

# Opisthobranch Newsletter

October 5, 1998 -- 24(10):41

Steven J. Long, editor; 20220 21<sup>st</sup> Avenue N.W., Shoreline, WA 98177-2314; 206-546-5977; 206-546-5076 fax; <http://www.seaslug.com> Back volumes available [Issues@seaslug.com](mailto:Issues@seaslug.com). Copyright © 1998.

## EDITOR'S NOTES

Thanks to David Behrens, Gary McDonald, Richard Lord, Erwin Köhler, Francisco J. García, Wayne Ellis, Irina Roginskaya, Bob Bolland and all who have sent information for this issue. Gary and Erwin are constantly sending me new inputs for the bibliography and the photo link list.

So far it seems that people are either using both the Internet and paper versions of the ON or only the Internet version. If I had to guess based on the comments so far I would say only a handful of people are willing to pay for the paper version. Starting with this issue I will only be producing the Internet editions periodically. If you need the paper editions, let me know.

Wayne Ellis has started producing a new online newsletter dedicated to Australasian nudibranchs and agreed to incorporate it into the ON. We are reprinting the information from the single issue and will continue from there with the combination publication.

## READER FORUM

**Locality data; *Placida dendritica* (Alder & Hancock, 1843).**

**David W. Behrens**

The range of this species is extended to Bertha Bay, Chichagof Island, Alaska, where it has been collected on *Codium fragile* (Rita O'Clair, pers. commun.). - [seachalleng@earthlink.com](mailto:seachalleng@earthlink.com), 35 Versailles Court, Danville, CA94506

## PERSONAL NOTES

**Bill Rudman** is, according to reports, recovering well from major surgery and expects to be back at work near the end of October. Best wishes!

**From Chris Garvie:** Yes, - I have moved back to Austin and am planning to stay here now as I am about 3/4 through building a house here. I hope by the end of the year to begin writing and doing some real research again. - [cgarvie@ccms.net](mailto:cgarvie@ccms.net)

**From Irina Roginskaya:** The 3 color issues of ON just received, many, many thanks for all! And for my first printed color figures especially! got the ON issues safely, but by a somewhat unusual manner: we found it on the

floor in our laboratory. I had not succeeded in finding out who could push the ON under the closed door - perhaps somebody of our Institute arrived from U.S? Best wishes. - <http://www.hotmail.com>

## INFORMATION EXCHANGE

**From Francisco J. García:** I would be grateful for information and references about possible ontogenetic changes produced in gastropod opisthobranchs related to the shape of teeth and number of tooth rows in juveniles and adult specimens. Is it possible that the number of tooth rows are higher in juveniles than in adults? Is it possible that the shape changes in all the rows of teeth when the juveniles develop to the adult state? -

[fgarcia@cica.es](mailto:fgarcia@cica.es), Dept. Fisiología y Biología Animal, Univ. Sevilla, Avda Reina Mercedes 6, Apdo. 1095, 41080 Sevilla, Spain

**From Richard Lord:** A sea hare, *Aplysia depilans*, floated into St. Peter Port harbour, Guernsey, British Channel Islands on September 21. It weighs 242 grams and has a length of 147 mm and a width of 80 mm. The parapodia of *Aplysia depilans* are fused posteriorly.

This is the first "*A. depilans*" I have seen although in June and July of this year I saw at least one hundred "*A. punctata*" either spawning on seaweed or washed up on Guernsey beaches.

Could someone on this list please provide me with information about the ecology of *Aplysia depilans*? How abundant, in relation to other sea hares, is this sea hare and what is its distribution? How long does it live? Does it die after spawning? What range does this animal have during its life?

During June and July of this year, washed-up, dead and dying *Aplysia punctata* were common on Guernsey beaches. They had not been seen during the previous three summers. Also their spawn was common on washed up fragments of seaweed.

In the summer issue of "Glaucus", The British Marine Life Study Society magazine, Jon Makeham and Deanna Webb wrote a report about a rock pooling trip taken in February, 1998, to Hannafore Point, Looe, Cornwall, England. They wrote the following, "Last year we found not a single sea hare, *Aplysia punctata*, in South Cornwall, and this year they are everywhere. We found at least twenty specimens on the first afternoon (Feb. 27, 1998) ... if previous experience is anything to go by, finding these animals in February means that by the end of April the beach will be invaded by thousands. This seems to be a good year for sea slugs in general ...."

Looe, Cornwall is 91 nautical miles to the North-West (305 degrees) of Guernsey across the English Channel. Can anyone on this list comment on the extent of the observed increase in sea hare abundance in European waters? Do sea hares cross the English Channel? Any insights into sea hare ecology would be most appreciated.

# Opisthobranch Newsletter

Copyright © October, 1998 - Volume 24(10):42

## auNEWS (Wayne Ellis)

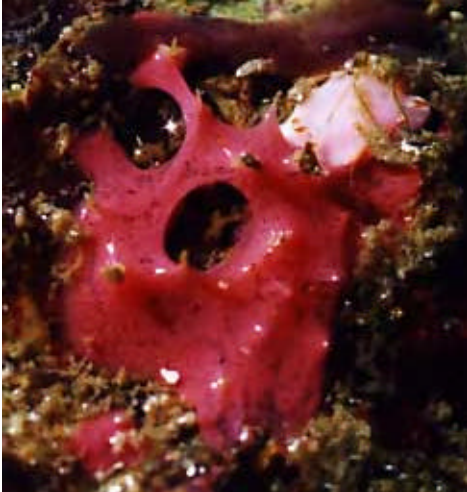


### *Noumea simplex* (Pease, 1860)

This is a common nudibranch on the Sunshine Coast all year. It can usually be found on a pink/red sponge under rocks at low tide. *Noumea simplex*, *Noumea romeri*, *Hyselodoris punicea* & *Durvilledoris albofimbria* bear a resemblance to each other.

