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Feature Creature

Favorinus japonicus Baba, 1949

Photographed under a rock in a couple of meters of water at Forster, NSW.

This species diet consists of opisthobranch eggs. Notice both the spawn masses below the animal are ripped and torn where the animal has been feeding. The lower spawn mass has been nearly consumed.

Favorinus lack nemacysts and take on the colouration of the eggs they consume. Camouflage is their best form of protection.

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In This Issue

Editor's Notes...

Welcome to the expanded issue of nudibranch NEWS. We have a new regular column from Richard Willan explaining more of the scientific aspects of studying nudibranchs. Sandra Millen has contributed her knowledge on the species in her backyard. Thanks Sandra.

Whether the newsletter stays at eight pages depends on the amount of material received. Currently material is being sort from South Africa, Solomon Islands and Russia for future issues. Feel free to send material from your favorite part of the world.

It would be great if all authors were as keen as **Atsushi Ono** in providing up to date species names for their publications. Atsushi kindly forwarded the current corrections for his **Opisthobranchs of Kerama Island** and has set the standard for others to follow.

While on the subject, ***Hypselodoris cf nigrostraita*** in Nudibranchs of Heron Island, Marshall & Willan, 1999, ***Chromodoris sp*** in Nudibranchs of Australasia, Willan & Coleman, 1984 and ***H. nigrostraita***, in Nudibranchs of the South Pacific, Coleman 1989, are now ***Hypselodoris zephyra***, Gosliner & Johnson, 1999. The new name was published after Marshall & Willan had gone to press. Gosliner and Johnson in their 1999 Hypselodoris paper seem to have missed *Chromodoris sp.,* Willan & Coleman,1984 as a published synonym.

Halgerda aff carlsoni #131 in Marshall and Willan has now been described as ***Halgerda batangas***, Carlson & Hoff, 2000.

TBS–Brittannica has released another great guide, **Opisthobranchs of Izu Peninsula** by Kieu Suzuki. See Dave Behrens' Book Review for details.

Waiting in a library queue recently I noticed an "old friend", ***Hopkinsia sp*** from eastern Australia on the cover of the National Science Week programme. The caption read "*This unnamed nudibranch or sea slug, (Hopkinsia sp.), is one of the estimated 10 millon or so invertebrate animals living in Australia. Most are unnamed or unknown. At the present rate of habitat destruction most will be extinct before we even know of their existence".*

A sobering thought.

Solomon Islands Nudibranchs

Bruce Potter has contributed yet another image he captured on video. This month's beast is undescribed species, *Dermatobranchus sp.*

nudibranchs

sandra millen

North-eastern Pacific

The waters of the North Pacific coast don't have the abundance of nudibranch species found in tropical waters, but there are several advantages to searching for cold water branchs. Cold water nudibranchs are generally larger, even the same species will be larger in the northern portion of its range than in the southern. In addition to their large size, cold water nudibranchs are rarely hidden and often seen crawling on the top surface of rocks or algae. This is probably due to less intense light filtering through the plankton rich water and fewer predators. Sponge eating dorids are abundant in both tropical and cold waters, but bryozoan feeders are much more common in cold waters. Reef building corals are not found, but octocorals, anemones and hydroids provide sustenance for a variety of dendronotids, arminids and aeolids.

The Pacific coast from Alaska to Mexico has similar conditions, cold water with rocky shores broken by short stretches of sandy beach and muddy bays. There is lots of wave action, crashing surf, and currents. The diurnal tidal cycle changes up to 3-5 meters. This results in a large intertidal zone and well-oxygenated water. In the winter (November to February) the water is at its coldest and clearest and divers enjoy the visibility. In the spring (March to May), the plankton blooms and the water often becomes very murky. This plankton is the food of nudibranch veliger larvae and many long lived or winter species of nudibranchs have their life cycles tuned to spawn in time for the larvae to hatch during the spring bloom. *Cadlina luteomarginata* and *Tochuina tetraquetra* fit into this pattern. The plankton continues to be dense in the summer (June to August) and some species, like *Hermissenda crassicornis*, extend their spawning season into the summer or only spawn in the summer. Spring and summer are the times of greatest aeolid diversity and the only time that some of them are seen at all. Eventually the plankton 'strips' the ocean of its nutrient content and the water clears. Fall storms will churn up more nutrients for a shorter fall plankton bloom ending with the onset of cold weather. Many species of nudibranchs appear to vanish in the fall and early winter because the adults have spawned and died, leaving veligers in the plankton and newly settled, but well hidden, juveniles behind.

