

Nature does not tolerate fools

nudibranch NEWS



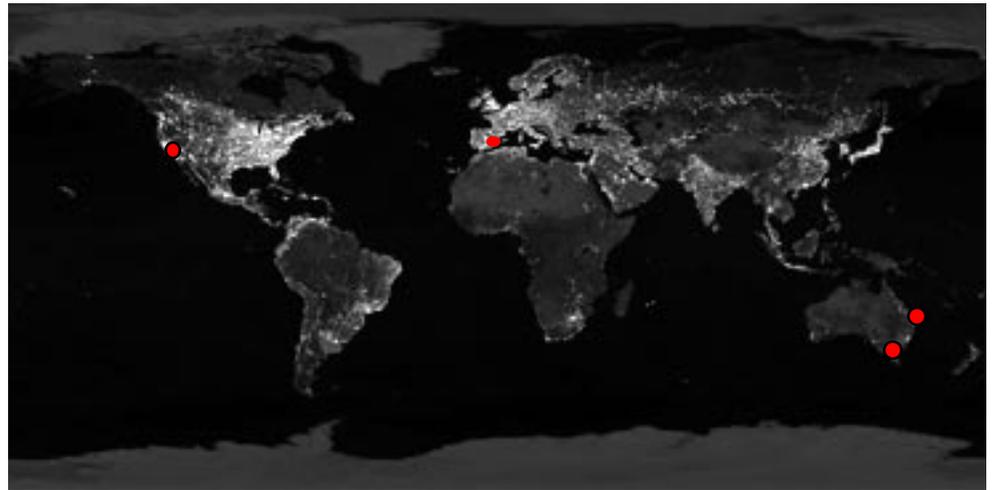
editorial

Interest in the newsletter has increased with more new subscribers joining the mailing list. All I need now is for those of you who promised articles to come up with the goods.

This month Miquel Pontes is starting an article on photographing nudibranchs and discussing the equipment and techniques used. I would be interested in hearing from other photographers out there about what gear you use and why. This, I believe will help others evaluate what is the best system for them.

Nikon has pulled the pin on it's Niksos range of cameras. The Nik V is longer being produced and lens and accessories will be available for some time. The second hand market will be only place to buy these great cameras.

Underwater Photography, an online magazine is now available free from <http://www.oceanoptics.co.uk>. Full of interesting tips and features, it promotes the Ocean optics range of underwater gear. Have a look for yourself and if you can not find the Back issues let me and I will email it to you.



Above is a view from space showing the location of all the nudibranch NEWS readers sitting down to enjoy last month's issue. The red spots are the team at work on the next issue.

in this issue

- 9..... Editorial
- 10.....mediterranean nudibranchs
- 12.....heron island opisthobranchs
- 14..... feedback
- 15.....sunshine coast nudibranchs
- 16..... book review

**visit the nudibranch gallery at
www.diveoz.com.au**

nudibranchs



**miquel
pontes**

Photographing Nudibranchs

As novice underwater photographers quickly learn, macrophotography is one of the easiest underwater disciplines to learn; one sets the camera to well proven parameters, put the proper film inside, and most pictures give a good result -if not an outstanding one- no matter the light and water conditions. So why bother writing an article about such an “easy” subject?

The Mediterranean Sea is a relatively poor sea. It has very little exchange of water with other oceans as it's surrounded by huge land masses (three continents in fact: Europe, Asia and Africa). The biomass is relatively low while its biodiversity is relatively high. This is because competence for food is fierce, so biodiversity allow animal species to use the different ecological niches without disturbing to each other.

If you seek big fish in the Mediterranean the first thing you will notice is that there is no big fish in most diving zones; some divers often say “I have seen nothing” after a dive, but certain underwater photographers leave water with an enigmatic smile in their faces, after spending a whole film roll on that very same dive, and pronounce exotic scientific names of creatures you have not even heard about. It's often of nudibranchs what they talk about.

Among all the beautiful marine species that can be photographed I decided time ago to focus on nudibranchs because they are often colourful, they move slowly –so you have time to call your buddies to watch them- and their apparently pacific habits -in fact they are really voracious- allow me to take pictures of them.