*N. simplex* can be pink or white with an ill-defined narrow white mantle border. The gills & rhinophores are orange tipped. The gills do not wave rhythmically as do those in some other species. Orange spots may occur on the edge of the mantle of some individuals.

**Reference:** W. B. Rudman. The Chromodorididae (Opisthobranchia: Mollusca) of the Indo-Pacific: further species from New Caledonia & the *Noumea romeri* colour group Moll. Res. 16: 1-43 (1995)



### In Review

#### *Myja longicornis* Bergh 1896a

On the 6th July 1998 I came across what at first appeared to be *Bornella stillifer* (fig. 1) at Point Cartwright. The animals were feeding on the hydroid, *Halocordyle disticha* in a shallow rock pool. The small

white eggs spirals wrapped around hydroid indicated their presence. The animal was observed again on 11th & 23rd July at Point Cartwright. Another animal was located at Point Arkwright/Coolum Beach on 22nd & 24th August. Again the egg spirals gave away its location.



Fig. 1

Dr Bill Rudman of the Australian Museum, Sydney, Australia suspected it was an animal described by Bergh in 1896, from the Genus; *Myja*. A search of the database at Steve Long's site came up with *Myja longicornis* Bergh, 1896a and the following paper: Bergh, L. S. R. 1896a. Eolidiens d'Amboine. Revue Suisse de Zoologie et Annales de Musee d'Histoire Naturelle de Geneve 4:385-394, pl. 16. Voyage de MM. M. Bedot et C. Pictet dans l'Archipel Malais. To date I have been unable to view this paper & confirm this is *M. longicornis*.

**Description:** The animals were 10-20mm in length when crawling. The body was transparent with red lines down each side. The heart was posterior to the first group of cerata on the left side. The cerata were grouped down the back of the animal in arcs across the back. Each ceras was club-like & resembled the hydroid polyps which the animal was feeding on. The ceras tips were transparent with a red/pink line then a white line below that. Small groups of white dots covered the body & were most obvious at the base of the cerata. The base of the cerata was brown. (See fig. 2 & 3).

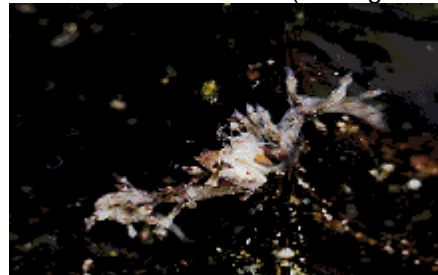


Fig. 2

Eggs masses were white & laid in spirals around the hydroid. Personal observations indicate they hatch in approximately three weeks. No juveniles have been sighted.



Fig. 3

# Opisthobranch Newsletter

Copyright © October, 1998 - Volume 24(10):43

**Distribution:** Bill Rudman mentioned the animal has been recorded in Tanzania, Sydney, & New Caledonia. Rudie Kuitert has a photo in "The Scuba Diver" August 1982 that resembles the animal I am finding.

**Behaviour:** When resting the animals lie along the stems of the hydroid & are difficult to find as they resemble the hydroid polyps. When feeding they probe with their oral tentacles, retracting rapidly when coming in contact with the polyps stinging arms. I have observed them eating twice. On one occasion the animal attacked the polyp from underneath, taken bits out the polyp until it had worked its way up & along the polyp's body & arms. A second time it attacked its prey head-on, with no regard for the hydroids defences. Fig. 2 shows the animals head to head for an unknown reason.

**Remarks:** Little seems to be known about this animal & its classification is under review. The photographs of *M. longicornis* are of poor quality, fig. 2, was taken in the field & fig.3, in the lab unfortunately with the wrong coloured background. When more specimens are located I will attempt to obtain better resolution photographs. As stated above, on the first sighting I assumed the animal to be *Bornella stillifer* due to the overall colouring & the presence of the red longitudinal lines. It was only later I realised this animal had oral tentacles & the rhinophores were not those seen on *B. stillifer*.

**Acknowledgments:** Thanks to Dr. Bill Rudman, Dr. Richard Willan, Dr Terry Gosliner, Dr Dave Behrens for their guidance & help. Thanks also to the Department of Primary Industries for assistance with photographing the animal.

**From Wayne Ellis:** I commenced diving in 1981 and have logged over 960 dives and taken thousands of photographs. Nudibranchs gradually became my main focus. This year I commenced compiling a list of nudibranchs from the Sunshine Coast, Queensland, Australia. The list has grown to 60 species and is far from a complete guide. Two hundred fifty species is a conservative estimate for the area.

With my partner, Robyn Oxenham, I run Glasshouse Kinesiology, a motivation and health centre focusing on empowering people. When not working we spend time fossicking on rock platforms with our trusty Australian Cattle Dog, Marli.

## BIBLIOGRAPHY

**Avila, C. 1998-05.** Chemotaxis in the nudibranch *Hermisenda crassicornis*: does ingestive conditioning influence its behaviour in a Y-maze? *Journal of Molluscan Studies* 64(2):215-222. [The nudibranch mollusc *Hermisenda crassicornis* can be cultured easily in the laboratory and has been used as a biomedical model for learning and memory studies. Cultured animals whose only prey was *Tubularia crocea* were tested for responses to other prey. Naive slugs were

conditioned with six different diets and tested for behaviour in a Y-maze. *H. crassicornis* was able to detect chemotactically food items which it had never been in contact with (such as *Pennaria*), but it did not detect some of the conditioning diets (e.g. *Metridium*). At least three hydroid species induce a chemotactic behaviour in the slug. It is shown that ingestive conditioning does affect their response in single-choice and double-choice experiments. As food items other than cnidarians are also detected, it is likely that different kairomones are responsible for the nudibranch's behaviour.]

