



9982 BEHRENS, D. - Delete. See 2486 RUSSO, RON.

The San Luis Obispo County (California) Telegram-Tribune, Monday, January 26, 1981, has a picture of *Phidiana pugnax* which was taken by Joe Dickerson of Pismo Beach. The picture won the 1980 Picture of the Year award given by the California Fish and Game Commission.

Hans Bertsch writes: "...I just corrected the page proofs (complete with color separations) for my and Scott Johnson's book *Hawaiian Nudibranchs*. We expect it to be published by April 1981. The majority of the full color photographs are in situ, underwater habitat shots (not aquarium photos), and portray the animals' natural environments as well as their body shapes and colors. We have new records for the Hawaiian islands, illustrations of some new species we are in the process of naming, plus lots of information and photos of predation, camouflage, egg masses, etc."

2373 BERTSCH, HANS, January 1, 1981. Rectification of the Generic Placement of *Sclerodoris tanya* (Marcus, 1971), comb. nov., A Nudibranch from Southern California, with a Range Extension to the Gulf of California, Mexico. *THE VELIGER*, 23(3):217-220, figs. 1-7; tpls. 1-2.

2374 BERTSCH, HANS, June, 1980. Preliminary Analysis of the Geographic and Bathymetric Distribution of Hawaiian Chromodorids (Gastropoda: Opisthobranchia). *THE FESTIVUS*, 12(6):73-77; fig. 1; tpl. 1.

2475 BROWN, G.H., July, 1980. The British species of the aeolidacean family Tergipedidae (Gastropoda: Opisthobranchia) with a discussion of the genera. *ZOOLOGICAL JOURNAL OF THE LINNEAN SOCIETY*, 69:225-255, 7 figs.

2476 CAREFOOT, THOMAS, 1977. Pacific seashores: a guide to intertidal ecology. University of Washington Press, Seattle, 208 pp., 88 photographs, 176 text figs. [*Aeolidia*, *Anisodoris*, *Archidoris*, *Dendronotus*, *Diaulula*, *Glaucus*, *Glaucilla*, *Onchidoris*.]

2477 CAREW, THOMAS J., EDGAR T. WALTERS & ERIC R. KANDEL, January 30, 1981. Associative learning in *Aplysia*: cellular correlates supporting a conditioned fear hypothesis. *SCIENCE*, 211(4481):501-504, 2 text figs.

2478 CARLTON, JAMES T., 1979. Introduced Invertebrates of San Francisco Bay. IN: CONOMOS, T. JOHN, San Francisco Bay: The Urbanized Estuary. Investigations into the Natural History of San Francisco Bay and Delta With Reference to the Influence of Man. FIFTY-EIGHTH ANNUAL MEETING OF THE PACIFIC DIVISION/AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, held at San Francisco State University, San Francisco, California, June 12-16, 1977, pp. 427-444. [*Tenellia pallida*, *Eubranchus misakiensis*, *Okenia plana*, *Trinchesia* sp.]

2479 DELCOMYN, FRED, October 31, 1980. Neural basis of rhythmic behavior in animals. *SCIENCE*, 210(4469):492-498. [*Pleurobranchaea californica*, *Aplysia* sp., *Tritonia diomedea*]

2480 DOLIN, ERIC, Fall 1980. An Annotated List of Gastropods of Long Island Sound. *OF SEA AND SHORE*, 11(3):167-172, [9 figs.]. [*Retusa canaliculata*, *Cylichnella oryza*, *Rictaxis punctostriatus*]

2481 FARLEY, JOSEPH & DANIEL L. ALKON, December 19, 1980. Neural organization predicts stimulus specificity for a retained associative behavioral change. *SCIENCE*, 210(4476):1373-1375; 2 text figs. [*Hermisenda crassicornis*]

2482 GOSLINER, TERRENCE M., April, 1980. Systematics and phylogeny of the Aglajidae (Opisthobranchia: Mollusca). *ZOOLOGICAL JOURNAL OF THE LINNEAN SOCIETY*, 68:325-360, 24 figs.

