

Opisthobranch Newsletter

March, 1997, 23(3):9

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Locality data; *Triopha*, *Chromodoris* & *Atagema*: Species numbers from "Pacific Coast Nudibranchs." 85. *Triopha* sp. 1. The corrected collection location of the still-undescribed species is Boardman State Park, Oregon (Jeff Goddard, pers. comm.). 94. *Chromodoris dalli* (Bergh, 1879). Gosliner (1991) in his review of the Opisthobranch gastropod fauna of the Galápagos Islands, adds those islands to the range of this species, citing 2 specimens collected intertidally on Isla Fernandina and Isla Santa Cruz. 108. *Atagema alba* (O'Donoghue, 1927). This species was recently collected from 120 foot depth in Scripps Canyon, San Diego County, California (Jim Lance, pers. commun.). - Dave Behrens, PG&E, Res. & Dev., 2303 Camino Ramon, Ste 200, San Ramon, CA94583

Gayana Zool.: I did this paper in the journal of the Chilean University of Concepción because I started to work with nudibranchs there, as a student for one year. It's written in Spanish for practical purposes, mainly to enable the locals to work with the identification key and the species descriptions. Since there is an English abstract, and quite international synonymy lists, distributional data and figures, this paper may be also interesting for branchers who have problems with Spanish texts.

Unfortunately, there were some problems with the printer: The color plates turned out in poor quality and for the printing of the text, not the final, but an earlier version of the manuscript has been used. Thus, I have to correct the following errors related to *Tergipes valentini* (Eliot, 1907), please consider this: Figure 48 shows a photograph of *Tergipes valentini* (Eliot, 1907) collected from the Bahía Mansa, Estrecho de Magallanes, Chile, and not from the Bahía de Coliumo as indicated in the figure legend (table VIII, page 62). The *Tergipes* specimens found in the Bahía de Coliumo (pages 38,39) are slightly different due to radular characters and may or may not be *T. valentini*. Collected from the Bahía Mansa, *T. valentini* is reported the first time from Chilean waters. However, the record from the Bahía de Coliumo, central Chile (page 50) is neither certain, nor is it mentioned in "Schrödl (b, en prensa)". - Michael Schrödl, Ludwig Maximilians-Universität, Karlstr. 23 80333 München, Germany

***Caulerpa* & *Oxynoe*:** About *Caulerpa* problems, we find *Oxynoe olivacea* very, very abundant on *Caulerpa mexicana* in the Messina Strait. Not curious but obvious. - Renato Chemello, Università di Palermo, via Archirafi, 18 I-90123 Palermo, Italy

EDITOR'S NOTES:

Sally & I have been changing around our e-mails, etc but the ON is still at the same address. I have put another list on the Opisthobranch Web Page - Subgenus & Higher Taxa - with all of the names I include in the bibliography.

I spend a lot of time cleaning up the bibliography & other lists as well as adding new material. Please do send reprints as you are able. If you still haven't tried the search engine, please do and let me know of any problems as I can probably help.

Thanks to the new subscribers. Thanks also for the notes in the past couple of issues. I still need more field notes and technical comments for the upcoming issues. Within the next few months I will get a new scanner going so that I can include illustrations and tables. I can do some limited cut and paste now but I would like to use more illustrations.

There is a large controversy going on now about the proper way to "cite" an electronic publication. I don't believe there is a proper way as electronics are so ephemeral and subject to change & manipulation. Pat LaFollette and Bill Rudman promote the ease of electronic storage but I am not as yet convinced. Computers ARE invaluable for the massive database information and search capabilities - I just don't see long term storage yet.

PERSONAL NOTES:

From Carmel Sammut: I am an independent research worker currently working on the Opisthobranchia. I have been collecting specimens for over four years around our small mediterranean islands. I am collaborating with Dr. A. Perrone and hope one day to prepare a book together.

My interests within the Opisthobranchia are varied but I am trying to collect information on how to find the Acochliidae and other mesopsammic opisthobranchs. Can anyone help? - 216/1 St. Joseph Flts., Rue d'Argens, GZIRA GZR04, MALTA (Europe)

From Antonio Perrone: Taxonomy and general biology of benthic opisthobranchs are my main interests. My particular "fields" of research are: 1) co-evolution nudibranchs - polyclads. 2) morphology and distribution of opisthobranch spicules. 3) colors, mimicry and ecological relationships dorids - sponges. - via Palermo 7, 73014 Gallipoli, Italy.