But there's more than it's apparent with these little beasts: nudibranchs are in fact camouflage artists; they often use interesting strategies that allow them to blend with their surroundings while wearing full bright colour coatings. Scientists call this property “cryptic coloration”.

So the first thing a photographer needs to know is to *learn to observe*. Also, reading literature for learning “your prey's” habitat and feeding habits helps a lot, as many nudibranchs are specialists that feed exclusively on one type of food; finding the food source highly increases the probabilities of finding the nudibranch.

Equipment...

The photographer needs special equipment to take pictures of nudibranchs; there are two main problems: saltwater and the size of nudibranchs, which are usually very, very small.

There are cheap waterproof disposable cameras to solve the first of these problems. The camera is sealed in a plastic box so the water doesn't affect the film or the mechanism. These cameras are good enough if the nudibranch is big, but they are completely useless if the animal is small, because any picture shot at less than 1 meter of distance is completely blurred.

Ikelite offers a relatively cheap solution to this problem. They have a plastic housing for disposable cameras called Aquashot to which the user can attach a macro lens and a frame. Despite using highly sensitive film (400 ASA) the results are quite good and show bright colours.

Other camera builders (Sea&Sea, Reef Marine and others) also make compact cheap waterproof cameras, but they cost no less than double than Ikelite's. You should always check the possibility of attaching a macro lens before buying any underwater camera/housing, otherwise you'll be unable to photograph nudibranchs.

The best cameras I have used for this practice are the Nikonos series by Nikon. They are tough, compact and practical (but far from cheap), and with the use of extension tubes they can produce excellent “macro” pictures of animals measuring from ¼ cm to 15 cm in relations that vary from 2:1 (picture size is double of real animal size) to 1:3 (picture size is one third of real animal size). Without the extension tubes it can take pictures of just anything, but this is out of the scope of this article.

Extension tubes have a plastic or metal frame attached that help the photographer put the camera at the correct distance where the animal is focused. I must say that these frames are feared by most underwater living beings, but not by most nudibranchs, so this fact converted them in favourite “preys”. The main problem is that these tubes and frames



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cannot be changed while the camera is wet, not to say underwater.

An important note: the frames are designed in a way that the animal has NOT to be touched with them; maximum focus is achieved ½ cm IN FRONT of the frame plane.

About reflex cameras like the ones we all have at home, I don't recommend using them near the water without a waterproof housing. While photographing shallow water creatures, think that any wind blow full of saltwater may ruin our delicate and often expensive photographic equipment. Anyway, if you take your chances and want to use it, you should consider using a polarizing filter that eliminates water reflexes and allow you to "see" under the surface. Autofocus may pose problems as well, as the water surface moves and can fool the camera focus controller, so manual focus is recommended.

Some photographers, and most scientists, use to take the animals to an aquarium for taking good pictures and studying them. In fact you can't find many small nudibranch species if you don't take them home, together with the algae they live on. There is an easy technique to make them apparent: put the algae in a recipient with some seawater and wait. When the oxygen levels in water decrease, each and every creature will leave its hide and reveal itself to the observer.

But our aim as casual users should be to watch nature and disturb it the less possible, so we do not recommend this practice, mainly because the animals will starve to death in an aquarium where they can find no food, and in any case it is unlikely that the animals are returned to the original habitat after being taken pictures. If you take them you kill them, just remember this.

Water absorbs most of the sunlight, so we must bring our own "pocket Sun" to supply it, in other words, we need an underwater strobe light. Photographing with macro lenses is another reason for using a strobe light, as the complex structure of these lenses absorbs perhaps half of the available light. Plus we should want to use the higher possible f/stop (f22, f32, f64...) to maximize the depth of field, which is the area that appears focussed in our picture.

The best solution is to have our camera equipped with two strobe lights mounted in the sides, as they would illuminate the animal uniformly and would avoid shadows. But the size of this assembly is generally huge and uncomfortable underwater, so one strobe light mounted in central position will suffice in most cases. This central configuration makes the assembly smaller and produces little shadows, and it has another benefit; it is small enough to fit in most crevices where nudibranchs use to hide during the day.

