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November 2000

nudibranch NEWS

Editorial

From the response to the pre-release offer last month Neville Coleman's soon to be published "1001 nudibranchs" will be highly sort after.

It has raised several interesting questions.

- Would you buy more books if they are released?
- What do you look for in a nudibranch guide?
- Do you think someone needs to produce a "World guide" to Nudibranchs?

Have your say, I'm sure authors and publishers would be interested in your comments. My personal view is many readers simply can not get enough good material on the subject of nudibranchs. Email me your comments at **glaskin@ozemail.com.au** and they can be included in next month's issue.

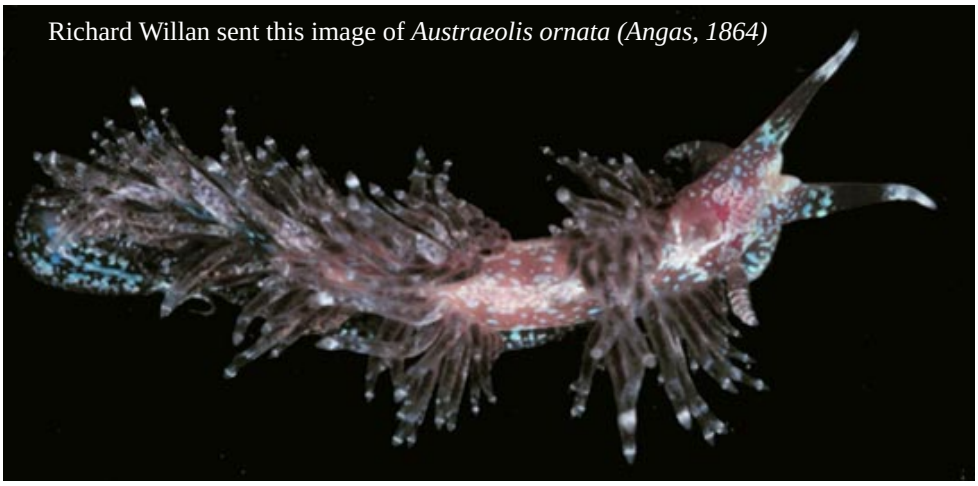
On a sad note, our dog, Marli died recently. She was a regular participant in our collecting trips to Port Cartwright. If not standing on the rock we wanted to turn over she would try and lick us to regain our attention. If not actually beside one of us she would be sitting with our gear guarding it and the whole rock platform. No one came onto "our" patch without Marli knowing.

Websites

A visit to any of these sites will keep the most enthusiast nudibranch researcher busy. All have links to other sites.

Miquel Pontes' Mare Nostrum (Spanish)
http://marenostrum.com
Mick Millers Sea Slug Site
http://slugsite.tierranet.com/
Bill Rudmans Sea Slug Forum
http://207.254.123.101/
Bob Bollands Okinawa Slug Site
www.rfbolland.com/okislugs/
Diveoz. A joint effort between Neil Miller and myself.
www.diveoz.com.au
Erwin Kohlers' Opisthobranch Site
www.medslugs.de/Opi/opisthobranchia.htm
Steve Longs' Site
www.seaslug.com

in this issue



Richard Willan sent this image of *Austraeolis ornata (Angas, 1864)*

nuts & bolts of nomenclature

richard willan

Family names, particularly Polyceridae and Aegiridae

Polycera capensis is a conspicuous nudibranch, familiar to divers around Sydney. It was introduced accidentally from its native South Africa in the 1920's and has spread some 200 km north to central New South Wales since then. Besides it vivid coloration, the most obvious feature on the body are the six yellow papillae, like a series of long fingers, around the front of the head. Presumably these papillae help an animal to locate its food bryozoans. These papillae are so prominent, they have served as the basis of the name for the family of most closely related nudibranchs, called **Polyceridae**. We know that this name Polyceridae denotes a family because **it ends in idae**; every family name in Zoology consistently has this same ending. In the hierarchy of names in Zoology the stem is the same and the ending changes according to the particular rank the biologist intends to use; -oidea is used for a superfamily name, -idae for a family name, -inae for a subfamily name, -ini for the name of a tribe, and –ina for the name of a subtribe.

