Some new provincial records of Odonata made in Thailand in 2007-2009 and a new record for Vietnam

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In 2005-2009 we made several visits to Thailand in winter and made observations and collections of Odonata, including some new provincial records. Those of the first visit in 2005 were published in *Agrion* (Kosterin, 2006), and an extended version of our odonatological data and impressions, updated with those of the visit in January 2006, was published in *Malangpo* (Kosterin & Vikhrev, 2008). We have to make a correction to these two publications: the locality Sai Kaew beach in Chon Buri province, which we thought to be on Ko Khram island as misled by a local boatman, was in fact on a peninsula, N of Ban Bang Sare at 12°44'31.39" N, 100°50'31.84" E. Below, we present our findings made during further trips. The new provincial records with reference to the distributional atlas by Hämäläinen & Pinratana (1999) and later additions (Pinratana, 2003) were kindly confirmed by Dr. M. Hämäläinen. Most of the trips were undertaken by one of us, Nikita Vikhrev, a dipterologist who concentrated his attention on flies but made occasional collections and photos of Odonata. He visited the environs of Pattaya and Chan-ta-Then Waterfalls (Chon Buri Province) and the Khao-Khitchatut National Park (Chanthaburi Province) in November 2006, December 2007, December 2008 and February 2009; the Khao-Chamao-Khao-Wong National Park (Rayong Province) in December 2007 and December 2008, and the Pong Nam Ron environs (Chanthaburi Province) in December 2008 and February 2009. In the second half of February we made a joint trip to the island of Phuket.

New records are listed below. Coordinates were taken from Google Earth. All our photos of odonates have been or will be uploaded to the Asia Odonata Home Page by Eric Gibert: http://www.asia-dragonfly.net/index.php; and the photos by the first author to be soon available at his own page at: http://pisum.bionet.nsc.ru/kosterin/odonata/thailand.htm.

New records for Thailand provinces

Rayong Province:

Vestalis gracilis (Rambur, 1842): 1 ♂, 1 ♀ photographed - Khao-Chamao – Khao-Wong National Park, 10.12.2008.

Heliocypha biforata (Selys, 1859): 1 ♂, 1 ♀ photographed - Khao-Chamao – Khao-Wong National Park, 11.12.2007; 1 ♀ photographed – the same place, 8.12.2008, 1 ♂, photographed – the same place, 10.12.2008

Aciagrion pallidum Selys, 1891: 1 ♂ photographed - Khao-Chamao – Khao-Wong National Park, 10.12.2008.

Ceriagrion indochinense Asahina, 1967: 1 ♂, 1 ♀ collected – a dry forest at Banthe, 6.12.2008.

Coeliccia yamasakii Asahina, 1984: 1 ♂ photographed - Khao-Chamao – Khao-Wong National Park, 11.12.2007.

Chanthaburi Province:

Ceriagrion praetermissum Lieftinck, 1929: 1 ♀ - the Krating Country Resort environs (2-3 km S of the Khao-Khitchakut National Park office), 21-23.12.2007.

Sa Kaeo Province:

Agriocnemis femina femina Lieftinck, 1929: 3 ♂, 1 ♀ collected – a roadside pool at Sa Kaeo, 9.02.2009.

Phuket Province:

Echo modesta (Selys, 1860): 1 ♂, 1 ♀ photographed – Khao Phra Theo National Park, Ton Sai rivulet headwaters, herbs at a path through virgin forest, 8°01'49" N, 98°22'21" E, 19.02.2009 (both individuals persisted nearby each other); 2 ♀ visually – the same place, a bit downstream, 27.02.2009; 1 ♂, 1 ♀ photographed – Khao Phra Theo National Park, the Bang Pae valley upper part, 8°02'09" N, 98°22'54" E, 27.02.2009.

Vestalis anne Hämäläinen, 1985: 1 ♂ collected, 1 ♂ and ♀ photographed – Khao Phra Theo National Park, the Bang Pae valley upper part, 27.02.2009. The male specimen is reliably identified by the labium colouration and the structure of the upper appendages (Hämäläinen, 1985); the individuals photographed were found nearby and their identification is putative (but certainly they were not *Vestalis gracilis,* met with at some distance).

