



International Dragonfly Fund - Report

A Journal of the International Dragonfly Fund

Quo Toan Phan & Quoc Phu Ngo

An updated checklist of dragonflies and damselflies (Insecta: Odonata)
of Phu Quoc National Park, southern Vietnam

published: 20.01.2023

The International Dragonfly Fund (IDF) is a scientific society founded in 1996 for the improvement of odonatological knowledge and the protection of species.

Internet: <http://www.dragonflyfund.org/>

This series intends to publish studies promoted by IDF and to facilitate cost-efficient and rapid dissemination of odonatological data.

Editorial Work:	Martin Schorr, Milen Marinov, Rory A. Dow, Holger Hunger
Layout:	Martin Schorr
IDF-home page:	Holger Hunger
Printing:	Colour Connection GmbH, Frankfurt
Impressum:	Publisher: International Dragonfly Fund e.V., Schulstr. 7B, 54314 Zerf, Germany. E-mail: oestlap@online.de
Responsible editor:	Martin Schorr

Cover picture:	<i>Euphaea cyanopogon</i> Hämäläinen, Kosterin & Kompier, 2019, male
Photographer:	Quo Toan Phan

An updated checklist of dragonflies and damselflies (Insecta: Odonata) of Phu Quoc National Park, southern Vietnam

Quo Toan Phan^{1*} & Quoc Phu Ngo¹

^{1*}The Center for Entomology & Parasitology Research, College of Medicine and Pharmacy, Duy Tan University, 120 Hoang Minh Thao, Lien Chieu, Da Nang, Vietnam.

*Email: pqtoan84@gmail.com; ORCID: <https://orcid.org/0000-0002-3154-6546>

Abstract

A checklist of 93 dragonfly and damselfly species from Phu Quoc Island, southern Vietnam, is provided. It contains 7 species newly recorded to the Island and *Macromia cupricincta* Fraser, 1924 newly recorded for Vietnam. The taxonomic status and occurrences of some species in previous studies are discussed and re-assessed.

Key words: Odonata, *Macromia cupricincta*, *Coelliccia kazukoae*, *Amphicnemis valentini*, *Euphaea cyanopogon*, *Brachygonia oculata*, *Lyriothemis mortoni*, Phu Quoc, Vietnam

Introduction

Phu Quoc is one of the largest islands in southern Vietnam with an area of 56,200 hectares. The island lies close to the Ream Peninsula of Cambodia and shares some odonate species that cannot be found in any other places in Vietnam, i.e. *Coelliccia kazukoae* Asahina, 1984, *Amphicnemis valentini* Kosterin & Kompier, 2018, *Euphaea cyanopogon* Hämäläinen, Kosterin & Kompier, 2019, *Brachygonia oculata* (Brauer, 1878) or *Lyriothemis mortoni* Ris, 1919 (Do et al. 2011; Kosterin & Kompier 2017, 2018; Hämäläinen et al. 2019). More than half of the island (31,422 hectares) were declared a National Park in 2001 (<https://thienhienviet.org.vn/sourcebook/pdf/4%20Mekong%20Delta/Phu%20Quoc.pdf>), which is covered by various habitat types including lowland evergreen forest with the highest mountain (Mount Chua Mount) about 603 m high (Figure 5A, B) as well as coastal sand, off-shore, limestone forests, scrub and anthropogenic habitats. Bui (2008) first published a checklist of Odonata in Phu Quoc with more than 50 species (several of which are misidentified or undetermined). Subsequently, Do et al. (2011) reported 60 species and provided reconfirmation of the identification of some species in Bui (2008). However, the taxonomic status of some species recorded in Do et al. (2011) has been changed as follows:

- *Coelliccia* sp. and *Amphicnemis gracilis* Krüger, 1898 are *Coelliccia kazukoae* Asahina, 1984 and *Amphicnemis valentini* Kosterin & Kompier, 2018, respectively (Kosterin & Kompier 2017, 2018);
- *Euphaea ochracea* Selys, 1859 (or *Euphaea pahyapi* Hämäläinen, 1985 in Phan et al. 2018) was defined as a new species *Euphaea cyanopogon* Hämäläinen, Kosterin & Kompier, 2019 (Hämäläinen et al. 2019);
- Kompier (2022) pointed out that the species identified as *Rhinagrion mima* (Karsch, 1891) is truly *R. viridatum* Fraser, 1938;

- finally, *Prodasineura* sp. is identified as *Prodasineura verticalis* Selys, 1860 (Phan & Ngo 2020).

Field surveys

In addition to the surveys recorded in Bui (2008), Do et al. (2011) and Kompier (2022) we conducted surveys in March 2018, February 2020, April and June 2022.

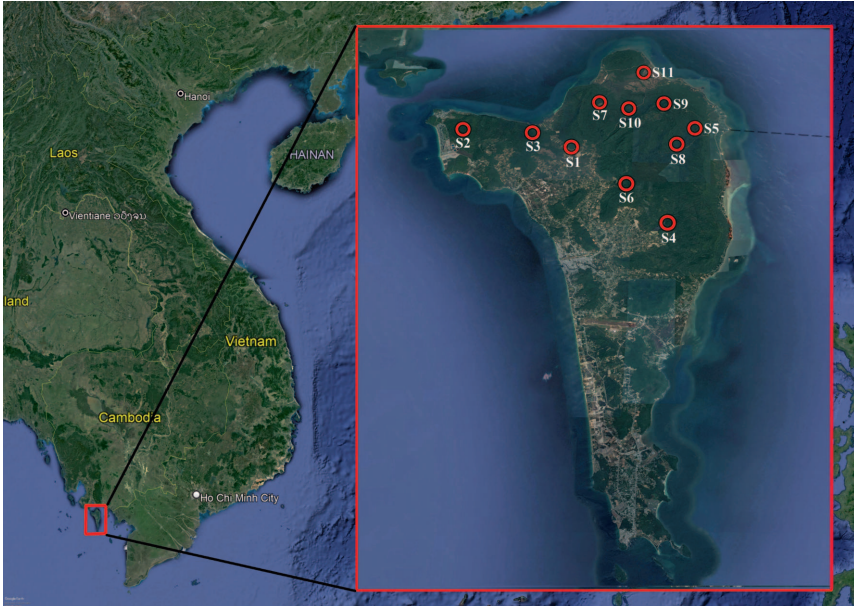


Figure 1: Collecting sites map in Phu Quoc Island.

