2016 ONTARIO FISH IDENTIFICATION WORKSHOPS

If you are a fisheries biologist or a student registered in a fisheries biology program, the Royal Ontario Museum (ROM), Department of Natural History, is providing an opportunity to improve your fish identification skills. The workshops are designed primarily for professionals, technicians, field biologists, and environmental consultants -- but other interested individuals, including university and college students, are welcome.

Presentations and hands-on exercises will familiarize you with the characteristics that are used in distinguishing families, genera, and species. Exercises will develop your skills of counting, measuring, and examining the pertinent anatomical structures that are necessary to use identification keys to Ontario’s fishes. Experienced individuals will be on hand to assist you with exercises, provide advice, and access the specimens housed in the reference collection brought from the ROM.

A variety of courses are being offered this year:

- 3-day introductory workshops that will cover the broad array of Ontario fish families and provide an opportunity to develop specialized knowledge of a group of interest;
- A new introductory 4-day workshop that will cover the same information as the 3-day introductory workshops but has an additional one day in the field (Speed/Eramosa rivers) with Jason Barnucz from Fisheries and Oceans Canada and ROM staff. A presentation on preservation, documentation, photographing and sampling tissues for genetic studies will also be given in the field;
- A 2-day workshop on fish species at risk in Ontario;
- A 3-day workshop on Ontario’s minnows.

**Introductory Workshop Presentations**

- Fish anatomy
- Families of fishes
- Lampreys, gars, herrings, pikes, suckers, and catfishes
- Trouts and salmons
- Minnows
- Sculpins, temperate basses, sunfishes, perchs and gobies
- Barcoding fishes, given by Dr. Bob Hanner, Associate Director, Canadian Barcode of Life.
- Group identification: Keying out minnows using a computer key
- Preservation, documentation, tissue sampling, and photographing fishes (4-day only)
- Review

**Hands-on exercises**

Approximately half of classroom time will be devoted to hands-on exercises, which focus on anatomical characteristics that separate species and test your ability to key fishes to family and species. The remaining time focuses on presentations, group identification, and testing. A reference collection of all Ontario freshwater fishes of a variety of sizes will be made available so that you can
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specialize in a group of your choice. The introductory workshops have 9-10 hours of hands-on exercises, which are interspersed between presentations.

Two-day Species-at-Risk Workshop
This workshop will focus on the identification of fishes classified as Endangered, Threatened or Special Concern. Groups covered include gars, whitefishes, minnows, suckers, madtoms, darters, and sunfishes. Emphasis will be placed on how to assess the distinguishing characteristics and comparison with similar species. **Completion of at least a 3-day introductory workshop is required for participation in this workshop.** Presentations will include information on habitat. Jason Barnucz of Fisheries and Oceans Canada will be a guest instructor for this special workshop.

Three-day Minnow Workshop
This workshop will focus exclusively on Ontario’s minnow fauna primarily through guided hands-on exercises and presentations. Preserved specimens of both adult and juvenile cyprinids of all Ontario’s 40 species are available so that you can compare closely related species and practice keying out species both individually and as a group. There will be an introductory presentation that will focus on anatomical features used to identify the Cyprinidae, but it is highly recommended that you take one of the introductory workshops before taking this workshop.

Tests
All workshops will conclude with a 30 minute slide test, and a 1.5 hour specimen test. A passing grade of 70% is required to obtain a certificate.

Handouts
Workshop registration for the introductory workshops includes a complementary copy of *The ROM Field Guide to the Freshwater Fishes of Ontario* and a lab manual that includes the following:

- Presentation slides
- Revised identification keys to minnows, suckers, and trouts and salmons of Canada by E. Holm
- Guides to groups such as the redhorses
- Illustrated glossary of terms used in the computer minnow key
- Habitat preferences of Ontario minnows
- Ontario recognized common and scientific fish names and OMNRF species codes
- Selected bibliography useful in the identification of Ontario's fishes
- Companies that sell equipment and supplies for collecting, identifying and documenting collections
- Useful fish-related websites
- Exercise and answer sheets

The fish species at risk workshop will include illustrated guides to the identification of fishes at risk and other similar-looking fish species. The minnow workshop includes a lab manual of lecture notes.

Time & Place
The workshops have been scheduled as follows:

| April 12 – 14 (introductory 3-day workshop) | May 2 - 4 (introductory 3-day workshop) |
| April 20 – 22 (minnow workshop) | May 5 - 6 (2-day fish species at risk workshop) |
| April 25 – 28 (introductory 4-day workshop) | |
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Place: University of Guelph, Science Complex, Room 2304 (highlighted in green on attached map)
Time: All workshops will begin promptly at 9AM and end at 5PM.