Podolestes coomansi Lieftinck, 1940: 1 ♀ collected – a grassy swamp in Nai Yang beach area, 8°05'27.3" N, 98°18'13.7" E, 17.02.2009; 2 ♂, 1 ♀ collected – the same place, 20.02.2009; 1 ♂ collected – the same place, 21.02.2009. This species (and genus) has already been discovered, quite unexpectedly, in three central provinces of Thailand: Nakhon Sawan, Pathum Thani and Nakhon Patom (Makbun, 2009). Our specimens fit perfectly to the original description by Lieftinck (1940) in every detail, including the male appendage structure, with the only minor difference being a more distinct pattern in the mesepimeron fore part: it is of a dark ground colour with a small distinct roundish blue spot at the level of the hind end of the large wedge-shaped antehumeral blue spots above them, on the mesepisternum (Fig.1) (in the figure of the original description the mesepimeron fore part has

Fig. 1. *Podolestes coomansi*, a male, a swamp in Nay Yang Beach area, 17.02.2009.

an indistinct pattern). This spot is also seen on the photographs of Thai specimens of *P. coomansi* from Nakhon Sawan by Mr. Noppadon Makbun (Malangpo 32: cover) and from Nakhon Patom (www.siamensis.org/board/10242.ht). All our specimens had brownish rather than black ground colour, and were obviously young. It was surprising to find this species so close to Peninsular Malaysia from where only *Podolestes orientalis* Selys, 1862 and *P. buwaldai* Lieftinck, 1940 are known (Orr, 2005). This very specific damsel appeared to be numerous (about 8-10 individuals per 100 m walk) on a swamp 120 x 120 m situated at 'Dang Bungalow' about 700 m from the sea, dry in this season, of quite undisturbed appearance, overgrown with some Poacea grass of human height and densely twined by a winding fern *Ligodium* sp. and the pitcher plant *Nepenhtes mirabilis* (Lour.) Druce, 1918 (Fig. 2). Of 8 individuals of *P. coomansi* observed on 17.02, 6 were females, one being fresh, others mostly young (with dull greyish-blue instead of bright blue) patches, from 20.02 both sexes were equally common, from 21.02 fully coloured individuals were common, and on 28.02 a pair in copula was observed. Nearby (8°05'26.4" N, 98°18'10.2" E) was another swamp, 210 x 150 m (at 'Dee Bungalow'), also dry, of an appearance more familiar for a northern observer: with lower grass dominated by *Eleocharis* sp. with *Scirpus* sp., *Aconogonon* sp. and some Thelypteridaceae fern, locally with *Typha* sp. It was visited three times: on 17.02 one individual of *P. coomansi* was found there, on 21.02 they were as numerous as at the previous swamp, including young individuals with glistening wings and dull marking, while on 28.02 they were absent, although in the former swamp being as numerous as usually. Lieftinck (1954: 28) indicated the following habitat of *P. coomansi*: "Marshy spot in second growth forest". In our case there were just narrow patches of trees separating wide swamps. It was noteworthy that during our observations both swamps had no surface water (damp ground at most) but all individuals of *P. coomansi* were young and some almost teneral. We may suppose that the larvae can tolerate seasonal drying of the habitat.

Ceriagrion auranticum Fraeser, 1922: 2 ♂, 3 ♀ collected – the same grassy swamp with *Nepenthes* in Nai Yang beach area where *Podolestes coomansi* occured, P, 8°05'27.3" N, 98°18'13.7" E, 17.02.2009; 1 ♀ collected – the second, *Eleocharis* swamp nearby, 8°05'26.4" N, 98°18'10.2" E, 21.02.2009. These damselflies were extremely numerous at the *Nepenthes* swamp from where they penetrated to the nearby lawns; at the *Eleocharis* swamp only the single female was met with.

Pseudagrion williamsoni Fraeser, 1922: 1 ♂ collected – a pond on a rivulet flowing to the western coast between Ban Naithon and Ban Layan, 8°02'34.6" N, 98°16'48.4" E, 19.02.2009. (A male and female of *Pseudagrion pruinosum* (Burmeister, 1839) were observed in the same place).

Argiocnemis rubescens rubeola Selys, 1877: 1 mature ♂ collected – a grassy slope at a bank of the rivulet at its mouth at Naithon beach, 8°03'47.2" N, 98°16'38.9" E; 17.02.2009; 1 mature ♂ photographed – a pond on a rivulet flowing to the western coast between Ban Naithon and Ban Layan, 8°02'34.6" N, 98°16'48.4" E, 22.02.2009.