**Avila, C.; Ballesteros, M.; Slattery, M.; Starmer, J.; Paul, V.J. 1998-05.** *Phyllodesmium guamensis* (Nudibranchia: Aeolidioidea), a new species from Guam (Micronesia) *Journal of Molluscan Studies* 64(2):147-160. [A new species of *Phyllodesmium* (Aeolidioidea) from Guam (Micronesia) is described. *Phyllodesmium guamensis* n.sp. is characterized by having two rows of denticles in the radular teeth, this being different from the previously described species of the genus. The shape of the teeth, however, is identical in all the species of the genus, and unique among aeolids. Furthermore, *P. guamensis* possesses a double row of cerata in the precardiac cluster up to 10 postcardiac ceratal rows. Also, *P. guamensis* shows a very dense accumulation of zooxanthellae in the ceratal digestive gland, which is ramified inside the cerata. This species feeds on at least three species of the soft coral *Sinularia*: *S. polydactyls*, *S. maxima* and a third, undescribed species. The aeolid matches the colour of its prey and is cryptic on the soft coral surface.]

**Becerro, M.A.; Paul, V.J.; Starmer, J. 1998.** Intracolony variation in chemical defenses of the sponge *Cacospongia* sp. and its consequences on generalist fish predators and the specialist nudibranch predator *Glossodoris pallida*. *Marine Ecology-Progress Series* 168:187-196.

**Brodie, Gilliane D. 1998.** The value of histological characters for anatomical investigations of nudibranchs: a study of the family Dendrodorididae. Abstracts, World Congress of Malacology, Washington, D.C., 1998:43. [*Dendrodoris nigra*, *Doriopsilla*]

**Brodie, Gilliane D.; Klussmann Kolb, Annette D. 1998.** Bacteria in the reproductive system of a tropical marine gastropod. Abstracts, World Congress of Malacology, Washington, D.C., 1998:44. [*Dendrodoris nigra*]

**Calado, Gonçalo; Ugorri, Victoriano 1998.** New data on the radular tooth morphology of *Calma glaucooides* (Alder & Hancock, 1854). Abstracts, World Congress of Malacology, Washington, D.C., 1998:48.

**Cervera, Juan Lucas; Garcia Gómez, José Carlos; Cattaneo Vietti, Riccardo 1998.** A new species of phanerobranch dorid (Gastropoda: Nudibranchia: Polyceratidae) from the Cape Verde Archipelago (eastern Atlantic). Abstracts, World Congress of Malacology, Washington, D.C., 1998:56. [*Tambja*]

**Cervera, Juan Lucas; Garcia Gómez, José Carlos; Megina, César 1998.** A new species of *Trapania* Pruvot-Fol, 1931 (Gastropoda: Nudibranchia), from the Natural Park "bahia De Cadiz" (southwestern Iberian Peninsula), with remarks on Atlantic species of the genus. Abstracts, World Congress of Malacology, Washington, D.C., 1998:57.

**Cervera, Juan Lucas; Gosliner, Terrence M.; Garcia Gómez, José Carlos; Ortea, Jesús Ángel 1998.** Re-examination of the phylogenetic relationships of the Notaspidea based upon the discovery of a new species of Notaspidea from the Canary Islands. Abstracts, World Congress of Malacology, Washington, D.C., 1998:58. [*Pleurobranchus*, *Bathyberthella*, *Berthella*, *Polictenidia*, *Parabathyberthella*]

**Dadon, J.R.; Chauvin, S.F. 1998-08.** Distribution and abundance of Gymnosomata (Gastropoda: Opisthobranchia) in the southwest Atlantic. *Journal of Molluscan Studies* 64(3):345-354. [The distribution and abundance of gymnosome gastropods in the Argentine Sea and Brazil - Malvinas Confluence during 1978-1979 and 1988 were studied. The collections analyzed included 768 quantitative samples obtained between 48°W and the coast, and from 35°S to 55°S. Two species were found. *Spongiobranchaea australis* was the most frequent and abundant (up to 730 per 1000 m<sup>3</sup>); its presence in the area was associated with the core of the Malvinas Current. *Clione antarctica* was less abundant (maximum abundance: 230 per 1000 m<sup>3</sup>) and was also associated with the Malvinas Current. The geographic ranges of both species in the area are wider than previously described. Since the range of *S. australis* in the area extends far from the range of its prey *Clio*, it is not clear whether *S. australis* can feed on the thecosomatous pteropod *Limacina* (and not only on *Clio*, as described