Collecting sites (Fig. 1)

- S1 (10.33446°N, 103.95101°E, 63 m altitude): This is a big swamp on the K7 road to Rach Tram village, located about 5 kilometers from the headquarter of the national park (Fig. 2A, B).
- S2 (10.35228°N, 103.87976°E, 97 m altitude): This site includes several small streams on the K7 road to Rach Tram village. The primary forest is interspersed with shallow watercourses over a compacted substrate (Fig. 2C, D).
- S3 (10.34408°N, 103.92234°E, 21 m altitude): A short canal and small swamp on the K7 road to Rach Tram village (Fig. 3A).
- S4 (10.25194°N, 104.03295°E, 85 m altitude): Da Ban streams near Duong Dong Lake. The lower one is an open stream with large rocks, below Duong Dong lake (Fig. 3B). The upper one is another narrow shallow stream flowing within the primary forest (Fig. 3C).

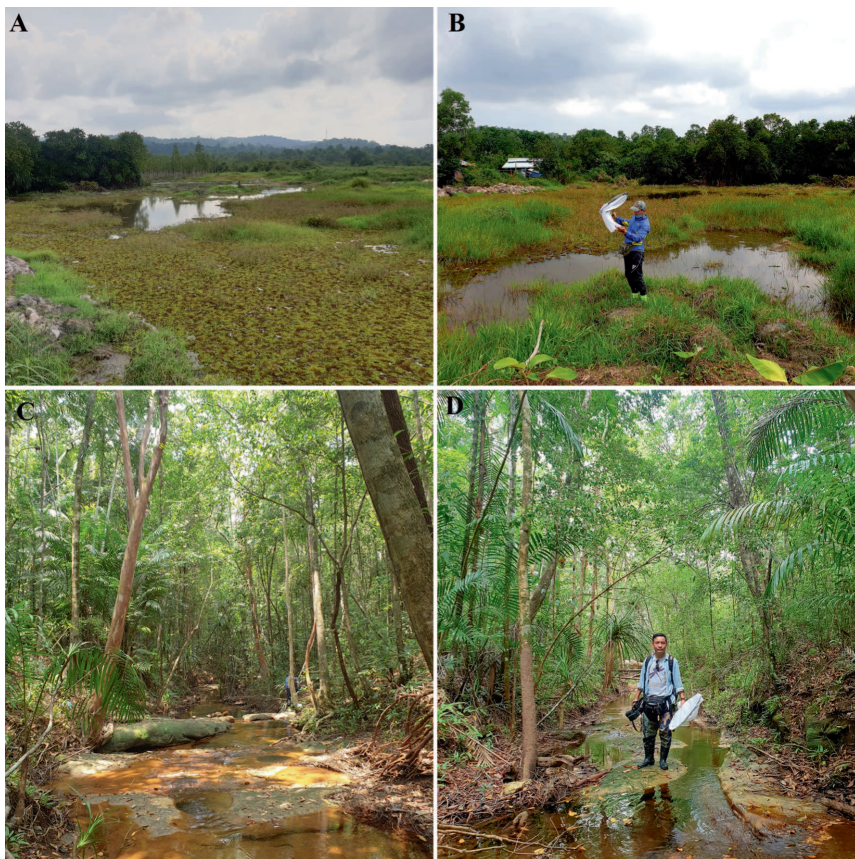


Figure 2: The authors' field work in S1 (A, B) & S2 (C, D).

- S5 (10.34330N, 104.04470E, 26 m altitude): An open stream near the Border Guard Station in the protected areas of the national park with sandy bottom, running along the primary forest (Fig. 3D).
- S6 (10.29310N, 103.98830E, 50 m altitude): Bom stream. This is a short stream that flows through fruit gardens of the local people. The borders of Bom stream were poured with concrete and equipped with several small cabins to serve tourist parties. The bottom of Bom stream is covered with large stones.
- S7 (10.37640N, 103.98350E, 1 m altitude): Stream along the road to Ganh Dau village. This is a large stream close to the beach with large rocks on a sandy bottom (Figure 3E).
- S8 (10.34330N, 104.04470E, 26 m altitude): Streams near the national park headquarter: We surveyed several open (with large rocks) and small streams (small pebbles, sandy bottom) near the headquarter of the national park (Figure 3F).
- S9 (10.37970N, 104.00780E, 4 m altitude): K7 stream (stream near the K7 road) (Figure 4A).



Figure 3: Study sites: (A), S3; (B, C), S4; (D), S5; (E), S7; (F), S8.

- S10 (10.37200N, 103.99850E, 13 m altitude): A small stream under the 2nd bridge (about 1 kilometer from the headquarter of the national park) with sandy bottom (Figure 4B).
- S11: (10.42520N, 104.01290E, 11 m altitude): Several small swamps along the Rach Tram road (Figure 4C).

