

# Bubble Cells Divers

by Andrey Ryanskiy

Nudibranchs or sea slugs are a favourite subject for underwater photographers. They amaze us with a variety of colors, shapes and shades. Usually underwater photographers begin with relatively large, brightly coloured species. These are chromodorids, which are easy to photograph on the surface of the sponges they feed on. It is much more demanding to shoot aeolid nudibranchs that feed on hydroids.

But there is a group of sea slugs, that until recently remained outside the orbit of interests for underwater photographers. And there are two main reasons for this. They are not easy to find and even more difficult to photograph. Meet the Bubble Cell Divers – sea slugs with unique feeding strategy!

All Sacoglossan sea slugs have an unusual feeding strategy. They puncture algal cells with their teeth and suck out the cell contents. But some Ercolania species are a very peculiar even among Sacoglossans. They are specialised feeders on Giant Bubbles alga that form clumps of enormous cells.

Slug punctures the Giant Bubble Cells, penetrates completely inside

(head first!) and starts moving to and fro, devouring chloroplast layers.

After several hours of work sell is almost empty. After 2-3 days it is decorated with egg clutches. The slug is still inside and the alga did not collapse. Time for our slug to leave this algal sack and to dive into another Bubble Cell. Alga cell (now empty) did not collapse even after sea slug is gone.

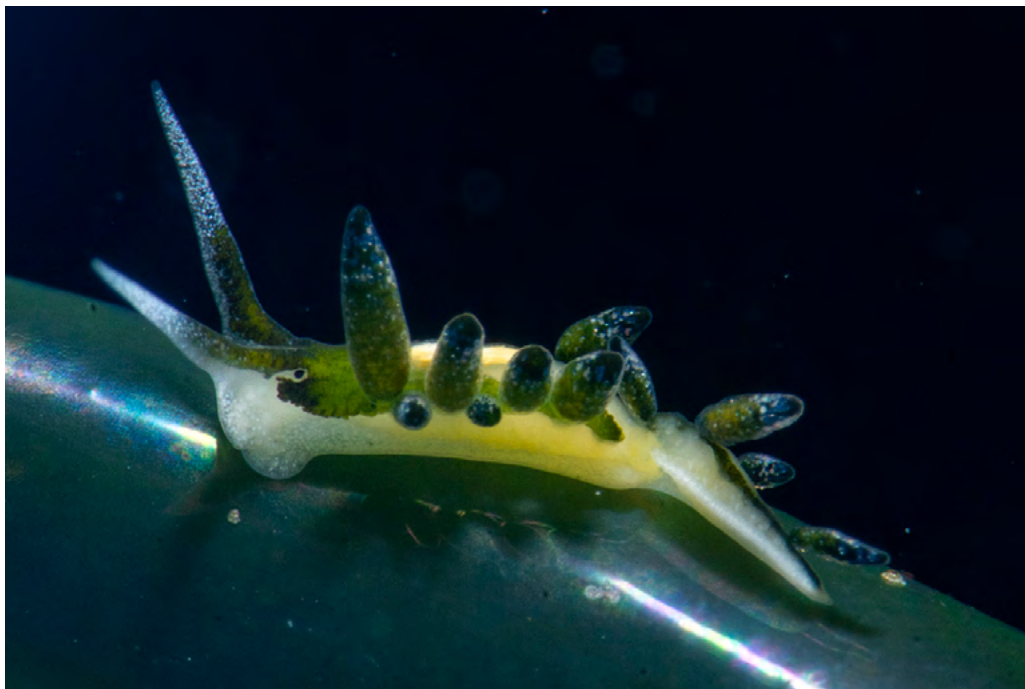
Sounds damn scientific. But even knowing all this, I was completely stunned when I first saw a ball of algae, inside of which tiny but beautiful sea slug quickly moved. The inner surface was covered with concentric rings of egg clutches. It was like a small planet with one inhabitant, in the middle of the dark infinity of a quiet night reef.

Only two species of such sea slugs have been described to date - *Ercolania endophytophaga* (1999) and *Ercolania kencolesi* (2007).

