

100 Queen’s Park

Toronto, Ontario

M5S 2C6

**2022 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.

PowerPoint 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. Workshops will be held at The **University of Guelph**, and experienced staff from both the ROM and Fisheries and Oceans Canada 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:

* Three-day introductory workshop that will cover the broad array of Ontario fish families and provide an opportunity to develop specialized knowledge of a group of interest.
* Four-day introductory workshop that will cover the same information as the three-day introductory workshop but has an additional one day in the field (Marden Lake/Speed River) with Jason Barnucz and Robin Gaspardy 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.
* Two-day workshop on fish species at risk in Ontario.
* Three-day workshop on Ontario’s minnows, including the new families to Ontario: Leuciscidae, Tincidae, and Xenocyprididae.

COVID protocols may be required (proof of vaccination, masks, waivers) depending on the status of the pandemic at the time of the workshops.

# Introductory Workshop Presentations

* Fish anatomy
* Families of fishes
* Lampreys, gars, herrings, pikes, suckers, and catfishes
* Trouts and salmons
* Minnows
* Sculpins, temperate basses, sunfishes, perches and gobies
* Barcoding fishes, given by Dr. Bob Hanner, Associate Director, Canadian Barcode of Life
* Preservation, documentation, tissue sampling, and photographing fishes (4-day only)
* Review

**Hands-on exercises**

Approximately half the 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 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 an introductory workshop is required for participation in this workshop.** Lecture material will include information on habitat.

# Minnows and Carps Workshop

This workshop will focus exclusively on Ontario’s minnow and carp fauna primarily through guided hands-on exercises and lectures. This will include fishes in the recently recognized family names Leuciscidae, Tincidae, and Xenocyrididae, as well as the well-known family named Cyprinidae. Preserved specimens of both adult and juvenile minnows and carps of all Ontario’s 42 species are available so that you can compare closely related species. There will be time to practice keying out species individually and in groups. Lecture material will focus on anatomical features used to identify Ontario’s minnows and carps, ***it is highly recommended that you take the introductory workshop before taking this workshop.***

# Tests

The introductory and species-at-risk workshops will conclude with a 30-minute slide test, and a 1.5-hour specimen test. The minnow workshop will include a test jar of 20 assorted minnows completed during the workshop and a specimen test at the end of the workshop. A passing grade of 70% is required for all workshops to obtain a certificate.

# Workshop Course Materials

Workshop registration for the introductory workshops includes a complimentary copy of the second edition of *The ROM Field Guide to the Freshwater Fishes of Ontario,* and a spiral-bound lab manual that includes the following:

* PowerPoint presentations (these will also be sent electronically in advance of the workshops)
* Revised identification keys to all fish species of Ontario by E. Holm and B. Wells
* Guides to groups such as the redhorse suckers
* 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

The fish species at risk workshop will include a lab manual with illustrated guides to the identification of fishes at risk and other similar-looking fish species, revised identification keys to all fish species of Ontario by E. Holm and B. Wells, and other fish at risk resources. The minnow workshop includes a lab manual of lecture notes, and a key to Ontario’s minnows and carps.

# Time & Place

The workshops have been scheduled as follows:

Introductory Workshop (3 / 4 day)\* Mon. April 11 – Wed. April 13/Thur. April 14

Introductory Workshop Mon. April 18 – Wed. April 20

Species at Risk Workshop Thur. April 21 – Fri. April 22

Minnows Workshop Tues. May 3 – Thur. May 5

**\***Please note the 4-day workshop, which includes one day in the field, will be run concurrently with the 3-day workshop. The field day will be held Thursday April 14th.

Place: **University of Guelph**, Science Complex, Room 2304 (highlighted in green in map on pg. 6)

Time: All workshops will begin promptly at 9AM and end at 5PM.

# Resource Staff

* Erling Holm, Assistant Curator
* Mary Burridge, Assistant Curator
* Brenna Wells, Technician Assistant
* Marg Zur, Technician
* Jason Barnucz, Fisheries and Oceans Canada
* Robin Gaspardy, Fisheries and Oceans Canada

# What to Bring

Microscopes and dissecting tools will be made available for your use. You are 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.

If you conduct fieldwork, identification of small living fishes in the field is facilitated by viewing and photographing them in plexi-glass fish viewers. We recommend that all fish crews have at least a small “Chub” viewer, which helps to keep a fish alive during its identification in the field and results in a better photograph for identification confirmation. If you are interested in purchasing one or more plexi-glass fish viewers, note this on the registration form and we will pre-order from Unique Merchandising Displays. Prices for the viewers will depend on quantity ordered, but cost is estimated below:

* Dace viewer with inside dimensions 0.5" wide X 4.0" long X 2.0" deep – $23
* Chub viewer with inside dimensions 1.25" wide X 6.0" long X 3.0" deep – $25
* Sunfish viewer with inside dimensions 1.5" wide X 12.0" long X 8.0" deep – $40
* Trout viewer with inside dimensions 3.0" wide X 18.0" long X 8.0" deep – $45

# Nearby Accommodation (See hotel booking information on page 5)

* Days Inn, 785 Gordon Street, Guelph.