Results

In this study, we present a checklist of in total 93 odonate species for Phu Quoc Island based on the list published by Do et al. (2011), the records by Kompier (2022) of his visits in 2015 and 2016 and the results from four surveys of the authors (Tab. 1). During our surveys, we added seven taxa that had not been previously recorded for Phu Quoc Island including *Argiocnemis femina* (Brauer, 1868), *Argiocnemis rubescens* Selys, 1877, *Aciagrion pallidum* Selys, 1891, *Macromia cupricincta* Fraser, 1924, *Macromidia* sp., *Burmagomphus* sp. and *Orientogomphus circularis* (Selys, 1894). Besides, *Macromia cupricincta* is also a new record for the Vietnamese fauna. The taxonomic status of some species listed in previous publications are revised and removed from the species list of Phu Quoc:

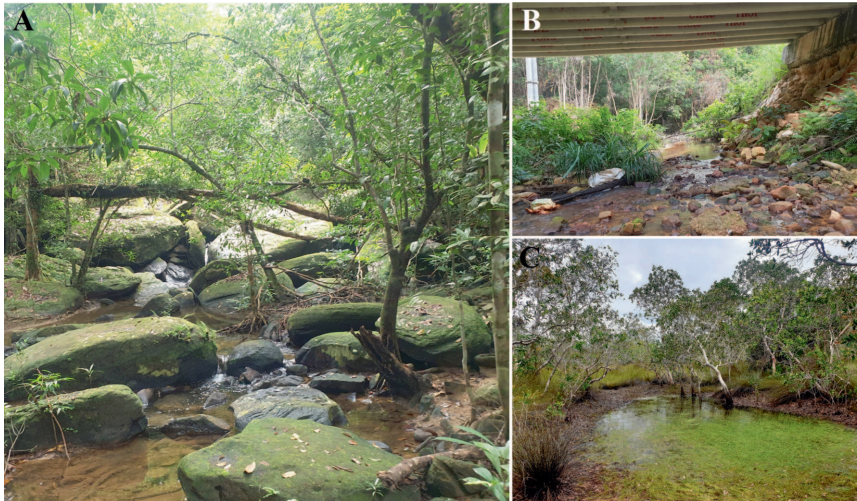


Figure 4: Study sites: (A), S9; (B), S10; (C), S11.



Figure 5: Field survey in Phu Quoc Island. (A), Mr. Phu on the top of Chua Mount; (B), forest of Phu Quoc; (C, D), Dr. Phan at the headquarter of the national park and taking a photo on S7.

Ceriagrion aurantiacum and *Copera marginipes* in Do et al. (2011) are misidentifications and should be *Ceriagrion calamineum* Lieftinck, 1951 and *Copera vittata*, respectively (Kompier, 2022); the identification of *Pseudothemis zonata* in Bui (2008) and Do et al. (2011) is corrected as *P. jorina* which occurs everywhere on the island.

Tab. 1: List of Odonata based on published, re-assessed and new records of the authors up to 2022 (Some of the species are figured in Appendix 1 and 2).

	Species	Examination sites with findings	References
	Zygoptera		
	Argiolestidae		
1	<i>Podolestes coomansi</i> Lieftinck, 1940		Kompier (2022)
	Calopterygidae		
2	<i>Neurobasis chinensis</i> (Linnaeus, 1758)		Do et al. (2011)
3	<i>Vestalis gracilis</i> (Rambur, 1842)	S2, S3, S5, S6, S8, S9	Do et al. (2011); Kompier (2022); this study
	Chlorocyphidae		
4	<i>Libellago hyalina</i> (Selys, 1859)	S3, S7, S9	Do et al. (2011); Kompier (2022); this study
5	<i>Heliocypha biforata</i> (Selys, 1859)	S2, S4, S5, S7, S9	Do et al. (2011); Kompier (2022); this study
	Euphaeidae		
6	<i>Euphaea cyanopogon</i> Hämäläinen, Kosterin & Kompier, 2019	S2, S4, S6, S7, S9	Hämäläinen et al. (2019); Kompier (2022); this study
	Coenagrionidae		
7	<i>Aciagrion borneense</i> Ris, 1911		Do et al. (2011); Kompier (2022)
8	<i>Aciagrion pallidum</i> Selys, 1891	S4	This study
9	<i>Agriocnemis minima</i> Selys, 1877	S4	Kompier (2022); this study
10	<i>Agriocnemis pygmaea</i> (Rambur, 1842)		Do et al. (2011); Kompier (2022)
11	<i>Agriocnemis femina</i> (Brauer, 1868)	S4	This study
12	<i>Agriocnemis nana</i> (Laidlaw, 1914)		Kompier (2022)
13	<i>Amphicnemis valentini</i> Kosterin & Kompier, 2017		Kosterin & Kompier (2017); Kompier (2022);
14	<i>Archibasis viola</i> Lieftinck, 1948	S4–6, S8, S9	Do et al. (2011); Kompier (2022); this study
15	<i>Agriocnemis rubescens</i> Selys, 1877	S6	This study
16	<i>Ceriagrion cerinorubellum</i> (Brauer, 1865)	S1–8	Do et al. (2011); Kompier (2022); this study
17	<i>Ceriagrion malaisei</i> Schmidt, 1964		Kompier (2022)
18	<i>Ceriagrion calamineum</i> Lieftinck, 1951	S4	Kompier (2022); this study
19	<i>Ischnura senegalensis</i> (Rambur, 1842)	S4	Do et al. (2011); Kompier (2022); this study
20	<i>Mortonagrion falcatum</i> Lieftinck, 1934		Kompier (2022)