Civil science, as often happens today, is far ahead of official science

*Ercolania endophytophaga*





*Ercolania endophytophaga*

in the search of new species. Dozens of undescribed species in popular photo guides on nudibranchs are the best confirmation of this. The same with Bubble Cell Divers - several probably new species are known from the Philippines and Japan. You see them here along with the two previously described.

I was lucky to find a very special place to photograph several different species of internal feeding Ercolania in their natural habitat.

Mactan is a coral island, that lies just off the coast of Cebu Island, Philippines. Due to its proximity to Cebu City and the international airport

there, the diving infrastructure in Mactan is well developed with a lot of facilities, serving the flow of Korean divers, among them this destination is especially popular.

I saw several intriguing pictures in the web and arranged a couple of days in Mactan at the end of my usual two-month Philippine trip. Mactan has never been among the top destinations for macro photographers. Therefore, I was driven rather by curiosity than by expectation of new discoveries. It soon became clear that I was severely mistaken!

My guide first asked about my wish list and said that all these sea



*Ercolania kencolesi*

slugs should be spotted at night.

We planned two shore night dives starting from 6-30. The place was very busy - dozens of divers passed by, returning from training courses and excursions to neighbouring islands, music from the bar sounded, there were many boats around. Definitely not up to your idea of a place for serious super macro photography and finding rare critters.

Everything was different under water. It didn't take me long to understand two simple things. This place is one of the best. And I had something to compare, after thousands of dives on the best dive sites in

Indonesia, the Philippines and Papua New Guinea. And my guide turned out to be a great professional, one of the best in business.

Two hours of the 1st dive passed quickly. We found several species of Ercolania, there were other interesting and rare sea slugs. I realised that I underestimated this place by planning only two days here. And I asked Alfie, my guide - can we make three dives tomorrow at night, not two?

Having received a positive answer, I gently asked about the chances for the fourth dive. Alfie was surprised, but remained positive, only warned that that no one had done four



*Ercolania sp-Golden-Net*

long night dives before.

These were beautiful and very productive dives, the last of them ended at about four after midnight next day. I clearly understood that I still have a lot to explore here and planned a week in Mactan during my next Philippine trip. And that was the right decision. We were able to find new sea slugs and better photographs previously seen.

Diving conditions on Mactan were completely unusual for me. Forget about a lot of time in the small boats. No need even to load your gear in the car. I booked a basic but

spacious room just 5 meters from the massive concrete stairs - water entry for my night dives. Warm thirty-degree water added comfort to diving.

I was in Mactan in June and July. This time is considered as low season for diving in the Philippines. But occasional rains did not cause much trouble and did not create problems for diving.

My wife and I did not join Mactan usual trips to local dive sites. In the afternoon, we sometimes dived together, without a guide, just taking tanks. But a couple of times we booked a boat and explored other sites



with Alfie. Some were interesting for the macro photographer, including the closest one, just 400 meters from our residence.

After six in the evening, everything subsided and we went down the steps to a completely different world. It was great to have a world-class macro dive site literally behind your porch!

Excellent conditions for diving leave no excuses for failures with photos. But shooting our sea slugs is far from easy.

Shy and tiny (2-5 mm), they demand a full super-macro setup and

a lot of patience. A powerful wet lens is a must.