# Opisthobranch Newsletter

Copyright © October, 1998 - Volume 24(10):44

- in the bibliography) or it starves in that area. During the 1978-1979 annual cycle, the abundance of both species followed neither the abundance patterns of their prey nor of the total zooplankton, and differed from each other. The residence time of swarms of both gymnosomes were shorter than one month. As a general pattern, the aggregates are rapidly transported northward by the Malvinas Current and also penetrate the outer shelf water, but they remain there only during a short period and cannot preclude the final expatriation. So, the abundance of gymnosomes in the area depends on passive migration more than intrinsic population factors.]
- Dash, Pramod K.; Tian, Lian-Ming; Moore, Anthony N. 1998-07-07.** Regenerating *Aplysia* motor neuron axons. Proceedings of the National Academy of Sciences of the United States 95(14):8339 (6 pages); photograph, graph, illustration.
- Fahey, Shireen J. 1998.** Description of a new species of *Halgerda* from the Indo-Pacific with a preliminary phylogenetic analysis. Abstracts, World Congress of Malacology, Washington, D.C., 1998:101. [*Halgerda elegans*]
- Furukawa, Y.; Kubo, T. 1997.** Accumulative inactivation of the voltage-gated K<sup>+</sup> channel of *Aplysia*: Comparison with the rat homologue. Zoological Science (Tokyo) 14(SUPPL.): 111.
- Garcia, F.J.; Troncoso, Jesús S. 1998.** Description of a new species belonging to the genus *Glossodoris* (Doridoidea: Chromodorididae) from Pacific Ocean waters of Panama. Abstracts, World Congress of Malacology, Washington, D.C., 1998:110.
- Garcia, F.J.; Troncoso, Jesús S. 1998.** Faunistic data about the opisthobranch gastropods from Coiba National Park (Panama). Abstracts, World Congress of Malacology, Washington, D.C., 1998:111. [30+ spp.]
- Gitler, D.; Spira, M.E. 1998.** Real time imaging of calcium-induced localized proteolytic activity after axotomy and its relation to growth cone formation. Neuron 20(6):1123-1135. [*Aplysia*]
- Gonzalez, G.; Gilles Gonzalez, M.A.; Rybak Akimova, E.V.; Buchalova, M.; and others. 1998-07-14.** Mechanisms of autoxidation of the oxygen sensor FixL and *Aplysia* myoglobin: Implications for oxygen-binding heme proteins. Biochemistry 37(28):10188-10194.
- Gonzalez, Gonzalo; Gilles Gonzalez, Marie A.; Rybak Akimova, Elena V.; Buchalova, Maria; and others. 1998-07-14.** Mechanisms of autoxidation of the oxygen sensor fixL and *Aplysia* myoglobin: implications for oxygen-binding heme proteins. Biochemistry 37(28):10188 (7 pages); table, chart, graph, illustration.
- Gosliner, T.M.; Newman, Leslie 1998.** Toxic deception: mimicry complexes of nudibranchs and polyclad flatworms. Abstracts, World Congress of Malacology, Washington, D.C., 1998:126.
- Hamilton, M.G. 1998.** Invertebrate hemolymph as a source for enzyme isolation and characterization projects in an undergraduate biochemistry laboratory. FASEB Journal 12(8): A1336. [*Aplysia californica*]
- Hawkins, R.D.; Greene, W.; Kandel, E.R. 1997-06.** Classical conditioning, differential conditioning, and second-order conditioning of the *Aplysia* gill-withdrawal reflex in a simplified mantle organ preparation. Behavioral Neuroscience 112(3):636-645.
- Hawkins, Robert D.; Cohen, Tracey E.; Greene, Winifred; Kandel, Eric R. 1998-02.** Relationships between dishabituation, sensitization, and inhibition of the gill- and siphon-withdrawal reflex in *Aplysia californica*: effects of response measure, test time, and training stimulus. Behavioral Neuroscience 112(1):24 (15 pages), table, chart, graph, illustration.
- Hawkins, Robert D.; Greene, Winifred; Kandel, Eric R. 1998-06.** Classical conditioning, differential conditioning, and second-order conditioning of the *Aplysia* gill-withdrawal reflex in a simplified mantle organ preparation. Behavioral Neuroscience 112(3):636 (10 pages); chart, graph, illustration. [*Aplysia californica*]
- Iken, K.; Avila, C.; Ciavatta, M.L; Fontana, A.; and others. 1998-07-30.** Hodgsonal, a new drimane sesquiterpene from the mantle of the Antarctic nudibranch *Bathydoris hodgsoni*. Tetrahedron Letters 39(31):5635-5638.
- Johnson, Rebecca F. 1998.** Phylogeny and evolution of color pattern in chromodorid nudibranchs. Abstracts, World Congress of Malacology, Washington, D.C., 1998:167. [*Thorunna*, *Pectenodoris*, *Digidentis*, *Durvilledoris*, *Ardeadoris*]
- Katoh, K.; Hammar, K.; Smith, P.J.S.; Oldenbourg, R. 1998.** Architectural dynamics of neuronal growth cone revealed non-invasively by polarized light microscopy: Creation, traveling, fusion and 'skidding' of actin bundles. Biophysical Journal 74(2 PART 2): A24. [*Aplysia*]
- Katz, P.S. 1998.** Comparison of extrinsic and intrinsic neuromodulation in two central pattern generator circuits in invertebrates. Experimental Physiology 83(3): 281-292. [*Tritonia*]
- Klussmann Kolb, Annette D. 1998.** New aspects of opisthobranch phylogeny (Gastropoda, Opisthobranchia): comparative histological and ultrastructural studies of the nidamental glands and egg masses. Abstracts, World Congress of Malacology, Washington, D.C., 1998:178.
- Kolb, A. 1998-08.** Morphology, anatomy and histology of four species of *Armina* Rafinesque, 1814 (Nudibranchia, Arminoidea, Arminidae) from the Mediterranean sea and the Atlantic ocean. Journal of Molluscan Studies, Volume 64, Issue 3:355-386. [Three Mediterranean arminids (*Armina neapolitana* (Delle Chiaje, 1824); *Armina tigrina* Rafinesque, 1814 and *Armina maculata* Rafinesque, 1814) and one Atlantic species (*Armina loveni* (Bergh, 1860)) were examined morphologically, anatomically and histologically. Detailed descriptions of all organ systems are given. Marginal sacs are described for all four species. All four species are very similar in their morphology, anatomy and histology. Differences are apparent in the colour and structure of the notum, in the shape of the radula teeth, in the structure of the digestive gland and in the anterior genital complex. The data gathered in the examinations are compared to existing literature. Additionally, the four species are compared to other species of *Armina*. Since the existing data about these are sparse, the comparison is rather incomplete. More information especially about anatomy needs to be gathered for a better understanding of the genus.
- Korn, H.; Faber, D.S. 1998.** Quantal analysis and long-term potentiation. Comptes Rendus de l'Academie des Sciences Serie III Sciences de la Vie 321(2-3): 125-130. [*Aplysia*]
- Kreusch, A.; Pfaffinger, P.; Stevens, C.F.; Choe, S. 1998.** The crystal structure of the putative ion-conducting pathway formed by the inner vestibule of shaker potassium channel. Biophysical Journal 74(2 part 2):A127. [*Aplysia*]
- Kupfermann, I. 1997-1998.** The role of modulatory systems in optimizing behavior: Studies of feeding in the mollusc *Aplysia californica*. Zoology (Jena) 100(4): 235-243.
- Malaquias, Manuel António E.; Morenito, Paulo M. 1998.** Additions to our knowledge of the opisthobranch mollusks of Ria Formosa, a coastal lagoon in southern Portugal. Abstracts, World Congress of Malacology, Washington, D.C., 1998:202. [23 spp.]
- McPhail, K.; Davies Coleman, M.T.; Coetzee, P. 1998-07.** A new furanosesterterpene from the south African nudibranch *Hypselodoris capensis* and a dictyoceratida sponge. Journal Of Natural Products 61(7):961-964.
- Melo, V.M.M.; Fonseca, A.M.; Vasconcelos, I.M.; Carvalho, A.F.F.U. 1998-06.** Toxic, antimicrobial and hemagglutinating activities of the purple fluid of the sea hare *Aplysia dactylomela* Rang, 1828. Brazilian Journal of Medical and Biological Research 31(6): 785-791.
- Mikkelsen, P.M. 1998.** *Cylindrobulla* and *Ascobulla* in the western Atlantic (Gastropoda, Opisthobranchia, Sacoglossa): Systematic review, description of a new species, and phylogenetic reanalysis. Zoologica Scripta 27(1): 49-71. [*Cylindrobulla beaulti*; *Ascobulla ulla*; *Cylindrobulla gigas* n.sp.]
- Millen, S.V. 1998.** The genus *Cumanotus*: aeolid nudibranchs with deviance, but how deviant? Abstracts, World Congress of Malacology, Washington, D.C., 1998:224. [*Cumanotus beaumonti*]
- Moreira, J.E.; Dodane, V.; Reese, T.S. 1998.** Immunoelectronmicroscopy of soluble and membrane proteins with a sensitive postembedding method. Journal of Histochemistry and Cytochemistry 46(7):847-854. [*Aplysia californica*]
- Morishita, F.; Nakanishi, Y.; Kaku, S.; Furukawa, Y.; Matsushima, O.; Takahashi, T.; Ohtani, M.; Fujisawa, Y.; Muneoka, Y. 1997.** A novel cardioactive peptide isolated from *Aplysia* hearts. Zoological Science (Tokyo) 14(SUPPL.): 121. [*Aplysia kuroda*]