	Species	Examination sites with findings	References
21	<i>Paracercion calamorum</i> Ris, 1916		Kompier (2022)
22	<i>Pseudagrion australasiae</i> Selys, 1876		Kompier (2022)
23	<i>Pseudagrion microcephalum</i> (Rambur, 1842)	S4, S5	Do et al. (2011); Kompier (2022); this study
24	<i>Pseudagrion pruinotum</i> (Burmeister, 1839)		Do et al. (2011); Kompier (2022)
25	<i>Pseudagrion rubriceps</i> Selys, 1876	S8	Do et al. (2011); Kompier (2022); this study
26	<i>Pseudagrion williamsoni</i> Fraser, 1922	S5	Do et al. (2011); Kompier (2022); this study
	Lestidae		
27	<i>Lestes elatus</i> Hagen in Selys, 1862		Do et al. (2011)
28	<i>Lestes praemorsus</i> Hagen in Selys, 1862		Kompier (2022)
29	<i>Platylestes platystylus</i> (Rambur, 1842)		Kompier (2022)
	Megapodagrionidae		
30	<i>Rhinagrion viridatum</i> Fraser, 1938	S2, S4, S7, S9	Do et al. (2011); Kompier (2022); this study
	Platycnemidae		
31	<i>Coelicia kazukoae</i> Asahina, 1984	S4	Kosterin & Kompier (2018); Kompier (2022)
32	<i>Coelicia yamasakii</i> Asahina, 1984	S4	Do et al. (2011); Kompier (2022); this study
33	<i>Copera vittata</i> (Selys, 1863)	S6	Kompier (2022); this study
34	<i>Onychargia atrocyana</i> Selys, 1865		Do et al. (2011); Kompier (2022)
35	<i>Pseudocopera ciliata</i> (Selys, 1863)		Kompier (2022)
36	<i>Prodasineura verticalis</i> Selys, 1860	S4, S7–9	Phan & Ngo (2020); Kompier (2022); this study
	Anisoptera		
	Aeschnidae		
37	<i>Anax guttatus guttatus</i> (Burmeister, 1839)		Do et al. (2011); Kompier (2022)
38	<i>Gynacantha basiguttata</i> Selys, 1882		Kompier (2022)
39	<i>Gynacantha bayadera</i> Selys, 1891		Kompier (2022)
40	<i>Gynacantha subinterrupta</i> Rambur, 1842		Kompier (2022)
41	<i>Heliaeschna crassa</i> Krüger, 1899		Kompier (2022)
	Corduliidae		
42	<i>Idionyx</i> sp.	S4, S6	Do et al. (2011); this study
43	<i>Macromia cupricincta</i> Fraser, 1924	S6	This study
	Synthemistidae		
44	<i>Macromidia</i> sp.	S6	This study

	Species	Examination sites with findings	References
	Gomphidae		
45	<i>Burmagomphus</i> sp.	S10	Do et al. (2011); this study
46	<i>Ictinogomphus decoratus</i> (Selys, 1854)	S6	Kompier (2022); this study
47	<i>Orientogomphus circularis</i> (Selys, 1894)	S10	This study
48	<i>Paragomphus capricornis</i> (Foerster, 1914)	S4	Kompier (2022); this study
	Macromiidae		
49	<i>Epophthalmia frontalis frontalis</i> Selys, 1871	S6	Kompier (2022); this study
50	<i>Epophthalmia vittigera</i> (Rambur, 1842)		Kompier (2022)
	Libellulidae		
51	<i>Acisoma panorpoides</i> Rambur, 1842	S1	Do et al. (2011); Kompier (2022); this study
52	<i>Agrionoptera insignis</i> (Rambur, 1842)		Kompier (2022)
53	<i>Brachydiplax chalybea chalybea</i> Brauer, 1868	S1	Kompier (2022); this study
54	<i>Brachydiplax sobrina</i> (Rambur, 1842)	S1	Kompier (2022); this study
55	<i>Brachygonia oculata</i> (Brauer, 1878)	S2	Do et al. (2011); Kompier (2022); this study
56	<i>Brachythemis contaminata</i> (Fabricius, 1793)	S1	Do et al. (2011); Kompier (2022); this study
57	<i>Cratilla lineata</i> (Brauer, 1878)		Do et al. (2011); Kompier (2022)
58	<i>Crocothemis servilia</i> (Drury, 1773)	S1	Do et al. (2011); Kompier (2022); this study
59	<i>Diplacodes nebulosa</i> (Fabricius, 1793)	S1, S4, S11	Do et al. (2011); Kompier (2022); this study
60	<i>Diplacodes trivialis</i> (Rambur, 1842)	S1	Do et al. (2011); Kompier (2022); this study
61	<i>Hydrobasileus croceus</i> (Brauer, 1867)		Do et al. (2011); Kompier (2022)
62	<i>Indothemis limbata</i> (Selys, 1891)	S1	Kompier (2022); this study
53	<i>Lathrecista asiatica</i> (Fabricius, 1798)	S1, S4	Do et al. (2011); Kompier (2022); this study
64	<i>Lyriothemis mortoni</i> Ris, 1919		Do et al. (2011); Kompier (2022)
65	<i>Nannophya pygmaea</i> Rambur, 1842	S3	Do et al. (2011); Kompier (2022); this study
66	<i>Neurothemis fluctuans</i> (Fabricius, 1793)	S1, S3	Do et al. (2011); Kompier (2022); this study
67	<i>Neurothemis fulvia</i> (Drury, 1773)	S1, S2, S3, S5, S6–9	Do et al. (2011); Kompier (2022); this study
68	<i>Neurothemis intermedia</i> (Rambur, 1842)	S8	Kompier (2022); this study
69	<i>Neurothemis tullia</i> (Drury, 1773)	S1, S4	Do et al. (2011); Kompier (2022); this study