Cadlina luteomarginata (MacFarland, 1905)

This is our most common dorid nudibranch on the Canadian Pacific coast, ranging from Alaska to Mexico. Its white body colour, yellow spots and yellow edging shows up very well under water. It is usually found in shallow subtidal areas on rocky surfaces, where it reaches up to 7 cm in length. It feeds on a variety of sponges, although the pink *Aplysilla* appears to be one of its favorites, as it is with most *Cadlina* species.

Tochuina tetraquetra (Pallas, 1788)

A huge species which reaches 34 cm and ranges from Russia across to Alaska and down to California. Its lovely orange colour is similar to that of its most common food, the sea pen *Ptilosarcus*. The white feathery edges are tufts of gills. This species also feeds on sea whips, gorgonians and burrowing anemones. Younger animals are often found in rocky, high current areas feeding on soft corals.

Hermissenda crassicornis (Eschscholtz, 1831)

This beautiful aeolid is found from Alaska to Mexico and across the Pacific to the Sea to Japan. Not only is it wide ranging, it is extremely common, found year-round and reaches a length of 5 cm. With its opalescent colouration it is very conspicuous in the intertidal, off docks and floats and in the shallow subtidal areas. It usually feeds on hydroids but eats a variety of other organisms when hydroids are not available. It does well in cold water aquariums, but being rather aggressive, it may attack and dine on other nudibranchs.

Reference: Personal observations and Behrens, David. 1991. Pacific Coast Nudibranchs 2nd Edition, Sea Challengers, California.

Photos: Ron Long. Simon Fraser University, Burnaby, B.C., Canada.

NUTS AND BOLTS

NUDIBRANCH NOMENCLATURE – Richard Willan

Siraius nucleola is a small "ordinary" looking dorid nudibranch widespread in intertidal and shallow sublittoral waters throughout the tropical Indo-Pacific Ocean. Although it is widespread, it is seldom present on coral atolls; apparently it prefers the coastal waters around continents and large islands. The mantle feels quite rough to the touch. When it is magnified, the notum (upper surface of its mantle) of *Siraius nucleola* is seen to have both rounded pustules and irregular taller papillae. There are also papillae of irregular size around the rims of the pockets for the rhinophores. The mantle is dull yellow-orange or dark tan or dark green and most individuals (not all) have a pale streak shaped like an "hour-glass" extending from behind the rhinophores to just in front of the gills.

The species was first named from **Hawai'i** in **1860** as ***Doris nucleola*** [Incidentally the Latin word nucleola which forms the specific (second) name refers to a little nut, so it is appropriate to launch this column about the names we use for nudibranchs with this example.] The species was rediscovered (and named as new) in **India** in **1864** and in **New Caledonia** in **1928**. Alison Kay and David Young (1969) were the first researchers to redescribe specimens from Hawai'i and unite that name with the others into a full list of scientific names (synonymy). The species had to take the specific name *nucleola* because that was oldest published name but they realised the species was not like other species of *Doris* anatomically, so they created a new genus (first name), ***Doriorbis***, just for it. Hence the full scientific name they used was *Doriorbis nucleola*.

In 1993, Gilianne Brodie and I found it here in Australia and published a thorough taxonomic redescription. We discovered that there was a genus named ***Siraius*** that was even older than *Doriorbis*, and we concluded that the specific name used by Kay and Young was the correct one (an opinion we still firmly believe to be true and correct). So we reappraised its name and called it *Siraius nucleola*. This was not a change we made lightly. Besides this generic change we discovered some additional junior synonyms (younger names and misidentifications) to add to Kay and Young's synonymy. So the synonymy for this nudibranch stood at **nine different scientific names** (that is nine combinations and permutations of generic and specific names). Not bad for one small species!

Since then, *Siraius nucleola* has been recorded from Japan by **Kikutarô Baba** and redescribed under that name.

