



Newsletter



A Biannual Newsletter

Editor: Stephen L. Gardiner

Fall 2007

Message from the President
Page 1



Message from the Editor-in-Chief of *Invertebrate Biology*
Page 2



Message from the Program Officer
Page 3



Buchsbaum Photomicrography Contest
Page 6



Summer Research Fellowship Reports
Page 7



Elections to the Executive Committee
Short biographies and ballot for candidates for offices of President-Elect, Program Officer, and Member-at-Large.
Page 13



Message from the President

The leaves are finally falling here in the foothills of the Blue Ridge, although the long summer drought has dulled the autumn color some. It is time to get ready for our Annual Meeting (with SICB). This year the meeting venue is San Antonio, Texas, January 2-6, 2008 – looks like a great place to meet, especially at that time of year. But you won't have too much time for tourist activities—the schedule of talks and posters looks excellent, and AMS is supporting a Symposium and a number of other events, including the joint evening social (See Program Officer's report). Our booth will be the place to look for friends and to vote for your favorite in the Buchsbaum Photomicroscopy Contest (John Pilger is in charge of the contest again this year). Plan to enter your own or your students' work in this contest. It gets better every year.

The Past-Presidential Address by Carole Hickman will be a meeting-wide event which will take place on Thursday evening (Jan. 3rd). The Executive Committee will then have their usual marathon evening meeting – but this year they'll have some food to keep them going (Thanks, Kathy). Your presence is requested at the AMS Business meeting, to be held 10:45-11:45am on Saturday. Plan to buy a ticket for the AMS luncheon which will take place after the meeting. Kathy has chosen a delicious menu and winners of the Photo contest will be honored there. Neither of our two fellowship recipients will be able to attend this year's meeting and luncheon, but you can read their research reports in this issue.

AMS Elections. This year we put into action the nominating committee's advice and are having an uncontested (single candidate) election for the available openings; we also passed a dues increase during the 2007 business meeting, but those not attending may vote also.

There will be a good deal to discuss at the business meeting, including how to proceed with the process of choosing officers and Members-at-Large, and changes that need to be made to the constitution to make it reflect the way we currently handle things.

I've heard there's no place like Texas—see you there!

Judith Winston
AMS President

Message from the Editor-in-Chief of *Invertebrate Biology*

Greetings from upstate New York, where we have the first flurry of snow this Fall as I write. It has been a busy year, so far, for *Invertebrate Biology*. The number of submissions has continued to climb at a startling rate: we are on track to finish this year with close to 150, up from 91 in 2006 and 82 in 2005. Our editors --- Mike Hart, Louise Page, Bruno Pernet, and Nora Terwilliger --- have done a tremendous amount of work in keeping up with this unprecedented flow. They have done so while collaboratively maintaining high scientific standards, extraordinary dedication to thoughtful and thorough communications with authors, and sustaining the timely progress of manuscripts through the review process (overall, average time from submission to first decision is 33 days; for those manuscripts that go to external review, our average time is 45 days). The membership owes them our deep gratitude. Because of the increased workload, we are planning to add two more editors to our office, which we hope to announce at the annual meeting in San Antonio next January.

Due in part to the influx of submissions, our acceptance rate has decreased from 50% in 2005, through 42% in 2006, to 33% in 2007 (so far). Despite this, we have a small queue of accepted manuscripts waiting to be published, but we are now taking advantage of OnlineEarly publication, through Blackwell's Synergy platform, and all should be published or in electronic press by the end of the year. Accepted manuscripts will henceforth move directly to electronic production and will be published online in 5 to 8 weeks after final acceptance. While date of online publication is the date of record for a manuscript, print versions of the articles will appear afterwards, in the usual quarterly issues of *IB*.

Other measures also indicate the strength of the journal; our Impact Factor increased in 2006 to 1.556, our highest level in several years. Over the last few years it is increasing at a faster rate than those journals citing or cited by *IB*, and than the aggregate IF of "Zoology" and "Marine and Freshwater Biology" ISI journal categories.

As usual, I always welcome comments and suggestions on the state of the journal and encourage your feedback. Thank you to everyone who has served the journal as authors, reviewers, editors, and on the Editorial Board, and for the strong support of the AMS Executive Committee and general membership. I look forward to seeing you in Texas.

Sincerely, Pat Reynolds
Editor-in-Chief, *Invertebrate Biology*
Biology Department, Hamilton College

Message from the Program Officer

EVENTS FROM PAST MEETINGS

The 2007 proceedings of the symposium organized by Rob DeSalle and Bernd Schierwater, with the assistance of Vicki Pearse, "Key Transitions in Animal Evolution" has been published in the November issue of *Integrative and Comparative Biology* (2007, volume 47). Included is a contribution by Pearse and Voigt, "Field biology of placozoans (*Trichoplax*): distribution, diversity, biotic interactions" *Integrative and Comparative Biology* 2007 47:677-692.