# Opisthobranch Newsletter

Copyright © October, 1998 - Volume 24(10):45

- Muzzio, I.A.; Talk, A.C.; Matzel, L.D. 1998-05-11.** Intracellular Ca<sup>2+</sup> and adaptation of voltage responses to light in *Hermisenda* photoreceptors. *Neuroreport*, v.9, n.7, (1998): 1625-1631.
- Nakamaru, K.; Morishita, F.; Furukawa, Y.; Ohtani, M.; Takahashi, T.; Fujisawa, Y.; Muneoka, Y.; Matsushima, O. 1997.** Purification and primary structure of three novel neuropeptides in *Aplysia kurodai*. *Zoological Science (Tokyo)* 14(SUPPL.): 12.
- Painter, Sherry D.; Clough, Bret; Garden, Rebecca W.; Sweedler, Jonathan V.; and others. 1998-04.** Characterization of *Aplysia* attractin, the first water-borne peptide pheromone in invertebrates. *Biological Bulletin* 194(2):120 (12 pages); illustration, table, chart, graph.
- Palazzi, Stefano; Scuderi, Danilo; Villari, Alberto. 1995-10/11/12.** Notes on the Malacofauna associated with *Caulerpa taxifolia*. *La Conchiglia XXVII(277)*:4-6.
- Pepio, A.M.; Fan, X.T.; Sossin, W.S. 1998-07-24.** The role of C2 domains in Ca<sup>2+</sup>-activated and Ca<sup>2+</sup> independent protein kinase Cs in *Aplysia*. *Journal Of Biological Chemistry* 273(30):19040-19048.
- Perrins, R.; Weiss, K.R. 1998.** Compartmentalization of information processing in an *Aplysia* feeding circuit interneuron through membrane properties and synaptic interactions. *Journal of Neuroscience* 18(10): 3977-3989.
- Pettit, G.R.; Srirangam, J.K.; Barkoczy, J.; Williams, M.D.; Boyd, M.R.; Hamel, E.; Pettit, R.K.; Hogan, F.; Bai, R.; Chapuis, J.-C.; McAllister, S.C.; Schmidt, J.M. 1998.** Antineoplastic agents 365. Dolastatin 10 SAR probes. *Anti-Cancer Drug Design* 13(4): 243-277. [*Dolabella auricularia*]
- Pires, Anthony; Croll, Roger P. 1998.** Modulation of metamorphosis by catecholamines in the opisthobranch gastropod *Phestilla sibogae*. Abstracts, World Congress of Malacology, Washington, D.C., 1998:262.
- Pittenger, C.; Kandel, E. 1998.** A genetic switch for long-term memory. *Comptes Rendus de l'Academie des Sciences Serie III Sciences de la Vie* 321(2-3): 91-96. [*Aplysia*]
- Plaut, I.; Borut, A.; Spira, M.E. 1998-05.** Seasonal cycle and population dynamics of the sea hare *Aplysia oculifera* in the northern Gulf of Eilat (Aqaba), Red Sea. *Journal of Molluscan Studies* 64(2):239-247. [Populations of the sea hare, *Aplysia oculifera* (Adams & Reeve, 1850) (Gastropoda: Opisthobranchia), were studied in the northern coast of the Gulf of Eilat (Aqaba) between April 1988 and March 1992. Recruitment occurred from December to February, synchronized with the blooming of green algae (*Enteromorpha intestinalis* and *Ulva* sp.). A single recruitment event occurred each year, while a secondary recruitment was rarely observed and was related to acute catastrophic disturbance of the habitat. Adult sea hares inhabited the inter- and subtidal zones from December-January to April-June, feeding on *E. intestinalis* and *Ulva* sp. Populations disappeared in April-June which coincided with disappearance of these green algae. Mean maximum body live mass of adult sea hares (MMBLM, that is the highest mean body mass recorded at specific site within the season) ranged from 0.77 to 33 g MMBLM, varied significantly among populations inhabiting the various study sites, and was significantly and inversely correlated with water movement intensity. Abundance of sea hares varied among sites and among years and was related to the amount of green algae during the recruitment season.]
- Prince, J.; Nolen, T.G.; Coelho, L. 1998-05-15.** Defensive ink pigment processing and secretion in *Aplysia californica*: concentration and storage of phycoerythrobilin in the ink gland. *Journal of Experimental Biology* 201(10):1595-1613.
- Raloff, Janet 1998-07-04.** Rogue Algae. The Mediterranean floor is being carpeted with a shaggy, aggressive invader. *Science News* 154(1):8-10; 4 clr photos. [*Oxynoe azoropunctata*, *Elysia subornata*]
- Rivero Paredes, Nelsy C.; Pauls, S.M. 1998.** Ecological aspects of *Aplysia brasiliiana* (Rang) (Mollusca: Opisthobranchia) on a rocky platform at Las Salinas, Venezuela. Abstracts, World Congress of Malacology, Washington, D.C., 1998:277.
- Roginskaya, I.S. 1997.** [On the distribution of the nudibranch *Chlamyella typica* (Bergh, 1886) (Gastropoda, Nudibranchia) in Arctic and Far-Eastern waters of Russia.] *In: Benthos of the northern Euro-Asian seas.* Russian Academy of Sciences, P.P. Shirshov Institute of Oceanology pp. 94-101, 106-107; tpls. 1-2; figs. 1-4. [Russian, English summary; *Goniaeolis typica*, *Coryphella polaris*, *Coryphella sarsi*, *Coryphella nobilis*]
