

## A LEPIDOPTERA RESOURCE LIST

Compiled by Bryan Pfeiffer and Hugh McGuinness (Find advice on field guides and field supplies in the course syllabus.)

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#### General

- **iNaturalist** Crowd-sourced data on virtually everything living, a great way to report leps: http://www.inaturalist.org/
- **Seek** An iNaturalist app. Point it at the organism and get an ID in the field. Amazing (and maybe a bit scary at the same time).
- e-Butterfly Like eBird for butterflies. www.e-butterfly.org.
- Butterflies of America An impressive resource with lists and images. http://butterfliesofamerica.com/
- GBIF An astounding collection of world biodiversity data. https://www.gbif.org/
- **BugGuide.net** Although using it can cumbersome, this site has good information. Be skeptical of range maps and date info as IDs may be incorrect: http://bugguide.net/
- **Butterflies and Moths of North America (BAMONA)** A citizen science project attempting to collect records for all species of Lepidoptera: http://www.butterfliesandmoths.org/
- **The Lepidopterists' Society** The preeminent scientific organization devoted to Lepidoptera. Publishes an academic journal and a popular newsletter: http://www.lepsoc.org/index.php
- The Xerces Society Our premier invertebrate conservation organization: http://www.xerces.org/
- North America Butterfly Association (NABA) Beware of its misguided anti-net biases: http://www.naba.org/
- **BOLD Systems** The website where the "barcodes" of all species are kept. Good to see variety of pinned moths. Linked from Moth Photographers Group: http://www.boldsystems.org/
- **The Butterfly Digest** Listserves and alerts by region: http://www.butterflydigest.com/s/digest.pl? rm=all lists

#### **Butterflies**

- Maine Butterfly Survey Citizen science: http://mbs.umf.maine.edu/
- **Vermont Butterfly Survey** A project of the Vermont Center for Ecostudies: http://www.vermontbutterflysurvey.org/
- **Wisconsin Butterflies** A fine general resource with great images: https://wisconsinbutterflies.org/butterfly
- Massachusetts Butterfly Club Another general resource with quiz butterflies on the home page and an option to compare to species side-by-side: http://www.naba.org/chapters/nabambc/construct-group-page.asp?gr=All
- Butterflies of Canada Lots of good resources here: https://www.cbif.gc.ca/eng/species-bank/butterflies-of-canada/?id=1370403265518
- Ontario Butterfly Atlas A masterpiece: https://www.ontarioinsects.org/atlas/
- Randy Emmitt's Site Butterflies of the Carolinas and Virginias: <a href="http://rlephoto.carolinanature.com/">http://rlephoto.carolinanature.com/</a>
  start.htm

- **Learn About Butterflies** A guide to the biology and taxonomy of butterflies and moths of the world. Some great stuff about basic biology in here: http://www.learnaboutbutterflies.com/index.htm
- **Taming the Tigers** Bryan's guide to the identification of northern tiger swallowtails: https://bryanpfeiffer.com/taming-the-tigers/
- **Celastrina Guide** A basic guide to the Celastrina species of Connecticut: http://www.ctbutterfly.org/pdfdocs/Azure\_guide\_new.html#plate
- **Getting the Blues** Bryan's explainer on *Celastrina*: https://bryanpfeiffer.com/2018/04/02/getting-the-blues/ (Based in large part on this 2016 paper from Ontario: https://zookeys.pensoft.net/article/7882/

### **Moths**

- Moth Photographer's Group (MPG) A great collection of plates for live and spread adults; also building its collection of larval and genitalia images. Beware: there are still many misidentifications, and the range maps and phenology information may have problems: http://mothphotographersgroup.msstate.edu/
- Canadian Biodiviersity Information Facility (CBIF) Plates of Bombycoids, Geometroids and Noctuoids that are found in Canada: http://www.cbif.gc.ca/eng/species-bank/moths-of-canada/?id=1370403266283
- **Georgia Lepidoptera** A nice state list with some images compiled and maintained by James Adams: http://www.daltonstate.edu/galeps/
- Moths of North Dakota A list of the moths of North Dakota with many educational graphics about moth anatomy. Built and maintained by Jerry Fiske: https://www.ndsu.edu/pubweb/~gefauske/ndmoths/home.htm
- **Nearctica.com** Bob Poole's website on which he covers several important groups including Cucullia, Leucania, Condica, the Acontiines, etc. Linked from MPG. Here is the link for Leucania http://www.nearctica.com/leucania/index.htm Here is the link for many of the other groups: http://nearctica.com/moths/noctuid/noctuidae.htm
- Pacific Northwest Moths surprisingly useful for east coast folks. Many species linked from MPG: http://pnwmoths.biol.wwu.edu/

# **Equipment**

- **BioQuip** Collecting and other equipment and gear for entomology: https://www.bioquip.com/. Note that BioQuip's shipping charges tend to be high, delivery times long, and items are sometimes on "back-order." Your best bet in time for the field season is to order before March. Note that BioQuip now carries supplies previously manufactured by Rose Entomology (http://roseentomology.com/), including wonderful insect nets.
- Atelier Jean Paquet A small company in Montreal that makes great Schmidt Boxes and Collection Drawers. Also sells other Lep equipment: http://www.atelierjeanpaquet.com/en/default.aspx
- LepTraps.com Good source for traps, equipment and information: http://www.leptraps.com/
- **Great Lakes IPM** The best place to buy pheromone lures, used especially for seeking Sesiids: http://www.greatlakesipm.com/
- Watkins & Doncaster British lep supplier that makes hard-to-find equipment. http://www.watdon.co.uk/
- GAIA GPS The best map app in the history of the universe. https://www.gaiagps.com/