2483 JAECKLE, WILLIAM B., January 1, 1981. New Distributional Records for Two California Nudibranchs. *THE VELIGER*, 23(3):240. [*Ancula lentiginosa*, *Hallaxa chani*]

2484 JOHNSON, SCOTT, July-August, 1979. Stinging nudibranchs. *OCEANS*, 12(4):49; 1 text fig.

2485 KAY, E. ALLISON, 1979. Reef and Shore Fauna of Hawaii, Section 4: Mollusca. Bernice P. Bishop Museum Special Publications 64 (4). xvii + 653 pp., 195 text figs. Bernice P. Bishop Museum Press, Honolulu, Hawaii. [\$30.00 USA]

2486 RUSSO, RON, May-June 1979. Hang Gliding -- Underwater. *SEA FRONTIERS*, :150-153, 4 photos. [*Chelidonura inermis*]

2487 RUSSO, RON, July-August, 1979. A salute to sea slugs. *OCEANS*, 12(4):42-49; 6 text figs.

2488 POWELL, A.W.B., 1979. New Zealand Mollusca, Marine, Land and Freshwater Shells. William Collins Publishers Ltd., Box 1, Auckland, New Zealand. xiv + 500 pp., 82 pls.; many text figs. [\$60.00 (New Zealand)]

2489 SCHMEKEL, LUISE, January 1, 1981. Notes & News. Correction. *THE VELIGER*, 23(3):282. [*Piseinotecus evelinae* synonymous with *Flabellina gabinieri* Vincente, 1975; should be called *Piseinotecus gabinieri* (Vicente, 1975)]

2490 SMITH, LYNWOOD S., 1976. Living Shores of the Pacific Northwest. Pacific Search Books, 715 Harrison St., Seattle, WA 98109, 1-160; figs. 1-148 + unnumbered figs.; tpls. 1-2. [Photos by Bernard J. Nist; 9 spp. nudibranchs]

2491 WALTERS, EDGAR T., THOMAS J. CAREW & ERIC R. KANDEL, January 30, 1981. Associative learning in *Aplysia*: evidence for conditioned fear in an invertebrate. *SCIENCE*, 211(4481):504-506; 2 text figs. [*A. californica*]

2492 WELLS, FRED E. & TIMOTHY J. THRELFALL, October 1, 1980. A Survey of the Softbottom Molluscs of Cockburn Sound, Western Australia. *THE VELIGER*, 23(2):131-140, tpls. 1-3, figs. 1-7. [*Bulla botanica*]

April 1981

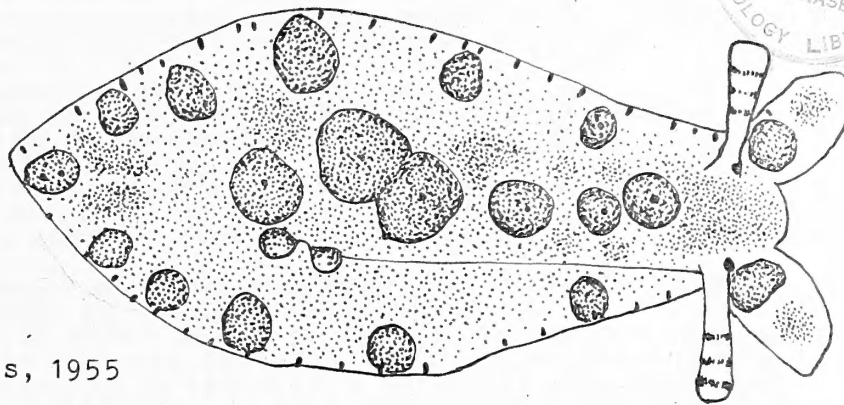


Illustration at right
Phyllaplysia engeli Marcus, 1955
Drawing by Eveline Marcus

The OPISTHOBRANCH NEWSLETTER is published by Steven J. Long, 359 Roycroft Ave, Long Beach, California 90814, USA. Telephone 213-439-2028. Subscription rates are \$15.00 per year for individuals and \$17.50 per year for institutions. Back volumes are available at \$10.00 per volume. Microfiche (24X reduction) of back volumes are \$5.00 per volume.