- Roginskaya, I.S. 1997.** [New distributional sites, range extension and notes on the feeding of *Tritonia diomedea* Bergh, 1894 (Opisthobranchia, Nudibranchia, Tritoniidae) in the Bering Sea.] *In: Composition and Distribution of Bottom Invertebrate Animals in the Seas of Russia and Adjacent Waters.* Russian Academy of Sciences, P.P. Shirshov Institute of Oceanology pp. 133-140, 167; 18 illus. [Russian, English summary; *Tritonia primorjensis*, *Tritonia septemtrionalis*]
- Rueness, J., 1989.** *Sargassum muticum* and Other Introduced Japanese Macroalgae: Biological Pollution of European Coasts *Marine Pollution Bulletin* 20(4): 173-176.
- Schrödl, Michael; Wägele, Heike; Willan, Richard C. 1998.** The phylogenetic position of *Doridoxa* (Gastropoda: Nudibranchia): a histological account. Abstracts, World Congress of Malacology, Washington, D.C., 1998:298. [*Doridoxa ingolfiana*]
- Schulze, A.; Wägele, H. 1998-05.** Morphology, anatomy and histology of *Flabellina affinis* (Gmelin, 1791) (Nudibranchia, Aeolidioidea, Flabellinidae) and its relation to other Mediterranean *Flabellina* species. *Journal of Molluscan Studies* 64(2):195-214. [The Atlantic and Mediterranean flabellinid *Flabellina affinis* (Gmelin, 1791) (Opisthobranchia Nudibranchia, Aeolidioidea) is examined morphologically, anatomically and histologically with special emphasis on characters which have been widely neglected in recent literature (e.g. the histological structure of the oral glands, typhlosole). The study provides detailed data about all organ systems which are compared to existing data of other authors. The species described as *Flabellina affinis* by Bergh (1875; 1886) is considered not to be conspecific with the *Flabellina affinis* examined in this and other studies. Furthermore, *Flabellina affinis* is compared to other Mediterranean species, especially *F. ischitana* (Hirano & Thompson, 1990). *F. ischitana* differs from *F. affinis* mainly by the structure of the genital system. The phylogenetic trees presented for the genus by Gosliner & Kuzirian (1990 and Gosliner & Willan (1991) are discussed.]
- Siegman, M.J.; Funabara, D.; Kinoshita, S.; Watabe, S.; Hartshorne, D.J.; Butler, T.M. 1998.** Phosphorylation of a twitchin-related protein controls catch and calcium sensitivity of force production in invertebrate smooth muscle. *Proceedings of the National Academy of Sciences of the United States of America* 95(9):5383-5388. [*Aplysia californica*]
- Slattery, M.; Avila, C.; Starmer, J.; Paul, V.J. 1998.** A sequestered soft coral diterpene in the aeolid nudibranch *Phyllodesmium guamensis* Avila, Ballesteros, Slattery, Starmer and Paul. *Journal of Experimental Marine Biology and Ecology* 226(1): 33-49.
- Sudlow, L.C.; Jing, J.; Moroz, L.L.; Gillette, R. 1998.** Serotonin immunoreactivity in the central nervous system of the marine molluscs *Pleurobranchaea californica* and *Tritonia diomedea*. *Journal of Comparative Neurology* 395(4):466-480.
- Sun, Z.-Y.; Schacher, S. 1998.** Binding of serotonin to receptors at multiple sites is required for structural plasticity accompanying long-term facilitation of *Aplysia* sensorimotor synapses. *Journal of Neuroscience* 18(11):3991-4000.
- Swennen, C. 1998.** Two new gastropods, *Elysia bangawaensis* and *E. siamensis* from southern Thailand (Opisthobranchia, Sacoglossa, Elysidae). *Bulletin Zoologisch Museum Universiteit van Amsterdam* 16(6): 33-39. [*Elysia bangawaensis* n.sp.; *Elysia siamensis* n.sp.]
- Tajima, G.-I.; Matsuoka, A.; Yuasa, H.; Takagi, T.; Shikawa, K. 1997.** *Aplysia* myoglobins: cDNA cloning and high-level expression in *E. coli*. *Zoological Science (Tokyo)* 14(SUPPL.): 55. [*Aplysia kurodai*]
- Teyke, T.; Susswein, A.J. 1998-06.** Pheromones linked to sexual behaviors excite the appetitive phase of feeding behavior of *Aplysia fasciata* II. Excitation of C-PR, a neuron involved in the generation of appetitive behaviors. *Journal Of Comparative Physiology A-Sensory Neural And Behavioral Physiology* 182(6):785-791.
- Thollesson, Mikael; Schander, Christoffer. 1998.** Heterobranch relationships from a 16S rRNA viewpoint. Abstracts, World Congress of Malacology, Washington, D.C., 1998:323. [*Acteon*]
- Troncoso, Jesús S.; Garcia, F.J.; Van Goethem, Jackie L. 1998.** Preliminary results on distribution of some opisthobranchs at Laing Island (Madang Province, Papua New-Guinea). Abstracts, World Congress of Malacology, Washington, D.C., 1998:329. [24 spp.]