	Species	Examination sites with findings	References
70	<i>Onychothemis testacea</i> Laidlaw, 1902	S5	Do et al. (2011); this study
71	<i>Orchithemis pulcherrima</i> Brauer, 1878	S4, S5, S7–9	Do et al. (2011); Kompier (2022); this study
72	<i>Orthetrum chrysis</i> (Selys, 1891)	S1	Do et al. (2011); Kompier (2022); this study
73	<i>Orthetrum glaucum</i> (Brauer, 1865)	S3, S4	Do et al. (2011); this study
74	<i>Orthetrum pruinosum</i> Burmeister, 1839		Kompier (2022)
75	<i>Orthetrum sabina</i> (Drury, 1770)	S1	Do et al. (2011); Kompier (2022); this study
76	<i>Pantala flavescens</i> (Fabricius, 1798)	S1	Do et al. (2011); Kompier (2022); this study
77	<i>Potamarcha congener</i> (Rambur, 1842)	S1, S10, S11	Do et al. (2011); Kompier (2022); this study
78	<i>Pseudothemis jorina</i> Förster, 1904		Do et al. (2011); Kompier (2022); this study
79	<i>Rhodothemis rufa</i> Rambur, 1842		Kompier (2022)
80	<i>Rhyothemis aterrima</i> Selys, 1891		Kompier (2022)
81	<i>Rhyothemis obsolescens</i> Kirby, 1889	S3, S8, S9	Do et al. (2011); Kompier (2022); this study
82	<i>Rhyothemis phyllis</i> (Sulzer, 1776)	S1, S5	Do et al. (2011); Kompier (2022); this study
83	<i>Rhyothemis triangularis</i> Kirby, 1889	S1	Do et al. (2011); Kompier (2022); this study
84	<i>Rhyothemis variegata</i> (Linnaeus, 1763)	S1	Do et al. (2011); Kompier (2022); this study
85	<i>Tetrathemis irregularis hyalina</i> Kirby, 1889	S6	Do et al. (2011); Kompier (2022); this study
86	<i>Tholymis tillarga</i> (Fabricius, 1798)	S2	Do et al. (2011); Kompier (2022); this study
87	<i>Tramea transmarina euryale</i> Brauer, 1867	S6	Kompier (2022); This study
88	<i>Trithemis aurora</i> (Burmeister, 1839)	S1–10	Do et al. (2011); Kompier (2022); this study
89	<i>Trithemis festiva</i> (Rambur, 1842)	S1–3	Do et al. (2011); Kompier (2022); this study
90	<i>Trithemis pallidinervis</i> (Kirby, 1889)		Do et al. (2011); Kompier (2022)
91	<i>Urothemis signata</i> (Rambur, 1842)		Do et al. (2011); Kompier (2022);
92	<i>Zygonyx iris</i> Selys, 1869	S4	Do et al. (2011); Kompier (2022); this study
93	<i>Zyxomma petiolatum</i> Rambur, 1842		Kompier (2022)

Additional notes on odonates of Phu Quoc National Park

Podolestes coomansi Lieftinck, 1940

(Figure 6A-B)

Notes. The record of this species in Phu Quoc was published by Kompier (2022) based on a photo of a male by Dutch naturalist Floris Brekelmans in April 2016 (Figure 6A). It should be noted here that a photo from U Minh Ha National Park (Ca Mau Province, South Vietnam), published on inaturalist.org (<https://www.inaturalist.org/observations/12646147-4?fbclid=IwAR2DDWlwjfJZdTSyExllaIhbHVjim2fYQprwF5qEulf97SWbol4HF5WPyTE>) is probably *P. coomansi* (Figure 6B) and should be confirmed in the future.

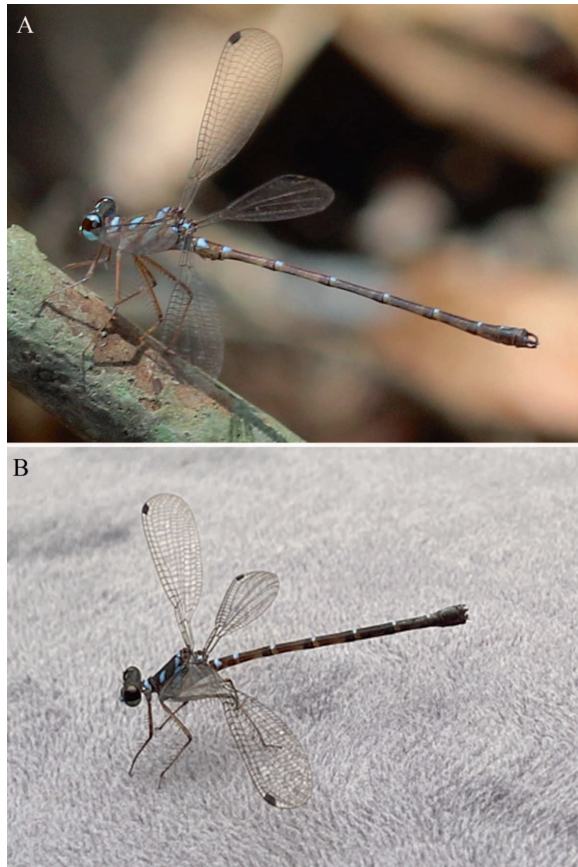


Figure 5: *Podolestes coomansi*, (A), male, courtesy of Floris Brekelmans (rearranged from Kompier 2022); (B), a female, courtesy of Tran Van Thoi in U Minh Ha National Park, Ca Mau Province on July 16, 2022 (rearranged from inaturalist.org).

Argiocnemis rubescens Selys, 1877

(Figure 7A-B)

Notes. This is a very common species that is distributed throughout Vietnam but was recorded on Phu Quoc for the first time.

Agriocnemis femina (Brauer, 1868)

(Figure 7C)

Notes. Although this species is widespread everywhere in Vietnam, it is certainly rare on the Island and was observed (in S4) in April 2020 for the first time.

Aciagrion pallidum Selys, 1891

(Figure 7D-E)

Specimen examined: 1 ♀, S4, 07.03.2018, To Van Quang leg.

Notes. New record to Phu Quoc. The female specimen on Phu Quoc is similar to other specimens in Vietnam known to us by having a yellowish body, a head with blue postocular spots and bluish stripes on the synthorax (Figure 7D). Appendages are yellowish, the cerci shorter than S10 and blunt apically (Figure 7E).

