

# The Caddisfly *Triaenodes pellectus* Ulmer (Trichoptera, Leptoceridae: Triaenodini) taken in Sabah, East Malaysia

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*Triaenodes pellectus* Ulmer is recorded from Sabah on the Island of Borneo, constituting the southernmost record of this widespread species. A checklist of the *Triaenodes* species from the southeast Asian islands and New Guinea is given.

## Introduction

Particularly during the first half of the last century several studies on the Trichoptera fauna of South-East Asia were published. However, the fauna of Borneo received little attention (see Kimmins, 1955; Ulmer, 1957), and until recently only one species belonging to the tribe Triaenodini of the longhorned caddisfly family Leptoceridae, *Triaenodes plutonis* (Banks, 1931), was known from the island.

When erecting the leptocerid tribe Triaenodini, Morse (1981) included five genera: *Adicella* MacLachlan, *Allosetodes* Banks, *Erotosis* MacLachlan, *Triaenodes* MacLachlan, and *Ylodes* Milne. Recently, Andersen & Holzenthal (1999) placed *Allosetodes* as a synonym of *Triaenodes*. Two of the genera, *Adicella* and *Triaenodes*, occur in the Oriental biogeographic region.

Huisman & Andersen (1997) described four new *Adicella* species from Sabah. Futher, *T. plutonis*, originally described in the genus *Allosetodes* Banks, was transferred to *Triaenodes* and redescribed and figured by Andersen & Holzenthal (1999). They also described a new species, *T. bulupendek* Andersen & Holzenthal from Sabah, which appears to be closely related to *T. plutonis*.

In the present paper we record *T. pellectus* Ulmer from Sabah. This is the first record of the species from Borneo and the first record from the islands south of the Asian mainland. The species was described by Ulmer (1908) based on a female from Japan. Based on material from Siberia, Martynov (1935) recorded and figured the female of *T. pellectus*, as a male, and described the male as *Triaenodella gracillima*. Tsuda (1942) later recorded both *T. pellectus* and *T. gracillima* from Japan. Uenishi (1993), Yang & Morse (1993) and Schmid (1994) all synonymized the two species, realizing that *T. pellectus* was described as a female. Recently, Yang & Morse (2000) redescribed both male and female and gave distributional records of the species from the Oriental part of China. Including *T. pellectus*, 25 species of *Triaenodes* have been described or recorded from the southeast Asian islands and from Papua New Guinea, Table 1.

The material treated here was collected by the senior author during several trips to Sabah, Sarawak and Brunei between 1986 and 1990.

Table 1. Species of *Trienodes* Mac Lachlan, 1865 known from the southeast Asian islands and from Papua New Guinea.