# Opisthobranch Newsletter

Copyright © October, 1998 - Volume 24(10):46

- Tsubokawa, Ryoko; Bolland, Robert 1991.** *Berthella martensi* (Pilsbry, 1896), new to the Japanese Notaspidea fauna. *Venus* 50(3):184-195.
- Tsubokawa, Ryoko; Willan, Richard; Okutani, Takashi. 1992.** Taxonomy of the two species of the Genus *Pleurobranchaea* in Japan (Gastropoda: Notaspidea: Pleurobranchidae). *Venus* 50(4):249-263.
- Turgeon, D.D.; Quinn, J.F., Jr.; Bogan, A.E.; Coan, E.V.; Hochberg, F.G., Jr.; Lyons, W.G.; Mikkelsen, P.M.; Neves, R.J.; Roper, C.F.E.; Rosenberg, G.; Roth, B.; Scheltema, A.; Thompson, F.G.; Vecchione, M.; Williams, J.D. 1998.** Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Mollusks. 2nd edition. American Fisheries Society Special Publication 26:i-x, 1-526. ISBN 1-888569-01-8 (paper); ISSN 0097-0638. US\$59.00 (including CD-ROM); book & CD package available at a discount price of \$41.00 to AMU, (the late) CSM, and AFS members.
- Valdes, Á.; Bouchet, P. 1998.** A blind abyssal Corambidae (Mollusca, Nudibranchia) from the Norwegian Sea, with a reevaluation of the systematics of the family. *Sarsia* 83(1):15-20. [*Echinocorambe* n.gen.; *Echinocorambe brattgardii* n.sp.; *Corambe*; *Loy*]
- Valdes, Á.; Bouchet, P. 1998.** Naked in toxic fluids: A nudibranch mollusc from hydrothermal vents. Deep-Sea Research Part II-Topical Studies In Oceanography 45(1-3):319-327.
- Valdés, Ángel; Gosliner, Terrence M. 1998.** Radular loss in the evolution of dorid nudibranchs: a phylogenetic hypothesis of the Porostomata. Abstracts, World Congress of Malacology, Washington, D.C., 1998:333. [*Bathydoris*, *Doriopsisilla*, *Dendrodoris*]
- Wägele, H. 1997.** [On the phylogeny of the Nudibranchia (Gastropoda: Opisthobranchia).] Zur Phylogenie der Nudibranchia (Gastropoda: Opisthobranchia). Verhandlungen der Deutschen Zoologischen Gesellschaft 90(1):184, figs. 1-33; tpls. 1-2. [36 spp.]
- Wägele, H. 1998.** Histological investigation of some organs and specialised cellular structures in opisthobranchia (Gastropoda) with the potential to yield phylogenetically significant characters. *Zoologischer Anzeiger* 236(2-3):119-131.
- Wägele, Heike; Willan, Richard C. 1998.** First results on the phylogeny of the Nudibranchia (Gastropoda, Opisthobranchia). Abstracts, World Congress of Malacology, Washington, D.C., 1998:347.
- Wayne, N.L.; Kim, J.; Lee, E. 1998-07.** Prolonged hormone secretion from neuroendocrine cells of *Aplysia* is independent of extracellular calcium. *Journal Of Neuroendocrinology* 10(7):529-537.
- Willows, A.O.D.; Pavlova, G.A.; Phillips, N.E. 1998.** Effect of *Tritonia* neuropeptides and serotonin on ciliary activity. *Doklady Akademii Nauk* 358(6):839-841. [Russian]
- Wollscheid, E.; Wägele, H. 1997-05.** Die Rekonstruktion der "rätselhaften" Molluskenordnung Nudibranchia (Mollusca, Gastropoda, Opisthobranchia) mit Hilfe von molekulargenetischen Techniken. [Reconstruction of the phylogeny of the enigmatic molluscan order Nudibranchia (Mollusca, Gastropoda, Opisthobranchia) using molecular genetics techniques.] Verhandlungen der Deutschen Zoologischen Gesellschaft 90(1):185. [*Phyllidia nobilis*, *Chromodoris quadricolor*, *Triopha catalinae*, *Onchidoris bilamellata*, *Melibe leonina*, *Eubranchus exiguus*, *Flabellina pedata*, *Aplysia punctata*, *Aplysia depilans*, *Limapontia capitata*]
- Wollscheid, Evi 1998.** Phylogeny of the Nudibranchia (Gastropoda: Opisthobranchia) based on 18S rDNA and 16S mtDNA. Abstracts, World Congress of Malacology, Washington, D.C., 1998:358.
- Wong, R.O.L. 1998.** Calcium imaging and multielectrode recordings of global patterns of activity in the developing nervous system. *Histochemical Journal* 30(3):217-229. [*Aplysia*]
- Wu, J.-Y.; Lam, Y.-W.; Falk, C.X.; Cohen, L.B.; Fang, J.; Loew, L.; Prechtel, J.C.; Kleinfeld, D.; Tsau, Y. 1998.** Voltage-sensitive dyes for monitoring multineuronal activity in the intact central nervous system. *Histochemical Journal* 30(3):169-187. [*Aplysia*]
- Yamagata, K.; Sugiura, H.; Irie, Y.; Kato, H.; Miki, N. 1998.** Arcadlin, a novel synapse adhesion molecule involved in long-term memory. *Japanese Journal of Pharmacology* 79(SUPPL. 1): [*Aplysia*]
- Yoshida, T.; Katoh, J.; Shioda, S.; Arimura, A.; Uchiyama, M.; Matsuda, K. 1997.** The survey of pituitary adenylate cyclase-activating polypeptide (PACAP)-like immunoreactivity in the brains of some vertebrates and invertebrates. *Zoological Science* (Tokyo) 14(SUPPL.): 18. [Sea Hare]
- Yun, S.-G.; Huh, S.-H.; Kwak, S.-N. 1997.** Species composition and seasonal variations of benthic macrofauna in Eelgrass, *Zostera marina*, bed. *Journal of the Korean Fisheries Society* 30(5):744-752. [Korean]
- Zwartjes, R.E.; West, H.; Hattar, S.; Ren, X.Y.; and others. 1998-03/04.** Identification of specific mRNAs affected by treatments producing long-term facilitation in *Aplysia*. *Learning & Memory* 4(6):478-495.