UPCOMING MEETINGS



January 2-6, 2008

San Antonio Marriott Rivercenter Hotel, San Antonio, Texas

2008

As always, we have many important and interesting events scheduled for the SICB/AMS meeting in San Antonio, Wednesday January 2 to Sunday January 6, 2008. The meeting venue, the Henry B. Gonzalez Convention Center is very attractive and well-located on the beautiful San Antonio River Walk, just a few minutes walk from the Alamo. I hope that many of you will be able to attend. The meeting includes many excellent sessions of contributed papers and posters and special lectures that should be of interest to members of AMS. The full scientific program will be available in November at the SICB meeting website. AMS is sponsoring one of the 2008 symposia, **Advances in Decapod Crustacean Phylogenetics**. In addition to the usual full symposia, there will be four mini-symposia in the new category of "late-breaking" symposia. You can find details of all of the symposia at the SICB 2008 meeting website.

<http://www.sicb.org/meetings/2008/symposia/>

I encourage those AMS members who are at the meeting in San Antonio to attend the AMS events and the annual business meeting in order to make your views known on the activities and direction of AMS. Every year is an important year, and every year offers new opportunities for development and change. Again a high-lighted event for AMS will be the Past-presidential address, this year given by Dr. Carole Hickman. We will have short reports on the projects of the Summer Fellowship recipients displayed in the AMS exhibitors booth.

AMS Event Schedule for San Antonio, 2008**Thursday, January 3, 2008**

AMS Past Presidential Address – “The snail: evolving metaphors and visual representations of structure” by Dr. Carole Hickman; 7:00 to 8:00 pm, Conference Center, Room 203A

[AMS post PPA, social event – to be confirmed (for AMS members)]

(DIZ Business meeting – 5:15 to 6:15 pm)

Friday, January 4, 2008

AMS Joint Social with DIZ, TCS, DEE, DEDB, and DSEB – 6:15 to 8:15 pm, Marriott Rivercenter Hotel

AMS Executive meeting – 8:30 to 11:30 pm, Marriott Rivercenter Hotel

(DEE and DSEB Business meetings – 5:15 to 6:15 pm)

Saturday, January 5, 2007

AMS Annual General Business Meeting – 10:45 to 11:45 am, Conference Center

AMS Annual Luncheon, all welcome, ticketed – 12:00 to 1:30 pm, Conference Center

Symposium – “Decapod Crustacean Phylogenetics”, all day, Conference Center, Room 207B

Symposium related poster session - “Decapod Crustacean Phylogenetics”, 3:00 to 5:00 pm, Conference Center.

Room details for all these events will be posted at the AMS exhibitor booth, and will also be on the Program Schedule grid for SICB. We know you will be at the booth, early in the meetings, in order to submit your entry into the outstanding Buchsbaum Photomicrography Contest. Please check the events posting for changes and for any “late-breaking” additions.

2009 (Boston, January 3-7, 2009 at the Westin Boston Waterfront Hotel)

Symposia

The selection of symposia for the 2009 meeting was made the first weekend in October, 2007. The AMS Executive Committee supported a number of these but strongest support was given to “Symbioses, a tribute to Len Muscatine” and “Parasitic Crustaceans”. Unfortunately, the first was declined by the Program Officers group of SICB as a full symposium in 2009. We are awaiting news of any developments in the planning of “Symbioses.” A final decision on monetary support for the 2009 symposia will be made at the AMS annual meeting in San Antonio, January, 2008.

New: Late-breaking mini-symposia

The opportunity to submit a “late-breaking” symposium will again be offered in 2009. The 2008 meeting was the first time this opportunity was available. The complete regulations for these symposia are currently being finalized and will be available at the SICB website early in 2008. In general these are seen as a venue for new and quickly developing areas of research, or for topics of some immediacy, such as tributes. The submission closing date for the LB symposia will be close to the submission for regular abstracts. They are limited to a half day or a mini-symposium structure, and will be reviewed, as are the regular symposium proposals. If you have an idea for a mini-symposium for 2009, please contact the AMS program officer at kcoates@transact.bm, or contact any other AMS executive member, if you prefer. Similarly, if you have ideas for a full symposium for meetings for 2010 and beyond, please contact me.

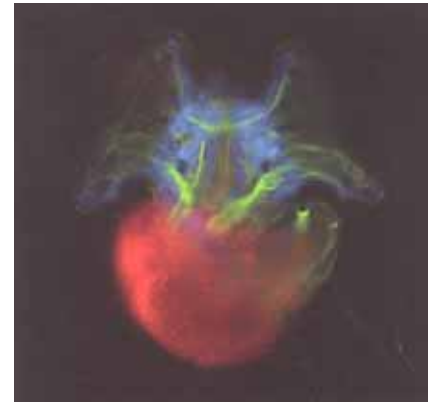
PLANNING FOR FUTURE MEETINGS

As always, if you have some innovative and achievable ideas for symposia that could be developed or facilitated by AMS or for funding opportunities for symposia, workshops, etc, please let us know.

We would like to become more active in the actual development of excellent symposia that reflect the broad interests of AMS, rather than just offering “late-breaking” financial support.

I look forward to seeing many of you in San Antonio. Be sure to wear your AMS anniversary pin or drop by the booth and get yourself a new one, submit your entry to the Photocontest, and check the details of our events at SICB.

