Pacific Northwest 2005

3rd Annual

Freshwater Mussels of the Pacific Northwest Symposium

"On the Trail of the Freshwater Mussel"

Photo By Al Smith

Hosted by the Pacific Northwest Native Freshwater Mussel Workgroup

Keynote Address: Mussel Conservation: a European Perspective— Lee Hastie (University of Aberdeen), renowned Scottish malacologist

Workshops:

- Mussel Aging, Preservation, Identification, and Genetic Sampling —Mark Hove (University of Minnesota)
- Design and Methods for Sampling— David Smith (U. S. Geological Survey)
- Functional Role of Mussels in Aquatic Environments and Public Outreach— Jeanette Howard (Confederated Tribes of the Umatilla Indian Reservation) and Kurt Welke (Wisconsin Department of Natural Resources)

Poster Session: Regional research will be presented (submit your abstract online)

June 15, 2005 ♦ The Evergreen State College ♦ Olympia, WA
Admission is FREE but limited to the first 90 registrants
Please register and submit poster abstracts by May 15, 2005 at:
http://columbiariver.fws.gov/musselwg.htm
Contact Kevin Aitkin at 360-753-9508 for additional information

Sponsored by the US Fish and Wildlife Service, Plum Creek Timber, and Water Tenders

Pacific Northwest Native Freshwater Mussel Workgroup

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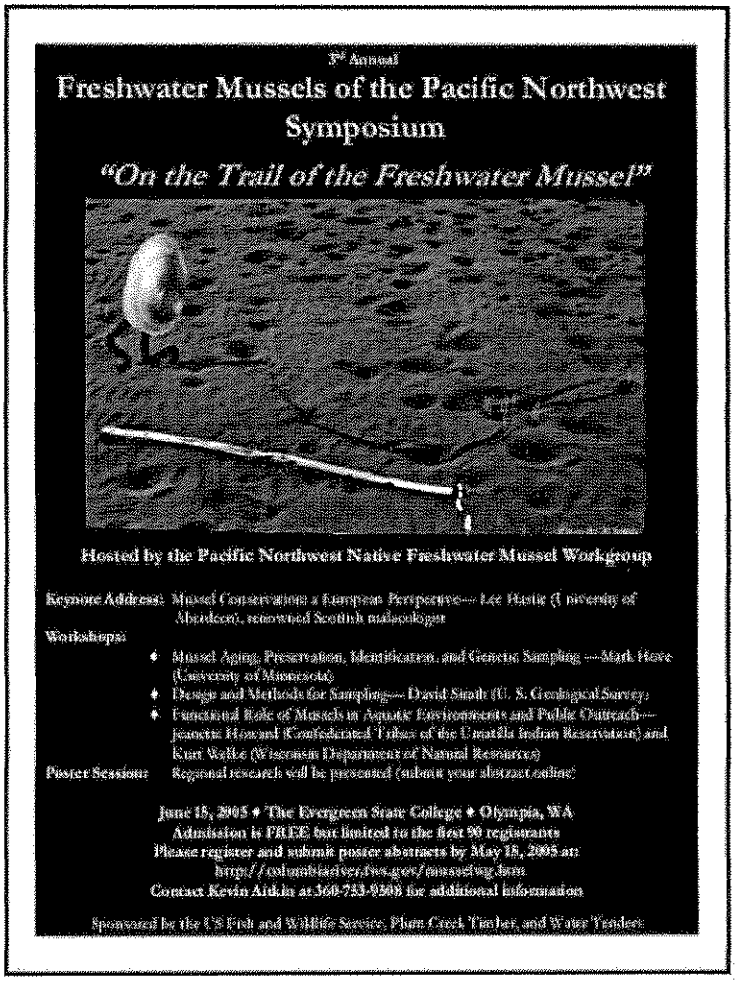

Click here to register for the 2005 Symposium (Space is limited to 90 participants)

Submit your poster abstract to John Fleckenstein. Only six will be selected. You will receive an email confirmation that your abstract was received. If you do not get email confirmation within a week, please resend. Selections will be made by April 15th.