It will surprise many people to know that the families of nudibranchs are very unsettled. Some 68 family names exist in the literature for the Nudibranchia (Vaught 1989), almost every major genus has its own family name, but probably only half that number are valid, with the greatest number of profligate names in the Doridoidea. Because there are no philosophical guidelines for delineating families, taxonomists in the past have generally named families because of common characters between the members or because they thought the members were related in some way. In the modern philosophical context of cladistics, taxonomists attempt objectively to recognise unique derived features and define groups whose members share these derived characters (i.e., phylogenetic taxonomy). Essentially taxonomy at the family level is at the crossroads between the historical "old" families and the monophyletic "new" families and, sadly, there are not going to be many occasions where these roads converge. All this assumes taxonomists in the future will continue to see some value in attempting to recognise at least this one rank of family above that of genus - that is currently quite a contentious point.

Therefore, many changes are on the taxonomic horizon as biologists redefine families so that they contain only groups derived from a single ancestor (**monophyletic groups**) and abandon names for groups derived from multiple ancestral lines (**paraphyletic groups**). For instance, the family Chromodorididae as we have known it from the time of Thiele is paraphyletic and so it will not survive the test of cladistics and the Doridiidae *sensu* Willan & Coleman (1984) will just as surely be split into several smaller families. Cladistics will reinforce the separation of the pelagic glaucids *sensu* Miller (1974) (i.e, the genera *Glaucus* and *Glaucilla*) from the benthic glaucids (i.e. Facelinidae).

On top of these philosophical arguments about the composition of nudibranch families are additional layers of problems related to the formation of the family names themselves and of their usage. Both these matters come under the regulation of the International Code of Zoological Nomenclature (hereafter just the Code) and so it is rather easier to be sure what is correct and what is not correct. I will devote the rest of this article to looking at just two family names that are currently recognised for nudibranchs, Polyceridae and Aegiridae, each shaddowed by an incorrect alternative. I apologise in advance if these details become highly technical but there is no way of simplifying the arguments and still making them comprehensible.

I said above that the **Polyceridae is the correct family name** for *Polycera capensis* and its close relatives, but one sometimes finds the family name spelt as Polyceratidae in the literature (e.g. Vallès et al., 2000). Polyceratidae is wrong on three grounds; first Alder & Hancock originally spelt it Polyceridae in 1845 (Polyceratidae dates back to Bergh's work on Alaskan nudibranchs in which W.H. Dall invalidly emended Polyceridae). Secondly, Article 29.3.2 of the Code, which deals with the determination of the stem of a genus name, gives clear guidance on how names of this sort should be formed. It states that when the genus ends in a Greek word latinised with a change in ending, the stem is that appropriate to the **latinised form**. So the generic name *Polycera*, the type genus of the family, of which the second part is latinised from

the Greek word keras, the stem for the formation of the family name is Polycer-, not Polycerat-, as it would be if it were not latinised. And thirdly, Polyceridae has been used consistently since its original introduction and is clearly has prevailing majority usage today.

Another incorrect family name is Aegiretidae (e.g., Rudman 1998). Aegiretidae is wrong on two grounds. It is not a Latin or Greek word, but was named after Aegires, a Norse God, so only Article 29.3.3 of the Code applies in this case. The earliest spelling was “Aegirinae” (Fischer 1883: 523) (despite Rudman’s (1998: 995) claim to the contrary), hence **Aegiridae must be maintained as the correct name for the family**. And secondly, most authors use Aegiridae today in both the scientific and popular literature, so according to Article 29.5 of the Code, that spelling has to be maintained.

Acknowledgements

Robert Burn has discussed the specific cases dealt with above with me on several occasions over the years and, as always, I am very grateful for his knowledge and library.

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Rudman, W.B. 1998. Family Aegiretidae. Pages 995-996 *in:* Beesley, P.L., Ross, G.J.B. & Wells, A. (eds) Mollusca: *The Southern Synthesis. Fauna of Australia. Vol. 5.* CSIRO Publishing, Melbourne, Australia, 1234 pp.