Respectfully,
Kathy Coates
Bermuda



2007 Winners!!

THE RALPH AND MILDRED BUCHSBAUM PRIZE FOR EXCELLENCE IN PHOTOMICROGRAPHY

As professional microscopists I am sure that you have many exceptional photomicrographs in your collection. The Society invites and encourages you to enter it into the annual **Ralph and Mildred Buchsbaum Excellence in Photomicrography Contest**. The contest will take on place January 3-4, 2008 during the AMS and SICB meeting in San Antonio, Texas.

Micrographs will be displayed at the AMS booth where SICB meeting attendees may evaluate them and vote for the best image in both black and white and color categories.

Winning micrographers in each category will receive a cash award, a photomicrography book and a luncheon ticket to the AMS banquet at the next SICB meeting. The images will also be featured on the AMS website.

The contest is open to all SICB meeting participants; up to 3 entries each. Submissions must be prints, with maximum dimensions of 8 x 10 inches, unlabeled, unsigned, and mounted on poster board or foam-core mounting board. A single line of information identifying the subject (e.g., "Mouthparts of a mite") and stating the microscopical technique used (e.g., "SEM") should be below the photograph.

Entries will be accepted on the morning of the first full day of the meetings (Thursday, January 3, 2008) at the AMS booth in the exhibit hall. The deadline for submitting entries is before the exhibits close for lunch that day.

Voting begins on the afternoon of the first meeting day (January 3) and ends before exhibits close at the end of the second full day (Friday, January 4, 2008). All meeting participants who visit the AMS exhibit are allowed one ballot for each contest category.

We hope to see you and your micrographs in San Antonio!

American Microscopical Society Student Research Fellowship Reports

Johannes G. Achatz

School of Biology and Ecology



Embryonic development of the nervous system in *Isodiametra pulchra* (Acoela, Acoelomorpha)

As the most basal group of bilaterian animals, the Acoela can provide important clues to the origin of the brain and other elements of the central nervous system (CNS) that set the Bilateria apart from lower animals. Recent evidence from immunocytochemistry of neurotransmitters in acoels suggested to some that the organization of the CNS is distinctly different in acoels than other bilaterians, without the ganglia and major longitudinal cords that are the defining features of most animals. This contradicts earlier studies of acoels and sparked some controversy. To better understand the acoel CNS, I studied the embryonic development of nerves and musculature in embryos of *Isodiametra pulchra** – a species that has served as a model organism in several studies, using cytochemical markers for tubulin and f-actin.

The only species in which the embryonic development of the nervous system has been investigated is *Neochildia fusca* (Ramachandra et al. 2002). *Convolutriloba macropyga* is currently being investigated by Andreas Hejnl from the University of Hawaii and James Sikes from the University of Maryland. Both species are members of the 9+0-acoels and therefore highly derived (Hooge et al. 2002). The results of our investigations with the less derived *I. pulchra* will be highly valuable for later comparisons.

Adults, hatchlings, and embryos were fixed and stored in 4% paraformaldehyde. Immunohistochemistry was conducted following the standard protocol by Ashburner (1989) with application of an anti-tyrosine tubulin, phalloidin, and nuclei marker triple staining (Morris et al. 2007).

During early and late cleavages, high mitotic activity occurs throughout the entire embryo. Mitotic spindles and even chromosomes can be discerned in metaphase plates (Fig. 1A). Shortly thereafter cilia appear on the surface and the number of mitoses drops slowly. At about 50% development time, circular muscle fibers originate, followed by nerve fibers, longitudinal muscle fibers and the frontal organ. Necks of gland cells, which protrude through the opening of the frontal organ and the whole surface of the embryo, always between the borders of adjacent cells, are visible. Within 80% developmental time, the epidermis, the brain, the body wall musculature, and the digestive syncytium are completely differentiated (Fig. 1B). The brain can be discerned as an anterior, bilateral, dense aggregation of nuclei. In hatchlings a concatenated general pattern of neuropile is established (Fig. 1C). During postembryonic neurogenesis the brain grows and the neuropile structure becomes more complex and distinct (Fig. 1D). Generally, the results accord

with those of Ramachandra et al. (2002) and the accurate description of the embryonic muscle development in *I. pulchra* by Ladurner & Rieger (2000). The material clearly shows that there is a neuropile in acoels, and in *Isodiametra pulchra* it even forms a complex structure. Nerve fibers can be traced back to very early stages and some appear to be present from the onset of organogenesis. This is contrary to Ladurner & Rieger (2000) who stated that the development of a muscle grid predates the appearance of nervous tissue. However, the concomitant development of muscles and nervous tissue will be further corroborated employing the same techniques and electron microscopy.