Using a TTL (Thru the Lens metering) strobe light control is a good idea, especially when we take our pictures in the animal's natural habitat, as the camera cuts the flash of the strobe when the picture is already correctly exposed.

Continued next issue



1. Daco seeking slugs. A good diving light may help us finding nudibranchs at certain depths.
2. Miquel and his Nikon F90 camera, 90mm macro Tamron lens in a Subal metal housing and a Sea&Sea YS120 strobe.
3. Lluís Aguilar with the very compact Nikonos V camera and macro 2:1 extension tubes. Ideal for small nudibranchs.
4. Daco & Lluís seeking nudibranchs which can be found at any depth, even very close to surface.
5. *Chromodoris luteorosea*
6. *Dendrodoris glandiflora*

heron island opisthobranchs



**julie
marshall**



Heron Island is a coral cay situated in the Capricorn Bunker Group of the Great Barrier Reef about 64 km offshore from the Queensland port city of Gladstone.

Nudibranchs of the Reef Crest: Family Chromodorididae (1)

The reef crest (or rim) is the highest part of the intertidal section of Heron Reef and is exposed at most low tides. It consists of long pavement like areas cemented by coralline algae and dissected in some places by runnels and large pools with coral growth. Turfing algae and patches of *Chlorodesmis* grow in this area and can trap considerable amounts of sediment. It is also littered by dead coral slabs under which many opisthobranchs can be found. In some places extensive rubble banks have been formed by coral shingle and rubble. There is also coral rubble and slabs and stunted coral growth behind the pavement like area.

Many species of nudibranchs, sacoglossans, and pleurobranchs can be found in this area, either crawling in the open or under the dead coral slabs. For the next few months I will be featuring some of the Chromodorids that are found in this area. Chromodorids are generally very brightly coloured. They feed on sponges which contain toxic chemicals which they absorb and use to repel potential predators. This month I am illustrating some of the members of the genus, *Chromodoris*, which is the largest genus in the family.

***Chromodoris aspersa* (Gould, 1852)**

This small nudibranch (usually around 20 to 30 mm in length) is one of the most common Chromodorids found in this area, generally occurring under dead coral slabs during the day, often in pairs. It is translucent white with small, rather diffuse, dark purple spots. The mantle has a narrow orange marginal band and the rhinophores are also orange. The gills are pale creamish yellow.



***Chromodoris burni* Rudman, 1982**

Named for prominent nudibranchologist, Robert Burn, from Geelong, this attractive species is not as common as *C. aspersa*. It is small with the usual size of most animals ranging from 12 to 18 mm. Its mantle is white with numerous black longitudinal lines. There is a pale orange marginal band and an opaque white submarginal band. The rhinophores have a white stalk and an orange clavus and the gills are translucent with black stripes on the basal half and with pale orange tips.

***Chromodoris decora* (Pease, 1860)**

Another small nudibranch with most adults ranging from 8 to 14 mm. The central area of the mantle is pale fawn with three narrow vivid white longitudinal lines, the middle line often forking in front of the gills. The marginal band of the mantle is vermilion and there is a ring of purple spots between the central area and the marginal band. The rhinophores and gills are cream.



***Chromodoris fidelis* (Kelaart, 1858)**

Chromodoris fidelis can be quite variable in its colour pattern though it always has a white mantle with an orange band round the mantle edge and red, orange or dark maroon finger like patches of colour radiating in from the mantle edge. These fingers vary in both their width and length. The rhinophores and gills are black. Again, like most animals found under the dead coral slabs at the reef crest, it is a small animal ranging in size up to 26 mm. It is also found subtidally.



***Chromodoris geometrica* Risbec, 1928**

Chromodoris geometrica is found at the reef crest under dead coral slabs and subtidally in the open. It is pale fawnish brown with a network of black lines surrounding groups of white pustules. The undersurface of the mantle is flushed with purple and the rhinophores and gills are tipped with green. With its pustulose mantle and network of black lines *C. geometrica* resembles some species of *Phyllidia*. When it is crawling *C. geometrica* raises and lowers the front end of its mantle.



