

## Taxonomy of Polyclads

The taxonomic order *Polycladida* (class *Turbellaria*) comprises several hundreds of described species. The majority of these (about 200 species in seven genera) are gathered in the family *Pseudocerotidae*, which can be considered as the best characterized tropical polyclad family of today. Pseudocerotids are the most flamboyantly coloured flatworms and are characterized and distinguished by a ruffled pharynx from the next most speciose family of tropical polyclads, the Euryleptidae (with about 130 species), which have a tubular pharynx. The other genera of pseudocerotids are less speciose and poorly known. Some are even monospecific. For a current and comprehensive taxonomic listing of polyclad flatworms and other turbellarian flatworms go to the web pages of Tyler S. & Bush L.F. 1998, [Turbellarian Platyhelminths Taxonomy](#).

Taxonomic studies on polyclad flatworms are quite difficult. One has to take in account a suite of characters as size, shape, colour and marking, eye arrangement, pseudotentacles, pharynx, topography of gonopores and sucker. In cases, where these characters are not sufficient for identification, comparative morphology of the reproductive system is an essential tool for species identification. Since the serial reconstruction of the male and female reproductive structures is difficult and makes special lab equipment necessary, it is reserved for specialists. Recently, molecular data (DNA sequencing) have been used to tell apart similar polyclad species (see section: [Phylogeny](#)).

The following table may be an useful tool for polyclad flatworm identification for the diver and UW photographer. It shows some striking features, which may help in identification of the most commonly observed polyclad genera.

Suborder	Family	Genus	Suborder	Family	Genus
<b>Cotylea</b> (Lang 1884, Prudhoe 1985)  with ventral sucker	<b>Pseudocerotidae</b> (Lang 1884, Prudhoe 1985)  (>200 species)  ruffled pharynx  pseudotentacles as folds of anterior margin	<a href="#">Pseudoceros</a> (Lang 1884)  one male pore, few marginal ruffles, colourful	<b>Acotylea</b> (Lang 1884, Prudhoe 1985)  without sucker	<b>Planoceridae</b> (Lang 1884, Prudhoe 1985)  cryptic colours, avoiding sunlight	<a href="#">Planocera</a> (Blainville 1828, Prudhoe 1985)
		<a href="#">Bulaceros</a> (Newman & Cannon 1996)			<a href="#">Aquaplana</a> (Hyman 1953, Prudhoe 1985)
		<a href="#">Pseudobiceros</a> (Faubel 1984)  two male pores, deep marginal			<a href="#">Paraplanocera</a> (Laidlaw 1903, Prudhoe 1985)

		<p><b>striking colours</b></p> <p><a href="#">Thysanozoon</a> (Grube 1840)</p> <p><b>dorsal papillae</b></p> <p><a href="#">Acanthozoon</a> (Collingwood 1876, Prudhoe 1985)</p> <p><b>dorsal papillae</b></p> <p><a href="#">Tytthosoceros</a> (Newman &amp; Cannon 1996)</p> <p><a href="#">Phrikoceros</a> (Newman &amp; Cannon 1996)</p> <p><a href="#">Maiazoon</a> (Newman &amp; Cannon, 1996)</p> <p><a href="#">Maritigrella</a> (Newman &amp; Cannon, 2000)</p> <p><a href="#">Yungia</a> (Lang 1884, Prudhoe 1985)</p>			
	<p><b>Euryleptidae</b> (Stimpson 1857, Prudhoe 1985)</p> <p>(~130 species)</p> <p><b>tubular pharynx, separate tentacles</b></p>	<p><a href="#">Eurylepta</a> (Ehrenberg 1831, Prudhoe 1985)</p> <p><a href="#">Prostheceraeus</a> (Schmarda 1859, Prudhoe 1985)</p> <p><a href="#">Cycloporus</a> (Lang 1884, Prudhoe 1985)</p>		<p><b>Callioplanidae</b> (Hyman 1953, Prudhoe 1985)</p> <p><b>tentacles located in the neck</b></p>	<p><a href="#">Callioplana</a> (Stimpson 1857, Prudhoe 1985)</p> <p><a href="#">Discosolenia</a> (Freeman 1933, Prudhoe 1985)</p>
	<p><b>Prosthiostomidae</b> (Lang 1884, Prudhoe 1985)</p> <p><b>tubular pharynx</b></p>	<p><a href="#">Prosthiostomium</a> (Quatrefages 1845, Prudhoe 1985)</p> <p><a href="#">Enchiridium</a> (Bock 1913, Prudhoe 1985)</p>		<p><b>Stylochidae</b> (Stimpson 1857, Prudhoe 1985)</p> <p><b>tentacles located in the neck</b></p>	<p><a href="#">Stylochus</a> (Ehrenberg 1831, Prudhoe 1985)</p>

	<b>Pericelididae</b> (Laidlaw 1902, Prudhoe 1985)	<a href="#">Pericelis</a> (Laidlaw 1902, Prudhoe 1985)			<b>Leptoplanidae</b> (Stimpson 1857, Prudhoe 1985)  tentacles located in the neck	<a href="#">Leptoplana</a> (Darwin 1844, Prudhoe 1985)  <a href="#">Notoplana</a> (Laidlaw 1903, Prudhoe 1985)
	<b>Anonymidae</b> (Lang 1884, Prudhoe 1985)	<a href="#">Anonymus</a> (Lang 1884, Prudhoe 1985)			<b>Hoploplanidae</b> (Stummer 1933, Prudhoe 1985)  tentacles in the neck and dorsal papillae	<a href="#">Hoploplana</a> (Laidlaw 1902, Prudhoe 1985)

Click the [genus name](#) to see an image of a corresponding representative species!

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