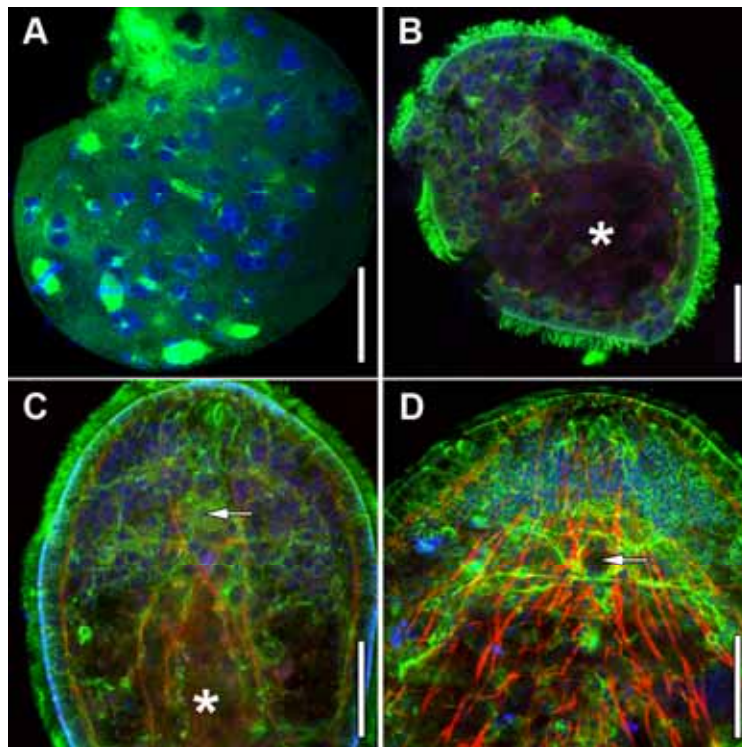


Fig. 1. A. Late cleavage stage in an early embryo. B. Embryo with differentiated epidermis, brain and digestive parenchyma. C. Hatchling. D. Anterior tip of adult specimen. Muscles are shown in red, tubulin fibers in green, and nuclei in blue. Asterisk marks digestive parenchyma, arrowhead points to statocyst. Scale bars A, B, C 25 μ m, D 50 μ m.

Acknowledgments

I want to thank the AMS for the Student Research Fellowship award and the whole Hartenstein lab at UCLA, especially Albert Cardona, Maria Del Mar De Miguel-Bonet, and Volker Hartenstein for their hospitality and support. Last but not least I want to thank my supervisor Seth Tyler for constantly encouraging me to pursue my ideas and giving me time and space to do it.

Literature Cited

- Ashburner M. 1989. *Drosophila*, a laboratory manual. Cold Springs Harbor Laboratory, New York.
- Hooge, M. D., P. Haye, S. Tyler, M. K. Litvaitis, & I. Kornfield. 2002. Molecular systematics of the Acoela (Platyhelminthes) and its concordance with morphology. *Molecular Phylogeny and Evolution* 24:333-342.
- Morris, J., A. Cardona, Maria Del Mar De Miguel-Bonet & V. Hartenstein. 2007. Neurobiology of the basal platyhelminth *Macrostomum lignano*: map and digital 3D model of the juvenile brain neuropile. *Development Genes and Evolution* 217:569-584.
- Ladurner, P., & R. Rieger. 2000. Embryonic Muscle Development of *Convoluta pulchra* (Turbellaria-Acoelomorpha, Platyhelminthes). *Developmental Biology* 222:359-375.

Ramachandra, N. B., R. D. Gates, P. Ladurner, D. K. Jacobs, & V. Hartenstein. 2002. Embryonic development in the primitive bilaterian *Neochildia fusca*: normal morphogenesis and isolation of POU genes Brn-1 and Brn-3. *Development Genes and Evolution* 212:55-69.

* Due to a crash in all cultures of *Convolutriloba macropyga* maintained in US laboratories, it was impossible to get a sufficient number of eggs and embryos for the work originally proposed on this species. Consequently, I shifted my research focus to *I. pulchra*, a species from mudflats of the east coast.



Maria Celia D. Malay
Department of Zoology



Systematics and speciation of the coral-dwelling barnacles (Balanomorpha: Pyrgomatidae)

I am studying the evolution, systematics, and speciation of coral-dwelling barnacles (Balanomorpha: Pyrgomatidae). Pyrgomatids are common yet little-known commensals and parasites that live mostly on scleractinian corals. There are 72 known extant species in 22 genera. Pyrgomatids are among the most apomorphic of all balanomorphs and exhibit a series of morphological trends associated with the evolution of symbiosis. These include a tendency toward the reduction and fusion of skeletal structures and the evolution of highly derived shell morphologies (Ross & Newman 1973). It has been proposed that trends in morphological specialization are paralleled by trends towards greater host specificity and narrower geographic ranges (Newman et al. 1976), which implies that derived pyrgomatids have less plasticity and form tighter coevolutionary relationships with their hosts. However these proposed evolutionary trends have not been formally tested because the Pyrgomatidae has not had any taxonomic revision and an adequate phylogeny is lacking for the group.