***Chromodoris splendida* (Angas, 1864)**

This species is generally considered a southern Australian species and Heron Island probably represents the northern most extension of its range. It has a white mantle with a thin vivid yellow marginal band. The mantle also has a number of blood red spots and there are red spots on the tail. It seems that no two specimens have the same arrangement of spots. At the southern end of its range populations possess many small red spots on the mantle whilst those in northern New South Wales have only a few large red spots. The specimens from Heron Reef possess about a dozen spots.



***Chromodoris tinctoria* (Rüppell & Leuckart, 1830)**

The colour of the mantle of *Chromodoris tinctoria* is very variable ranging from a tight red reticulum (see first photo) to just a few red lines (see second photo). However, there is always a submarginal band with red spots and a narrow golden marginal band. The rhinophores are dark red and the gills are white with a thin red strip up the outer axis.



References.

Marshall, J.G. & Willan, R.C. 1999. *Nudibranchs of Heron Island, Great Barrier Reef: a survey of the Opisthobranchia (Sea Slugs) of Heron and Wistari Reefs.* Leiden, Backhuys Publishers.

feedback

Just been to the new look of your site and I am very impressed with it. So, congratulations!
By the way how would you like to add a link to my Sulawesi Sea Slugs
<http://www.bunaken.fsnet.co.uk/sss-sea-slugs.htm> takes you straight to the nudibranchs without having to stop by the introduction.

Regards,
Jim Anderson
Scottish Nudibranchs (<http://www.4454.freemove.co.uk/scotnudi.html>)
Sulawesi Sea Slugs (<http://www.bunaken.fsnet.co.uk/sss-sea-slugs.htm>)

Hello, Wayne, I am responding to your request for feedback. I am still not getting the Newsletter sent directly to my e-mail address. However, I can get it from the seaslug site (www.slugsite.tierranet.com.) I am a bit confused to read August 2001 on the masthead then to see June 2001 in the footer. I know how these gremlins can so easily creep in and this is not a complaint, merely a comment. As always I am completely awe struck by the beauty and range of info you provide. You are quite right, Neville Coleman's book is remarkable. I was one of the lucky ones to get in line early (thanks to your nagging) and am a proud owner of this monumental work with the author's signature. Keep up the good work. I leave for two weeks in the Seychelles the end of October and hope to add to my nudi sightings. I'll let you know if anything interesting shows up. Forgot to mention about a trip to the Bahamas in July where we saw quite a few lettuce seaslugs (*Tridachia crispata* - according to Paul Humann). Probably not so unusual but as they feed on green algae they are hard to locate. A first for me after 30 years of diving in the Caribbean so it was a thrill nevertheless.

Regards,
Walt Brenner (Wayne, PA, USA)
Ed. Volume Three has just been sorted and the errors corrected. All back issues will be available online shortly.

Hi,
Took this shot of a seaslug (I think) at Wheeler reef off Townsville last weekend.
Could you please identify this colourful critter for me.
Thanks
John Ferguson (Townsville)
Ed. *Notodoris minor*. John has his own gallery at www.diveoz.com.au



Alison Smith of Brisbane Australia forwarded the bottom three photos for inclusion in the diveoz.com.au nudibranch gallery. These and several new images have been added and Erwin Kohler has already created links to them. While on the subject, thanks must go to Erwin for the fabulous job he is doing with his opisthobranch list at www.medslugs.de/opi/opisthobranchia.htm. I like many other use the list regularly to find images of particular species.



sunshine coast

nudibranchs



**wayne
ellis**

The two images on the right were taken at Point Cartwright S. E. Qld on the 18th August 2001 crawling in the open. This is the first *Chromodoris spendida* I have seen with absolutely no red markings. The animal was 20 mm long.

On the 13th & 14th of November I joined Leslie Newman and Nerida Wilson collecting at Point Cartwright. We found several species of flatworms and nudibranchs. Leslie is currently preparing a list of flatworms found at this location. Nerida finally has her *Actinocyclus japonicus* needed for her research. *Cyerce sp* is turning up in numbers, unfortunately I released the specimen we had. Once we find another one Nerida will be able to shed more light on the beast's identity.