Coeliccia albicauda (Förster in Laidlaw, 1907): 1 ♂ collected - pristine forest in the Bang Pae valley, on a bush, 8°02'09" N, 98°22'54" E, 19.02.2009; 1 mature ♂ photographed, 1 not fully coloured ♂ collected – the same place, 27.02.2009; 1 ♂, 1 ♀ collected - a rivulet flowing to the western coast between Ban Naithon and Ban Layan, overgrown with secondary forest with a lot of bamboo and old *Gewea* trees, 8°02'36" N, 98°16'48" E, 19.02.2009; 1 ♀ collected – the same place, 26.02.2009. Of two males met on 27.02, one was mature and exhibited the colouration characteristic for the species while another one was obviously young and, instead of two pairs of bluish spots on a black background on the pterothorax, had contiguous but dorsally incised whitish

humeral stripes on brownish background (Fig. 3). The same young male was observed [together with 1 female of *C. albicauda* and 2 males and 1 female of *C. didyma* (Selys, 1863)] on 23.02.2009 at Khao Khuan Kha Mt., 5 km NE of Khok Kloi, Phang Nga Province (8°18'04.5" N, 98°20'08.8" E).

Prodasineura collaris (Selys, 1860): 1 ♂ collected- an old *Gewea* plantation overgrown with wild vegetation on a steep eastern slope of a brook valley near Ban Sakhu, 8°04'02,8" N, 98°18'30.6" E, 16.02.2009. A photo of a male, taken by René Manger on 1.03.1994 in Khao Phra Theo National Park, is present in the database at http://www.asia-dragonfly.net (but subscribed by the author as *Prodasineura* sp. and identified by someone else). It is interesting that it was *P. laidlawii* (Förster in Laidlaw, 1907) which we observed very numerous at the Bang Pae river (flowing to the eastern coast) in the same (very small) Khao Phra Theo National Park, as well as at the rivulet flowing to the west coast between Ban Naithon and Ban Layan, but not a single individual of *P. collaris* was recorded among them (while the rivulet of the Kathu waterfalls in the south-western part of the island for some reason lacked lotic odonates but for *Zygonyx iris malayana* (Laidlaw, 1902)).

Gomphidia abbotti (Williamson, 1907): 2 ♂ photographed – Khao Phra Theo National Park, the Ban Pae river flowing among huge boulders downstream of waterfalls, 8°02'21.4" N, 98°23'27.9" E, 19.02.2009; 1 ♂ visually – the same place, 27.02.2009; 1 ♂ collected - a rivulet flowing to the western coast between Ban Naithon and Ban Layan, below the pond dam, 8°02'34.6" N, 98°16'48.4" E, 22.02.2009. Our specimen, as well as the individuals photographed, belong to the dark form A according to Asahina (1986); the collected specimens have even further shrunken light pattern than described by him as the yellowish-white stripe on the labrum is interrupted at the middle (Fig. 4).

Tetrathemis irregularis hyalina Kirby, 1889: 1 ♂ photographed - Khao Phra Theo National Park, the Ban Pae river downstream of waterfalls, 8°02'21.4" N, 98°23'27.9" E, 19.02.2009. The male perched at a small twig near a pool at a boulder in the valley bed; upon revisiting this place on 27.02.2009 it was not observed.

Pseudothemis jorina (Förster, 1904): 1 ♂ photographed – a huge pond at a road 1 km NE of Khao Sai Tan Kliang Mt., 8°05'25" N, 98°19'24" E, 18.02.2009. The male perched on a dry branch hanging over the open water in the pond corner with dense tree stand at the steep bank.

Orchithemis pulcherrima Brauer, 1878: 1 ♀ collected (among females of *Neurothemis fluctians* (Fabricius, 1793)) - a hill crest with old *Gewea* stand overgrown by forest vegetation near Ban Sakhu, 8°03'57.7" N, 98°18'19.4" E, 16.02.2009. The female is rather large (hind wing 26 mm long) and has almost even brownish colouration: abdomen brown, unmarked except for black lateral and hind (but not middorsal) carinae, thorax unmarked yellowish-brown, fore side of pterothorax hairy with the hairs rising from dark specks, legs brownish with dark spines, head brown,

Fig. 2. Habitat of *Podolestes coomansi*, a swamp in Nay Yang Beach area. 28.02.2009.

Fig. 3. *Coeliccia albicauda*, an immature (right) and mature (left) male the Bang Pae valley, Khao Phra Theo National Park, 27.02.2009

hairy, frons and vertex with some greenish lustre. These characters might indicate *O. pruinans* (Selys, 1878) (Orr, 2005) but Mr. Rory Dow who kindly agreed to examine the specimen photo identified it as *O. pulcherrima* by certain venational characters.

Hydrobasileus croceus (Brauer, 1867): 1 ♂ collected, several visually – the same pond as above but its shallower part at the slope forest, 18.02.2009; several ♂ visually – a huge pond at Ban Layan, 8°02'31.9" N, 98°18'10.5" E, 25.02.2009; 1 ♂ visually – a pond on the Bang Pae rivulet at the National Park headquarters, 8°02'19.6" N, 98°23'29.1" E, 27.02.2009. Several males patrolled 2-4 m above the water surface. In the former locality an exuviae of this species was found in grass at the bank.