In this report I focus on the closely allied genera *Trevathana* and *Neotrevathana* (hereafter referred to as the *Trevathana* complex). This complex is particularly interesting for several reasons:

- 1) The *Trevathana* complex challenges existing hypotheses regarding the directionality of pyrgomatid evolution. This group is morphologically apomorphic and restricted to a single coral host family. Nonetheless *Trevathana* complex spp. are the most widely distributed of all pyrgomatids, ranging from the Indian Ocean to the Marquesas Islands. In fact, my recent surveys in the central Pacific (Cook Islands, Society Islands, and Tuamotus) showed that these are the only pyrgomatids present in these regions (Malay, unpubl. data).
- 2) *Neotrevathana* differs from *Trevathana* only in having fused opercular valves. *Neotrevathana* only has 1 described species, however so far I have collected and sequenced 3 different evolutionarily significant units (ESUs) that fit the description for *Neotrevathana*. My phylogenetic data have shown that the 3 “*Neotrevathana*” ESUs are polyphyletic and nested within *Trevathana*. Thus opercular valve fusion has evolved multiple times in this group. By examining the morphology of the “*Neotrevathana*” ESUs, it may be possible to determine the ontogenetic/evolutionary development of skeletal fusion in pyrgomatids.
- 3) Previous work on *Trevathana* showed significant genetic structuring which apparently sorts between different host species (Mokady et al. 1999). My research agrees with these observations. Thus far my genetic work has

uncovered at least 9 strongly supported ESUs despite the fact that only 6 species have been described in this complex. For the most part each ESU corresponds to a different host species, suggesting that speciation in *Trevathana* may occur via host-switching. Such a scenario implies an ecological, potentially non-allopatric mode of speciation. If this is indeed the case in *Trevathana*, it would be one of the rare documented cases of ecological speciation in marine systems.

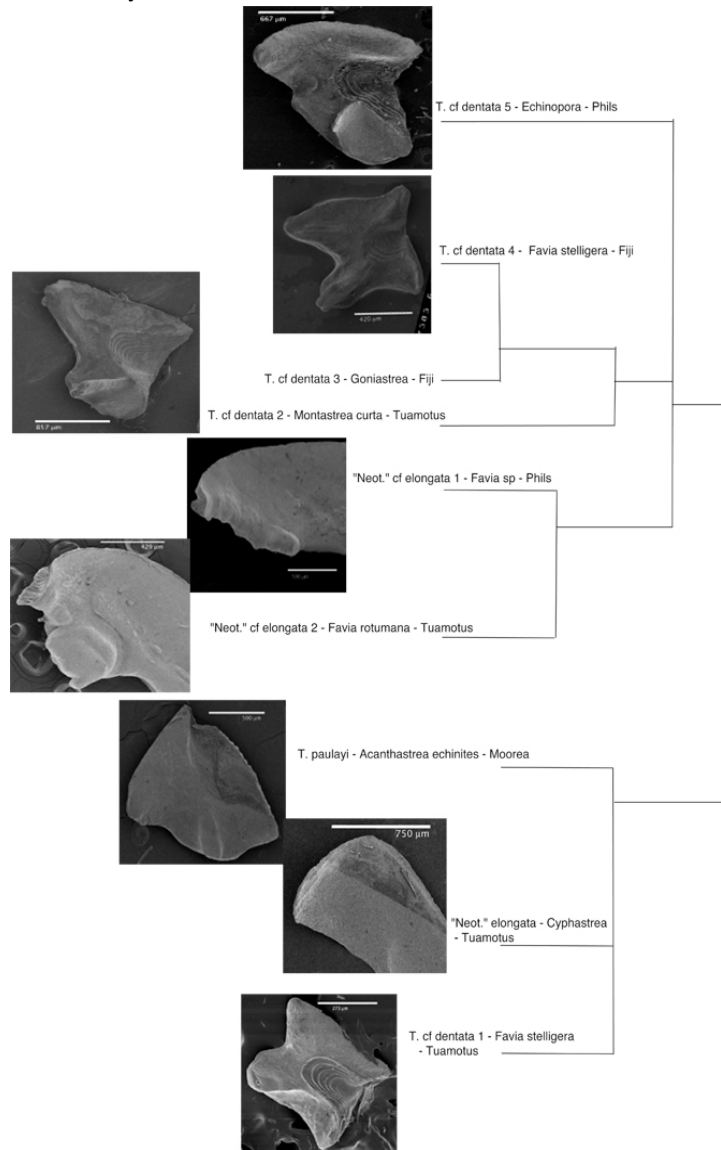


Fig. 1. SEM of terga of species in the *Trevathana* complex; overlaid with a phylogeny of the clade constructed, using cytochrome oxidase I (COI) mtDNA sequences. The topology is based on a strict consensus of >17,000 most parsimonious trees; only the well-supported major branches are shown (duplicates sequences from the same species are omitted).

Objectives

My immediate goal is to use scanning electron microscopy (SEM) to look for taxonomically useful microstructural characters in *Trevathana*. Morphological characters will also be mapped onto the molecular phylogeny in order to determine patterns of morphological evolution in the Pyrgomatidae.

SEM Methods

Skeletal structures (wall and opercular plates) were dissected from individual barnacles and soaked in dilute bleach; tungsten needles were used to remove adhering chitinous material; then the structures were imaged using a Hitachi S-4000 SEM set at 6-10 kV.

Results

In *Trevathana* the shape of the scutum tends to be conserved between ESUs, while the tergum appears is more variable and taxonomically informative. I found the size, shape, and orientation of the tergal spur to be particularly useful. On the basis of the tergal spur, I could reliably distinguish between the ESUs that I had previously identified using genetic data (Fig. 1). The morphology of six of the eight ESUs represented in Figure 1 do not fit any of the six described species in the *Trevathana* complex, thus they are probably new species.