Species	Reference	Distribution
<i>T. apicomaculatus</i>	Mey, 1990: 15, figs 43-44	Philippines: North Luzon
<i>T. assimilis</i> (as <i>Allosetodes</i> )	Banks, 1937: 160-161, figs 61, 64 Andersen & Holzenthal, 1999: 12-13, fig. 5	Philippines: Mindanao
<i>T. aureus</i>	Kimmins, 1962: 177, figs 63, 66	Papua: Mt. Tafa
<i>T. boettcheri</i>	Ulmer, 1930: 413-415, figs 52-54	Philippines: Mindanao
<i>T. bulupendek</i>	& Holzenthal, 1999: 13-15, fig. 6	Malaysia: Sabah
<i>T. calamintella</i>	Mey, 1995: 207, fig. 66.	Philippines: West Mindoro
<i>T. corallinus</i>	Kimmins, 1962: 175-176, figs 63, 65	Papua: Kokoda
<i>T. costalis</i>	Kimmins, 1962: 168-171, figs 58, 60	Papua: Kokoda
<i>T. hauseri</i>	Mey, 1998: 571, figs 134-135	Philippines: Mindanao
<i>T. hybos</i>	Mey, 1998: 569, figs 136-137	Philippines: Mindanao
<i>T. insulanus</i>	Ulmer, 1951: 447-448, figs 691-695	Kei Island: Gunung Daab
<i>T. longispinus</i>	Kimmins, 1962: 168, figs 58-59	Papua: Kokoda
<i>T. loraii</i>	Navás, 1932: 154-155, fig. 87	New Guinea
<i>T. lurideolus</i>	Mey, 1990: 17, figs 41-42	Philippines: North Luzon
<i>T. mondoanus</i>	Kimmins, 1962: 173-175, figs 63, 64	Papua: Mondo
<i>T. nigrolineatus</i>	Kimmins, 1962: 171-172, figs 58, 61	Papua: Kokoda
<i>T. pellectus</i>	Ulmer, 1908: 344-345, figs 1-3; Martynov, 1935: 207, 237, 243-247, figs 34-35, 41-45; Tsuda, 1942: 295, 303-304, fig. 58; Schmid, 1994: 3-4, figs 1-8; Yang & Morse 1993: 162, figs 10, 26; Yang & Morse, 2000: 107-108, figs 125, 215; this paper	Malaysia: Sabah; Russia: S Usuri; Japan; China; India
<i>T. plutonis</i> (as <i>Allosetodes</i> )	Banks, 1931: 421, figs 5, 7, 14; Banks, 1937: 160-161; Ulmer, 1951: 449-450; Andersen & Holzenthal, 1999: 10-12, fig. 4	Malaysia: Sabah
<i>T. semigraphatus</i>	Mey, 1990: 17-18, figs 37-38	Philippines: North Luzon
<i>T. spoliatus</i>	Mey, 1998: 571, figs 138-140	Philippines: Mindanao
<i>T. tafanus</i>	Kimmins, 1962: 172, figs 58, 62	Papua: Mt. Tafa
<i>T. transversarius</i>	Mey, 1990: 18, figs 39-40	Philippines: North Luzon
<i>T. telefomicus</i>	Kumanski, 1979: 217-218, figs 61-65	Papua New Guinea
<i>T. ustulata</i>	Kimmins, 1962: 177-179, figs 63, 67	Papua: Kokoda
<i>T. virgata</i>	Mey, 1998: 569, figs 132-133	Philippines: Mindanao

## Material

The material was collected predominately with light traps and the specimens were preserved in 70% alcohol. The specimens are deposited in the Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden, The Netherlands (RMNH); and in the University of Minnesota Insect Collection, St. Paul, Minnesota, USA (UMSP).

*Trienodes pellectus* Ulmer, 1908

*Trienodes pellectus* Ulmer, 1908: 344, figs 1-3; Martynov, 1935: 237, figs 84-85; Tsuda, 1942: 295; Uenishi, 1993: 82; Yang & Morse, 1993: 162, figs 10, 26; Schmid, 1994: 3, figs 1-8; Yang & Morse, 2000: 107, figs 125, 215.

*Trienodella gracillima* Martynov, 1935: 243, figs 34-35, 41-45; Tsuda, 1942: 303, fig. 58; Uenishi, 1993: 82 [as synonym]; Schmid, 1994: 3 [as synonym].

*Trienodes gracillimus*; Yang & Morse, 1993: 162 [as synonym].

Material. — 2 ♀♀ + 2 ♂♂, S. Sabah, Beaufort, 105 km S of Long Pa Sia area, airstrip Long Pa Sia, 04°24'N 115°43'E, 1000 m a.s.l., 15.iv.1987, UV, J. Huisman; 2 ♂♂, Beaufort, 105 km S of Long Pa Sia area, confluence Sg. Pa Sia Matang, 04°24'N 115°43'E, 1000 m a.s.l., 1.iv.1987, UV, J. van Tol & J. Huisman; 1 ♂, N Borneo, Sabah, Kg. Long Pa Sia, confl. Sg Pa Sia, Sg. Matang, 04°24'N 115°43'E, 1000 m a.s.l., 10.iv.1987, mercury vapour light, J. Huisman; 1 ♂, N Borneo, Sabah, 10 km S of Long Pa Sia, Sg. Malabit, 04°21'N 115°41'E, 1180 m a.s.l., 2.xii.1987, at light, J. Huisman & C. van Achterberg; 1 ♂, Malaysia, Sabah, Sg. Malabit, Rd. Long Pa Sia – L. Semado, 04°21'N 115°41'E, 1220 m a.s.l., 18.xii.1986, J. Huisman.

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