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Polycera capensis Quoy & Gaimard, 1824 (Family Polyceridae) Photo: © Richard Willan

sunshine coast

nudibranchs

wayne ellis

Point Cartwright is an interesting spot for observing opisthobranchs. The southern headland and beach is open to ocean swells. The rock platform is flat and at the northern tip near the harbour breakwall there is a small rocky beach. This is our main collecting point. A shallow “lagoon” half way along the northern section forms an area good for collecting while waiting for the tide to go out.

Inside the harbour mouth is a small picnic area, La Balsa Park. The water is about 6m deep and one can SCUBA dive with special permission from the Harbour Master. Many species not seen on the rock platform occur here.

The yatch club and Port facilities provide a great collecting area for opisthobranchs that live on the animals of the fouling communities.

The northern breakwall is exposed to ocean currents and although slightly more protected than the headland offers an environment suitable for diving and snorkeling. Gorgonians and other interesting marine life grow on the rocks forming the breakwall. Again permission is required.

Offshore opens up another fascinating environment. The inner and outer Gneerings and Old Woman Island are from some accounts “nudibranch heaven”. These sites are only accessable by boat.

The Sunshine Coast Opisthobranch Species list is updated regularly at www.diveoz.com.au

Aeolidiella alba Risbec, 1928

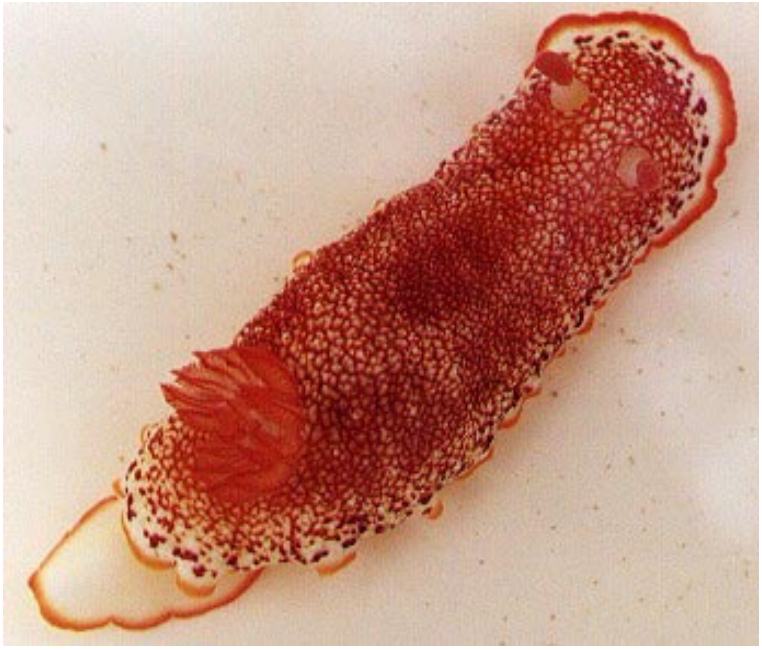
A beautiful little animal that could be easily over looked. This one was found while snorkeling at 2-3 metres in Mooloolaba Harbour on the 23/10/00.

The animal was 8mm long and in the open crawling across a rock covered in algae. The body was creamish white with lemon spots. The rhinophores nod as the animal crawls.

Chromodoris sp. (no.1)
Marshall and Willan, 1999

Swimming out to return a couple of small nudibranchs I noticed a 6cm chromodorid. Releasing my other specimens I returned to the spot and after some fun and games collected I was able to collect this beautiful animal. (I had swum out in my wetsuit and no weightbelt).

From the literature it seems there is a group of red lined chromodorids that need reviewing. Does anyone have an update on the situation?



Noumea simplex
Pease,

Marshall and Willan's Heron Island book notes the spawn of this species is unknown. In the right of the picture is what I believe to be the spawn mass of *Noumea simplex*. The photo was taken at Point Cartwright on the 10/9/2000. From the photo one can also observe the sponge on which the animal feeds.