REVIEW

Two photographic works are listed in this issues from James Lance. The quality of the photographic and printing work is unsurpassed by anything I have seen to date. It is quite an accomplishment to bring the beauty of opisthobranchs to such a wide audience. My compliments to Jim. Anyone interested in obtaining copies of these articles may do so by writing to the publishers:

Discover: Time, Inc.; Rockefeller Center; New York, NY 10020; (Splendor in the Sea); (December 1980 issue; about \$2.00)

Seacoast; The Seacoast Building; 121 West E Street; Encinitas, CA 92024; (20,000 Hues Under the Sea); (February 1981 issue; about \$1.50)

CURRENT EVENTS

The Western Society of Malacologists annual meeting will be held at San Diego State University from 23-26 June, 1981. A symposium entitled: "Recent Opisthobranch Research" will be chaired by James R. Lance on Thursday morning. Dave Mulliner will coordinate the annual opisthobranch slide show and talk fest starting around 8 P.M., Wednesday, in the lobby of Olmeca Hall. All persons desiring to participate with a paper are encouraged to contact Carol Skogland, 3846 E. Highland Ave., Phoenix, AZ 85018, prior to May 15, 1981.

READER FORUM

From Judith Hunter: "I would like to endorse your remarks about the use of common names for animals which do not have them and particularly when given more prominence than the scientific name."

From Dr. Riccardo Cattaneo: "I need some information. Firstly I have begun a study of electrophoresis on some nudibranchs (especially eolids) to see if there are differences in the enzymes of species who live in the same community and feed on the same hydroids. This study may be interesting also for systematic problems. I have not found many references about this argument. Is it possible to know something more? Would anyone who has any news please write to me?"

Secondly, I have seen in Thompson's paper (1975) that gen. *Peltodoris* Bergh 1880 is in synonymy with *Discodoris* Bergh 1877. I know *Peltodoris atromaculata* Bergh 1880 (type species of the genus), which is very common in Mediterranean Sea, very well. The description in Thompson's paper for the genus *Discodoris* speaks of a 'whole body flexible, not hard and rubbery'. *Peltodoris atromaculata* has however a very hard body, very rich in spicules. I think this genus must be conserved only for this very evident characteristic which is part of the type species of the genus."

From Eveline Marcus: "Your question about Pyramidellids: Vera Fretter and Alastair Graham have (1949, J. Mar. Biol. Assoc. U.K., 28:493-532) concluded that they are opisthobranch gastropods. In 1965 Doris Maas (Zeitschrift Morphologie und Ökologie, 54:566-642) confirms Fretter and Graham.

On p. 11 of the News Letter you place the Notaspidea (often called Pleurobranchomorpha) in the Nudibranchia. However, a great number of them

have a shell, and they are generally considered as a Superorder of the Euthyneura, on the same level as Cephalaspidea (Bullomorpha); Anaspidea (Aplysiomorpha); Superorders Ascoglossa; Pteropoda; Nudibranchia; Pulmonata. The Prosobranchia belong to another Subclass, the Streptoneura. Mr. Dolin, No. 2480, is not right with *Retusa canaliculata*. *Canaliculata* has a radula, *Retusa* has none. See Journal of Molluscan Studies, Suppl. 2, 1977, p. 5, where it is called *Utriculastra canaliculata*.

Jeff Hamann found color variations from *Chromodoris neona* to *C. clenchi*. These species are not distinguished by their extremely variable colours, but by their rhachidian radular tooth, different in shape in both species; it has a distinct small cusp in *neona*, none in *clenchi*.

From J. A. Ortea: "En el mes de abril he impartido un cursillo de Malacología en la Universidad de Nayarit, México y eh recolectado Opisthobranquios en la Isla Isabela; entre ellos en *Chromodoris sphoni*, uno de los más bellos animales que he visto nunca.

Más tarde, en julio, he recolectado Opisthobranquios en Canarias junto con P. Bouchet y los colegas de la Universidad de la Laguna. Mi primer trabajo sobre ello, dedicado a los Ascoglossos, está a punto de terminarse, incluye 2 especies del Caribe: *Elysia flava* y *Polybranchia viridis*; 3 del Mediterráneo: *Polybranchia borgnini*, *Callyphila mediterranea* y *Oxynoe olivacea*, así como otras 3 de nueva descripción."