## CURRENT ADDRESSES

Caine, E.A.; Dep. Biol., Univ. Alaska Southeast, Juneau, AK 99801, USA.

Cooper, John W.; Chief, Branch of Federal Activities; U.S. Fish & Wildlife Service; Division of Habitat Conservation; 4401 N. Fairfax Drive -- Room 400; Arlington VA 22203; phone: 703 358 2183; fax: 703 358 1869; [john\\_cooper@mail.fws.gov](mailto:john_cooper@mail.fws.gov); (7/98)

Ellis, Wayne, Glasshouse Kinesiology, P O Box 3, Glasshouse Mountains Old 4518, Australia, Ph. 07 5493 0040, [glaskin@ozemail.com.au](mailto:glaskin@ozemail.com.au)

Evertsen, Jussie Trondhjem Biological Station, Department of Natural History, Norwegian University of Technology and Science, N-7034 Trondheim, Norway, [jussie@stud.ntnu.no](mailto:jussie@stud.ntnu.no) Phone/fax: (+47) 73 59 14 89/72 59 15 97

Fonseca, A.M.; Univ Fed Ceara, Dept Bioquim & Biol Mol, Fortaleza, Ceara BR-60455760, BRAZIL

Korn, H.; Biologie Cellulaire Moleculaire Neurone, INSERM U261, Inst. Pasteur, 25 rue Dr-Roux, 75724 Paris Cedex 15, France.

Lord, Richard; Guernsey, GY1 1BQ; Great Britain; Tel: 01481 700688; Fax: 01481 700699; [fishinfo@guernsey.net](mailto:fishinfo@guernsey.net)

Martynov, AV.; Russian Acad Sci, Inst Zool, St Petersburg 199034, RUSSIA

Melo, V.M.M.; Univ Fed Ceara, Dept Biol, Fortaleza, Ceara BR-60455760, BRAZIL

Nisters, Helmut, e-mail: [helix@bk.netwing.at](mailto:helix@bk.netwing.at), [www.netwing.at/nisters](http://www.netwing.at/nisters)

Paul, V.J.; UOG Marine Laboratory, University of Guam, Mangilao, Guam 96923, USA

Parrott, Maureen C.; P.O. Box 35, Egmont, B.C., Canada V0N 1N0; Phone: 604-883-9189

Perini, Loris, Borgo San Giovanni, 590, I- 30015 Chioggia (Venezia) / Italia

Perrins, R.; Dep. Physiol. Biophys., Mount Sinai Sch. Med., Mount Sinai Med. Cent., One Gustave L. Levy Place, New York, NY 10029-6574

Pittenger, C.; Howard Hughes Med. Inst., Center Neurobiol. and Behavior, Columbia Univ. Coll., New York, NY 10032, USA.

Pittman, Cory; [cory@cet.cet.com](mailto:cory@cet.cet.com)

Plaut, I.; Department of Biology, University of Haifa at Oranim, Tivon 36006, Israel, E-mail: [plaut@research.haifa.ac.il](mailto:plaut@research.haifa.ac.il)

Schulze, A.; Univ Victoria, Dept Biol, POB 3020, Victoria, BC V8W 3N5, CANADA

Siegmán, M.J.; Dep. Physiol., Jefferson Med. Coll., 1020 Locust St., Philadelphia, PA 19107, USA.

Slattery, M.; Dept. of Pharmacognosy, University of Mississippi, MS 38677, USA

Spira, M.E.; Department of Neurobiology, The Hebrew University, Gevat Ram, Jerusalem, Israel

Starmer, J.; UOG Marine Laboratory, University of Guam, Mangilao, Guam 96923, USA

Sudlow, L.C.; Dep. Mol. Integrative Physiol., Univ. Ill. Urbana-Champaign, 524 Burrill Hall, 407 S. Goodwin Ave., Urbana, IL 61801

Thierry, Thibault [thibault@unice.fr](mailto:thibault@unice.fr)

Wirtz, Prof. Dr. Peter; Dept. Oceanografia e Pescas; Universidade Cais de S. Cruz; P - 9900 Horta, Faial; Portugal, Azores; departmental fax: Portugal-92-22659; private phone: Portugal-92-93013;

[peter@dop.uac.pt](mailto:peter@dop.uac.pt) [effective October 1, 1998]

## CURRENT EVENTS

Western Society Of Malacologists Annual Meeting June 13-17, 1999, California State University, Fullerton, Lindsey T. Groves,

[lgroves@nhm.org](mailto:lgroves@nhm.org) or Richard L. Squires, [richard.squires@csun.edu](mailto:richard.squires@csun.edu)

Fifth International Temperate Reef Symposium, Cape Town, South Africa 31 January - 4 February 2000, Department of Zoology, University of Cape Town, E-mail: [reef@botzoo.uct.ac.za](mailto:reef@botzoo.uct.ac.za)