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Records of dragonflies and damselflies from the western Nghe An UNESCO Biosphere Reserve, central Vietnam: Part 1. Pu Huong Nature Reserve

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Abstract

A total of 105 odonate species (43 damselflies and 62 dragonflies) were documented from Pu Huong Nature Reserve, located within the western Nghe An UNESCO Biosphere Reserve, for the first time. Among them, *Burmagomphus asahinai* Kosterin, Makbun & Dawwrueng, 2012 and *Ceriagrion chaoi* Schmidt, 1964 represent new national records for Vietnam. In addition, the occurrences of *Ceriagrion azureum* (Selys, 1891), *Devadatta ducatrix* Liefstinck, 1969, *Protosticta satoi* Asahina, 1997, *Heliogomphus bidentatus* Kompier & Karube, 2019, *Nihonogomphus schorri* Do & Karube, 2011 and *Macromia urania* Ris, 1916 extend the known distribution ranges of these species southward.

Key words: Odonata, Nghe An, limestone, new record, distribution, Vietnam

Introduction

The Western Nghe An UNESCO Biosphere Reserve, established in 2007 by the United Nations Educational, Scientific and Cultural Organization (UNESCO), is located in the tropical region of Vietnam and is located on the border with Laos. The UNESCO Biosphere Reserve has an area of about 1,299,795 ha, being the largest biosphere reserve in Southeast Asia. Its core consists of three nationally protected areas: Pu Mat National Park, Pu Huong Nature Reserve and Pu Hoat Nature Reserve (Figure 1). This region, with the forest covering about 66.4%, is famous for its high biodiversity. According to the website of Western Nghe An UNESCO Biosphere Reserve (<http://sinhquyennghean.vn/khu-du-tru-sinh-quyen-1-8-2707.html> in Vietnamese), there are 3,961 plant and 942 vertebrate species with many species listed in the Vietnamese Red List Book or IUCN Red List Categories and Criteria. However, there are few records of odonate species from this region to date. Van Tol & Rozendaal (1995) were the first to record 10 damselfly species from the area: *Mnais mneme* Ris, 1916, *Neurobasis chinensis* (Linnaeus, 1758), *Aristocypha fenestrella* (Rambur, 1842), *Heliocypha perforata* (Percheron, 1835), *Libellago lineata* (Burmeister, 1839), *Rhinocypha watsoni* van Tol & Rozendaal, 1995, *Euphaea ochracea* (Selys, 1859), *Cryptophaea vietnamensis* (van Tol & Rozendaal, 1995), *Euphaea guerini* Rambur, 1842 and *Euphaea masoni* Selys, 1879 from Ky Son and Thanh Chuong Districts.

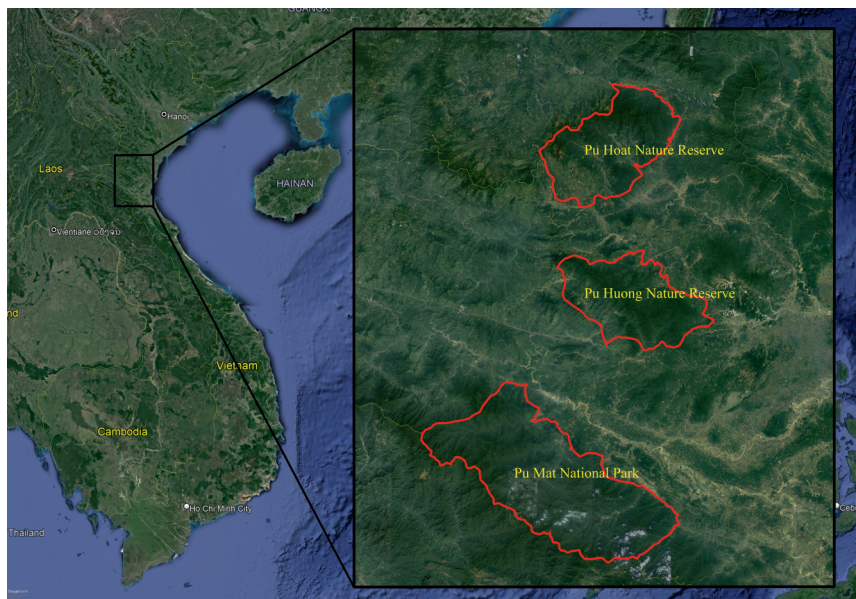


Figure 1: The western Nghe An UNESCO Biosphere map.