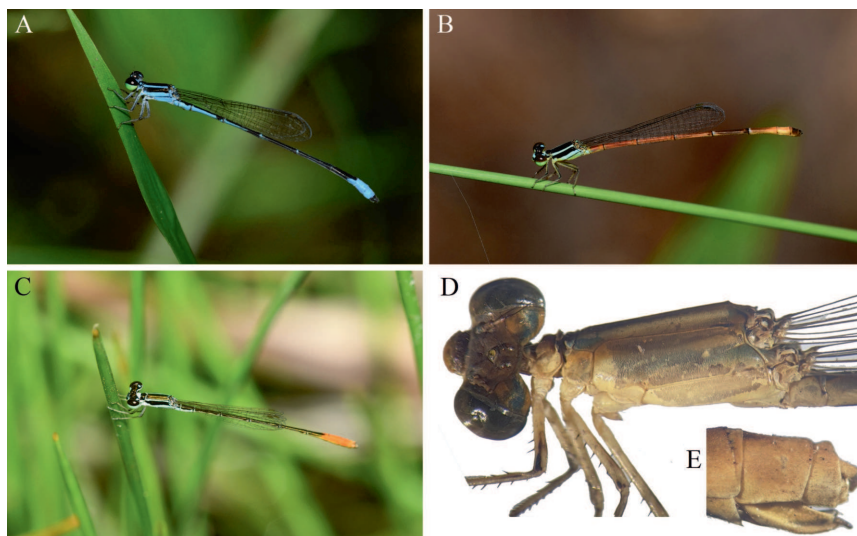


Figure 7: Coenagrionidae species in Phu Quoc. (A, B), male and an immature female of *Argiocnemis rubescens*; (C), *Agriocnemis femina*, male; (D, E), head & thorax and abdominal tip of *Aciagrion pallidum*, female.

Ceriagrion calamineum Lieftinck, 1951

(Figure 8A-D)

Specimen examined: 1 ♂, S4, 07.03.2018, To Van Quang leg.

Notes. Bui (2008) and Do et al. (2011) recorded *Ceriagrion aurantiacum* on Phu Quoc but, as already pointed out by Kompier (2022), this is a misidentification and in reality *C. calamineum*, which is quite similar to *C. aurantiacum* in body coloration and structure of the appendages (Figure 8A-C). They can be separated based on the shape of the genital ligula: it is structurally simple in *C. calamineum* (Figure 8D), but complex with

three-lobes apically and two curved lateral flagella in *C. aurantiacum* (for instance, see Figure 6E-F in Phan & Dinh 2016). Therefore, the occurrence of *Ceriagrion aurantiacum* should be removed from the checklist of odonates of Phu Quoc Island.

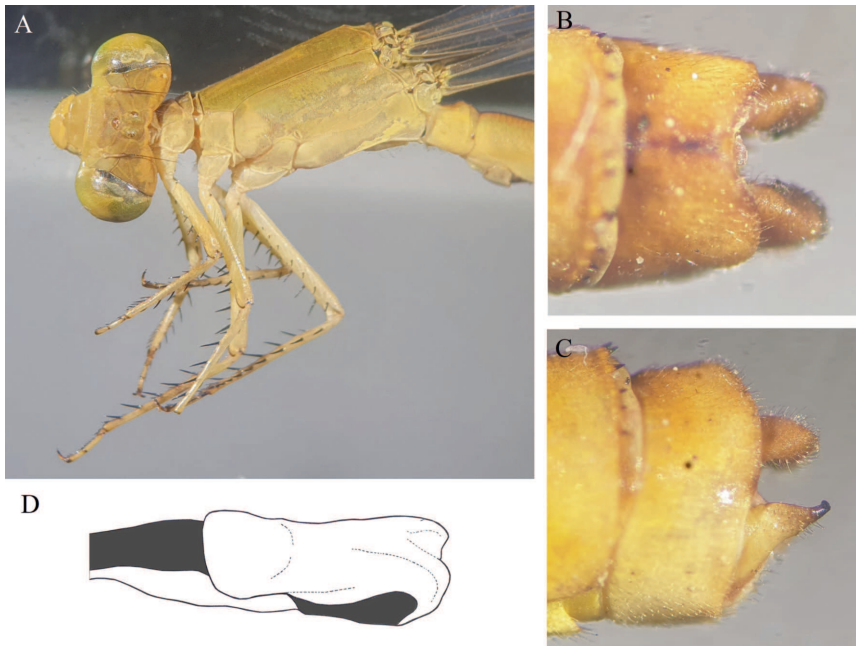


Figure 8: Structure of *Ceriagrion calamineum*, male. (A), head and thorax, lateral view; (B, C), appendages in dorsal and lateral view; (D), genital ligula, ventral view.

Copera vittata (Selys, 1863)

(Figure 9)

Notes. Do et al. (2011) misidentified this species as *Copera marginipes* (Rambur, 1842). In fact it must be *Copera vittata*. We have never seen *Copera marginipes* in Phu Quoc although this species is very common throughout Vietnam. *Copera marginipes* should therefore be dropped from the list of odonates on Phu Quoc.

Burmagomphus sp.

(Figure 10A-C)

Specimen examined: 1 ♀, S10, 23.06.2022, Q.P. Ngo leg.

Notes. An additional species to Phu Quoc. Do et al. (2011) presumed the “*Microgomphus* sp.” in Bui (2008) is probably a *Burmagomphus* species. We confirmed the occurrence of a *Burmagomphus* species in Phu Quoc, but, unfortunately, we could not identify the species since we collected only one female.



Figure 9. A male of *Copera vittata* in nature.