REQUESTS:

From Orso Angulo Campillo: I'm a student of the University of Baja California Sur, working with Nudibranchs of the Sea of Cortez (Gulf of California). Could someone help me with some articles? - Universidad Autonoma de Baja California Sur; Depart. Biología Marina; Carretera al Sur Km. 5.5; A.P. 19-B; C.P.23000; La Paz, B.C.S.; Mexico

From I.S. Roginskaya: I am working now with a small collection of nudibranchs from Naska Ridge and in connection with this I awfully need M.Schrödl's work: "Nudibranchia and Sacoglossa of Chile. External Morphology and Distribution". *Gayana Zool.* 60(1):17-62.

To my regret I couldn't find *Gayana Zool.* in our libraries. The reprint of this article (or at least the internet address of *Gayana Zool.*) would be most appreciated. - P.P. Shirshov Inst. Oceanology, Krasikova Street 23, Moscow 117851, Russia

From Juan Lucas Cervera: Could you tell me the full name of the Chilean Journal: *Gayana Zool.*? - Universidad de Cadiz, Pol. Rio San Pedro s/n, Apdo. 40, 11510 Puerto Real (Cadiz), SPAIN

From Mike Behrens: Help. I'm a researcher in central California and am looking for current range information on four species of Pyrami-dellids. The species include *Odostomia eucosmia*, *O. nota*, *O. oregonensis*, and *Turbonilla kelseyi*. Any information about these species or a citation for references which may be of help would be greatly appreciated. - TENERA /PG&E; P.O. Box 400; Avila Beach CA 93424

ANNOUNCEMENTS:

Bay Area Malacologists The 1997 gathering will be held on Saturday, March 15th at the California Academy of Sciences in Golden Gate Park in San Francisco. [This is the week before CalPaleo 97 which will be held on the U.C. Berkeley campus.] BAM 97 will consist of reports of research results (slide and overhead projectors available) and informal discussions of current projects (either planned or underway) by malacologists in attendance. The meeting time will be from approx. 9:00 am to 3:00 pm, with a break for lunch. Our host Dr. Terry Gosliner will provide coffee and donuts.

Student Research Grants: As part of their commitment to the continued study of mollusks, the Western Society of Malacologists, the Santa Barbara Malacological Society, the San Diego Shell Club, and the Northern California Malacozoological Club are pleased to announce the availability of grants to support student research in malacology. Funds are available for actual research costs, including but not limited to, field and laboratory equipment, chemicals, photographic supplies, computer time and supplies, microscope usage fees, and reasonable research travel costs. - Contact: Henry Chaney at (805) 682-4711, ext. 334 (voice); (805) 963-9679 (fax); or <inverts@rain.org>

From Patty Jansen: My dad and I have constructed the "Australian Microshells Homepage" - that is - my dad did the programming and I provided him with the content. It can be viewed at: <<http://www.bART.nl/~aleid/shells.htm>> It has a selection of small shells from shell grit from southern Australia. At this stage the pictures are all from "Sea-shells of Central New South Wales", but I am planning to keep adding things. So have a look! - <Patty.Jansen@TVL.TCP.CSIRO.AU>

Mediterranean Ecolsystems: The Mediterranean University Campus is being founded in the hope that it will become an interdisciplinary reference point, by means at courses and other activities combining science, technology and the humanities from a

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Mediterranean perspective. As an introduction, this Campus will play host to an International Forum on: "The fragility of the Mediterranean ecosystem: a conflict of uses and resources" You can find more information and registration instructions of this forum at: <http://www.gencat.es/icm> (NEWS section).

READER FORUM:

Digitizing Color Images: To an opisthobranch worker, a collection of colored images is as important as a shell collection to a 'snail' worker. The problems being discussed at present [on the Internet] in regard to digitized information is similar to that which has always been faced by curators of image collections.

Of particular concern is the archival quality of the image. What media is it (a print, a transparency, a negative) and what is the quality of the media (archival paper? the nature of the emulsion etc.). Similar questions now exist concerning the longevity of the different electronic media being used to store digital information.

[In reply to those who feel that the continually changing digital technology is a capitalist plot], I tend to think that the capitalists who have digitally stored all their priceless information (on how much us workers owe them etc.), will not allow the capitalists who produce the computer systems, to make their data inaccessible.

A number of correspondents have asked how to store slides from wear and prevent color change. The only easily available slide film with proven longevity is Kodachrome. The only way to prevent wear and scratching is to lock them away and not use them. Another disadvantage is that it is impossible to make accurate copy slides.

The advent of cheap digital imaging is of enormous benefit to all of us who rely on color images in our research, in teaching and in display. It is a convenient storage method, will allow an infinite number of accurate copies and will enable us to cheaply publish high quality images to our colleagues for research purposes and to the public for educational purposes and general information.

