257-263. National University of Singapore. Date of Publication: 31 Dec. 2005

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A new species of leaf fish *Nandus prolixus* (September 2006)

[Journal & jpeg on Connect]

Name: *Nandus prolixus*

Description: This species is 83.4mm long, it has short teeth which are closely set and form many irregular rows on both its upper and lower jaw. It is of light brown colour on its body, with mottled darker areas which are randomly distributed. Its name come from the Latin *prolixus*, meaning 'stretched out', in reference the relatively elongated head of this species. The fish resembles a dead leaf in both colour and appearance.

Location: This species is known only from the Sepilok River drainage in Sabah, north eastern Borneo. The find falls just outside the Heart of Borneo boundary and was found in the streams of swampy forested areas.

Source(s): Zootaxa 1328: 51–61 (2006)

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Nineteen new species of sucker fish *Gastromyzon* and *Neogastromyzon* (July 2006)

Name: *Gastromyzon* (15 individual new species)
Neogastromyzon (4 individual new species)

Description: Sucker loaches or gastromyzontine loaches neither look nor behave like ordinary fish, being more like tadpoles in many respects. Their colourfully marked, flattened body form is superbly adapted to life in pristine water torrents. They are unique freshwater fish whose enlarged fins enable them to cling onto rocks in the fast-flowing water and feed on the algae and insects associated with these habitats. The *Gastromyzon* species have been minimally studied, and little is yet known about their ecology, feeding behavior and life history. The main known difference between *Neogastromyzon* and *Gastromyzon* lies in their mouth parts.

Location: Occurring exclusively on the island of Borneo, they live in headwater and hillstreams, typically in fast-flowing water over rocky beds. Three of these newly discovered species were found in the Temburong River basin, Brunei Darussalam, Borneo. Of the 41 already known species, 19 have very restricted distributions, being confined to single river basins. This makes them highly vulnerable to human activities – and as their presence is closely associated with the water quality, this is without doubt a concern.

Source(s): Tan Heok Hui, 2006. ‘*The Borneo Suckers*’. Revision of the Torrent Loaches of Borneo (Balitoridae: *Gastromyzon*, *Neogastromyzon*). Natural History Publications (Borneo), Kota Kinabalu.

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Sixteen new species of ginger plant *Etilingera* (July 2006)

Name: *Etilingera* (16 new individual species)

Description: Borneo is home to more than 300 ginger species. *Etilingera* is amongst the most diverse and attractive of the genera found on the island. Several species are known to have a diverse range of uses, for example; as food, spice, medicine, ornamentals, as well as other purposes. The new discoveries more than double the number of *Etilingera* species known to science.

Location: Borneo

Source(s): *Etilingera of Borneo* (July 2006), Dr Axel Dalberg Poulsen

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A new large-leafed plant species *Schumannianthus monophyllus* (May 2006)

[Journal with illustrations on Connect]

Name: *Schumannianthus monophyllus* (Marantaceae).

Description: Unusually, the plant has only one single leaf per shoot and entirely white flowers. The leaf can measure between 29.5 to 60cm long. These large leaves are known to be used by the local Iban peoples for wrapping sticky rice at the Gawai Festival.

Location: Sarawak, Malaysia, Borneo. Lowland evergreen forest of northwestern Borneo. Currently, known only from the Malaysian state of Sarawak.

Source(s): Novon, Volume 16 No.1: pp 139–141. Published on 25 May 2006.

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Cover images (clockwise from top); Forest along the Ella Ullu river, West Kalimantan, Indonesia © WWF-Canon/Alain Compost; New species of miniature fish *Paedocypris micromegethes* © Dr M Kottelat; New tree frog species *Rhacophorus gadingensis* © Dr A Haas; A new large-leafed plant species *Schumannianthus monophyllus* © Dr. A D Poulsen