Other potentially species-specific characters were noted, including the presence of tiny holes in the internal surface of the opercular valves. These structures were observed in both *T. cf. dentata* 1 (from Moorea and the Tuamotus) and *T. cf. dentata* 4 (from Fiji; Fig. 2). In the future I will examine more specimens in these putative species to assess the reliability of this character.

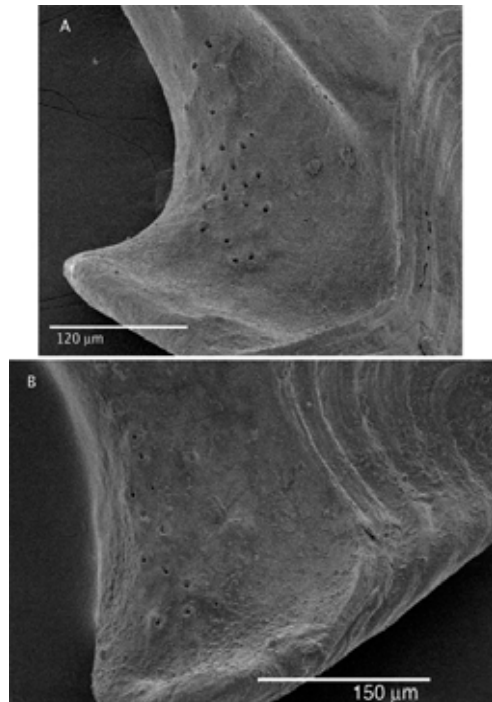


Fig. 2. Closeup of pits along basi-scutal area on inner surface of tergum of (A) *Trevathana cf. dentata* 1; and (B) *T. cf. dentata* 4.

In two of the “*Neotrevathana*” ESUs, the scutum and tergum are completely fused however a slight junction is still visible between the scutal and tergal regions. High magnification views of the scuto-tergal junction indicates that this area was secondarily filled in with calcareous material during development (images not shown). On the other hand, in the third species (“*Neotrevathana elongata*”) no such junction was observed. It will be interesting to examine the opercular valves of newly-settled barnacles to see if the degree of valve fusion changes during ontogenetic development.

Lastly, SEM images revealed pores or “beading” on the external surface of the barnacle walls. Upon closer inspection, the “beads” turned out to be mound-like to chimney-like structures distributed all over the wall surface. In most cases the orifice was covered with a kind of membranous structure with a pore in the center (Fig. 3). In one species, the orifices were smaller and no membranous structure was present. To my knowledge these structures have never been reported in pyrgomatids, and their function is unknown. *In vivo*, coral tissue always overlies the pyrgomatid wall, thus I speculate that the pores function in interactions between the barnacle and its host coral.

In conclusion, I am finding new species in the *Trevathana* complex that are both morphologically and genetically distinct. Sister species live on different coral hosts, suggesting that diversification may have occurred via host race formation, a non-allopatric mode of speciation. The genus *Neotrevathana* is nested within the *Trevathana* clade, and in some species opercular valve fusion (the single character distinguishing these 2 genera) may only occur at some point during ontogenetic development. New skeletal characters are being discovered, including the presence of microscopic pores and pits of undetermined function. In the future I will extend my SEM work to include soft parts (e.g., cirri and trophi), and all these results will be included in future taxonomic revisions of this species complex.

Acknowledgments

I am grateful to the American Microscopical Society for their Summer Research Fellowship, which funded my training in SEM use and allowed me to apply these newly-acquired skills to my research. I acknowledge travel support from the Florida-France student exchange program (to visit French Polynesia). I am also grateful to my supervisor Gustav Paulay for his guidance, support, and boundless enthusiasm and to the very many people who have helped me collect samples during my peregrinations in the Pacific.