I am surprised that no one has mentioned the use of Kodak PhotoCD as a means of digitizing images. Kodak for about 2 years have provided a service scanning any 35mm image (negative or positive) onto CD-Rom, each image scan costing less than the cost of duplicating a slide. I have been gradually scanning all my image collection on to CD-Rom this way (No I am not sponsored by Kodak and I understand Kodak have licensed the technology to other major film producers).

Examples of the quality of the scanning can be seen on the Australian Museum malacology home page mollusc gallery <http://www.austmus.gov.au/hm/mal/mal.htm>. One great advantage of digital imaging is the low cost of publishing color images this way. I recently published a paper:

Rudman, W.B. 1995. The Chromodorididae (Opisthobranchia: Mollusca) of the Indo-West Pacific:

further species from New Caledonia and the *Noumea romeri* colour group. Molluscan Research, 16: 1-43. in which I was unable to afford the cost of color illustrations. Instead I produced a digital Windows-based version of the paper on a single disk which included high quality color illustrations of all the described species plus others with a similar color pattern. The availability of this disk was mentioned in the published paper and has created considerable interest.

To those who feel a printed version is required, all text and images can be printed on to archival paper from the disk if the reader wishes.

Copies of the disk can be ordered from Bill Rudman for \$10 (AUSTRALIAN DOLLARS)-this includes postage. Orders must be by VISA, BankCard, Mastercard or American Express. Mail, Fax or email orders to: DR Bill Rudman, Australian Museum, 6 College St, Sydney, NSW 2000, AUSTRALIA. (FAX 61 2 9320 6050)(email billr@amsq.austmus.gov.au). Orders must include Name, Postal Address, Type of Card (Visa, Bankcard etc), Card Number, Cardholder's Name, Expiry Date, and Signature. System requirements: IBM compatible computer with as a minimum Windows 3.1, VGA video adapter configured to display 256 colours.

Digital Malacology: A rather wide ranging discussion on the exchange and archiving of digital information as it relates to malacology took place recently on the Internet MOLLUSCA list server. I was asked to summarize the important points for the Opisthobranch Newsletter.

We trust in printed books and journals as a reliable method of distributing information about mollusks and for passing that information on to future generations. There is a demonstrated track record. We know that with proper care, paper records can survive for many centuries (unless they are printed on acidic pulp paper). We have faith in libraries and librarians to arrange and care for them.

Digital (computer) information has only been around for a few decades, but it is playing an ever-increasing role in molluscan research. Word processors are used to write books and articles and electronic typesetting is used to print them. Museum catalogs are being computerized. Information is exchanged and important discussions are taking place digitally over the Internet. All-electronic journals are beginning to appear. But there is a sense of ephemerality and impermanence about it. The concern and reservations that malacologists have about the long term durability and accessibility of digital data is very real and quite legitimate.

The topics discussed can be roughly grouped under three headings, physical media, encoding schemes, and archiving and accessibility.

PHYSICAL MEDIA: The physical media are the tapes and disks on which the data are stored when not being actively used or when the computer is turned off. Until recently, regardless of physical shape, these were all magnetic, the information recorded on a thin layer of oxide, like audio or video tapes. The shelf life of magnetic media – how long a tape or disk can sit unused and still be read accurately -- is not very long. Estimates range from seven to twelve years. If the data are not copied before they fade, they will be lost forever.

On the positive side, when digitally stored information is copied, no matter how many copies or through how many generations, every copy will be exactly identical in content to the original. With proper encoding, when errors have occurred, if not too severe, they are automatically corrected. Analog information storage formats such as printed books, photographs, and sound recordings, also deteriorate over time, though at slower rates. Paper foxes, colors fade. But when they are copied, something is lost with every generation. Microfilm reportedly loses about 10% of its resolution with each generation [e.g. my test for acceptable copies was 6 generations - many methods were unusable after 3 copies]. Digital media may be less persistent than printed books, but digital information may be more persistent. When a paper book is lost or destroyed, it is gone forever. But if a digital book is lost, it can always be replaced with an exact replica so long as a copy exists in some other location. An additional advantage to digital information is that it is potentially machine searchable, allowing for much faster retrieval of the specific information one needs.

The issue of media life has taken a new turn with the advent of optical storage media, primarily CD-ROM (compact disk read only memory). A CD-ROM stores a lot of information (equivalent to 100,000 book pages) in a small space and has an estimated shelf life of 100 years or more. DVD (digital video disk) technology promises to eventually increase its storage capacity 25 fold.