The formation and publication of all scientific names of animals are governed by a set of rules laid down in a "Code" by the **International Commission on Zoological Nomenclature** and, in extreme cases, this Commission can be a final arbiter of disputed names – a kind of nomenclatural High Court. However the usage of scientific names is up to the discretion of the scientific community with the expectation that scientists will act responsibly, will adhere to generally accepted names and will always promote stability in nomenclature. After all, that's what other scientists, politicians, legislators and the public want. Scientists should use the name that has resulted from the most recent taxonomic research published in a peer-reviewed and rigorously edited journal that is intended as a permanent record. It is contingent on them to use the most recent published scientific name and not whimishly to change names in "backdoor" venues like popular articles, auction catalogues, postage stamps, labels in museum collections or internet sites, none of which is intended as either a permanent or a published scientific record.

Unfortunately such a destabilising event has befallen this little dorid recently. The specific name was changed to ***immonda*** (in the combination *Siraius immonda*) on the internet. That specific name dated from 1928. However, since the specific name *nucleola* is 68 years older and has been used several times previously, with its usage justified, that name should have remained unchanged until a fully justified explanation for a change was published in a scientific journal. In fact there are mechanisms whereby the name *Siraius nucleola* could have been perpetuated unchanged in order to achieve nomenclatural stability. Though I am sure the change was not intended to create confusion, it has certainly done so. And now, whenever any person (probably unknowingly) actually uses the combination *Siraius immonda* in a published work, a tenth synonym will have been generated for time immemorial.

So the message here is that everyone – scientist and amateur alike – should respect and accept names appearing in the latest scientific literature, whether they agree with them or not. If a person doesn't agree he/she should write a formal scientific paper to present their opinion. The odious practice of some nudibranch researchers a century ago, of simply creating new scientific names when they didn't like existing ones, produced enormous nomenclatural problems, some of which are still unresolved. And modern impermanent, corruptible outlets for information like the internet have the potential to cause just as much havoc. These examples serve as a reminder to always think in the interests of stability of nomenclature.

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Siraius nucleola (Pease, 1860)
Photo: Richard Willan.
The colours in this image have reproduced incorrectly

Name Changes

OPISTHOBRANCHS of KERAMA ISLANDS – ATSUSHI ONO 1999

Atsushi must be congratulated for providing this update so quickly after publication considering he hardly speaks any English. A colleague recently commented, "this guy works his butt off". Terry Gosliner and Dave Behrens had a hand in it's preparation, as did Bill Rudman.

008A - Chelidnura sp.1
008B - (same as 007)
009 - Nakamigawaia sp.1
010A - Nakamigawaia sp.1
010B -(same as 009)
011 - Chelidonura inornata var.
020 - Siphopteron sp. 1
027 - Stylocheilus striata (Quoy & Gaimard, 1832)
030 - Dolabrifera dolabrifera (Cuvier, 1817)
033 - Notarchus cf. indicus Schweigger, 1820
036 - Pleurobranchus mamillatus Quoy & Gaimard, 1832
037 - Berthella martensi var.
040 - Berthella sp.1
041 - Pleurobranchus albiguttatus (Bergh, 1905)
042 - Berthelinia limax (Kawaguti & Baba, 1959)
045 - Lobiger souverbii Fischer, 1856
049 - Stiliger sp. 1
052 - Hermaea zosterae (Baba, 1959)
056 - (Trinchese, 1893)
059 - Costasiella sp.
06A - Elysia sp. 5
060B - Elysia ornata (Swainson, 1840)
061 - Elysia flava Verrill, 1901
062 -Thuridilla livida (Baba, 1955)
063 - Elysia sp.6
069 - Elysia pusilla (Bergh, 1872)
069B – Elysia sp.7
075 - Elysia sp.8
076 -Thuridilla flavomaculata Gosliner, 1995
077 - Elysia sp.9
078 - Elysia sp.10
079 - Bosellia sp.1
079B - Bosellia sp.2
081 - var.2 is N. cf. livingstonei Allan, 1933
083 -Tambja limaciformes (Eliot, 1908)
093 - Polycera risbeci Odhner, 1941
094 - Polycera japonica Baba, 1949
096 - Polycera abei Baba,1960
114 - Goniodoris sp.
133 - Noumea alboannulata Rudman, 1986
134 - Noumea sp.
135 - Chromodoris petechialis (Gould, 1852)
138 - Noumea simplex (Pease, 1871)
140 - Noumea angustolutea Rudman, 1990
161 - Noumea romeri Risbec, 1928
162 - Pectenodoris trilineata (Adams & Reeve, 1850)
163 - Ceratosoma sinuata (Hasselt, 1824)
164 - Ceratosoma miamirana (Bergh, 1875)
169 - Platydoris sp. 1
172 - Platydoris sp. 2
174 - Sclerodoris sp. 1
175 - Discodoris sp.1 (same as 168)
176 - Dendrodoris sp.2
179 - Sclelodoris sp. 2
180 - cf. Rostanga bifurcata Rudman & Avern, 1989
197 - Halgerda cf. carlsoni Rudman, 1978
198 - Halgerda diaphana Fahey & Gosliner, 1999
207 – Phyllididiidae sp.
208 - Phyllidiella granulatus Brunckhorst, 1993
209 - Phyllidiella granulatus Brunckhorst, 1993