Please see Sample Abstract for formatting guidelines.

Click here for directions to The Evergreen State College.

Click on the flyer to enlarge.

KEY TO FRESHWATER MUSSEL TAXA OF PACIFIC DRAINAGES

Adapted from Al Smith, Pacific NW Freshwater Mussel Workgroup

1 Outline of shell triangular or round. Well-developed concentric sculpture lines. Adults small in size (to about 60 mm).....***Corbicula fluminea***
Widespread in streams, rivers, some standing water (introduced)

2 Well developed pseudocardinal teeth. Shell thick, heavy, sturdy. Ventral outline slightly concave. Nacre purple on fresh specimens. Arborescent incurrent opening papillae. .....***Margaritifera falcata***
AK, BC, WA, OR, CA, MT, ID, NV, UT, WY, prefers gravel or rubble substrates

3 Distinct, heavy ridge running at an angle from umbo to posterior ventral surface. Hinge lacking pseudocardinal teeth. Shell thick, heavy, sturdy. Ventral outline of shell straight or broadly curved. Divided, purplish incurrent opening papillae....***Gonidea angulata***
Pacific drainages from BC to CA, prefers gravel or rubble substrates

4 Pseudocardinal teeth and heavy ridge absent. Shell thin, light, fragile. Shell usually with a wing near beak. Single, whitish incurrent opening papillae.....***Anodonta* spp**
Wide ranging in western North America; occurs in silty as well as gravelly substrates

GLOSSARY

Anterior—the shorter end of the shell from the umbo, where the foot emerges
Arborescent—tree-like, feathery
Dorsal—the top of the mussel where the hinge and umbo occur
Hinge—the flexible attachment of the two shells on the dorsal side
Incurrent opening—the ventral posterior opening where water flows in
Nacre—the inner layer of the shell
Papillae—small projections or protuberances
Posterior—the longer end of the shell from the umbo
Pseudocardinal teeth—teeth inside the anterior part of the shell along the hinge
Sculpture lines—raised narrow concentric ridges on the outside of the shell
Umbo—raised part of the dorsal edge of each shell
Ventral—the bottom of the shell that can be opened
Wing—the thin, flat extension of the top of the shell on some mussels

COMMON NAMES

Gonidea angulata—western ridged mussel
Margaritifera falcata—western pearlshell
Anodonta spp.—floaters

Corbicula fluminea—Asian clam

Aging mussel valves

Some references on techniques and applications of aging mussel valves

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McMahon, R. F. 1991. Mollusca: Bivalvia. Pages 315-399 *in*: Thorp, J. H. and A. P. Covich, editors. Ecology and classification of North American freshwater invertebrates. Academic Press, Inc. New York, New York. 911 pp.

Mussel tissue preservation

Preserving whole animals

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Smith, D. G. 1996. A method for preparing freshwater mussels (Mollusca: Unionoida) for anatomical study. American Malacological Bulletin 13(1/2): 125-128.

Relaxing whole mussels-anatomy studies

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Coney, C. C. 1993. An empirical evaluation of various techniques for anesthetization and tissue fixation of freshwater Unionoida (Mollusca: Bivalvia), with a brief history of experimentation in molluscan anesthetization. The Veliger 36: 413-424.

Araujo, R., J. M. Remon, D. Moreno, and M. A. Ramos. 1995. Relaxing techniques for freshwater molluscs: trials for evaluation of different methods. Malacologia 36(1-2): 29-41.

Preserving shells-coating recipes

Clench, W. J. 1931. A preservative for the scaling of the periostracum. The Nautilus 45(1): 30-31.

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Tissue sampling

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Freshwater Mollusk Conservation Society - http://ellipse.inhs.uiuc.edu/FMCS/

Paper source

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