Resource Staff
- Erling Holm, Assistant Curator
- Mary Burridge, Assistant Curator
- Brenna Wells, ROM contractor
- Jason Barnucz, Fisheries and Oceans Canada

What to Bring
University of Guelph microscopes and a limited number of dissecting tools will be made available for your use. You are urged to bring your own dissecting tools if you have some. You are also welcome to bring some of your own collections of fishes. We will endeavour to assist you as much as possible to make positive determinations.

Books and Fish Viewers
If you would like a copy of Freshwater Fishes of Canada by W. B. Scott and E. J. Crossman (1978) and Fishes of the Great Lakes Region by C. L. Hubbs, K. F. Lagler, Revised by G. R. Smith (2004), they can be pre-ordered (see registration form). Note that the former is not a revised copy. There are plans for supplements, which include accounts for species new to the fauna, updated distribution maps, and revised keys.

In the past, four sizes of plexiglass fish viewers were made available to purchase from JRW Designs. This company is no longer in business, and an alternative supplier is being investigated. If you are interested in purchasing one or more viewers, note this on the registration form and we will pre-order from the new company. At this point we do not know the cost, but we estimate the cost for a set of the two small viewers is approximately $30. Prices and availability of larger viewers are unknown.

Dace viewer with inside dimensions 0.5" wide X 4.0" long X 2.0" deep
Chub viewer with inside dimensions 1.25" wide X 6.0" long X 3.0" deep
Sunfish viewer with inside dimensions 1.5" wide X 12.0" long X 8.0" deep
Trout viewer with inside dimensions 3.0" wide X 18.0" long X 8.0"

Food
There is an atrium in the Science Complex for coffee and sandwiches as well as a food court in the University Centre where lunch can be bought. There is also a variety of restaurants in the area.
Suggested Accommodation

- Best Western Plus Royal Brock Hotel & Conference Centre located at 716 Gordon Street, Guelph. Reservations: (519) 836-1240; FAX: (519) 763-5225. Approximately $89.95 + HST, includes hot breakfast and free parking.
- Days Inn, located at 785 Gordon Street, Guelph. Reservations: (519) 822-9112; FAX: (519) 822-5570. Approximately $89.95 + HST, includes continental breakfast.

You must call these hotels directly (not through 1-800 reservation numbers) and specify that you are participating in the ROM Fish ID Workshop in order to receive the ROM rate. Both hotels are a 5-minute walk to the Science Complex.

Travel Information

See attached map. If you are driving into Guelph, allow ample time to drive through the rush hour. Parking is available on the University of Guelph campus for $10/day. The closest lot to the Science Complex is P31.

Registration/Cancellation

To inquire about availability or reserve a spot, contact Cathy Dutton by phone or email (see below). Print a copy of the registration form and email, FAX, or mail it to:

Cathy Dutton, Department of Natural History
Royal Ontario Museum
100 Queen’s Park, Toronto, Ontario
CANADA    M5S 2C6
Telephone: 416-586-5894  FAX: 416-586-5553
E-mail:  cathya@rom.on.ca

If you need to cancel your registration, the registration fee will be refunded to you minus a $50 administration charge if you cancel up to within two weeks of the workshop. None of the registration fee will be refunded if you cancel less than two weeks before the date of your workshop.

Additional Information:

For information about course content or matters other than registration, contact:

Erling Holm or Mary Burridge, Department of Natural History (Ichthyology), Royal Ontario Museum
100 Queen’s Park, Toronto, Ontario CANADA    M5S 2C6
Telephone: 416-586-5760 (Erling), 416-586-5531 (Mary)
FAX: 416-586-5553
e-mail: workshop-ichthyol@rom.on.ca
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From Highway 401 (Toronto)
- Take the Brock Road (#299) exit and head North
- Continue along Brock Road as it turns into Gordon Street
- Take the first right past Stone Road, onto the South Ring Road
- Turn right into P31 and pay the attendant at the booth

From Highway 401 (London)
- Take the Highway 6 North (#295) exit
- Travel along Highway 6 and turn right on Stone Road
- Follow Stone Road into town and turn left on Gordon Street
- Take the first right past Stone Road, onto the South Ring Road
- Turn right into P31 and pay the attendant at the booth