CD-ROM brings up a related issue. The disks may be around in 100 years, but will the CD player? (How many of us still have LPs but no record player?) Seven track computer tape and eight inch floppy disks have already gone the way of the Dodo. Five and a quarter inch floppy disks will soon follow. And even when the physical medium doesn't change, the logical format in which information is written does. The same physical disk might be written in dozens of mutually incompatible formats. New physical and logical formats are constantly being introduced and others are becoming obsolete. The changes increase computer capabilities, but make our old media unreadable. If we don't regularly convert our data to the new formats, it will eventually become inaccessible. Fortunately the new DVD drives will be backwards compatible – able to read the earlier CD-ROM formats – so they will continue to be useful for a few more years, perhaps a decade or two, anyway.

ENCODING SCHEMES: Digital data is a radically different thing from type and images on paper, though analogies can be drawn. The letters on a printed page encode sounds, words and ideas. Images may represent three dimensional objects in two dimensions. Encoding schemes can become obsolete (My mental software doesn't process Latin very well). Digital information is recorded as some physical representation of 'on' and 'off' which we think of conventionally as ones and zeros and call bits. In the eight bit ASCII encoding scheme, 01000001 represents the capital

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letter 'A'. Other codes and groups of codes may represent such things as 'indent' or 'use 14 pt Times Roman font' or 'start data field 17'. As the content of a file gets further removed from the basic set of 96 typewriter keyboard symbols, the encoding schemes become more and more complex, and non-standard.

As with storage media and formats, encoding schemes and the programs that apply and decipher them change over time, become more complex, and quite often, incompatible. It's not enough to just copy files to new media. The actual encoding of the contents of the file must be updated to keep the information accessible.

Perceived economic advantages, differing objectives, and the very rate of technological change itself, often conspire to propagate incompatible systems between software vendors and over time. Where standards are attempted, they often become obsolete before they can be adopted. Image files and databases are perhaps more susceptible to incompatibility and obsolescence than word processor files.

ARCHIVING AND ACCESSABILITY: Archiving of digital information is a very different matter from archiving paper. Digital information consists of patterns of "bits" recorded on some physical medium. One of the jobs of a traditional librarian is to protect and preserve the paper on which his information is recorded. The information takes care of itself. The digital librarian must protect and preserve the information, independent of the physical medium and encoding system of the moment. He must stay ahead of the technological curve to keep the format and encoding of his information up to date and thereby accessible. With digitally stored information, a small mechanical failure can be as devastating as a library fire. An important method of protecting the information is therefore to replicate it in as many places as possible, preferably distributed around the world. Books may wear out from excessive use, but bits don't. There never need be a "rare" digital book.

The adoption of standards would make the life of the digital librarian (and the rest of us) a lot easier. Unfortunately, except for the CD-ROM physical format and SGML (Standard Generalized Markup Language) standard for encoding text documents, we aren't likely to see any meaningful standardization of formats or encoding schemes for some time. In the mean time we would simplify things if we could all agree from time to time to use a limited set of formats for the exchange of information, and hope that those formats are easily convertible to whatever comes along in the future to replace them.

Digital libraries will not be replacing their paper kin any time soon. They will, however, play a progressively more important supplemental role in the locating, distribution and preservation of malacological knowledge. - Patrick I. LaFollette, 1512 Mission Bl., Apt. 34; Pomona, CA91766

PERSONAL NOTES:

Irina S. Roginskaya: Candidate of Biological Sciences Ph.D. Senior Scientific Researcher of the P.P. Shirshov Institute of Oceanology of the Academy of Sciences of Russia, Laboratory of Bottom Fauna of the Ocean. Interests: Opisthobranchia mainly Nudibranchia and Sacoglossa: ecology, distribution, behavior, feeding and food preferences, reproduction, occurrence in the fouling of anthropogenic substrata. My special interest is to "living spirals" - the puzzling capacity, displayed by some marine moving bottom invertebrates to arrange the excreted products of their vital activities in the form of regular planispirals, very close to Archimedean spirals, spawn of most species of Nudibranchia and some Sacoglossa, some Siphonariidae, faecal tracks of deep-sea hemichordates, spiral trace-fossils. According to my hypothesis, rose from the fact that practically invariably in the Northern Hemisphere 20 -70° N these "living spirals" were coiled in counterclockwise direction except the near-equatorial zone, this process may be controlled by Coriolis acceleration. - P.P. Shirshov Inst. Oceanology, Krasikova Street 23, Moscow, 117851

CURRENT ADDRESSES:

This is a list of some current opisthobranch people. Please send corrections and additions.

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