From Dave Behrens - "I have received several comments concerning the identification of the photograph of *Aplysia vaccaria* Winkler, 1955, Number 16 in my fieldguide. The concern intimates that the photograph is actually an *A. californica*. I will agree that the specimen is extraordinarily mottled for an *A. vaccaria*, although most references report grey-white mottling common in this species. Regardless, I was unable to locate and procure a high quality, diagnostic photograph of a more typical *A. vaccaria*. Though not apparent in the photograph the parapodia of this specimen were joined immediately behind the pallial siphon, unlike *A. californica*, where the parapodia join near the tail. The body of this specimen displayed the characteristic firmness of *A. vaccaria* and during the seven months in captivity, it never produced ink. The specimen was collected near Ensenada, Baja California, Mexico.

NEW SUBSCRIBERS & ADDRESSES

Gil Gat, 72 South Africa Blvd., Ash Kelon, Israel 78411
 Jay Shrake, Marine Ecological Consultants, 533 Stevens Ave., Suite D-57, Solana Beach, CA 92075
 Gordon Robilliard, Woodward-Clyde Consultants, 2 Embarcadero Center, Suite 700, San Francisco, CA 94111
 Jeff Goddard (need a good address for Jeff; rumor has it he's working on branches at Oregon State)
 Peter Oringer, Rt. 1, Box 38, Bayside, CA 95524
 Library, Bamfield Marine Station, Bamfield, British Columbia, Canada, V0R 1B0

INFORMATION & SPECIMEN EXCHANGE

Tom Cockburn needs a copy of ALLEN, JOHN K., 1976. Function of nematocysts in eolid nudibranchs. WSM ANN. REPORT, 9:50. I can't find mine. Can someone help?

Dr. Jean Tardy will be glad to receive Aeolidiacea fixed for histological purposes (Bouin, 10% formaldehyde in sea water and so on) of the genus *Cerberilla*, *Aeolidiella* and of all species which present adaptive differentiations of papillae to a particular function, for comparison with species of the European Atlantic and Mediterranean coasts. At first, the best is to anaesthetize the specimens during 2-4 minutes by bubbling carbon di-oxide in sea water. It's a very good system. The preserved specimens will be sent to J. Tardy, Director, Lab. de Biologie - Biochimie, Marines et Phycoécologie, 10726 - IUT de La Rochelle, Cedex (France).

Dave Behrens needs copies of two Baba papers: ON 0178 and ON 0179.

Ruggero Guidastris needs copies of *Staurodoris bicolor* description from Bergh's Malacologisches Untersuchungen (1884) Vol. 3, pp. 655-657, pl. 69 and *Siraius ilo* from Marcus (1955) Opisthobranchia from Brazil.

Dr. Ethel Tobach (American Museum of Natural History, Department of Animal Behavior, Central Park West at 79th Street, New York, New York 10024) would like information about sightings of *Aplysia* on the Eastern Sea Board as soon as possible. People may call me collect at the Museum (212-873-1300).

BIMODAL SEASONALITY IN *MELIBE LEONINA* (GOULD, 1852). by David W. Behrens, 416 Lilac Drive, Los Osos, CA 93402.

Annual cycles and the number of generations produced a year in opisthobranchs have received no attention in the literature pertaining to northeastern Pacific fauna. Nybakken (1974) reports on the seasonal occurrence of 17 species of Dendronotacean, Arminacean and Aeolidacean nudibranchs. Annual cycles of British and European opisthobranchs have been carefully reported by Garstang (1890), Renouf (1915), Behrentz (1931), Thompson (1957, 1958, 1961a & b, 1964, 1966) and Miller (1962). Among them, they report two or more generations a year for 15 species, although in several cases disagreement exists between authors. These differences are most likely due to geographical factors.

Settling of the postlarval benthic stage of *Melibe leonina* (Gould, 1852) was documented from July 1975 through December 1979. Juveniles were sought twice weekly in a small kelp bed of *Macrocystis integrifolia* near Diablo Cove, San Luis Obispo County, California. Juveniles were first observed at a length of about 4-7mm. In each instance individuals of progressively greater size, up to 55mm, were collected subsequently for several weeks until the species disappeared entirely from the kelp.