mediterranean nudibranchs

miquel pontes

Hypselodoris picta

This is the largest dorid nudibranch found in the Mediterranean, reaching a maximum size of 19-20cm. *Hypselodoris picta* has a long body, coloured in shades varying from yellowish grey to blue, violet and even black, depending on the local variations of the species. All variations are decorated with yellow spots more or less uniformly scattered along the body, which in certain cases can be aligned forming stripes, circles or irregular designs.

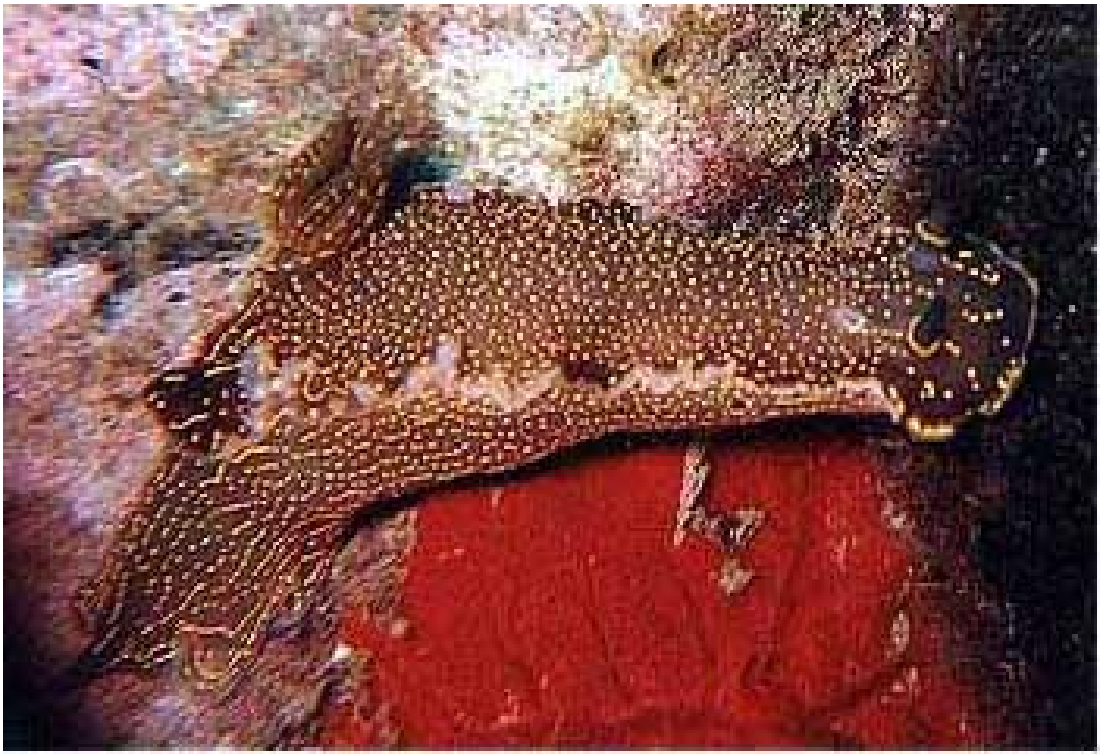
Juveniles may be coloured navy blue, with the edge of the dorsum coloured yellowish white, and show longitudinal continuous stripes along the body, interleaved with discontinuous stripes.