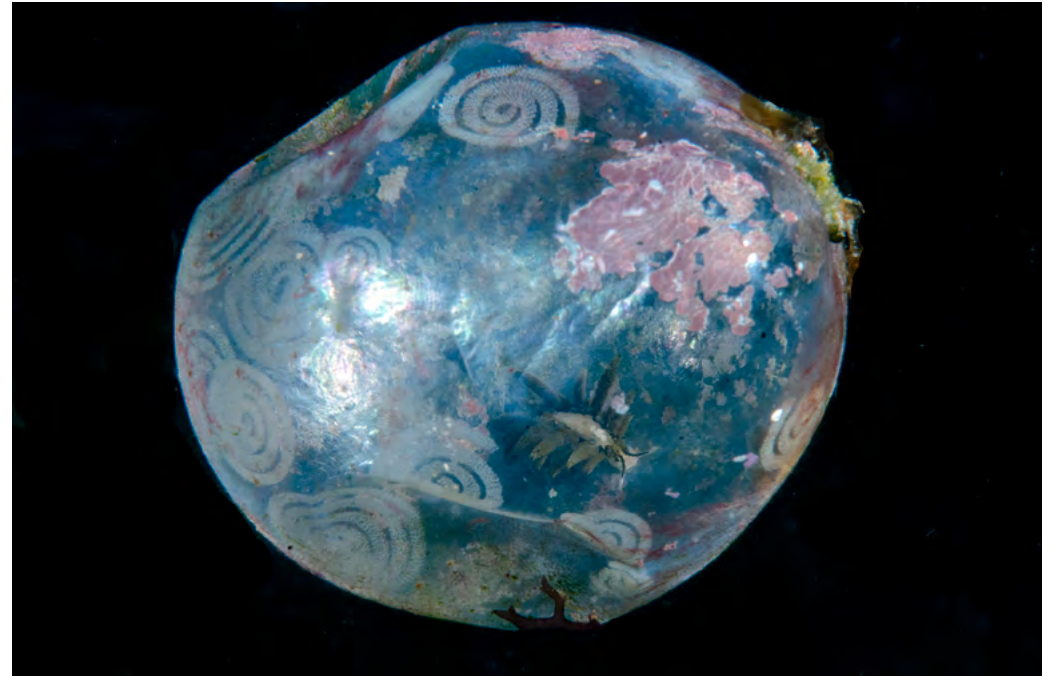
I worked with SLR Nikon D7200 (105 mm) and +10 or +16 wet lenses. Aperture f32 or f36, to restore depth of field, dramatically narrowed by the high-magnification wet lens.

If you are taking your first steps in super macro photography, it is better to postpone the trip, until you attain a certain degree of automatism in choosing camera and flash settings. You must use the capabilities of your camera and wet lens to one hundred percent.

Do not forget that wet lenses



*Ercolania* sp.-Green-Net  
*Ercolania* sp.-Yellow-Tipped



*Ercolania* endophytophaga  
*Ercolania* sp-Tattooed





*Giant Bubble Sell*

with high magnification always try to fool you, making you happy with the ease of focusing at a certain distance from the subject. Do not be fooled, keep moving the camera closer! And even closer! Catch the right moment when the lens is already starting to jerk, unable to focus. Now move the focusing light closer, increasing the brightness and contrast of the subject. And press the shutter button!

Photographing this means a lot of time as well. Luckily, Bubble Cell Divers are usually found not deep, between four and ten meters. It means that one hundred minutes dives are possible.

There are several species of

Bubble Cells, preferred by our sea slugs. They include large alga cells of *Valonia ventricosa*, well known under the common names Bubble Algae or Sailor's Eyeballs. *Boergesenia forbesii*, or Bubble Green Seaweed (on the picture) is favourite diet for *Ercolania kneeholes*.

Please be careful not to disturb these wonderful creatures. Do not damage their fragile Bubbles.

Remember that these amazing slugs were crawling inside alga cells millions of years before the people learned how to make fire! The ocean belongs to its inhabitants and we are only guests.

The addition of macro diving



*Andrey and Diego*

makes Mactan an even better place for diving, not only for beginners, but also for advanced macro photographers. Weather conditions allow you to dive all year round.

This region is interesting for its capabilities not only for nudibranch lovers. It provides unique opportunities for rare fish lovers, especially gobies. But this is a theme for a separate publication.

The proximity of an international airport is also an advantage. To get to your comfortable hotel on the

seashore an hour after landing is also a pleasant moment. As well as a good supermarket, and McDonald's (opened last year), a 10-minute walk from the hotel.

Special thanks for my dive guide Alfie Solano. You can find more unique photos of nudibranchs and sea slugs inside "Nudibranchs of the Coral Triangle Book". Happy bubbling!

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