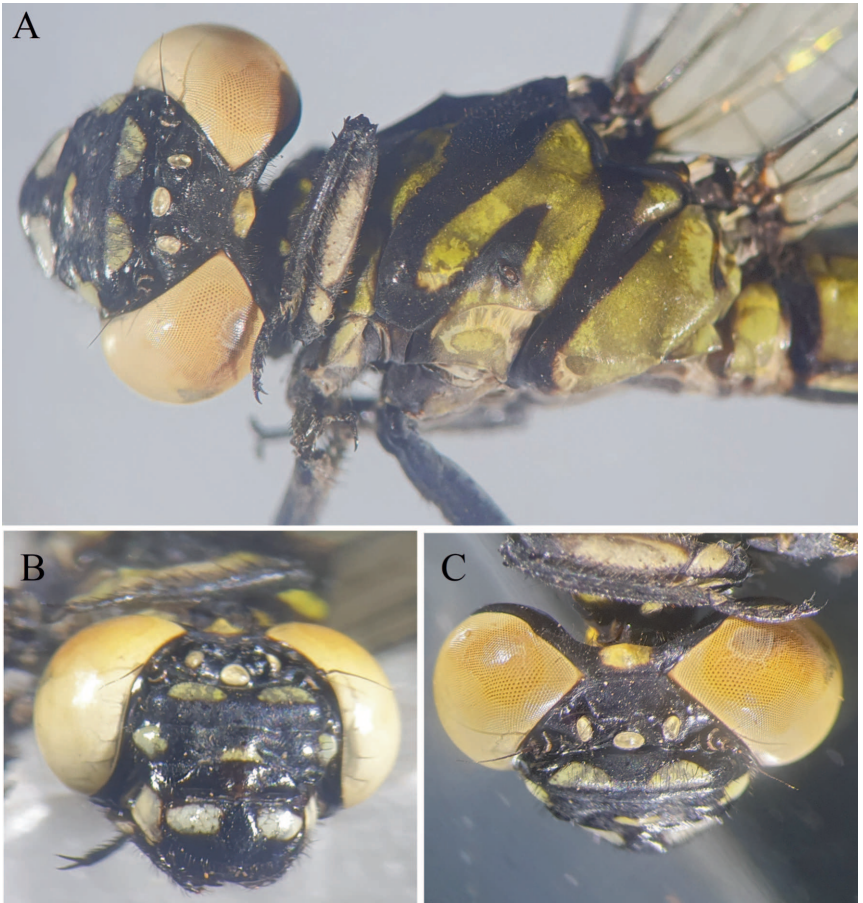


Figure 10. *Burmagomphus* sp, female. (A), Head and thorax, lateral view; (B, C), Head in frontal and dorsal view.

Orientogomphus circularis (Selys, 1894)

(Figure 11A-D)

Specimen examined: 2 ♂♂, S10, 23.6.2022, Q.P. Ngo leg.

Notes. An additional species to Phu Quoc. We primarily identified the specimens from Phu Quoc as *O. curcularis* because their body coloration and structures (Figure 11A-D) well matched the illustrations of Thai species in Asahina (1986: Figures 67–73). *O. circularis* is widespread in Vietnam and elsewhere in SE Asia, occurring for instance also in Laos, Myanmar, and Thailand. We found no differences between specimens from the north and south of Vietnam, and consider these all *O. circularis*, although *O. naninus* (Förster, 1905) has been described from “Tonkin”, which is modern-day northern Vietnam. We consider it likely, pending further study, that *O. naninus* is a junior synonym of *O. circularis*.

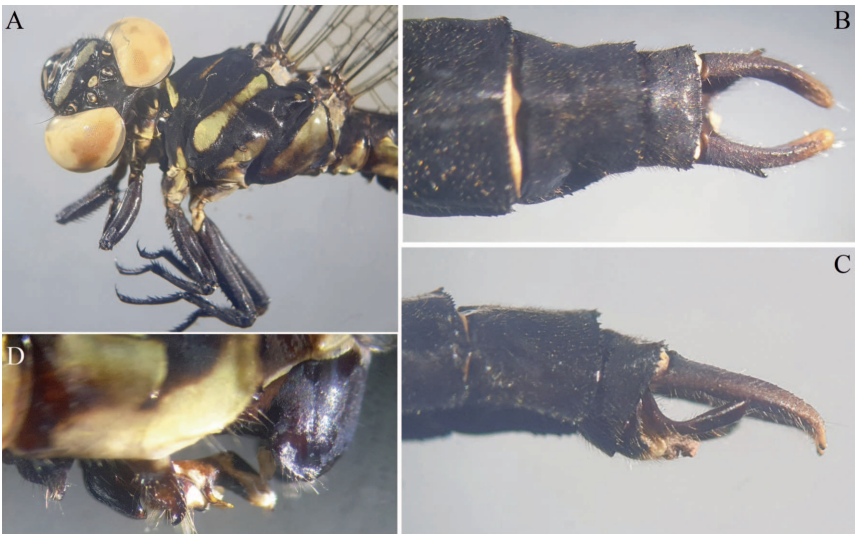


Figure 11. *Orientogomphus circularis*, male. (A), Head and thorax, lateral view; (B, C), appendages in dorsal and lateral view; (D), Genitalia accessory, lateral view.

Macromidia sp.

(Figure 12A)

Notes. This is the first record of a *Macromidia* species on Phu Quoc. We saw only one female in S6 (Figure 12A) and were unable to collect it.

Macromia cupricincta Fraser, 1924

(Figure 12B-D)

Specimen examined: 4 ♂♂, 1 ♀, S6, 23.06.2022, Q.T. Phan & Q.P. Ngo leg.

Notes. New record for the Vietnamese fauna. This species has also been recorded in Bac Kan, Gia Lai and Lam Dong Provinces by Tom Kompier (pers. comm.).



Figure 12. Macromiidae species. (A), *Macromidia* sp., a female in nature; (B-D), appendages and accessory genitalia of *Macromia cupricincta*, male.

Acknowledgements

We thank the International Dragonfly Fund for funding field trips; Tom Kompier for his corrections and comments on earlier drafts of this paper; Martin Schorr for providing valuable comments and suggestions to the manuscript and the directorate of Phu Quoc National Park for providing support and permissions.

References

- Asahina, S. 1986. A list of the Odonata recorded from Thailand, Part XIV. Gomphidae – 2. Tombo, 24(1–2): 7–53.
- Bui, H.M. 2007. Danh lục bằng hình ảnh các loài chuồn chuồn Phú Quốc [Approximate translation: “Photographic checklist of Odonata from Phu Quoc Island”]. Wildlife At Risk Published as a book. Wildlife At Risk, Vietnam, 55 pp. (in Vietnamese). Available from: <http://www.wildlifeatrisk.org/upload/download/books.P10.%20PQ-Dragonfly-book.pdf> (accessed 26 November 2017)
- Do, M.C., Bui, H.M. & Nguyen, V.K. 2011. Dragonflies of Phu Quoc Island, South Vietnam. Agrion 15(2): 54–57.
- Do, M.C. & Dang, T.T.H. 2007. Checklist of dragonfly from Vietnam. Vietnam National University Publisher, Hanoi, 182 pp.
- Kompier, T. 2022. Dragonflies and Damselflies of Vietnam. Available at <http://odonata-vietnam.blogspot.com/2022/11/an-updated-list-for-my-three-visits-to.html> [accessed 6 Sep. 2022].