Chromodoris daphne
(Angas, 1864)

This species must rate as a local, each time I have snorkelled or dived at La Balsa Park, this species has been present. I must be able to tolerate silty conditions and fluctuations in water quality.

mistaken identity

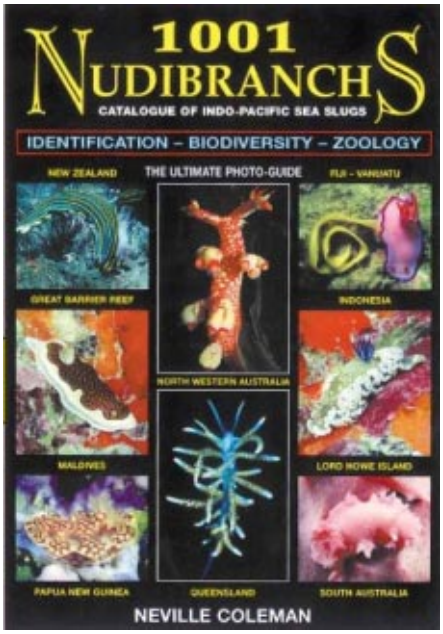
wayne ellis

This month we continue this section on the animals that are sometimes mistaken for opisthobranchs. Please submit your images of flatworms and other easily misidentified beasties for inclusion in this column.

Pseudoceros scintillatus
Newman & Cannon 1994

This flatworm was found in Mooloolaba Boat Harbour , S. E. Qld, Australia crawling in the open at 2 metres. Newman & Cannon describe this animal being found on colonial ascidians under boulders at reef crest (Heron Is).

pre-release offer



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miquel pontes

Chromodoris krohni

Described by Vérany in 1846 as *Glossodoris krohni*, this is an small sized nudibranch reaching a maximum length of 30 mm. Its body is long and tall and this species can be easily identified by its colour, which can be pink, light blue or purple.

There are three yellow or white lines running along the notum of the animal, and yellow or white spots can often be seen between them. The dorsum is circled by a thick band of the same colour.

The rhinophores are lamellated are coloured dark red or purple and the branchial plume, which consists of 3 to 7 unipinnate branches, is coloured the same way. These organs can be retracted into their sheaths if the animal is disturbed, but a little patience has its reward and, in a few minutes, when the animal uses all the available oxygen of its blood, it extends the branchial plume again.

This species is hermaphroditic, so are all the nudibranchs, and this is the reason it possesses active sexual organs of both sexes. This strategy increases the possibilities of reproduction, as every other specimen of the species is an eligible partner. Copulation results in a cross-fertilization among the two individuals, as can be seen in the picture that illustrates this month's article.

This species is considered endemic (exclusive) to the Mediterranean Sea. It can be spotted on rocky bottoms, the juveniles under the rocks, but all in shady places or at depths greater than 10 meters. The *Chromodoris krohni* feeds on sponges of the gender *Ircina* and it is considered as not frequent.

The name of the gender *Chromodoris* suggests a brightly coloured *dorid*. *Doris* was a marine nymph of the Greek mythology, wife of Nereo and mother of the Nereids.

Readers can find more information at Erwin Köhler's site for Mediterranean Nudibranchs: **Medslugs** (http://www.medslugs.de/E/Mediterranean/Chromodoris_krohni.htm)

book review

dave behrens

Red Sea Reef Guide 1998. Helmut Debelius

Organized in the typical “user friendly” format of other IKAN “reef guides”, this book is absolutely the most comprehensive and useful guide for the Red Sea diver and visitor.

The book contains more than 1000 color photos, and covers all animal groups from invertebrates, through fishes, shorebirds, common turtles, sea snakes and dolphins. Regionally it covers the coastal waters of Egypt, Israel, Jordan, Sudan, Saudi Arabia, Yemen and the Arabian Peninsula. Of it’s 321 pages, 209 cover fishes and 95 cover the invertebrates and other groups. A detailed foreword and introduction set the scene for what is to come.

For the opisthobranch enthusiast, the author has included a generous sampling of over 57 species, including the newly described, *Glossodoris charlottae* Schroedl, 1999 (see photo below courtesy of Dr. Marc Chamberlain). Each excellent photo is accompanied by text which includes: size, distribution, a general description of the physical characteristics of the species, and a few interesting biological and ecological observations.

Hardbound, to survive a journey at the bottom of your dive bag, it is suitably small enough not to tip the scales. All this while containing every bit of information you will need to identify most, if not all the species you will encounter. It’s definitely one of my favorites.