Orthetrum luzonicum (Brauer, 1868): 1 ♀ collected – a pass through a hilly ridge between Ban Sakhu and Ban Naithon, an old *Gewea* plantation, 8°03'48.2" N, 98°17'14.4" E, 26.02.2009.

Potamarcha congener (Rambur, 1842): 1 ♂ visually – grassy and muddy riverside swamps at SW suburbs of Thalang, 8°01'32.6" N, 98°19'39.0" E, 21.02.2009; 1 ♂ photographed, 1 ♀ collected – small muddy pools at a buffalo pasture, 8°04'53.7" N, 98°18'05.6" E, 28.02.2009 (the male perched, the female oviposited).

Macrodiplax cora (Brauer, 1867): 1 ♂ photographed – a huge pond at Ban Layan, 8°02'31.9" N, 98°18'10.5" E, 22.02.2009. The male perched on a prominent grass at an open and clear bank. Not observed upon a revisit on 25.02.2009, perhaps we saw a stray from the mangrove banks.

Totally, for the second half of February we met 47 odonate species in Phuket.

Some other observations and collections

The Krating River valley, including the Khao Khitchakit National Park (Chanthaburi Province) was a site repeatedly visited in the same dry season, each time some additional species being recorded. To those reported in (Kosterin & Vikhrev, 2008), we add *Argiocnemis rubescens rubeola* Selys, 1877, a juvenile (red) female of which was observed and photographed on 20.11.2006 in the lower reaches of the Krating falls. On 21-23.12.2007, the environs of the Krating Country Resort, 2-3 km S of the Khao-Khitchakut National Park office but beyond the park territory were visited. This area was situated at the foot of the same mountain but had no rivers, there was just a shady brook or ditch about 5 m wide. At this ditch, at meadows and forest and plantation edges, quite a handful of Zygoptera were collected: *Aristocyhpa fenestrella* (1 teneral ♂), *Copera ciliata* (2 ♂), *C. vittata* (1 ♂), *Prodasineura autumnalis* (1 ♂), *Agriocnemis femina* (1 ♂), *A. pygmaea* (1 ♂), *Mortonagrion aborense* (Laidlaw, 1914) (2 ♂), *Aciagrion borneense* (6 ♂, 4 ♀), *A. pallidum* (4 ♂, 1 ♀), *Archibasis oscillans* (1 ♀) and *Ceriagrion praetermissum* (1 ♀). On 9.02.2009 a male of *Idionyx thailandica* Hämäläinen, 1985 was collected, which fluttered slowly among bush branches.

On 2.12.2008 at the Jomtien beach in Pattaya (Cho Buri Province) a male of *Zyxomma petiolatum* Rambur, 1842 was found, with non-coloured wing tips, attracted by light to a hotel, which is a common habit of this species, which is uncommon in Thailand (Hämäläinen & Pinratana, 1999).

Congregations of different species of *Rhyothemis* seem to be a commonplace. Earlier we observed one female of *R. phyllis* among a group of three females of *R. variegata* in Chon Buri Province (Kosterin, Vikhrev, 2008), both species being of the same size and similar principle colouration. At a large, shallow and muddy roadside pond 5.8 km S of Khok Kloi, 8°13'31.1" N, 98°17'55.8" E, on 23.02.2009 we observed together two *Rhyothemis* species very dissimilar in size and wing colouration: a male of *R. phyllis* and a male of *R. triangularis*

perched nearby (within 1-2 m) on lotos stalks.

A new record for Vietnam

Dr. Pavel Kvartalnov, an ornithologist from Moscow State University who for a long time worked in Vietnam, has kindly sent us a male specimen collected by him in late June 2008 in grass at a pool at the Cattien National Park headquarters, which has turned out to be *Agriocnemis nana* (Laidlaw, 1914), not listed for Vietnam in Tsuda (2000) and Do & Dang (2006). The black pattern of tergite VIII consists of a black dorsal patch broad at the segment base and narrowing to but not touching its distal margin, with a pair of black dots at the end (the same in a male from Chanthabury, Thailand (Kosterin & Vikhrev, 2008) and two males from Angkor Wat, Cambodia (Kosterin & Vikhrev, 2006) available to us), that is correponds to *Agriocnemis naia* Fraeser, 1923 (Fraeser, 1933) later synonymised to *A. nana* by D. E. Kimmins (1966).

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Fig. 4. *Gomphidia abbotti*, a perching male, the Bang Pae valley, Khao Phra Theo National Park, 19.02.2009