This collecting trip was more fun now my Nikonos 111 is back in action. Photographing the animals on location is (sometimes) so much easier for remembering all the details later. The 3mm pink nudi did not come out so well, the flatworms and other nudi did. All I have to do is sort out the focus distance and depth of field. Why a Nikonos and not a housed camera. Two reasons, I already own 3 Nikonos camers, and secondly a Nikonos with extension tubes is easier to use single handed in shallow water. The rock pools were not more than 25cm (1ft) deep. One of the other Nikonos iv's is in for repair as well. So I will be able to have 1:1 and 2:1 macro setups in action at the same time.





**dave
 behrens**

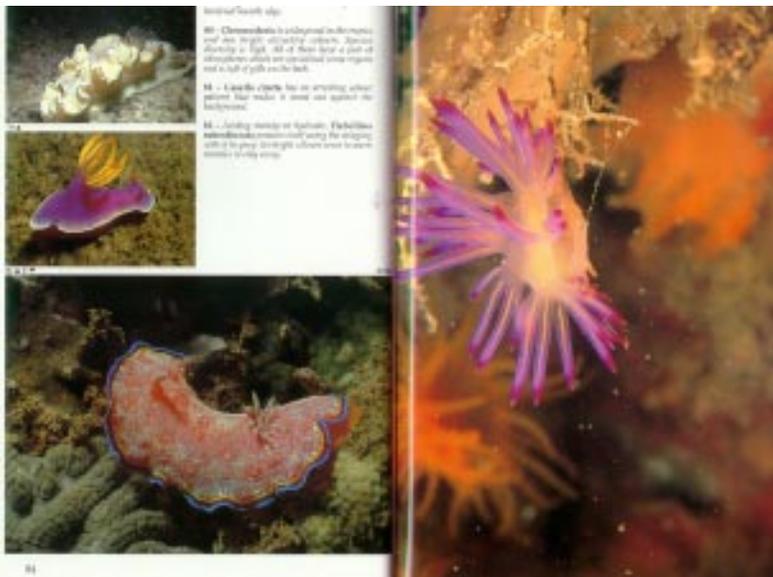
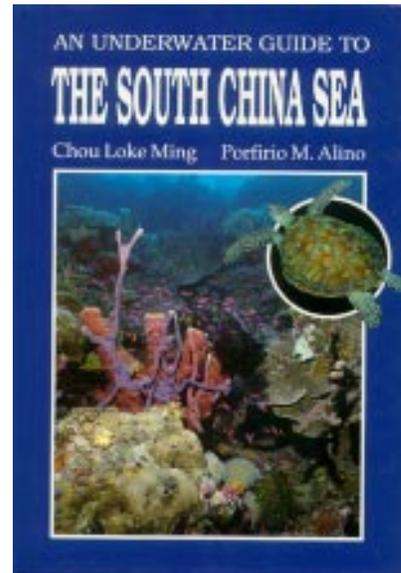
**An Underwater Guide to the South China Sea.
 1992. Chou Loke Ming and Profirio M. Alino**

This compact field guide, which has been around for a dozen years, is just as current and useful today, as the day it was printed. The authors begin with a smart description of the South China Sea and the diversity of marine habitats found in the region. Among those included are sandy seabird rookeries, the algal communities of tidal mudflats and mangroves. It includes informative introductions to coral reef structure, competition and cooperation. Conservation efforts are also discussed.

This is a complete field guide containing common examples of all flora and fauna you would expect to find, from marine plants, through all invertebrate taxa, fishes and reptiles. The photography is excellent, with most photographs being full or half page in size. Over fifteen underwater photographers contributed to the book. The 140 pages contain 180 color photographs.

The books covers about 200 of the most common species. Species coverage is split approximately one-half invertebrates and one-half fish. Eleven species of opisthobranchs are included. This is approximately the number of species included for each of the invertebrate groups. Common and scientific names for each species are contained in a short text describing some aspect of the species biology. All in all, An Underwater Guide to the

South China Sea is a visually appealing and informative field guide.



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