From $139 + HST, includes wi-fi, parking and continental breakfast

* Delta Hotels Guelph Conference Centre, 50 Stone Road West, Guelph.

Standard Two Queen room - $160/night + tax

**Travel**

See attached map. If you are driving into Guelph for the day, please allow ample time to arrive. Parking is available on the University of Guelph campus for $12.50/day. The closest lot to the Science Complex is P31.

# Registration/Cancellation

To inquire about availability or reserve a spot in one or more workshops, contact Cathy Dutton by phone or e-mail (see below). Print a copy of the registration form and e-mail it to:

Cathy Dutton

Telephone: 416-586-5894 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

e-mail: workshop-ichthyol@rom.on.ca

**HOTAL BOOKING INFORMATION**

We have block-booked a number of rooms at these two hotels. If you are phoning to reserve a room instead of booking on-line, please indicate that you are with the ROM Fish Identification Workshops.

**Delta Marriott Guelph Conference Centre**

50 Stone Road West, Guelph

Standard Two Queen room - $160/night + tax

You can book on Marriott.com or the Marriott Bonvoy mobile app using the code**XIJ** under the “special rates – corporate/promo/set#” field. You can also book with reservations at 519-780-3700 by quoting University of Guelph, or by using this corporate reservation booking link:

<https://www.marriott.com/event-reservations/reservation-link.mi?id=1643044475765&key=CORP&app=resvlink>

**Days Inn**

785 Gordon Street, Guelph

From $139 + HST, includes wi-fi, parking and continental breakfast.

April 11-13/14 Introductory Workshop (3/4 day) – Cut off March 21, 2022

[https://www.wyndhamhotels.com/days-inn/guelph-ontario/days-inn-guelph/rooms-rates?&checkInDate=04/10/2022&checkOutDate=04/14/2022&groupCode=cgfis1](https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.wyndhamhotels.com%2Fdays-inn%2Fguelph-ontario%2Fdays-inn-guelph%2Frooms-rates%3F%26checkInDate%3D04%2F10%2F2022%26checkOutDate%3D04%2F14%2F2022%26groupCode%3Dcgfis1&data=04%7C01%7Ccathya%40rom.on.ca%7C4b0e90b9741742bb8b6208d9e1acce0b%7C5f210ceb50a74af7987f0d73927d0840%7C1%7C0%7C637788954577808501%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=jUrTAmiz79sf6lW%2BoNB3dMbybyc7DQt7H4op0CNh5aI%3D&reserved=0)

April 18-20 Introductory Workshop – Cut off March 28, 2022

[https://www.wyndhamhotels.com/days-inn/guelph-ontario/days-inn-guelph/rooms-rates?&checkInDate=04/17/2022&checkOutDate=04/20/2022&groupCode=cgfis2](https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.wyndhamhotels.com%2Fdays-inn%2Fguelph-ontario%2Fdays-inn-guelph%2Frooms-rates%3F%26checkInDate%3D04%2F17%2F2022%26checkOutDate%3D04%2F20%2F2022%26groupCode%3Dcgfis2&data=04%7C01%7Ccathya%40rom.on.ca%7C4b0e90b9741742bb8b6208d9e1acce0b%7C5f210ceb50a74af7987f0d73927d0840%7C1%7C0%7C637788954577808501%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=a6F3pwpLCojgQraCkJPka%2BpHN5CG8muNcdRwbpnEEr0%3D&reserved=0)

April 21-22 Species at Risk Workshop – Cut off April 4, 2022

[https://www.wyndhamhotels.com/days-inn/guelph-ontario/days-inn-guelph/rooms-rates?&checkInDate=04/20/2022&checkOutDate=04/22/2022&groupCode=cgfis3](https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.wyndhamhotels.com%2Fdays-inn%2Fguelph-ontario%2Fdays-inn-guelph%2Frooms-rates%3F%26checkInDate%3D04%2F20%2F2022%26checkOutDate%3D04%2F22%2F2022%26groupCode%3Dcgfis3&data=04%7C01%7Ccathya%40rom.on.ca%7C4b0e90b9741742bb8b6208d9e1acce0b%7C5f210ceb50a74af7987f0d73927d0840%7C1%7C0%7C637788954577808501%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=o2jruwx5B6EldfyzdX2MKApusOpTtTvgCF1lZW7oS8s%3D&reserved=0)

May 3-5 Minnows Workshop – Cut off April 11, 2022

[https://www.wyndhamhotels.com/days-inn/guelph-ontario/days-inn-guelph/rooms-rates?&checkInDate=05/02/2022&checkOutDate=05/05/2022&groupCode=cgfis4](https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.wyndhamhotels.com%2Fdays-inn%2Fguelph-ontario%2Fdays-inn-guelph%2Frooms-rates%3F%26checkInDate%3D05%2F02%2F2022%26checkOutDate%3D05%2F05%2F2022%26groupCode%3Dcgfis4&data=04%7C01%7Ccathya%40rom.on.ca%7C4b0e90b9741742bb8b6208d9e1acce0b%7C5f210ceb50a74af7987f0d73927d0840%7C1%7C0%7C637788954577808501%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=SyxOMltvJb4kg2JOkGns%2F1hg8da9I99v%2F%2FBgQAMl6Uw%3D&reserved=0)