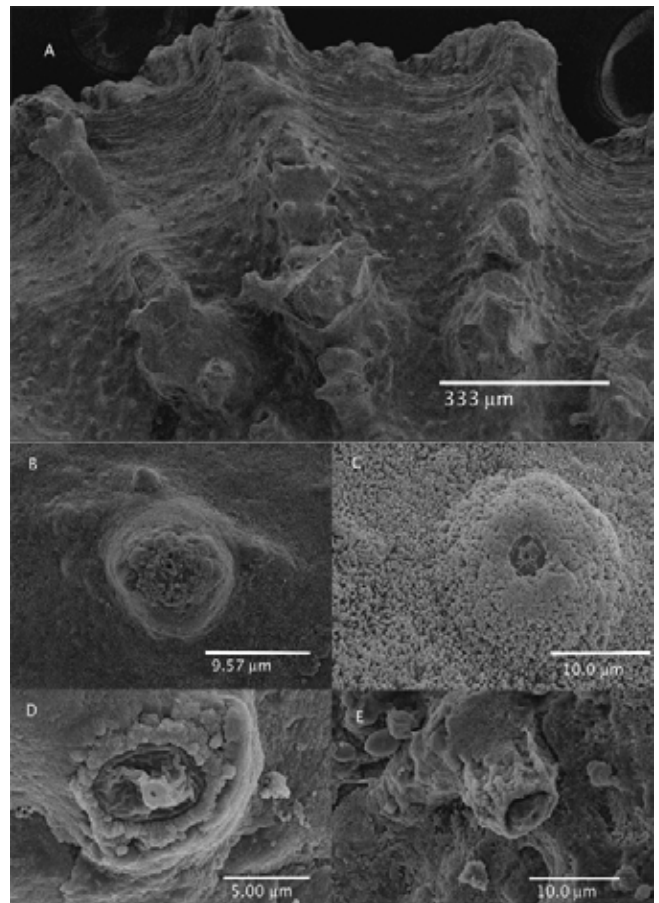


Fig. 3. “Pores” on surface of pyrgomatid walls. A: view of wall surface of *Trevathana* cf. *dentata* 1 (*Favia stelligera*; Moorea). B-D: views of individual mounds from different species. B: *Trevathana* cf. *dentata* 1 (*Favia stelligera*; Moorea); C: “*Neotrevathana*” cf. *elongata* 2 (*Favia rotu mana*; Tuamotus); D: “*Neotrevathana*” cf. *elongata* 1 (*Favia* sp.; Philippines); E: *Trevathana* cf. *dentata* 5 (*Echinopora lamellosa*; Philippines).

Literature Cited

Mokady, O., Y. Loya, Y. Aчитув, E. Geffen, D. Graur, S. Rozenblatt, and I. Brickner. 1999. Speciation vs phenotypic plasticity in coral inhabiting barnacles: Darwin's observations in an ecological context. *J. Mol. Evol.* 49:367-375.

Newman, W. A., P. A. Jumars, and A. Ross. 1976. Diversity trends in coral-inhabiting barnacles. *Micronesica* 12:69-82.

Ross, A., and W. A. Newman. 1973. Revision of the coral-inhabiting barnacles (Cirripedia, Balanidae). *Trans. San Diego Soc. Nat. Hist* 17:137-174.

American Microscopical Society

Fall 2007 Election and Dues Vote

Candidates for Elected Offices

Following is biographical information on candidates for the offices of President-Elect for 2008, Program Officer (2008-2010), and Member-at-Large (2008-2010).

For President-Elect for 2008

Vicki Martin. Education: B.S., 1974, University of North Carolina at Charlotte; M.A., 1976, Wake Forest University; Ph.D., 1980, Wake Forest University; Postdoctoral fellow, 1980, University of Alberta. **Positions:** Assistant Professor, 1981-1983, University of Louisville; Assistant Professor, 1983-1989, University of Notre Dame; Associate Professor with tenure, 1989-1999, University of Notre Dame; Director of the Optical Microscopy Laboratory, 1983-1999, University of Notre Dame; Director of Graduate Studies, 1990-1992, University of Notre Dame; Visiting Researcher, 1991-1992, University of California at Irvine; Chair of the Biology Department, 1999-2004, Appalachian State University; Professor, Appalachian State University, 1999-present; Visiting Scholar, James Cook University, Australia, 2006-2007. **Awards/Service:** Frank O'Malley Undergraduate Teaching Award (University of Notre Dame); Nomination for a Robert Foster Cherry Award for Great Teachers (Baylor University); Nomination for the Academy of Outstanding Teachers (Appalachian State University); Wake Forest University Distinguished Alumni Lecturer; Career Advancement Award (National Science Foundation); Academic Excellence Award (University of Louisville); 100 Scholar's University Research Award (Appalachian State University); Chosen as an Outstanding Young Woman of America; Chosen as a Leading Scientist of the World; Elected to the National Council on Undergraduate Research; Listed in Marquis Who's Who in America; Listed in America's Registry of Outstanding Professionals; Faculty Advisor for the University of Notre Dame to the Duke University Marine Sciences Education Consortium, Duke Marine Laboratory; Scholar in Residence at the Newfoundland Harbor Marine Institute and Seacamp; **Journal Reviewer:** *Biological Bulletin*, *Canadian Journal of Zoology*, *Developmental Biology*, *Development*, *Genes, and Evolution*, *International Journal of Developmental Biology*, *Journal of Neurocytology*, *Journal of Experimental Zoology*, *Invertebrate Biology*, *Cell and Tissue Research*, *Journal of Chemical Neuroanatomy*, *Proceedings of the Royal Society of London*, *Lethaia*, *Journal of the Marine Biological Association of the United Kingdom*, *Neotropica*, *Integrative and Comparative Biology*, *Hydrobiologia*; **Grant Panels Served On:** NSF Graduate Research Fellowship Program, NSF Instrumentation and Laboratory Improvement, National Research Council; **Consultant:** Earth and Sky, National Public Radio Science Series, The Edge of Discovery Series; Seacamp; **Current Grant Funding:** multiple grants from the National Science Foundation; **Memberships:** AMS, SICB, Sigma Xi; **Research Interests:** eye designs in basal metazoans (cnidarians); evolution of visual mechanisms; comparative embryology of basal metazoans; nervous system development in basal metazoans; plasticity of nerves; **Students:** have directed numerous graduate students, undergraduate researchers, and high school researchers.