The rhinophores are coloured dark blue, with the tips lamellated. The branchial plume, consisting of 10-12 unipinnated branches, is located in the back of the dorsum and is similarly coloured to the rhinophores but in a paler shade and the underside of the branches is often longitudinally striped in yellow.

Both the rhinophores and branchial plume retract into their respective sheaths and into the body in case the animal is disturbed, and it takes many minutes for the animal to relax and expose them again. If the animal is severely disturbed it may form a ball by bending the foot longitudinally, showing only the coloured parts of it.

On the head, below the dorsum edge, we find two labial tentacles. The foot, also located below the dorsum, is longer, so the exposed part forms a kind of tail, which is also spotted in yellow. The edge of the foot is undulated.

There was an active controversy about the classification of this animal. After Prof. Ortea's work on the subject (Avicennia, 1996, Sup. 1: "*Review of the atlantic species of the family Chromodorididae (Mollusca: Nudibranchia) of the blue chromatic group*"), published back in 1996, the name *Hypselodoris picta* is



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considered synonym of *Hypselodoris elegans* (Cantraine, 1835), *H. valenciennesi* (Cantraine, 1841) and *H. webbi* (d'Orbigny, 1839). It was formerly known as *Glossodoris valenciennesi* and *Chromodoris valenciennesi*.

This nudibranch has daily habits and lives on rocky bottoms, usually from depths of 15 to 40 metres, and feeds on sponges of the *Ircina* genus, from which it extracts secondary metabolites for its own defence, as they are toxic to most predators. The showy coloration of this species seems to be related to its toxicity, something well known by the possible predators, as established by Sánchez Jerez, P. and collaborators (of the Alicante University) in their work "*Coloración de advertencia y defensa química en los moluscos nudibranquios del género Hypselodoris del Mediterráneo".*

The *Hypselodoris picta* is found the whole year round and despite it's not very frequent, it is known by most experienced divers because of it's huge size (by Mediterranean standards).

This *Hypselodoris picta* is endemic to the Mediterranean. In certain locations it is found in only one coloration scheme while in other places this nudibranch is found in all possible colour variations. The violet coloured *Hypselodoris picta* seems to be restricted to locations close to the Atlantic Ocean, where can be confused with some species from that water mass. It is not yet clear if these Atlantic species enter into the Mediterranean basin through Gibraltar strait or not.

You can find more interesting pictures at Erwin Köhler's site about Mediterranean nudibranchs: Medslugs (http://www.medslugs.de/E/Mediterranean/Hypselodoris_picta.htm)

Dave Behrens' Book Review

Opisthobranchs of Izu Peninsula – Keiu Suzuki

ISBN4-484-00400-3
Paperback. 210 x 148mm. 178pp.
Published by TBS-BRITTANICA Co., Ltd., Tokyo, Japan.
April 2000.

Keiu Suzukis' new book brings to life the inspirational work of Dr. Kikutaro Baba and his renowned and highly respected ***Opisthobranchs of Sagami Bay*** monograph, this time in spectacular colour.

Following the format of Atsushi Ono's ***Opisthobranchs of Kerama Island,*** TBS-Britannica has produced another fantastic opisthobranch fauna guide. One of my colleagues was heard to say..."this book is laid out perfectly for the nudibranch enthusiast."

265 opisthobranch species are presented, with good coverage of the major orders, (Sacoglossa, Cephalaspidea, Anaspidea, Notaspidea and Nudibranchia).

The layout is 2 species to a page, some of the presentations include 3 to 4 colour variations which will prove extremely valuable in identifying those more variable species.

The opisthobranch fauna of Izu Peninsula, in the middle of the Japanese Pacific Coast, between Sagami Bay and Suruga Bay, contains many endemic subtropical/temperate species and those from the tropical Pacific.

Suzuki's work compliments Ono's recent work with minimal overlap. Like Ono's recent publication only the species names, locations, depth, size and index are in English.

Suzuki and Ono have, with their excellent photographs advanced our understanding of the opisthobranch fauna in this diverse region of the Pacific.

I highly recomend ***Opisthobranchs of Izu Peninsula*** and commend **Keiu Suzuki** for the quality of this work.

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