During three of five years (1975-1979) two occurrences were observed (Figure 1). The first annual appearance was in April-May, the second in September-October, except in 1975 when both generations were observed later, August and December. An examination of seawater temperatures during periods of appearances provides no explanation for such periodicity. No specific temperature or temperature trend stands out as significant (Figure 1).

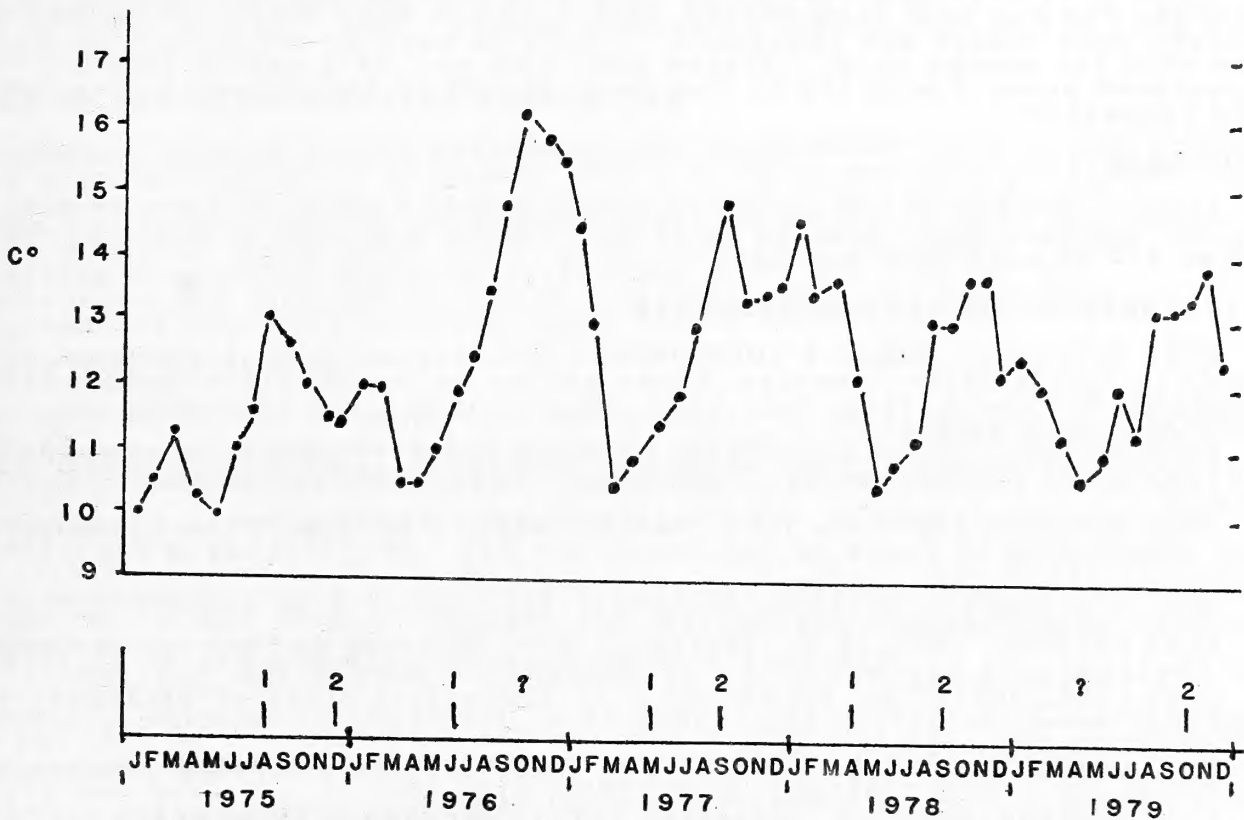


FIGURE 1 - Appearance of the benthic existence of *Melibe leonina* with monthly mean seawater temperatures, 1975-1979

Ajeska & Nybakken (1976) report on the population structure and biology of *Melibe* in Monterey Bay, California, 180kms north of my study site. Their data suggests one generation per year.