For Program Officer (2008-2010)

Kathryn A. Coates Education: BS – Univ. of Toronto, 1974, MSc, PhD – Univ. of Victoria, Canada – 1979, 1987. **Positions:** Curatorial Fellow, Royal Ontario Museum - 1985-87; Assistant Curator, Assistant Curator-in-Charge, Associate Curator-in-Charge, Dept. of Invertebrate Zoology, Royal Ontario Museum – 1987-96; Associate Scientist, Bermuda Biological Station for Research, Inc – 1996-2005; Academic Education Advisor, Bermuda Biological Station for Re-

search, Inc – 1997-2000; Associate Research Scientist, Department of Conservation Services, Bermuda Ministry of Environment, Telecommunication and E-commerce – 2005-present. **Current Academic/Professional Positions:** Professor, Faculty of Graduate Studies, Univ. of Toronto; Adjunct Professor, Dept. of Evolution and Ecology, Univ. of Toronto; *ad honorem* faculty, Marine Science Dept., Univ. of Puerto Rico; Research Associate, Dept. of Natural Sciences, Royal Ontario Museum; Research Associate, Bermuda Aquarium Museum and Zoo. **Academic/Professional Service:** Am. Micros. Soc. (Program Officer, 2002-present); NA Benth. Soc., Taxonomic Certification Program (Oligochaeta expert) – 2005-present; Canadian Associates of Bermuda Institute of Ocean Sciences, Board of Governors – 1996-present; Co-chair, Subcommittee on common names of clitellates of North America, for AFS (CNAI) – 1988-present; Editor for International Aquatic Oligochaete Biology Symposium Proceedings V-VII, 1991-2000; Co-organizer, SICB Symposium and symposium website, *The New Microscopy* – 2005; Co-organizer and trainer, training workshop on aquatic oligochaete taxonomy and identification, Tallahassee, Florida, Florida Department of the Environment; Reviewer for *mss (Proc. Biol. Soc. Wash., J. Morph., Invert. Biol., NZ J. Mar. Freshw. Res., Hydrobiologia, Hydrobiol. Sinica, Species Diversity, Mar Biol Res., Comp. Integ. Biol. etc.)*; 11 graduate students (2 current). **Memberships:** AMS; SICB; NA Benth. Soc.; Syst. Soc. (UK); Assoc. Mar. Labs Carib.; Amer. Assoc. Zool. Nomencl.; Est. Res. Found.; Biol. Soc. Wash. **Research Interests:** Morphological and molecular phylogeny, phylogeography, biogeography and systematics of clitellate worms, worldwide; conservation biology and ecology of tropical seagrasses; morphological and molecular phylogeny, phylogeography, biogeography and systematics of tropical and subtropical hard and soft corals; conservation biology of tropical, intertidal, gastropods.

For Member-at-Large (2008-2010)

John D. Zardus. Education: B.S., 1988, Brigham Young University; M.S., 1991, Brigham Young University; Ph.D. 1998, Northeastern University; **Current Position:** Assistant Professor, The Citadel, Charleston, SC (2005-present); **Professional Experience:**, Adjunct Faculty Graduate Program in Marine Biology, College of Charleston (2006-present); Subject Editor, *Journal of Marine Biology Research* (2004-present); Research Fellow, University of Hawaii (2001-05); Postdoctoral Fellow, University of Massachusetts, Boston (1999-01); Lecturer, Isles of Shoals Marine Lab (1995, 2000-01); Lecturer, Wheelock College (1997); **SICB Activities:** Student Award judge for DIZ (2005-06); Session chair (2005-06); **Memberships:** Society for Integrative and Comparative Biology (1991-present), American Microscopical Society (1996-present), The Crustacean Society (2003-present); **Research Interests:** The broad scope of my research encompasses the ecology, ontogeny, and evolution of marine invertebrates. I am particularly interested in how larval dispersal, processes of settlement, and speciation intertwine. Presently, I am exploring the biology of commensal barnacles in this regard but remain easily diverted by any beautiful or intriguing invertebrate. **Goals Statement:** My professional development has been impacted in important and positive ways by participating in the American Microscopical Society. I welcome the opportunity to give something back to an organization from which I have gained so much. I am particularly keen on cross-disciplinary approaches to studying organisms and am especially interested in encouraging students in this direction. As Member-at-Large I would enthusiastically seek new members, especially among students and promote ways that the society can assist in professional development.

Election Ballot

You may return your ballot by regular mail to: Stephen L. Gardiner, Department of Biology, Bryn Mawr College, 101 N. Merion Ave., Bryn Mawr, PA 19010-2899 USA; you may also return your ballot by e-mail to: sgardine@brynmawr.edu. Although sender address will be present on e-mail ballots, a signature is not required. Information on all ballots returned will be held strictly confidential. Deadline for receipt of all ballots is December 31, 2007.

President-Elect for 2008

Vicki Martin _____ Write-in* _____ Abstain _____

Program Officer (2008-2010)

Kathryn A. Coates _____ Write-in* _____ Abstain _____

Member-at-Large (2007-2009)

John D. Zardus _____ Write-in* _____ Abstain _____

*Please be certain that your write-in candidate would be willing to serve in this position.

At the Annual Business meeting in January 2007, the Executive Committee put forth a motion to increase Society dues to \$50 for regular membership and \$25 for student membership. The motion was approved by the membership attending that meeting. The dues increases must now be voted upon by the general membership of the Society (see Sections I and XVII of the Society's Constitution).

Approve Dues Increases _____ Disapprove Dues Increases _____ Abstain _____