Recently, Karube et al. (2020) recorded nine dragonfly species including *Chlorogomphus sachiyoae* Karube, 1995, *Asiagomphus acco* Asahina, 1996, *Gomphidia kruegeri* Martin, 1904, *Gomphidictinus perakensis* (Laidlaw, 1902), *Heliogomphus scorpio* (Ris, 1912), *Lamelligomphus camelus* (Martin, 1904), *Megalogomphus sommeri* (Selys, 1854), *Melligomphus ardens* (Needham, 1930) and *Nihonogomphus schorri* Do & Karube, 2011. In addition, Phan & Ngo (2020) and Phan et al. (2021) described two new species, *Prodasinera lancestrei* Phan & Ngo, 2020 and *Coeliccia natgeo* Phan, Ngo, Toan & Tuan, 2021, from Pu Mat National Park. To date, no further odonate records from Pu Hoat and Pu Huong Nature Reserves have been published.

The odonates of Pu Huong Nature Reserve are therefore here recorded for the first time. A total of 105 species were documented, comprising 43 damselfly species (Zygoptera) and 62 dragonfly species (Anisoptera). *Burmagomphus asahinai* and *Ceriagrion chaoi* represent new records for the country.

A brief introduction to Pu Huong Nature Reserve

Pu Huong Nature Reserve was established in 2001 and encompasses a total managed forest area of 49,806 hectares. The reserve covers forest lands across five mountainous communes: Quy Hop, Quy Chau, Que Phong, Tuong Duong and Con Cuong. The total population living within the management area of the reserve consists of 8,533 households with nearly 50,000 people, primarily belonging to the Thai, Hmong, and Kho Mu ethnic groups.

The flora of the reserve comprises 612 species belonging to 117 families, including 33 rare and endangered plant species listed in the Vietnam Red Data Book. The fauna includes

291 species from 88 families, among which 45 mammal species are considered rare and endangered and are also listed in the Red Data Book.

In the past, the destruction of primary forests for slash-and-burn cultivation and crop planting was quite common in this area. However, to ensure effective forest protection, the Management Board of the Nature Reserve, in cooperation with local authorities, forest protection stations, and district forestry enterprises, conducted extensive outreach campaigns to educate local residents about forest protection laws. Following these campaigns, localities have strengthened their grassroots forest protection systems, established forest fire prevention and control committees, and encouraged community-wide commitments to participate in forest conservation efforts. As a result, forest protection in the area has significantly improved and continues to develop positively (all this information is available at the website of Pu Huong Nature Reserve: <https://puhuong.nghean.gov.vn/> in Vietnamese).

Field surveys & Collecting sites

We conducted two surveys in Pu Huong Nature Reserve in the summer of 2024 (from 19 July to 26 July) and 2025 (from 5 May to 13 May). We mainly focused on three stream systems inside the parks, as follows:

Collecting sites

Met Stream (Khe Mét, in Vietnamese) (Coordinates: 19.26635°N, 104.92525°E; elevation: 239 m) (Figure 2). This area is located approximately 10 km from the Binh Chuan Ranger Station and is accessible by motorbike. It consists of a network of large and small streams. Our survey was conducted along a small stream bordered by dense forest vegetation on both sides. In the section where the stream passes through a small Thai ethnic village (Figure 2A-B), it is approximately 5–10 meters wide, with a sandy and rocky bed. Further upstream, the terrain transitions into limestone mountains, where the stream originates from a spring emerging from the limestone system (Figure 2D). Most of the species recorded were found in the section flowing through the non-limestone (soil) area, while the limestone section had noticeably lower species diversity.

Co Stream (Khe Cộ, in Vietnamese) (Coordinates: 19.26092°N, 104.94155°E; elevation: 300 m) (Figure 4A). Co Stream is located approximately 5 km from the Binh Chuan Ranger Station. It can be reached by motorbike to the base of a hill, followed by a 3 km walk to the survey site. This stream system comprises several branches, of which Co Stream is the main and largest. It is characterized by a sandy bed with numerous small rocks and flows through hilly terrain composed mainly of non-limestone mountains. Our survey focused on smaller tributaries along this main stream.

Luong Stream (Khe Luông, in Vietnamese) (Coordinates: 19.27091°N, 105.13141°E; elevation: 152 m) (Figure 3C). The site is about 5 km from the Chau Ly Ranger Station and is accessible by motorbike. This is a narrow stream (2 – 4 m width) with a sandy bed and many small rocks. However, due to the dense human settlements nearby, the stream is considerably affected by human activities. The banks are mainly covered with *Acacia* plantations, while natural forest is only found far upstream near the headwaters.



Figure 2: Habitat of Khe Met. (A), Mr. Hoang walking towards the collecting site; (B), the second author collecting the larvae; (C), one section of Khe Met, with sandy bottom and slow-moving water; (D), the limestone section of Khe Met.



Figure 3. Habitat of Khe Met and Khe Luong. (A), the protected area of the Nature Reserve; (B), habitat of *Ceriagrion chaoi*; (C), habitat of Khe Luong.



Figure 4. Field work of the authors. (A), the second author collecting larvae in a small pond on the way to Khe Co; (B), the first author with a Giant Taro (*Alocasia macrorrhiza*) in Khe Met; (C), the first author with the Leafless Galeola (*Galeola nudifolia*) in the limestone section of Khe Met.

Material and Methods

To accurately identify species to the species level for some easily confused species or species with a narrow distribution range, we collected specimens from 10:00 AM to 5:00 PM during survey sessions, using hand nets. After collection, the specimens were placed in

paper bags for 12-24 hours to empty their bowels. Subsequently, the specimens were immersed in acetone solution for 8-12 hours, then removed and to the acetone will allowed to evaporate completely. The collection time and location were recorded (Bui et al. 2021).

Specimens that are easily confused were studied using a stereomicroscope to clearly visualize the structure of the anal appendages or genitalia. To identify the specimens, several published papers were consulted.

Results

The survey recorded a total of 105 dragonfly species in the Pu Huong Nature Reserve, including 43 damselfly species (Zygoptera) and 62 dragonfly species (Anisoptera), as presented in the table 1 (see Appendix).

Notes about some Odonata species in Pu Huong Nature Reserve

The species *Ceriagrion azureum* (Figure 5A), *Devadatta ducatrix* (Figure 5D), *Protosticta satoi* (Figure 5E–F), *Heliogomphus bidentatus* (Figure 7C), *Nihonogomphus schorri* (Figure 7D–E) and *Macromia urania* (Figures 11–12) were previously known only from several mountainous sites in northern Vietnam (Ris 1916; Do & Dang 2007; Do & Karube 2011; Kompier & Karube 2019). The new records from Pu Huong extend the known distribution of these species southward into the Central Region. Tom Kompier (personal comments) also recorded *D. ducatrix* and *H. bidentatus* in Quang Tri Province, as well as *P. satoi* in Ha Tinh Province, extending their known distributions south of Pu Huong Nature Reserve.

At Khe Met, *Euthygomphus koxingai*, *Nihonogomphus schorri* (Figure 7D–E) and *Phaenandrogomphus tonkinicus* (Figure 7F) were found occurring together in a section characterized by a sandy bottom and slow-flowing water (Figure 2C), whereas *H. bidentatus* (Figure 7C) was encountered only in a small, densely vegetated and very shaded stream at Khe Co. In a small branch of the Co stream, both *Protosticta pseudocuriosa* and *P. satoi* were recorded at the same site; *P. satoi* is readily distinguished by its darkened prothorax (Figure 5E), whereas *P. pseudocuriosa* has a yellow prothorax with a black spot on the posterior pronotal lobe (Phan & Kompier 2021: Fig. 9B).

Larvae of *Macrogomphus* sp. were also collected; however, but identification to species level was not possible due to their early instar stage.

Although Kompier (2013) reported the presence of *Ceriagrion chaoi* at Xuan Son National Park in northern Vietnam on an internet blog, the present study provides the first formal, peer-reviewed record of this species for the Vietnamese fauna. We encountered this species in a very small marsh (approximately 2 m wide and 4 m long) situated along a stream. This marsh is a natural wetland—not one created by grazing water buffalo within the reserve—and supports dense grasses and aquatic vegetation (Figure 3B). During our survey, we observed approximately four to five active males at the site, including two pairs in copula (Figure 5C). No other odonate species were present, except for the small libellulid *Tetrathemis platyptera*, which frequently perched on floating leaves. *C. chaoi* is characterized by its orange-red abdomen with darker dorsal segments S8–10, a diagnostic feature of the species (Figure 5B). The remaining morphological structures of the Pu Huong specimens (Figure 6) correspond closely to the original description by Asahina (1967: Fig. 73–85).



Figure 5. Damselflies of Pu Huong Nature Reserve. (A), *Ceriagrion azureum*, male (Khe Met, 25.7.2024); (B), *Ceriagrion chaoi*, male (Khe Met, 12.5.2025); (C), *C. chaoi*, pair during oviposition (Khe Met, 12.5.2025); (D), *Devadatta ducatrix*, male (Khe Co, 14.5.2025); (E), *Protosticta satoi*, male (Khe Co, 14.5.2025); (F), *Protosticta satoi*, pair in copula (Khe Co, 14.5.2025).

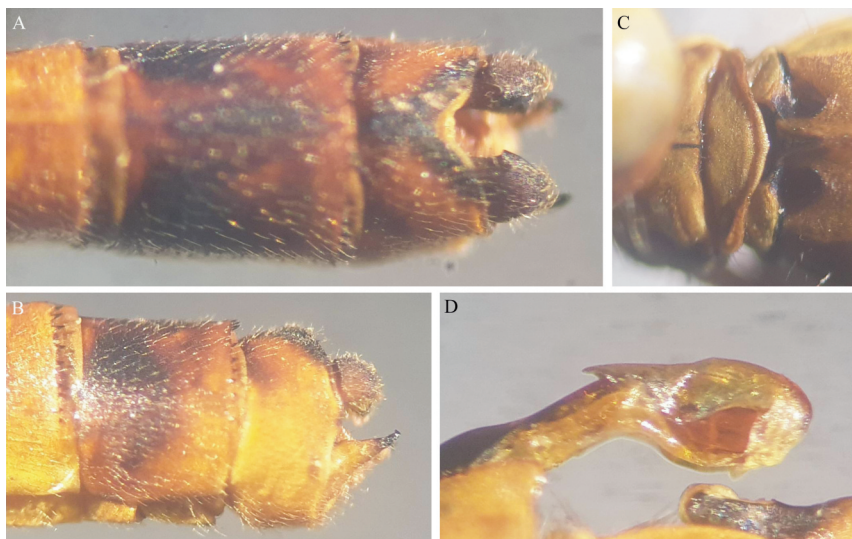


Figure 6. Structures of *Ceriagrion chaoi*. (A, B), anal appendages in lateral and dorsal view; (C), posterior pronotal lobe of the female prothorax; (D), genital ligula in lateral view.

Kompier (2025) also mentioned *Burmagomphus asahinai* on his internet blog from Cat Tien National Park, Lam Dong Province; however, the present study represents the first formal scientific publication confirming the occurrence of this species in Vietnam. The morphological structures of the specimens collected (Figure 8) correspond well with the original description provided by Kosterin et al. (2012).



Figure 7. Gomphidae of Pu Huong Nature Reserve. (A), *Euthygomphus koxingai* male perched on a *Paragomphus capricornis* male (Khe Met, 12.5.2025); (B), *Euthygomphus koxingai*, female (Khe Met, 25.7.2024); (C), *Heliogomphus bidentatus*, male (Khe Co, 14.5.2025); (D), *Nihonogomphus schorri*, female flying and laying eggs (Khe Met, 12.5.2025); (E), *Nihonogomphus schorri*, male (Khe Met, 12.5.2025); (F), *Phaenandrogomphus tonkinicus*, male (Khe Met 12.5.2025).

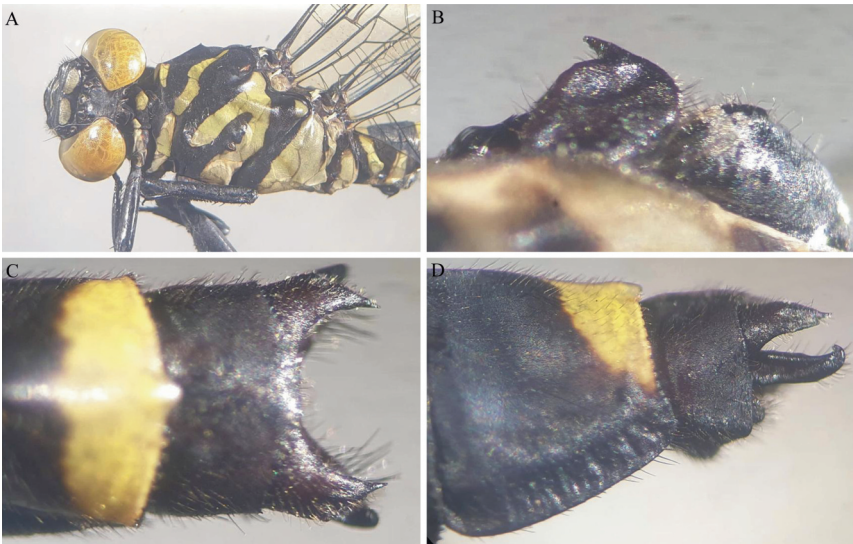


Figure 8. Structures of *Burmagomphus asahinai*, male. (A), head and thorax in lateral view; (B), secondary genitalia in lateral view; (C, D), anal appendages in dorsal and lateral view.

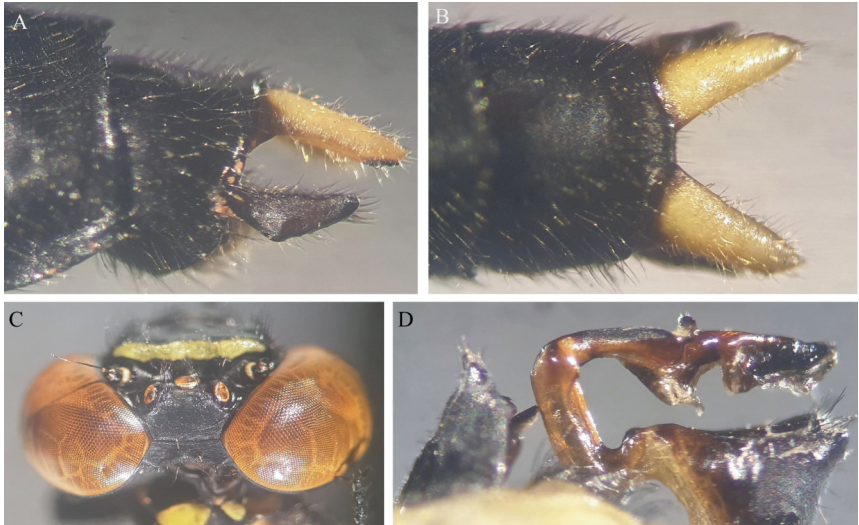


Figure 9. Structure of *Euthygomphus koxingai*, Khe Met, 12.5.2025. (A, B), anal appendages in lateral and dorsal view; (C), dorsal view of female head; (D), vesica spermalis, male.



Figure 10. *Chlorogomphus canhvang*, Khe Luong. (A, B), male in dorsal and lateral view (15.5.2024); (C, D), female in dorsal and lateral view (24.7.2024).



Figure 11. *Macromia urania*, Khe Met, 12.5.2025. (A, B), male in dorsal and lateral view; (C, D), female in dorsal and lateral view.

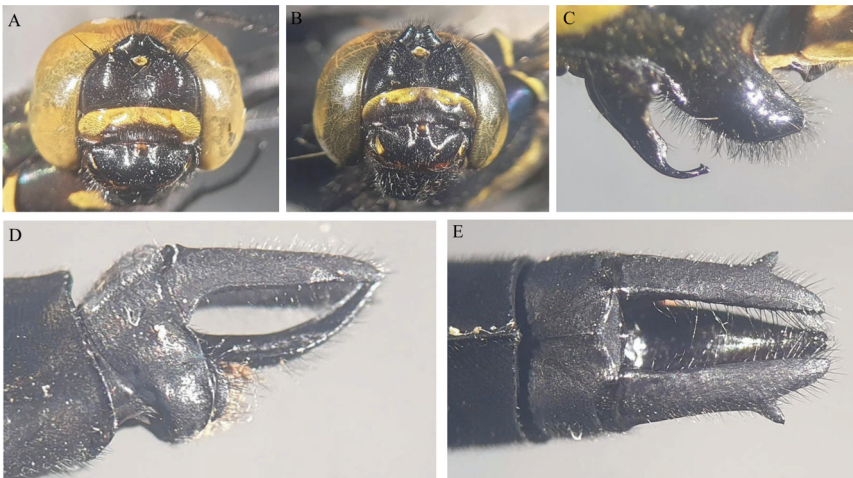


Figure 12. Structure of *Macromia urania*. (A, B), head male and female in frontal view; (C), secondary genitalia in lateral view; (D, E), anal appendages in lateral and dorsal view.

According to Kosterin (2016), *Euthygomphus koxingai* and *E. yunnanensis* can be distinguished solely by genital morphology: the apical part of the genital ligula is swollen in *E. koxingai* (Figure 9D) but slender in *E. yunnanensis* (Kosterin 2016: Fig. 3e). The vesica spermalis of the Pu Huong specimen corresponds fully to that of *E. koxingai* (Figure 9D). In addition, the female post-occipital plate bears two small spines—a diagnostic feature of *E. koxingai* (Figure 9C)—whereas females of *E. yunnanensis* possess a rounded, spineless plate (Kosterin 2016: Fig. 3t). Kosterin (2016) mentioned the occurrence of *E. yunnanensis* much further south in Thailand and Cambodia and suggested that it likely also occurs in southern Vietnam.

During our first survey (July 2024), we collected a female *Chlorogomphus* at Khe Luong whose abdominal pattern resembled that of *C. canhvang*, but with entirely hyaline wings (Figure 10C–D). During the second survey (May 2025), a male was collected at the same site. Based on the morphology of the anal appendages (Figure 10A–B), we confirmed that it belongs to *C. canhvang*. Notably, the female *C. canhvang* from Khe Luong differs from the female illustrated in Phan (2023: Figure 17), which has black markings near the apices of all wings. The absence of apical wing spots in the Khe Luong female likely represents intraspecific morphological variation. Nevertheless, further molecular analyses will be necessary to clarify the taxonomic status of these populations in the future.

The structures of the male secondary genitalia, vesica spermalis, and anal appendages (Figure 12) of the *Macromia* specimens collected in Pu Huong correspond closely to those of *M. urania*, matching the holotype male as illustrated by Lieftinck (1950: Figs 22, 30). Additionally, the faces of both males and females bear a distinct yellow transverse band (Figure 12A–B), whereas in *Macromia septima* the face is reddish brown.

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Appendix

Table 1. Checklist of dragonflies and damselfly in Pu Huong Nature Reserve

No.	Species	Met stream	Co stream	Luong stream
	Suborder Zygoptera			
	Calopterygidae			
1	<i>Mnais mneme</i> Ris, 1916	√	√	√
2	<i>Neurobasis chinensis</i> (Linnaeus, 1758)	√	√	√
3	<i>Vestalis gracilis</i> (Rambur, 1842)	√	√	√
	Chlorocyphidae			
4	<i>Aristocypha fenestrella</i> (Rambur, 1842)	√	√	√
5	<i>Heliocypha biforata</i> (Selys, 1859)	√	√	√
6	<i>Heliocypha perforata</i> (Percheron, 1835)	√	√	√
7	<i>Libellago lineata</i> (Burmeister, 1839)	√		√
	Coenagrionidae			
8	<i>Agriocnemis lacteola</i> Selys, 1877	√	√	√
9	<i>Agriocnemis femina</i> (Brauer, 1868)	√	√	√
10	<i>Agriocnemis pygmaea</i> Rambur, 1842		√	
11	<i>Argiocnemis rubescens</i> Selys, 1877	√	√	√
12	<i>Ceriagrion auranticum</i> Fraser, 1922	√	√	√
13	<i>Ceriagrion azureum</i> (Selys, 1891)	√	√	
14	<i>Ceriagrion fallax</i> Ris, 1914	√	√	√
15	<i>Ceriagrion chaoi</i> Schmidt, 1964	√		
16	<i>Ischnura senegalensis</i> (Rambur, 1842)	√	√	√
17	<i>Pseudagrion australasiae</i> Selys, 1876	√	√	
18	<i>Pseudagrion pruinum</i> (Burmeister, 1839)	√	√	√
19	<i>Pseudagrion rubriceps</i> Selys, 1876	√	√	√
	Devadattidae			
20	<i>Devadatta ducatrix</i> Lieftinck, 1969		√	
	Euphaeidae			
21	<i>Cryptophaea vietnamensis</i> (van Tol & Rozendaal, 1995)	√	√	√
22	<i>Euphaea decorata</i> (Hagen in Selys, 1853)	√		√
23	<i>Euphaea guerini</i> Rambur, 1842	√	√	√
24	<i>Euphaea masoni</i> Selys, 1879	√	√	√
25	<i>Euphaea ochracea</i> Selys, 1879	√	√	√
	Philogangidae			
26	<i>Philoganga vetusta</i> Ris, 1912	√	√	√
	Philosinidae			
27	<i>Rhinagrion hainanensis</i> Wilson & Reels, 2003	√	√	√
	Platycnemididae			
28	<i>Coelliccia pyriformis</i> Laidlaw, 1932	√	√	√
29	<i>Coelliccia sasamotoi</i> Do, 2011		√	
30	<i>Coelliccia scutellum</i> Laidlaw, 1932	√	√	√

No.	Species	Met stream	Co stream	Luong stream
31	<i>Copera marginipes</i> (Rambur, 1842)	√	√	√
32	<i>Copera vittata</i> (Selys, 1863)	√	√	√
33	<i>Indocnemis orang</i> (Forster in Laidlaw, 1907)	√	√	√
34	<i>Onychargia atrocyana</i> Selys, 1865	√	√	√
35	<i>Prodasineura autumnalis</i> (Fraser, 1922)	√	√	√
36	<i>Prodasineura croconota</i> Ris, 1916	√	√	√
37	<i>Pseudocopera ciliata</i> (Selys, 1863)	√	√	√
	Platystictidae			
38	<i>Drepanosticta emtrai</i> Dow, Kompier & Phan, 2018	√	√	√
39	<i>Protosticta grandis</i> (Asahina, 1984)	√		√
40	<i>Protosticta pseudocuriosa</i> Phan & Kompier, 2016	√	√	√
41	<i>Protosticta satoi</i> Asahina, 1997		√	
	Rhipidolestidae			
42	<i>Agriomorpha fusca</i> May, 1933	√	√	√
43	<i>Burmargiolestes melanothorax</i> (Selys, 1891)	√	√	
	Suborder Anisoptera			
	Aeshnidae			
44	<i>Anax guttatus</i> (Burmeister, 1839)	√	√	
45	<i>Anax aurantiacus</i> Makbun, Wongkamhaeng & Keetapichayakul, 2022	√		
46	<i>Tetracantagyna waterhousei</i> (McLachlan, 1898)	√	√	√
	Chlorogomphidae			
47	<i>Chlorogomphus canhvang</i> Kompier & Karube, 2018			√
48	<i>Chlorogomphus sachiyoae</i> Karube, 1995	√	√	√
	Gomphidae			
49	<i>Asiagomphus acco</i> Asahina, 1996	√	√	√
50	<i>Burmagomphus asahinai</i> Kosterin, Makbun & Dawwrueng, 2012	√	√	
51	<i>Euthygomphus koxingai</i> (Chao, 1954)	√		
52	<i>Gomphidia abbotti</i> Williamson, 1907	√	√	√
53	<i>Gomphidia kruegeri</i> Martin, 1904	√	√	√
54	<i>Heliogomphus bidentatus</i> Kompier & Karube, 2019		√	
55	<i>Heliogomphus retroflexus</i> (Ris, 1912)	√		
56	<i>Heliogomphus scorpio</i> (Ris, 1912)	√	√	√
57	<i>Ictinogomphus pertinax</i> (Selys, 1854)	√	√	√
58	<i>Lamelligomphus camelus</i> (Martin, 1904)	√	√	√
59	<i>Lamelligomphus vietnamensis</i> Karube, 2015		√	
60	<i>Leptogomphus perforatus</i> Ris, 1912	√		√
61	<i>Macrogomphus</i> sp.	√		
62	<i>Megalogomphus sommeri</i> (Selys, 1854)	√	√	√

No.	Species	Met stream	Co stream	Luong stream
63	<i>Melligomphus minimus</i> (Karube, 2014)	√		
64	<i>Merogomphus pavici</i> Martin, 1904	√	√	
65	<i>Nihonogomphus schorri</i> Do & Karube, 2011	√	√	
66	<i>Paragomphus capricornis</i> (Förster, 1914)	√	√	√
67	<i>Phaenandrogomphus tonkinicus</i> (Fraser, 1926)	√	√	
68	<i>Sinictinogomphus clavatus</i> (Fabricius, 1775)		√	
	Libellulidae			
69	<i>Aethriamanta gracilis</i> (Brauer, 1878)	√	√	
70	<i>Acisoma panorpoides</i> Rambur, 1842	√	√	√
71	<i>Atratothemis reelsi</i> Wilson, 2005	√		
72	<i>Brachydiplax chalybea</i> Brauer, 1868	√	√	√
73	<i>Brachythemis contaminata</i> (Fabricius, 1793)	√	√	√
74	<i>Cratilla lineata</i> (Brauer, 1878)	√	√	√
75	<i>Crocothemis servilia</i> (Drury, 1773)	√	√	√
76	<i>Diplacodes trivialis</i> (Rambur, 1842)	√	√	√
77	<i>Lathrecista asiatica</i> (Fabricius, 1798)	√	√	√
78	<i>Lyriothemis bivittata</i> (Rambur, 1842)	√	√	
79	<i>Hylaeothemis clementia</i> Ris, 1909	√		
80	<i>Neurothemis fulvia</i> (Drury, 1773)	√	√	√
81	<i>Neurothemis tulia</i> (Drury, 1773)	√	√	√
82	<i>Onychothemis testacea</i> Laidlaw, 1902	√	√	√
83	<i>Orthetrum chrysis</i> (Selys, 1891)	√	√	√
84	<i>Orthetrum glaucum</i> (Brauer, 1865)	√	√	√
85	<i>Orthetrum luzonicum</i> (Brauer, 1868)	√	√	
86	<i>Orthetrum pruinosum</i> (Burmeister, 1839)	√	√	√
87	<i>Orthetrum sabina</i> (Drury, 1770)	√	√	√
88	<i>Orthetrum triangulare</i> (Selys, 1878)	√	√	
89	<i>Pantala flavescens</i> (Fabricius, 1798)	√	√	√
90	<i>Potamarcha congener</i> (Rambur, 1842)	√	√	√
91	<i>Pseudothemis zonata</i> (Burmeister, 1839)	√	√	√
92	<i>Rhodothemis rufa</i> (Rambur, 1842)	√	√	
93	<i>Rhyothemis plutonia</i> Selys, 1883	√	√	√
94	<i>Rhyothemis variegata</i> (Linnaeus, 1763)	√	√	√
95	<i>Tetrathemis platyptera</i> Selys, 1878	√		
96	<i>Tholymis tillarga</i> (Fabricius, 1798)	√	√	√
97	<i>Tramea virginia</i> (Rambur, 1842)	√	√	√
98	<i>Trithemis aurora</i> (Burmeister, 1839)	√	√	√
99	<i>Trithemis festiva</i> (Rambur, 1842)	√	√	√
100	<i>Zygonyx iris</i> Selys, 1869	√	√	√
101	<i>Zyxomma petiolatum</i> Rambur, 1842	√	√	

No.	Species	Met stream	Co stream	Luong stream
	Macromiidae			
102	<i>Macromia moorei</i> Selys, 1874	√	√	
103	<i>Macromia urania</i> Ris, 1916	√	√	
	Idionychidae			
104	<i>Idionyx thailandica</i> Hämäläinen, 1985	√	√	√
	Macromidiidae			
105	<i>Macromidia kelloggi</i> Asahina, 1978	√		√

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