Miller (1962) suggests that species having two or more generations a year are dependent on fluctuating food supplies, which they exploit rapidly, while they last. He also reports that this group has a short life-span. I am unaware of the exact diet of the population at Diablo Cove, however Ajeska & Nybakken (1976) report that in Monterey Bay the young feed on *Macrocystis* associated organisms. Due to the perennial existence of this kelp bed, the substrate is present continuously, both for *Melibe* and its associated diet.

The actual stability of the diet species is unknown, therefore making it difficult to test Miller's food dependency relationship.
 LITERATURE CITED: Ajeska & Nybakken (1976) ON9692; Behrentz (1931) ON207; Garstang (1890) ON893; Miller (1962) ON1502; Nybakken (1974) ON6550; Nybakken (1978) ON2506; Renouf (1915) ON1887; Thompson (1957) ON2167; Thompson (1958) ON2169; Thompson (1961a) ON2175; Thompson (1961b) ON2176; Thompson (1964) ON2178



EDITOR'S NOTE

The OPISTHOBRANCH NEWSLETTER has established an editorial board. All papers submitted for publication are subject to review. Citations for all "papers" published in the OPISTHOBRANCH NEWSLETTER to date are included in this issue. If readers feel additional material should be "cited" please let me know.

The drawings in ON 12(12):38 were all photo reductions of drawings by Dr. Kikutaro Baba.

I intend to mail issues of the OPISTHOBRANCH NEWSLETTER with a cover wrap similar to that used on the last issue. If anyone is experiencing damage from postal handling please let me know. I will try to find something better. Addressing and licking envelopes is a real pain.

The March issue of volume thirteen was mislabeled as issue 2. I apologize for the error. The page numbers are correct. One of the beauties of a computer is that it allows you to make mistakes much more efficiently.

I have been keeping most of my opisthobranch papers and microfiche in storage for the past five years. This makes it very difficult to find some papers when copies are requested. I hope to have my office set up within the next two months or so. Please bear with me. If I cannot find a requested paper I will try to list it in the ON so that someone else can help the requestor.

FOR SALE

Airmail postage and handling for Dave Behrens opisthobranch book is \$6.00. Surface mail postage is \$2.00. Copies are still available from the ON at \$14.95 each plus postage.

BIBLIOGRAPHY OF OPISTHOBRANCHIA

2493 ALTIMIRA, CARLOS & JOANDOMÈNEC ROS, August 1979. Algunos moluscos marinos de las Islas Canarias. [Some marine molluscs of the Canary Islands] VIERAEA, 8(1):3-12, figs. 1-3; 1 tbl. [Spanish; English abstract; 9 opisthobranch species]

2494 BEHRENS, DAVID W., February 1981. A Color Variation in *Chromodoris macfarlandi* (Nudibranchia: Doridacea). OPISTHOBRANCH NEWSLETTER, 13(2):5; fig. 1.

2495 BEHRENS, DAVID W., 1980 (March, 1981). A Review of the Literature on the Opisthobranch Fauna of San Francisco Bay. OPISTHOBRANCH NEWSLETTER, 12(4-12):34-37, fig. 1, tbl. 1.

2496 BLEAKNEY, J. SHERMAN, September 1973. Collecting Nudibranchs in Nova Scotia. OPISTHOBRANCH NEWSLETTER, 5(9):58-60.

2497 BRIDGES, CECILIA B., September 1973. Ecology and Larval Development of *Phyllaplysia taylori* Dall. OPISTHOBRANCH NEWSLETTER, 5(9):50.

2498 CASE, ROBERT M., August 1972. An Ecological Study of *Stiliger fuscovittata* (Mollusca: Opisthobranchia). MS THESIS, California State University, 76p., 17 text figs.

2499 CRANE, SANDRA, September 1973. Vital Stains: A Marking Technique for Nudibranchs. OPISTHOBRANCH NEWSLETTER, 5(9):56.

2500 EDMUNDS, MALCOLM, September 1972. *Catriona* - *Trinchesia*. OPISTHOBRANCH NEWSLETTER, 4(9):47-48; 4 figs.

2501 GREENE, RICHARD W., September 1973. Determination of Photosynthetic Function in Algal and Chloroplast Symbionts in Opisthobranchs. OPISTHOBRANCH NEWSLETTER, 5(9):52-55, figs.