- Kosterin, O.E. & Kompier, T. 2017. *Coeliccia rolandorum* sp. nov. from eastern Cambodia and southern Vietnam, the eastern relative of *C. kazukoae* Asahina, 1984 (Odonata: Platycnemididae). *Zootaxa* 4341(4): 509–527. <https://doi.org/10.11646/zootaxa.4341.4.4>
- Kosterin, O.E. & Kompier, T. 2018. *Amphicnemis valentini* sp. nov. from the Cardamom ecoregion in Cambodia and Vietnam (Odonata: Coenagrionidae). *Zootaxa* 4429(2): 281–294. <https://doi.org/10.11646/zootaxa.4429.2.4>
- Hämäläinen, M., Kosterin, O.E. & Kompier, T. 2019. *Euphaea cyanopogon* sp. nov. from the Cardamom ecoregion in Cambodia and Vietnam (Odonata: Euphaeidae). *Zootaxa* 4555(1): 28–44. <https://doi.org/10.11646/zootaxa.4555.1.2>
- Phan, Q.T. & Dinh, T.P.A. 2016. Odonata from the Cham Islands, off central Vietnam, collected in September 2015. IDF-Report, Newsletter of the International Dragonfly Fund, 13: 1–22.
- Phan, Q.T., Kompier, T., Karube, H. & Hayashi, F. 2018. A synopsis of the Euphaeidae (Odonata: Zygoptera) of Vietnam, with descriptions of two new species of *Euphaea*. *Zootaxa* 4375(2): 151–190. <https://doi.org/10.11646/zootaxa.4375.2.1>
- Phan, Q.T. & Ngo, Q.P. 2020. A revision of the systematics and distribution of the damselfly genus *Prodasineura* Cowley, 1934 (Odonata: Zygoptera: Platycnemididae) in Vietnam with description of two new species. *European Journal of Taxonomy* 650: 1–27. <https://doi.org/10.5852/ejt.2020.650>



Appendix 1. Some damselflies (Zygoptera) in Phu Quoc.



Appendix 2. Some dragonflies (Anisoptera) in Phu Quoc.

INSTRUCTION TO AUTHORS

International Dragonfly Report is a journal of the International Dragonfly Fund (IDF). It is referred to as the journal in the remainder of these instructions. Transfer of copyright to IDF is considered to have taken place implicitly once a paper has been published in the journal.

The journal publishes original papers only. By original is meant papers that: a) have not been published elsewhere before, and b) the scientific results of the paper have not been published in their entirety under a different title and/or with different wording elsewhere. The republishing of any part of a paper published in the journal must be negotiated with the Editorial Board and can only proceed after mutual agreement.

Papers reporting studies financially supported by the IDF will be reviewed with priority, however, authors working with Odonata from the focal area (as defined on the back page of the front cover) are encouraged to submit their manuscripts even if they have not received any funds from IDF.

Manuscripts submitted to the journal should preferably be in English; alternatively German or French will also be accepted. Every manuscript should be checked by a native speaker of the language in which it is written; if it is not possible for the authors to arrange this, they must inform the Editorial Board on submission of the paper. Authors are encouraged, if possible, to include a version of the abstract in the primary language of the country in which their study was made.

Authors can choose the best way for them to submit their manuscripts between these options: a) via e-mail to the publisher, or b) on a CD, DVD or any other IBM-compatible device. Manuscripts should be prepared in Microsoft Word for Windows.

While preparing the manuscript authors should consider that, although the journal gives some freedom in the style and arrangements of the sections, the editors would like to see the following clearly defined sections: Title (with authors names, physical and e-mail addresses), Abstract, Introduction, Material & Methods, Results, Discussion, Acknowledgments and References. This is a widely used scheme by scientists that everyone should be familiar with. No further instructions are given here, but every author should check the style of the journal.

Authors are advised to avoid any formatting of the text. The manuscripts will be stylised according to the font type and size adopted by the journal. However, check for: a) all species names must be given in italic, b) the authority and year of publication are required on the first appearance of a species name in the text, but not thereafter, and c) citations and reference list must be arranged following the format below.

Reference cited in the text should read as follows: Tillyard (1924), (Tillyard 1924), Swezey & Williams (1942).

The reference list should be prepared according to the following standard:

Swezey, O. & F. Williams, 1942. Dragonflies of Guam. Bernice P. Bishop Museum Bulletin 172: 3-6.

Tillyard, R., 1924. The dragonflies (Order Odonata) of Fiji, with special reference to a collection made by Mr. H.W. Simmonds, F.E.S., on the Island of Viti Levu. Transactions of the Entomological Society London 1923 III-IV: 305-346.

Citations of internet sources should include the date of access.

The manuscript should end with a list of captions to the figures and tables. The latter should be submitted separately from the text preferably as graphics made using one of the Microsoft Office products or as a high resolution picture saved as a .jpg .tif or .ps file. Pictures should be at least 11 cm wide and with a minimum 300 dpi resolution, better 360 dpi. Line drawings and graphics could have 1200 dpi for better details. If you compose many pictures to one figure, please submit the original files as well. Please leave some space in the upper left corner of each picture, to insert a letter (a, b, c...) later. Hand-made drawings should be scanned and submitted electronically. Printed figures sent by the post could be damaged, in which case authors will be asked to resubmit them.

Manuscripts not arranged according to these instructions may also be accepted, but in that case their publication will be delayed until the journal's standards are achieved.

