

A glimpse of North Sulawesi Trichoptera

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As a participant of "Project Wallace", one of us (Wells), spent much of May 1985, turning rocks and stones in the Tumpah and Toraut Rivers of Dumoga Bone National Park, North Sulawesi, and attempting to stem the flow on falls and riffles, in search of elusive immatures of micro-caddisflies (Hydroptilidae). Even to someone with much "myopia", it was apparent that amongst larger caddisflies, there was a preponderance of net-spinners, and few scrapers.

Light trapping by Wells and other project participants in May, by D. Dudgeon in August and M. Malipatil in October/November, amassed a considerable collection of adult Trichoptera. Preliminary examinations of this material have confirmed initial impressions of the nature of the caddis fauna of Dumoga Bone National Park and nearby waters.

Neboiss has produced a tentative list of "macros" (Table 1) - although some of these (e.g. Paduniella sp.) are decidedly "micro" - to which Wells has added the Hydroptilidae. All three super-families are represented, but the Hydropsychoidea, net spinners, come out on top with six families, represented by 17 genera and 45 species, compared with Rhyacophiloidea - four families, 10 genera, 25 species, and Limnephiloidea - five families, 12 genera and 25 species.

Several other characteristics of these Sulawesi Trichoptera are worth noting:- We both remarked on the generally pale colour of the adults. This is not a feature of the caddis fauna of tropical Australia. Perhaps it correlates with the apparent paucity of diurnal species - despite efforts to net Trichoptera by sweeping riparian vegetation, few were collected during the day. In addition only one hydroptilid species, Chrysotrichia sp., and one "macro" were observed ovipositing in the water in daylight. As seems to be the usual case for tropical caddisflies, most are smaller than related temperate forms.

Species diversity was greater in the rivers of the park than in the few rivers sampled towards the southern coast. Light trapping at the Lakes near Kotomobagu was very disappointing, and yielded few species. Curiously, the highest tally of species in any sample was from Edward's Camp, some distance (in caddis light-trapping terms) above the Tumpah River.

Comparison of the Sulawesi fauna with faunas of nearby regions is proving to be of interest. With the recent compilation of species in the "Atlas of Trichoptera of the SW Pacific Region" (Neboiss 1986), Neboiss is in a strong position to compare the Sulawesi material with the recorded New Guinea fauna. He notes a number of major differences in generic representation in the

TABLE 1

Trichoptera of Sulawesi

based on material from Dumoga Bone National Park and published information

RHYACOPHILOIDEA

Rhyacophilidae	<u>Rhyacophila</u>	1
Hydrobiosidae	<u>Apsilochorema</u>	1
Glossosomatidae	<u>Agapetus</u> s.l.	3
Hydroptilidae	<u>Chrysotrichia</u>	3
	<u>Hydroptila</u>	6
	<u>Madioxyethira</u>	1
	<u>Orthotrichia</u>	7
	<u>Oxyethira</u>	1
	<u>Parastactobia</u>	1
	unknown genus	1

HYDROPSYCHOIDEA

Philopotamidae	<u>Chimarra</u>	9	
Hydropsychidae	<u>Oestropsyche</u>	1	(<u>vitrina</u> Hagen)
	<u>Macrostemum</u>	1	(<u>fastosum</u> Walker)
	<u>Polymorphanisus</u>	1	(<u>scutellatus</u> Banks)
	<u>Hydropsyche</u>	3	
	<u>Hydropsychodes</u>	4	
	<u>Diplectrona</u>	1	
	<u>Sciops</u>	3	
Polycentropodidae	<u>Nyctiophylax</u>	1	
	<u>Polycentropus</u>	5	
	<u>Polyplectropus</u>	1	(?)
	<u>Hyalopsychella</u>	1	
Dipseudopsidae	<u>Dipseudopsis</u>	3	
Ecnomidae	<u>Ecnomus</u>	4	
Psychomyiidae	<u>Psychomyia</u>	2	
	<u>Tinodes</u>	4	
	<u>Paduniella</u>	1	

LIMNENPHILOIDEA

Goeridae	<u>Goera</u>	1	
Molannidae	<u>Molanna</u>	1	(<u>cupripennis</u> Ulmer)
Lepidostomatidae	<u>Neolepidostoma</u>	2	
	<u>Goerodes</u>	2	
Calamoceratidae	<u>Anisocentropus</u>	3	
Leptoceridae	<u>Triplectides</u>	1	(<u>gilolensis</u> McLachlan)
	<u>Symphitoneuria</u>	1	
	<u>Adicella</u>	1	(?)
	<u>Oecetis</u>	7	
	<u>Triaenodes</u>	2	
	<u>Leptocerus</u>	1	
	<u>Setodes</u>	3	

TOTAL: 39 genera 95 species

Up till 1985 only 19 species have been recorded from Sulawesi (Celebes).

This is preliminary list and amendments of some generic names might be necessary.

two regions, e.g. in the Hydrobiosidae only one species (in Apsilochorema) is present, and in Hydropsychidae, the New Guinea genera, Herbertorossia and Abacaria, seem to be replaced by Hydropsyche and Hydropsychodes. It looks as though some of the Sulawesi species will aid clarification of several tricky taxonomic problems, e.g. the dubious position of the New Guinea Hyalopsyche.

Among other points of interest:- The presence of Goera is not surprising as a continuation of its distribution on the Indian subcontinent (Mosely 1938), yet it is unknown from New Guinea, although it occurs in Vanuatu (New Hebrides) and Fiji (one species in each). Leptoceridae, whilst present, is far less prominent than in New Guinea, and is represented by rather small, pale, delicate species of the Leptocerus-Setodes complex as against the larger, darker, more robust Oecetis or Triaenodes in New Guinea. Then, looking to the west and north-west, the Sulawesi species appear to differ markedly from those in Java, Sumatra, and the Phillipines - possibly they have restricted distributions.

Included in the micro-caddis flies are three species already known from northern Australia, two of which also occur in New Guinea, and one elsewhere in SE Asia. Others are in "oriental" genera that are unknown anywhere further east of Sulawesi. Perhaps one of the most interesting finds is of the immatures of a species of Madioxyethira, hitherto unknown, and unlike other Stactobiini larvae. These were collected from the faces of waterfalls.

The samples available to us are spread over seven months, but we are interested in seeing any caddisflies (adults of all families and immature hydroptilids) collected at other times, and would be happy to identify specimens for other workers. In all it makes one keen to look further on either side of Wallace's Line! Our thanks to "Project Wallace" for providing the opportunity to begin to probe into this area.

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Zeitschrift/Journal: [Trichoptera Newsletter](#)

Jahr/Year: 1987

Band/Volume: [14](#)

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Artikel/Article: [A glimpse of North Sulawesi Trichoptera 21-23](#)