2502 KRESS, A., October 1975. Observations During Embryonic Development in the Genus *Doto* (Gastropoda, Opisthobranchia). OPISTHOBRANCH NEWSLETTER, 7(10):50. [Abstract of ON #9548]

2503 LANCE, JAMES R., December 1980. Splendor in the Sea. DISCOVER, The Newsmagazine of Science, 1(3):58-63, color photos. [15 species].

2504 LEMCHE, HENNING, August 15, 1972. Names of Opisthobranchs placed on the Official Lists and Indexes before 1972. OPISTHOBRANCH NEWSLETTER, 4(8):31-39.

2505 LONG, STEVEN J., September 1973. Accumulation and Dissemination of Information. OPISTHOBRANCH NEWSLETTER, 5(9):60. [Abstract]

2506 NYBAKKEN, J., 1978. Abundance, Diversity and Temporal Variability in a California Intertidal Nudibranch Assemblage. MARINE BIOLOGY, 45:129-146.

May 1981

Zool. Dept.
MOLLUSCA

Illustration at right
Trapania dalva Marcus, 1972
 Drawing by Eveline Marcus

INTRODUCTION TO THE "OPISTHOBRANCH NEWSLETTER"

The **Opisthobranch Newsletter** is published by Steven J. Long, 359 Roycroft Ave, Long Beach, California 90814, USA. Telephone 213-439-2028. Subscription rates are \$15.00 per year for individuals and \$17.50 per year for institutions. Back volumes are available at \$10.00 per volume. Microfiche (24X reduction) of back volumes are \$5.00 per volume. My records show that your subscription is paid for the following years: x1976, x1977, x1978, x1979, x1980, x1981 — 1982. Please contact me immediately if you feel this is incorrect.

PURPOSE OF THE OPISTHOBRANCH NEWSLETTER

The primary purpose of the **Opisthobranch Newsletter** is to assist people working with Opisthobranch mollusks. The newsletter has been published since 1969 and was initiated to facilitate research and information exchange by researchers and interested amateurs in all parts of the world. Personal notes on researches, trips, etc.; notices of meetings; recent publications concerning Opisthobranchs; and short articles on Opisthobranchs are included in issues. In addition, I try to include bibliographical citations on every paper noting Opisthobranchs.

INSTRUCTIONS TO AUTHORS

I am very dependent on input from subscribers to maintain the information content of the **Opisthobranch Newsletter**. Notes and articles should be addressed to Steven J. Long at the address given above. Please include scientific meeting dates and other information even if they may be of only local interest. If material is specifically not for publication please note that fact.

Articles for publication should be typewritten and laid out exactly as you would like them published including any drawings at the final size and placed where you would like them in the text. It is suggested that you use a "cut and paste" Xerox copy of the materials to lay out your format and include the originals to any drawings and typescript separately.

I currently have very limited resources for photo reduction so the illustrations should be sent to fit on my normal page format. The text will all be put into my computer text editing system manually and then printed out automatically. Publications will be reviewed by one or more of your peers for style and content. If time permits you will receive a galley proof for your review prior to publication. Please refer to the biological style manuals for basic guidance and to the past issues of the **Opisthobranch Newsletter** for examples of acceptable citation and drawing formats. Note that I have decided to use complete bibliographical citations with papers published in the **Opisthobranch Newsletter**.

READER FORUM

From David Behrens (416 Lilac Drive, Los Osos, CA 93402): "Hurst (1967) reports *Catriona aurantia* from Puget Sound. Has *C. aurantia* (now *C. gymnota*) been collected since, or is it possible that Hurst's critter was *Catriona columbiana* (= *C. alpha*)? Miller (1977) reports *Catriona alpha* from New Zealand. Although Williams & Gosliner (1980) refute this species as not being conspecific with *C. alpha* by Baba & Hamatani, 1963, I am curious to know whether there are other possible examples of species occurring circum-Pacificly. To my knowledge *Diaulula sandiegensis* and *Aldisa sanguinea* may have the widest range, of those species recognized, to occur on both shores.

