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NOTE

DEVELOPMENT OF CHECKLISTS ON GREAT LAKES BIOTA

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The Great Lakes biota has been studied for approximately 100 years. Early investigators focused primarily on taxonomy and natural history. Building on these pioneering efforts, a comparatively large number of individuals are currently engaged in a wide array of biological investigations. Many aspects of descriptive ecology (e.g., floral and faunal composition, spatial and temporal distribution, life cycles, etc.) have been studied. Now that we are beginning to address problems in dynamic ecology (e.g., physicochemical and biological interactions, trophic interrelationships, community structure, ecosystem modeling, etc.), it is desirable to review and summarize our knowledge of the composition of the Great Lakes flora and fauna through the compilation of annotated checklists.

We concur with Henson (1966) that an inventory of Great Lakes biota would provide a foundation to solve current biological and environmental problems. We encourage members of the Great Lakes scientific community to prepare annotated checklists in their area of expertise. Such checklists will serve to assess our current knowledge of Great Lakes flora and fauna, stimulate research on little-known groups of organisms, encourage work on remaining taxonomic problems, expose the often confusing synonymies between older and more recent literature, and provide a valuable reference for investigators of Great Lakes biota.

The Journal of Great Lakes Research would be a suitable publication for a series of such checklists. As they appear for various taxonomic groups, other investigators in the field are encouraged to publish notes in the Journal or the IAGLR Lakes Letter containing additions to the lists and other pertinent information. Tentative lists for little-known taxonomic groups could appear in the Lakes Letter and include solicitation for additions or corrections. Later, an individual or co-authors could publish the list in the Journal. When lists are available for most major taxonomic groups, they could be up-dated and combined into one publication, perhaps published by IAGLR. At that time, minor or little-known taxonomic groups that had not been previously treated could be added to produce a reasonably complete checklist for the Great Lakes biota.

The format for the checklists may vary from group to group. Depending on the information available for a particular group, the checklists may range from relatively simple lists (e.g., Whitford 1943, Chengalath 1977), to lists with keys (e.g., Scott and Crossman 1969, Burch 1973), to documents approaching the comprehensiveness of systematic monographs (e.g., Berry 1943, