

Actions of Hungarians in Batanta: results of fifteen years of research (Indonesia: West Papua)

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*This work is dedicated to the memory of Heinrich
Agathon Bernstein (1828–1865), who lost his life in the
course of zoological exploration on Batanta Island*

ABSTRACT: The authors summarize the results of 15 years of research on Batanta. The most intensively studied taxa are Marchantiophyta, with 48 taxa identified, including 3 new taxa, as well as three groups of aquatic insects: Ephemeroptera, with six new species; Odonata, with 67 species, 10 of them new; and Trichoptera, with 163 species, 157 of them new. For Marchantiophyta, Odonata, and Trichoptera, we present a checklists for Batanta and on maps, plot the number of species collected at our survey areas. Additional results include one new gastropod species (synonym), one bivalve species new to Batanta, and five oligochaete species new to Batanta. We also report a *Neoperla* species (Plecoptera), which is very rare in the New Guinea region. To date, 172 new species has been described within this program. The project will be continued, and many further new results are expected from the island of Batanta, renowned for its outstanding natural beauty.

Introduction

The exploration of the fauna of Batanta was initiated by the second author in 2009, and the other two authors joined the program in 2014. The research was suspended during the COVID-19 pandemic (2021–2022); therefore, the 15-year active research period mentioned in the title should be interpreted accordingly. Currently, the Mátra Museum of the Hungarian Natural History Museum, in collaboration with other research organizations, is conducting a research program on the biodiversity of Batanta Island. An article on the beginnings of the research and the conditions of the island has been published by Kovács *et al.* (2015a).

Who could have been the first naturalist and collector in Batanta?

In his article “Biological exploration of New Guinea” FRODIN (2007) writes the following: „Prior to the mid-nineteenth century, western New Guinea remained largely peripheral to European scientific interest. Wallace in 1858 and von Rosenberg from then through the 1860s were among the few naturalists active in the region.” „...In a similar vein, Heinrich Bernstein undertook zoological collecting in 1864, gathering animals at Sorong, Waigeo, and Salawati, thereby adding to the still limited but growing body of knowledge about the fauna of western New Guinea.”

We know that in 1858 Wallace, on his way to Doray (New Guinea), sailed past Batanta and stayed for a longer period on the neighboring island of Waigeo, in a settlement called Bessir (Fig. 12), where he also made observations on the behaviour of *Paradisea sanguinea* in 1860 (WALLACE 1869). We do not know why Batanta did not attract his interest. In ELLIOT's (1873) monograph on birds of paradise, Batanta is already mentioned several times in connection with Heinrich Agathon Bernstein (1828–1865) for the following species: *Ailuroedus bucoides*, *Diphyllodes respublica*, *Paradisea sanguinea*. The two scientists even met in Ternate in 1860 (BECCALONI 2019). Bernstein conducted nine expeditions in Indonesia, collecting for the Leyden Museum. His last expedition took place between 18 October 1864 and 19 April 1865 (JANSSEN 2008). According to MUSSCHENBROEK (1883), his collections on Batanta took place on the following days: 3 (the first species being “*Paradisea calva*” = *Diphyllodes respublica*), 4, 5, 8, and 10 April 1865. Bernstein died on Batanta on 19 April 1865 of a liver abscess (VETH 1879). He was buried in Ternate “because this was just not possible on gloomy Batanta, in the middle of the regions where he acquired his most precious results...” (ROSENBERG 1875); MUSSCHENBROEK (1883) also confirms this, cf. BECCALONI (2019).

Specimens and records from the bird collection of the Leiden National Museum of Natural History document Bernstein's Batanta collections of 1865, whereas C. B. H. von Rosenberg only has birds from Batanta dated 1869 (DEKKER 2003, DEKKER & QUAISER 2006).

Research history - not exhaustive

Regarding invertebrates, numerous articles can be found, but works presenting results of any ongoing research are lacking. Among these, SZEDERJESI (2019) lists several for Decapoda, Heteroptera, Hymenoptera, and Coleoptera (Carabidae, Dytiscidae). Among other groups, there is a mollusk record, *Leptopoma lamellatum* Sykes, 1903 from Batanta (ISNANINGSIH & MARWOTO 2010). One dragonfly record exists: *Idiocnemis bidentata* Selys, 1878, which was collected during the 1996 trip of the Zoölogisch Museum, Amsterdam, on the southern part of the island (GASSMANN 2000).

Over the past 40 years, however, numerous new vertebrate species have been described from Batanta, including freshwater fish: *Melanotaenia batanta* Allen & Renyaan, 1998, *M. synergos* Allen & Unmack, 2008 (ALLEN & RENYAAN 1998, ALLEN & UNMACK 2008); new reptile species: *Varanus macraei* Böhme & Jacobs, 2001 (BÖHME & JACOBS 2001), *Cyrtodactylus zugii* (OLIVER *et al.* 2008), *Stegonotus iridis* and *S. derooijae* Ruane, Richards, McVay, Tjaturadi, Krey, and Austin, 2017 (RUANE *et al.* 2017).

As suggested by the above, the earliest collections were primarily focused on birds. A Swedish expedition, mainly composed of ornithologists, visited Batanta and is reported by BERGMAN (1954). The distribution of a new Megapodiidae subspecies, *Megapodius freycinet oustaleti* Roselaar, 1994, also includes Batanta (ROSELAAR 1994). In recent decades, an article based on field observations has also been published on the Batanta population of *Diphyllodes respublica* (NOSKE *et al.* 2012).

Our activities

Marchantiophyta

Epiphyllous liverworts (Marchantiophyta) were previously unknown from the island, so we began collecting them in 2017. The identification of the specimens was carried out by Tamás Pócs. To date, 48 taxa have been identified, including three new taxa: *Cololejeunea tiberii*, *Cololejeunea touwii* subsp. *batantae*, and *Drepanolejeunea levicornua* var. *incurviloba*. Fourteen of these were new records for the western half of New Guinea (Pócs & Kovács 2019, 2021, 2023). The species numbers for each survey area are shown in Fig. 1.

Checklist of Marchantiophyta of Batanta

wfd = without faunistical data

- Caudalejeunea reniloba* (Gottsche) – Pócs & Kovács 2019 and 2021: as „*Caudalejeunea recurvistipula* (Gottsche) Schiffn.”, Pócs & Kovács 2023.
- Cheilejeunea intertexta* (Lindenb.) Steph. – Pócs & Kovács 2021, 2023 wfd.
- Cheilejeunea trapezia* (Nees) R. M. Schust. et Kachroo – Pócs & Kovács 2023.
- Cheilejeunea vittata* (G. Hoffm.) R. M. Schust. et Kachroo – Pócs & Kovács 2023.
- Cololejeunea amphibola* B. M. Thiers – Pócs & Kovács 2021, 2023.
- Cololejeunea angustiflora* (Steph.) Mizut. – Pócs & Kovács 2019, 2023 wfd.
- Cololejeunea appressa* (Horik.) Benedix – Pócs & Kovács 2019, 2023.
- Cololejeunea cordiflora* Steph. – Pócs & Kovács 2019, 2023 wfd.
- Cololejeunea equalbi* Tixier – Pócs & Kovács 2019, 2021, 2023 wfd.
- Cololejeunea falcata* (Horik.) Benedix – Pócs & Kovács 2021, 2023 wfd.
- Cololejeunea floccosa* (Lehm. & Lindenb.) Schiffn. var. *aurita* Benedix – Pócs & Kovács 2019, 2021, 2023.
- Cololejeunea hirta* (Steph.) Benedix – Pócs & Kovács 2019: as „*Cololejeunea haskarliana* (Lehm. & Lindenb.) Schiffn.”, Pócs & Kovács 2021, 2023.
- Cololejeunea lanciloba* Steph. – Pócs & Kovács 2019, 2021, 2023 wfd.
- Cololejeunea obliqua* (Nees et Mont.) Schiffn. – Pócs & Kovács 2019, 2023 wfd.
- Cololejeunea papillosa* (K. I. Goebel) Mizut. – Pócs & Kovács 2021, 2023 wfd.
- Cololejeunea planissima* (Mitt.) Abeyw. – Pócs & Kovács 2019, 2023 wfd.
- Cololejeunea schmidtii* Steph. – Pócs & Kovács 2023.
- Cololejeunea streimannii* Pócs – Pócs & Kovács 2019: as „*Cololejeunea streimannii* Pócs var. *streimannii*”, Pócs & Kovács 2023.
- Cololejeunea tenella* Benedix – Pócs & Kovács 2023.
- Cololejeunea tiberii* Pócs – Pócs & Kovács 2023.
- Cololejeunea touwii* Pócs subsp. *batantae* Pócs – Pócs & Kovács 2019: as „*Cololejeunea* cf. *touwii* Pócs”, Pócs & Kovács 2023.
- Colura ari* Steph. – Pócs & Kovács 2021, 2023.
- Colura conica* (Sande Lac.) K. I. Goebel var. *integra* – Pócs & Kovács 2019 and 2021: as „*Colura conica* (Sande Lac.) K. I. Goebel”, Pócs & Kovács 2023.
- Colura herzogii* Jov.-Ast – Pócs & Kovács 2023.

Colura imperfecta Steph. – Pócs & Kovács 2019, 2021, 2023 wfd.
Colura tenuicornis (A.Evans) Steph. – Pócs & Kovács 2021, 2023 wfd.
Dendroceros javanicus (Nees) Nees – Pócs & Kovács 2019 and 2023: as „*Dendroceros javanicus* (Nees) Gottsche *et al.*”.
Drepanolejeunea cyclops (Sande Lac.) Grolle – Pócs & Kovács 2023.
Drepanolejeunea levicornua Steph. – Pócs & Kovács 2019, 2021, 2023.
Drepanolejeunea levicornua Steph. var. *incurviloba* Pócs – Pócs & Kovács 2023.
Drepanolejeunea longicruris (Steph.) Grolle & R. L. Zhu – Pócs & Kovács 2019, 2021, 2023.
Drepanolejeunea pentadactyla (Mont.) Steph. – Pócs & Kovács 2019, 2021, 2023.
Lejeunea adpressa Nees – Pócs & Kovács 2019, 2021, 2023.
Lejeunea exilis (Reinw., Blume et Nees) Grolle var. *exilis* – Pócs & Kovács 2021, 2023.
Lejeunea micholitzii Mizut. – Pócs & Kovács 2019, 2023.
Leptolejeunea elliptica (Mitt.) Steph. – Pócs & Kovács 2019, 2023.
Leptolejeunea epiphylla (Mitt.) Steph. – Pócs & Kovács 2019, 2021, 2023.
Leptolejeunea maculata (Mitt.) Schiffn. – Pócs & Kovács 2023.
Leptolejeunea tripuncta (Mitt.) Steph. – Pócs & Kovács 2019, 2021, 2023.
Lopholejeunea sp. – Pócs & Kovács 2023.
Metalejeunea cucullata (Reinw., Blume et Nees) Grolle – Pócs & Kovács 2019 and 2023: as „*Metalejeunea cucullata* (Reinw. *et al.*) Grolle”.
Microlejeunea punctiformis (Taylor) Steph. – Pócs & Kovács 2023.
Microlejeunea cf. *filicuspis* (Steph.) Heinrichs, Schäf.-Verw., Pócs et S.Dong – Pócs & Kovács 2023.
Radula acuminata Steph. – Pócs & Kovács 2019, 2023 wfd.
Radula javanica Gottsche – Pócs & Kovács 2023.
Radula nymanii Steph. – Pócs & Kovács 2019, 2021, 2023.
Radula protensa Lindenb. – Pócs & Kovács 2019, 2021, 2023 wfd.
Radula tjibodensis K.I.Goebel – Pócs & Kovács 2019, 2023.

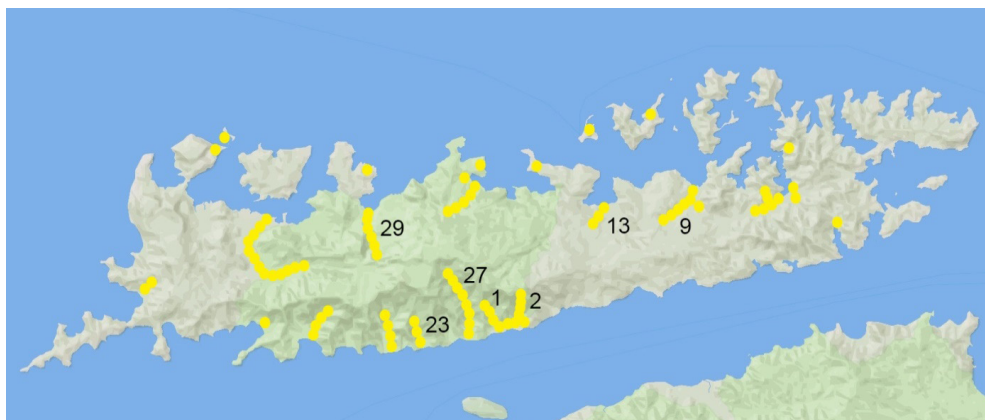


Fig. 1. Map of Batanta with the areas we surveyed = dot and dots, and the numbers of Marchantiophyta species collected at each survey area: northern coast – Warai 29, Warikambon (= Warmon) 13, Waibin 9; southern coast – Tanjung Lampu 23, Kalijakut 27, Wailebet Stream 1, Wailebet: E stream 2.
 Base map © OpenStreetMap, Mapbox, and Mapcarta

Mollusca

On Batanta, terrestrial and freshwater mollusks have been collected since 2014. So far, one new gastropod species has been described: *Bellardiella kovacsi* Varga & Páll-Gergely, 2017 (VARGA & PÁLL-GERGELY 2017). It turned out that *Bellardiella kovacsi* is a junior synonym of *Bellardiella abbasi* Thach, 2017 (PÁLL-GERGELY & VARGA 2021). In the island's largest river, the Waridor River, a bivalve species, *Hyridella misoolensis* (Schepman, 1897), was detected, which was previously described from the neighboring island of Misool (BOGAN & KOVÁCS 2025).

Clitellata

The identification of our small earthworm collection from Batanta and the neighboring small Birie Island, from the period between 2014 and 2019, yielded five species: *Dichogaster anae* (Horst, 1893), *Polypheretima annulata* (Horst, 1883), *P. fakfakensis* (Cognetti, 1908), *Amyntas halmaherae* (Michaelsen, 1896), and *A. hendersonianus* (Cognetti, 1914). These are the first records of earthworms from Batanta (SZEDERJESI 2019).

Insecta: Ephemeroptera

In parallel with mayfly collection by using light traps and dragonfly sampling by using aquatic nets, the study of mayfly imagos and larvae collected since 2014 reached a stage this year, where we published six new species from one genus of the family Baetidae in collaboration with Swiss colleagues: *Papuanatula batanlenos* Kaltenbach, Kovács & Gattolliat, 2025; *P. batantaraja* Kovács, Kaltenbach & Gattolliat, 2025; *P. cataracta* Kaltenbach, Kovács & Gattolliat, 2025; *P. cuciclara* Kaltenbach, Kovács & Gattolliat, 2025; *P. horvathrobi* Kovács, Kaltenbach & Gattolliat, 2025; and *P. longabbranchias* Kaltenbach, Kovács & Gattolliat, 2025 (KALTENBACH *et al.* 2025).

Insecta: Odonata

The exploration of Odonata since 2014 can be considered thorough, although even each of the last two years have yielded one new species. A total of 67 Odonata taxa have been reported from Batanta Island, including Arefi and Birie Islands (KOVÁCS & THEISCHINGER 2023, 2026, KOVÁCS *et al.* 2015ab, 2016, 2021). The previously published Odonata records number 600. Species described by us include *Argiolestes varga*, *Diplacina olahi*, *Drepanosticta batanta*, *Nososticta dora*, *Nososticta peti*, *Palaiaargia susannae*, and *Rhyothemis rita*, with three additional descriptions in progress. *Hydrobasileus vittatus* is also new to New Guinea.

Furthermore, 25 species are new records for the Raja Ampat Islands: *Agriocnemis femina*, *Agriocnemis rubescens*, *Ceriagrion aeruginosum*, *Diplacina* cf. *ismene*, *D. smaragdina*, *Diplacodes trivialis*, *Drepanosticta auriculata*, *Gynacantha rosenbergi*, *Huonia epinephela*, *Idiocnemis inornata*, *Ischnura senegalensis*, *Nannophlebia amphicyllis*, *Nannophya* cf. *pygmaea*, *Neurothemis ramburii*, *Orthetrum serapia*, *Palaiaargia charmosyna*, *Pantala flavescens*, *Papuagrion magnanimum*, *Pseudagrion* cf. *civicum*, *Rhodothemis nigripes*, *Rhyothemis phyllis*, *R. regia*, *Tramea transmarina propinqua*, *Xiphiagrion cyanomelas*, and *Zyx-*

omma multinervorum (cf. KALNIŃŠ 2021). The species numbers for each survey area are shown in Fig. 2.

The total number of known Odonata species in the Raja Ampat region is 107, with their distribution among the four main islands as follows: Misool (2,034 km²) 48 species / 7 endemic, Salawati (1,623 km²) 22 species, Waigeo (3,155 km²) 33 species / 10 endemic, Batanta (453 km²) 67 species / 10 endemic (see Fig. 3).

Checklist of Odonata of Batanta

wfd = without faunistical data

ZYGOPTERA

PLATYSTICTIDAE Kennedy, 1920

Drepanosticta auriculata (Selys, 1878) – Kovács *et al.* 2015b, 2016, 2021.

Drepanosticta batanta Kovács & Theischinger, 2015 – Kovács *et al.* 2015b, 2016, 2021.

CALOPTERYGIDAE Selys, 1850

Neurobasis australis Selys, 1897 – Kovács *et al.* 2015b, 2021 wfd.

CHLOROCYPHIDAE Cowley, 1937

Rhinocypha tincta cf. *sagitta* Lieftinck, 1938 – Kovács *et al.* 2015b, 2016, 2021.

ARGIOLESTIDAE Fraser, 1957

Argiolestes australis (Guérin-Meneville, 1832) – Kovács *et al.* 2016, 2021.

Argiolestes varga Kovács & Theischinger, 2021 – Kovács *et al.* 2021

Metagrion sp. – Kovács *et al.* 2015b and 2016: as „*Metagrion postnodale* (Selys, 1878)”, Kovács *et al.* 2021.

ISOSTICTIDAE Fraser, 1955

Selysioneura cornelia Lieftinck, 1953 – Kovács *et al.* 2015b: as „*Selysioneura* cf. *cervicornu* Förster, 1900”, Kovács *et al.* 2021.

Selysioneura sp. n. – Kovács & Theischinger 2026.

PLATYCNEMIDIDAE Yacobson & Bianchi, 1905

Disparoneurinae Fraser, 1957

Nososticta aurantiaca (Lieftinck, 1938) – Kovács *et al.* 2015b, 2016, 2021, THEISCHINGER & RICHARDS 2015, KOVÁCS & THEISCHINGER 2023.

Nososticta dora Kovács & Theischinger, 2016 – Fig. 4. – Kovács *et al.* 2016, 2021, Kovács & Theischinger 2023.

Nososticta peti Kovács & Theischinger, 2023 – Kovács & THEISCHINGER 2023.

Idiocnemidinae Dijkstra, Kalkman, Dow, Stokvis & van Tol, 2014

Idiocnemis bidentata Selys, 1878 – GASSMANN 2000, Kovács *et al.* 2015b, 2016, 2021.

Idiocnemis inornata Selys, 1878 – Kovács *et al.* 2015b, 2016, 2021.

Idiocnemis strumidens Lieftinck, 1958 – Kovács *et al.* 2016, 2021, Kovács & THEISCHINGER 2023.

Palaiargia charmosyna Lieftinck, 1932 – Kovács *et al.* 2016, 2021.

Palaiargia susannae Kovács & Theischinger, 2015 – Fig. 5. – Kovács *et al.* 2015b, 2021.

COENAGRIONIDAE Kirby, 1890

Argiocnemis femina (Brauer, 1869) – Kovács *et al.* 2015b, 2016, 2021.

Argiocnemis rubescens Selys, 1877 – Kovács *et al.* 2016, 2021.

Ceriagrion aeruginosum Brauer, 1869 – Kovács *et al.* 2015b, 2021.

Ischnura senegalensis (Rambur, 1842) – Kovács *et al.* 2015b, 2021.

Papuagrion magnanimum (Selys, 1876) – Kovács *et al.* 2021.

Pseudagrion civicum Lieftinck, 1932 – Kovács *et al.* 2015b: as „*Pseudagrion* cf. *civicum* Lieftinck, 1932”, 2016, 2021, Kovács & THEISCHINGER 2023.

Pseudagrion starreanum Lieftinck, 1949 – Kovács *et al.* 2015b, 2016, 2021.

Teinobasis rufithorax (Selys, 1877) – Kovács *et al.* 2015b, 2016, 2021.

Teinobasis superba (Hagen in Selys, 1877) – Kovács *et al.* 2016, 2021.

Teinobasis sp. n. – Kovács & THEISCHINGER 2026.

Teinobasis sp. n. – Kovács & THEISCHINGER 2026.

Xiphiagrion cyanomelas Selys, 1876 – Kovács *et al.* 2015b, 2021.

ANISOPTERA

AESHNIDAE Leach, 1815

Agyrtacantha dirupta (Karsch, 1889) – Kovács *et al.* 2015b: „one exuvium (2014-3) as *Gynacantha mocsaryi* Förster, 1898”, Kovács *et al.* 2021.

Anax maclachlani Förster, 1898 – Kovács *et al.* 2021.

Gynacantha mocsaryi Förster, 1898 – Kovács *et al.* 2015b, 2016, 2021.

Gynacantha rosenbergi Kaup, 1867 – Kovács *et al.* 2015b: „one larva, four exuviae (2014-21, 2015-8, 2015-15a) and two females as *Gynacantha mocsaryi* Förster, 1898”, Kovács *et al.* 2021.

SYNTHEMISTIDAE Tillyard, 1911

Palaeosynthemis cf. *cervula* (Lieftinck, 1938) – Kovács *et al.* 2021.

MACROMIIDAE Needham, 1903

Macromia euphrosyne Lieftinck, 1952 – Kovács *et al.* 2015b, 2021.

LIBELLULIDAE Leach, 1815

Agrionoptera insignis (Rambur, 1842) – Kovács *et al.* 2015b, 2021.

Agrionoptera longitudinalis Selys, 1878 – Kovács *et al.* 2015b, 2016, 2021.

Brachydiplax duivenbodei (Brauer, 1866) – Kovács *et al.* 2015b, 2016, 2021.

Camacinia gigantea (Brauer, 1867) – Kovács *et al.* 2015b, 2021.

Diplacina cyrene Lieftinck, 1953 – Kovács & THEISCHINGER 2023.

Diplacina cf. *ismene* Lieftinck, 1933 – Kovács *et al.* 2016, 2021 wfd.

Diplacina olahi Theischinger & Kovács, 2015 – Kovács *et al.* 2015b, 2021 wfd.

Diplacina smaragdina Selys, 1878 – Kovács *et al.* 2016: as „*Diplacina olahi* Theischinger & Kovács, 2015”, Kovács *et al.* 2021.

Diplacodes trivialis (Rambur, 1842) – Kovács *et al.* 2015b, 2016, 2021.

Huonia epinephela Förster, 1903 – Kovács *et al.* 2015b, 2016, 2021.

Huonia thais Lieftinck, 1953 – Kovács *et al.* 2015b, 2021.

Hydrobasileus vittatus Kirby, 1889 – Kovács *et al.* 2015b, 2021.

Nannophlebia amnosia Lieftinck, 1955 – Kovács *et al.* 2015b, 2021, Kovács & THEISCHINGER 2023.

Nannophlebia amphicyllis Lieftinck, 1933 – Kovács *et al.* 2016: as „*Nannophlebia amnosia* Lieftinck, 1955”, Kovács *et al.* 2021.

Nannophya cf. *pygmaea* Rambur, 1842 – Kovács *et al.* 2016, 2021.

Nesoxenia mysis (Selys, 1878) – Kovács *et al.* 2021.

Neurothemis ramburii (Kaup, 1866) – Kovács *et al.* 2015b, 2016, 2021.

Neurothemis stigmatizans (Fabricius, 1775) – Kovács *et al.* 2015b, 2016, 2021.

Orthetrum serapia Watson, 1984 – Kovács *et al.* 2015b, 2021.

Orthetrum villosovittatum (Brauer, 1868) – Kovács *et al.* 2015b, 2021.

Pantala flavescens (Fabricius, 1798) – Kovács *et al.* 2021.

Protorthemis coronata (Kaup, 1866) – Kovács *et al.* 2015b, 2021.

Raphismia bispina (Hagen, 1867) – Kovács *et al.* 2015b, 2016, 2021.

Rhodothemis nigripes Lohmann, 1984 – Kovács *et al.* 2021.

Rhyothemis phyllis (Sulzer, 1776) – Kovács *et al.* 2015b, 2016, 2021.

Rhyothemis regia (Brauer, 1867) – Kovács *et al.* 2021.

Rhyothemis resplendens Selys, 1878 – Kovács *et al.* 2016, 2021.

Rhyothemis rita Kovács & Theischinger, 2016 – Fig. 6 – Kovács *et al.* 2016, 2021 wfd.

Tetrathemis irregularis Brauer, 1868 – Kovács *et al.* 2021.

Tramea eurybia Selys, 1878 – Kovács *et al.* 2015b, 2021.

Tramea transmarina propinqua Lieftinck, 1942 – Kovács *et al.* 2021.

Zyxomma multinervorum Carpenter, 1897 – Kovács *et al.* 2021.

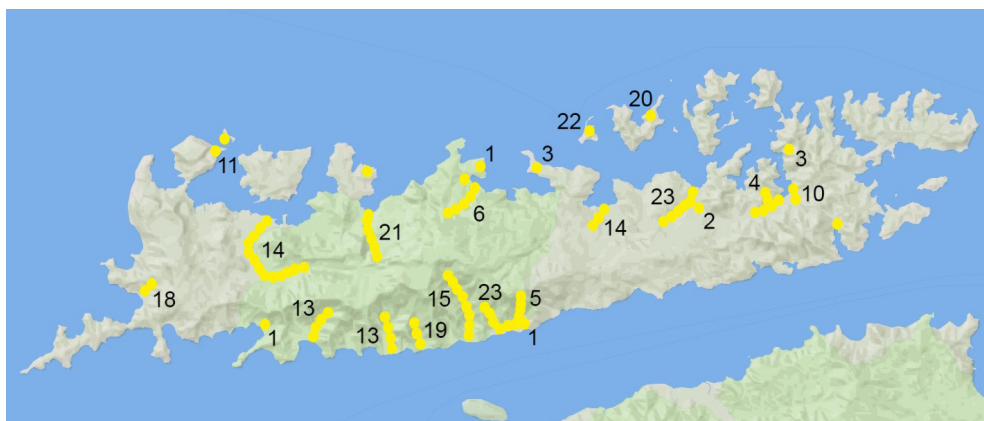


Fig. 2. Map of Batanta with the areas we surveyed = dot and dots, and the numbers of Odonata species collected at each survey area: northern coast – Minlii 11, Waridor 14, Warai 21, Weras 6, Dugong Homestay 1, Yensawai 3, Arefi 22, Birie 20, Waibin 23, Waibin: E stream 2, „Wilson” 4, „Marko” 3, Ron 10; southern coast – Forum 18, Pankarai 1, Kalisamsem 13, Kaliselatan 13, Tanjung Lampu 19, Kalijakut 15, Wailebet Stream 23, Wailebet: E stream 5, Tanjung Karam 1. Base map © OpenStreetMap, Mapbox, and Mapcarta



Fig. 3. Odonata species abundance / endemism of the four main islands of Raja Ampat. Base map JONES & SHIMLOCK (2011)



Figs 4–7. The “ladies” of Batanta, the muses of the describers, three Odonata species and a species of Trichoptera: **Fig. 4.** = *Nososticta dora*; **Fig 5.** = *Palaiargia susannae*; **Fig. 6.** = *Rhyothemis rita*; **Fig. 7.** = *Baliomorpha mariannae* (photos: T. Kovács)

Insecta: Plecoptera

Only one Plecoptera taxon occurs in New Guinea, regarding which ZWICK & ZWICK (2023) write the following: „Beyond Africa, the genus *Neoperla* occurs also in the eastern Nearctic, eastern Palearctic, and Oriental Regions. Disjunct from this distribution, one unnamed species was collected in New Guinea.” The data for the four females known so far are as follows: Indonesia, Irian Yaya, Cyclops Mountains, 1959, 1♀; 1962, 1♀ – Papua-New Guinea, Finisterre Range Saidor, 1958, 1♀ – New Britain, Gazelle Peninsula, 1962, 1♀ (Zwick in litt). Larvae of the genus are also known from the Cyclops Mountains (STARK & SIVEC 2007). In the Kalijakut River valley, which has been studied many times, we managed to collect a female flying during the day: Batanta Island, valley of Kalijakut River, 185 m, S00°53'03.4”, E130°38'12.6”, 15.02.2023, 1♀, T. Kovács, R. Horváth, P. Juhász, K. Sauyai, R. Sauyai (MM: 2023-15).

Insecta: Trichoptera

The group was examined for the first time on Batanta, and no species from this island were previously known. By now, it can be considered the best-studied taxon. So far, 163 species have been identified, of which 157 were previously unknown to science. Additionally, two new genera were established: *Horvathomina* Oláh, 2014, and *Batantapsyche* Oláh & Kovács, 2015. The number of published records amounts to 1022 (KOVÁCS *et al.* 2015a, OLÁH 2012a,

2013, 2014, 2015, 2016ab, 2022; OLÁH & KOVÁCS 2015, 2018; OLÁH *et al.* 2022). It is worth noting that Trichoptera were found exclusively in flowing waters; they were never found in standing waters (Arefi: Mandur, Batanta: Minlii Lake, Birie: marsh and moor). The species numbers of each survey area are shown in Fig. 8.

Checklist of Trichoptera of Batanta

PHILOPOTAMIDAE Stephens, 1829

Chimarra abeli Oláh, 2013 – OLÁH 2013.

Chimarra agasa Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra bobita Oláh, 2012 – OLÁH 2012, 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra bogos Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Chimarra elvala Oláh, 2013 – OLÁH 2013, 2014, 2016b.

Chimarra erzek Oláh, 2013 – OLÁH 2013, 2014, 2016b.

Chimarra fehera Oláh, 2012 – OLÁH 2012, 2013, 2016b.

Chimarra felkora Oláh, 2012 – OLÁH 2012, 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra fogas Oláh, 2013 – OLÁH 2013, 2016b.

Chimarra holda Oláh, 2012 – OLÁH 2012, 2013, 2014, 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022: as „*Chimarra holda* Oláh, 2013” (sic!).

Chimarra horgoka Oláh, 2012 – OLÁH 2012, 2013, 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Chimarra kalija Oláh 2014 – OLÁH 2014.

Chimarra kampa Oláh, 2016 – OLÁH 2016b.

Chimarra kanala Oláh, 2012 – OLÁH 2012, 2013, 2014, 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Chimarra kapcos Oláh, 2016 – OLÁH 2016b.

Chimarra kerka Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Chimarra mrsale Oláh, 2013 – OLÁH 2013, 2014, 2016b.

Chimarra nurga Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.

Chimarra parza Oláh, 2018 – OLÁH & KOVÁCS 2018.

Chimarra rokona Oláh, 2016 – OLÁH 2016b.

Chimarra sarkos Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra sukula Oláh, 2016 – OLÁH 2016b.

Chimarra tompa Oláh, 2013 – OLÁH 2013, 2016b, OLÁH & KOVÁCS 2018.

Chimarra tulok Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra tuparna Oláh, 2013 – OLÁH 2013, 2014.

Chimarra ujika Oláh, 2012 – OLÁH 2012, 2013, 2014, 2016b, OLÁH *et al.* 2022.

Chimarra vegsem Oláh, 2013 – OLÁH 2013, 2014, 2016b, OLÁH & KOVÁCS 2018.

Chimarra vekon Oláh, 2013 – OLÁH 2013, 2014: as „*Chimarra vekon* Oláh, 2012” (sic!), OLÁH 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Chimarra waridora Oláh, 2013 – OLÁH 2013, 2014: as „*Chimarra waridora* Oláh, 2012” (sic!), OLÁH 2016b.

ECNOMIDAE Ulmer, 1903

- Ecnomus bogos* Oláh, 2013 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Ecnomus bondor Oláh, 2013 – OLÁH 2013.
Ecnomus bunkos Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2018.
Ecnomus fiak Oláh, 2018 – OLÁH & KOVÁCS 2018.
Ecnomus lelog Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Ecnomus terul Oláh, 2013 – OLÁH 2013.
Ecnomus vajtos Oláh, 2018 – OLÁH & KOVÁCS 2018.
Ecnomus vecon Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2018.
Horvathomina akosi Oláh, 2014 – OLÁH 2014.
Horvathomina gergoi Oláh, 2014 – OLÁH 2014, OLÁH & KOVÁCS 2018.
Horvathomina martoni Oláh, 2014 – OLÁH 2014, OLÁH & KOVÁCS 2018.

DIPSEUDOPSIDAE Ulmer, 1904

- Hyalopsyche batanta* Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Hyalopsyche maganka Oláh, 2016 – OLÁH 2016b.

PSYCHOMYIIDAE Walker, 1852

- Tinodes gomboc* Oláh, 2012 – OLÁH 2012, 2014.
Tinodes martoni Oláh, 2012 – OLÁH 2012, 2014.
Tinodes rekae Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2018.
Tinodes savos Oláh, 2018 – OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Tinodes simul Oláh, 2018 – OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Tinodes topor Oláh, 2014 – OLÁH 2014, OLÁH & KOVÁCS 2018.
Tinodes vagot Oláh, 2014 – OLÁH 2014.

POLYCENTROPIDAE Ulmer, 1903

- Nyctiophylax batant* Oláh, 2012 – OLÁH 2012, 2014.
Nyctiophylax bunk Oláh, 2012 – OLÁH 2012, 2014, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Nyctiophylax egyes Oláh, 2014 – OLÁH 2014, OLÁH & KOVÁCS 2018.
Nyctiophylax ketes Oláh, 2012 – OLÁH 2012, 2014.
Nyctiophylax kevert Oláh, 2012 – OLÁH 2012, 2014.
Nyctiophylax sotet Oláh, 2018 – OLÁH & KOVÁCS 2018.
Polycentropus batant Oláh, 2015 – OLÁH 2015, OLÁH *et al.* 2022.
Polyplectropus ollos Oláh, 2014 – OLÁH 2014.
Polyplectropus pohos Oláh, 2014 – OLÁH 2014.

HYDROPSYCHIDAE Curtis, 1835

DIPLECTRONINAE Ulmer, 1951

Diplectrona savos Oláh, 2013 – OLÁH 2013.

Diplectrona szalma Oláh, 2013 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2018.

HYDROPSYCHINAE Curtis, 1835

Abacaria kevera Oláh, 2018 – OLÁH & KOVÁCS 2018.

Abacaria kovacsi Oláh, 2014 – OLÁH 2014.

Abacaria sima Oláh, 2013 – OLÁH 2013, OLÁH & KOVÁCS 2015, 2018.

Batantapsyche juhaszi Oláh & Kovács, 2015 – OLÁH & KOVÁCS 2015, 2018.

Cheumatopsyche batanta Oláh, 2012 – OLÁH 2012, 2013.

Cheumatopsyche expeditionis (Ulmer, 1938) – OLÁH *et al.* 2022.

Cheumatopsyche ronbata Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2015.

Cheumatopsyche ronujra Oláh, 2012 – OLÁH 2012, 2014.

Cheumatopsyche sorra Oláh, 2013 – OLÁH 2013, OLÁH & KOVÁCS 2015, OLÁH *et al.* 2022.

Cheumatopsyche tarka Oláh, 2012 – OLÁH 2012, 2013, OLÁH & KOVÁCS 2018.

Hydropsyche sabronensis (Kimmins, 1962) – OLÁH 2013, 2014, OLÁH & KOVÁCS 2015, 2018, OLÁH *et al.* 2022.

Hydropsyche sotet Oláh & Kovács, 2015 – OLÁH & KOVÁCS 2015, 2018.

Hydropsyche tuskes Oláh, 2013 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2015, 2018.

MACRONEMATINAE Ulmer, 1905

Baliomorpha barna Oláh, 2012 – OLÁH 2012, 2014, OLÁH & KOVÁCS 2015, 2018, OLÁH *et al.* 2022.

Baliomorpha mariannae Oláh, 2012 – Fig. 7 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2015, 2018.

Baliomorpha sarga Oláh, 2013 – OLÁH 2013.

Leptopsyche kormos Oláh & Kovács, 2015 – OLÁH & KOVÁCS 2015, 2018.

Leptopsyche vilagos Oláh & Kovács, 2015 – OLÁH & KOVÁCS 2015, 2018.

Macrostemum auriferum Neboiss, 1984 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2015.

Macrostemum warmon Oláh, 2013 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2015, 2018, OLÁH *et al.* 2022.

GLOSSOSOMATIDAE Wallengren, 1891

Agapetus bunkos Oláh, 2013 – OLÁH 2013.

Agapetus fogaska Oláh, 2013 – OLÁH 2013, 2014, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Agapetus kivagot Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

Agapetus perem Oláh, 2018 – OLÁH & KOVÁCS 2018.

HYDROPTILIDAE Stephens, 1836

HYDROPTILINAE Stephens, 1836

- Hellyethira sarina* Oláh, 2012 – OLÁH 2012, 2013, OLÁH 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Hydroptila batanta Oláh, 2018 – OLÁH & KOVÁCS 2018.
Hydroptila bozontos Oláh, 2012 – OLÁH 2012.
Hydroptila explicata Wells, 1984 – OLÁH 2012 and 2013: as „*Hydroptila obscura* Wells, 1979”, OLÁH 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Hydroptila nemtompá Oláh, 2012 – OLÁH 2012, 2013, OLÁH 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Missitrichia kunkora Oláh, 2012 – OLÁH 2012, 2013, OLÁH & KOVÁCS 2018.
Missitrichia vagot Oláh, 2013 – OLÁH 2013, OLÁH 2016b.
Saranganotrichia oldalra Oláh, 2012 – OLÁH 2012, 2013, OLÁH & KOVÁCS 2018.
Ugandatrichia batanta Oláh, 2018 – OLÁH & KOVÁCS 2018.

ORTHOTRICHINIAE Nielsen, 1948

- Orthotrichia balra* Oláh, 2012 – OLÁH 2012, 2013, OLÁH & KOVÁCS 2018.
Orthotrichia bunkosa Oláh, 2012 – OLÁH 2012.
Orthotrichia eltera Oláh, 2012 – OLÁH 2012, 2013, OLÁH 2016b, OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.
Orthotrichia feltuna Oláh, 2016 – OLÁH 2016b.
Orthotrichia foruma Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Orthotrichia fosla Oláh, 2018 – OLÁH & KOVÁCS 2018.
Orthotrichia gorbek Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Orthotrichia hanulva Oláh, 2016 – OLÁH 2016b.
Orthotrichia holaga Oláh, 2018 – OLÁH & KOVÁCS 2018.
Orthotrichia kalisa Oláh, 2016 – OLÁH 2016b.
Orthotrichia kerekded Oláh, 2016 – OLÁH 2016b.
Orthotrichia kisbunka Oláh, 2012 – OLÁH 2012, 2013.
Orthotrichia laposka Oláh, 2013 – OLÁH 2013.
Orthotrichia nehega Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Orthotrichia olelo Oláh, 2013 – OLÁH 2013, OLÁH 2016b, OLÁH & KOVÁCS 2018.
Orthotrichia orias Oláh, 2013 – OLÁH 2013.
Orthotrichia para Oláh, 2012 – OLÁH 2012, 2013, 2016b, OLÁH & KOVÁCS 2018.
Orthotrichia savoska Oláh, 2012 – OLÁH 2012, 2013, 2016b.
Orthotrichia sivka Oláh, 2016 – OLÁH 2016b.
Orthotrichia tabala Oláh, 2016 – OLÁH 2016b.
Orthotrichia tobfonta Oláh, 2012 – OLÁH 2012, 2013.
Orthotrichia waridora Oláh, 2013 – OLÁH 2013, OLÁH *et al.* 2022.
Orthotrichia warmona Oláh, 2012 – OLÁH 2012, OLÁH & KOVÁCS 2018.

STACTOBIINAE Botosaneanu, 1956

- Chrysotrichia horgos* Oláh, 2013 – OLÁH 2013.
Chrysotrichia vagot Oláh, 2016 – OLÁH 2016b.
Chrysotrichia vaskos Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Niuginitrichia bogos Oláh, 2016 – OLÁH 2016b.
Niuginitrichia harmas Oláh, 2018 – OLÁH & KOVÁCS 2018.
Niuginitrichia haromsog Oláh, 2016 – OLÁH 2016b.
Niuginitrichia homora Oláh, 2018 – OLÁH & KOVÁCS 2018.
Niuginitrichia huzva Oláh, 2013 – OLÁH 2013, OLÁH 2016b, OLÁH & KOVÁCS 2018.
Niuginitrichia ives Oláh, 2016 – OLÁH 2016b.
Niuginitrichia kesken Oláh, 2016 – OLÁH 2016b, OLÁH & KOVÁCS 2018.
Niuginitrichia kover Oláh, 2016 – OLÁH 2016b.
Niuginitrichia negsog Oláh, 2016 – OLÁH 2016b.
Niuginitrichia vagva Oláh, 2018 – OLÁH & KOVÁCS 2018.
Pseudoxyethira batanta (Oláh, 2016) – OLÁH 2016b: as „*Scelotrichia batanta* Oláh, 2016”.
Pseudoxyethira egba Oláh, 2018 – OLÁH & KOVÁCS 2018.
Pseudoxyethira kurta (Oláh, 2016) – OLÁH 2016b: as „*Scelotrichia kurta* Oláh, 2016”, OLÁH & KOVÁCS 2018: as „*Pseudoxyethira kurta* (Oláh) 2016” (sic!).
Pseudoxyethira vekonul (Oláh, 2016) – OLÁH 2016b: as „*Scelotrichia vekonul* Oláh, 2016”, OLÁH & KOVÁCS 2018: as „*Pseudoxyethira vekonul* (Oláh) 2016” (sic!).
Stactobia zarva Oláh, 2012 – OLÁH 2012, 2013, OLÁH & KOVÁCS 2018.

GOERIDAE Ulmer, 1903

- Goera batanta* Oláh, 2014 – OLÁH 2014, OLÁH *et al.* 2022.

LEPIDOSTOMATIDAE Ulmer, 1903

- Lepidostoma batanta* Oláh, 2015 – OLÁH 2015.

CALAMOCERATIDAE Ulmer, 1905

- Anisocentropus batantensis* Oláh, 2018 – OLÁH & KOVÁCS 2018.
Anisocentropus dilucidus McLachlan, 1863 – OLÁH 2013, OLÁH & KOVÁCS 2018.
Anisocentropus horvathi Oláh, 2012 – OLÁH 2012, 2013, 2014, OLÁH & KOVÁCS 2015, 2018, OLÁH *et al.* 2022.
Anisocentropus illustris McLachlan, 1863 – OLÁH 2013, OLÁH & KOVÁCS 2015.
Anisocentropus susannae Oláh & Kovács, 2018 – OLÁH & KOVÁCS 2018, OLÁH *et al.* 2022.

LEPTOCERIDAE Leach in Brewster, 1815

LEPTOCERINAE Leach, 1815

- Leptocerus batanta* Oláh, 2022 – OLÁH *et al.* 2022.

Oecetis anyam Oláh, 2022 – OLÁH *et al.* 2022.
Oecetis apam Oláh, 2022 – OLÁH *et al.* 2022.
Oecetis batanta Oláh, 2022 – OLÁH *et al.* 2022.
Oecetis parom Oláh, 2022 – OLÁH 2022.
Setodes sarlos Oláh, 2022 – OLÁH *et al.* 2022.
Triaenodes aproka Oláh, 2016 – OLÁH 2016a: in Abstract as „apraka” (sic!), (in Taxonomy as „*Triaenodes aproka* sp. nov.”, in Etymology as „aproka”).
Triaenodes bala Oláh, 2016 – OLÁH 2016a.
Triaenodes harmasa Oláh, 2016 – OLÁH 2016a.
Triaenodes izgaga Oláh, 2016 – OLÁH 2016a.
Triaenodes jobba Oláh, 2016 – OLÁH 2016a.
Triaenodes kalija Oláh, 2016 – OLÁH 2016a.
Triaenodes marleorum Oláh, 2016 – OLÁH 2016a.
Triaenodes nemaproka Oláh, 2016 – OLÁH 2016a: in Abstract as „nemapraka” (sic!), (in Taxonomy as „*Triaenodes nemaproka* sp. nov.”, in Etymology as „nemaproka”).
Triaenodes sagodii Oláh, 2016 – OLÁH 2016a.
Triaenodes sarla Oláh, 2016 – OLÁH 2016a.
Triaenodes torpa Oláh, 2016 – OLÁH 2016a.
Triaenodes tudarda Oláh, 2016 – OLÁH 2016a.
Triaenodes zugora Oláh, 2016 – OLÁH 2016a.

TRIPLECTIDINAE Ulmer, 1906

Triplectides dombos Oláh, 2014 – OLÁH 2014 and OLÁH & KOVÁCS 2015: as „*Triplectides sugaras* Oláh, 2014”, OLÁH & KOVÁCS 2018: „*Triplectides sugaras* Oláh, 2014 is considered as a junior synonym of *Triplectides dombos* Oláh, 2014, syn. n.”
Triplectides karimas Oláh, 2014 – OLÁH 2014.
Triplectides rojtos Oláh, 2014 – OLÁH 2014.

Reptilia

In their first article, the authors mentioned the following reptile species from Batanta: *Aspidomorphus schlegeli*, *Candoia aspera schmidtii*, *C. carinata carinata*, *Crocodylus novae-guineae* or *C. porosus*, *Dendrelaphis* sp., *Micropechis ikaheka*, *Tropidonophis* sp. (most likely *T. picturatus*), and *Varanus indicus* (KOVÁCS *et al.* 2015a).

Aves

Based on our observations of *Diphyllodes respublica*, we proposed the protection of the entire island of Batanta, a ban on deforestation, and the upgrading of the IUCN status of *D. respublica* from the “Near Threatened” category to the “Vulnerable” category (HORVÁTH *et al.* 2024).

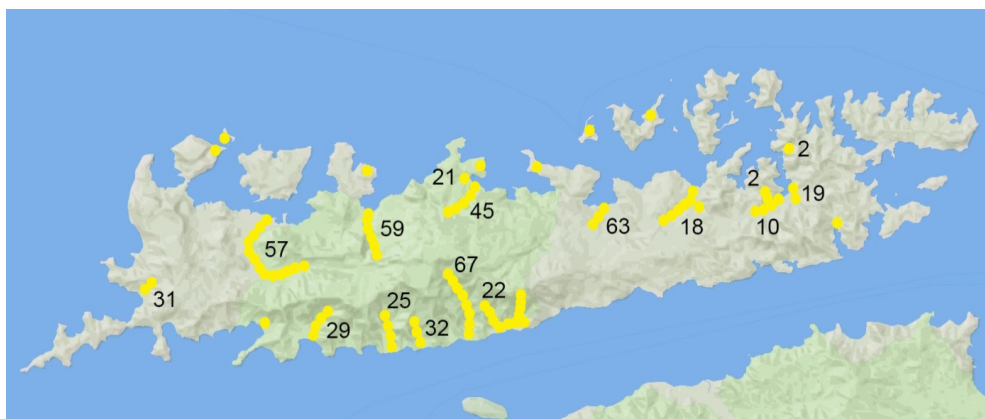


Fig. 8. Map of Batanta with the areas we surveyed = dot and dots, and the numbers of Trichoptera species collected at each survey area: northern coast – Waridor 57, Warai 59, Weras: W stream 21, Weras 45, Warikambon (= Warmon) 63, Waibin 18, „Wilson” 2, Sarinam 10, „Marko” 2, Ron 19; southern coast – Forum 31, Kalisamsem 29, Kaliselatan 25, Tanjung Lampu 32, Kalijakut 67, Wailebet Stream 22.
Base map © OpenStreetMap, Mapbox, and Mapcarta

Results, discussion and the continuation

The most intensively studied taxa are Marchantiophyta, with 48 taxa identified, including 3 new taxa, as well as three groups of aquatic insects: Ephemeroptera, with six new species; Odonata, with 67 species, 10 of them new; and Trichoptera, with 163 species, 157 of them new. For Marchantiophyta, Odonata, and Trichoptera, we present the Batanta checklists and illustrate the spatial distribution of species numbers on maps. Additional results include one new gastropod species (synonym), one bivalve species new to Batanta, and five oligochaete species new to Batanta. We also report a *Neoperla* species (Plecoptera), which is very rare in the New Guinea region. To date, the total number of new species described within the program is 172.

According to THOMPSON (2011) in the article “Final Frontier: Newly discovered species of New Guinea (1998–2008),” the faunal exploration of New Guinea is far from complete. Between 1998 and 2008, 580 invertebrate, 71 fish, 134 amphibian, 43 reptile, 2 bird, and 12 mammal species were described. Regarding Batanta, with our colleagues we described 157 invertebrate species (151 Trichoptera, 6 Odonata) between 2012 and 2022, and in the second decade starting from 2022, 15 new species have been described (6 Ephemeroptera, 3 Odonata, 6 Trichoptera).

The region above 400 meters of Batanta has so far only been studied to a very limited extent. Further new species are expected in the Salticidae family of the order Araneae cf. MAYER *et al.* (2025). Ephemeroptera: the processing of additional material is ongoing: Baetidae, Caenidae, Leptophlebiidae. There are still unidentified species within Odonata (*Metagrion*, *Palaiargia*, *Teinobasis*), as well as undescribed females and larvae. There are several insect groups yet to be examined in collections: Phasmatoda, Ensifera, Caelifera, Heteroptera, Auchenorrhyncha, Coleoptera: Brentidae, Cerambycidae, Cicindellidae, Cleridae, Lycidae

(Fig. 9), Hymenoptera, Diptera. Among these, we can also find species collected by notable predecessors, such as Alfred Russel Wallace, as well as the Hungarian Samuel Fenichel and Lajos Bíró (Figs 10, 11). For Amphibia and Reptilia, a paper is already in preparation based on the photographs taken so far. In addition to further faunistic exploration, a multi-faceted, comprehensive analysis of the results is also a task for the future.

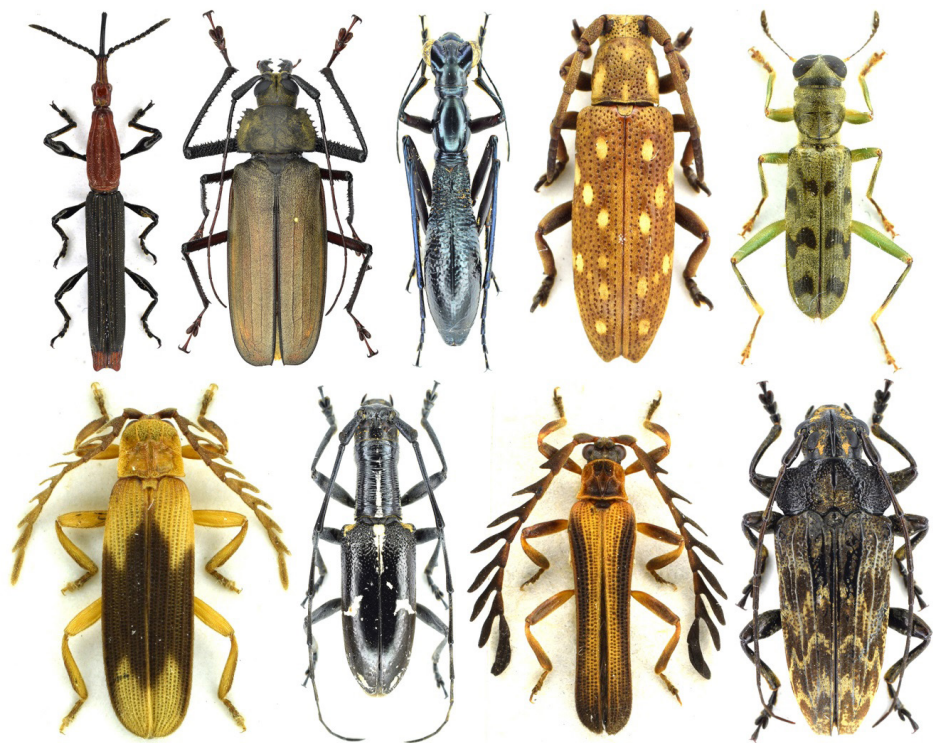


Fig. 9. Representatives of various Coleoptera families in the Mátra Museum collection (photos: T. Kovács)

Acknowledgements: Most of the financial support for the field trips to Batanta came from Róbert Horváth (Ostoros), who provided free accommodation and catering for the second and third authors in Batanta Island. He and the Papua Paradise Eco Resort (Birie Island) provided the base camp and helped organise the field trips. János Oláh (Debrecen) assisted by financially supporting the initial field trips. We are also beholden to Kristian Sauyai and Ronnius Sauyai (both from Wailebet, Batanta – Fig. 13), our local helpers. We are grateful to all authors and our co-authors who processed the results of the collections. In preparing this article, we received various forms of assistance from the following individuals: Michael Balke (Zoologische Staatssammlung München, München), Hans Karlensberg (Amsterdam), Ádám Kiss (Mátra Museum of the Hungarian Natural History Museum, Gyöngyös), Dávid Murányi and Tamás Pócs (Department of Zoology Eszterházy Károly Catholic University, Eger), János Oláh, Peter Zwick (Schlitz).

Our study was carried out in compliance with the Memorandum of Understanding signed by the Research Centre for Biology, Indonesian Institute of Sciences (currently Biology Research Centre, were consolidated under the new National Research and Innovation Agency), and the Hungarian Natural History Museum.



Fig. 10. *Phytalmia cervicornis*. A drawing of this species appears in WALLACE's (1869) book. **Fig. 11.** *Xixuthrus microcerus*. This species was collected in New Guinea by both Sámuel Fenichel and Lajos Bíró in the late 19th century; the specimens are housed in the Coleoptera collection of the Hungarian Natural History Museum (photos: T. Kovács)



Fig. 12. On the 200th anniversary of A. R. Wallace's birth, the authors visited Besir (Waigeo) to honor his legacy. They found a wooden memorial pillar, although a more durable and aesthetically refined monument would be more appropriate. **Fig. 13.** The research team on the southern coast of the island: R. Horváth, K. Sauyai, T. Kovács, P. Juhász, R. Sauyai (photos: local residents)

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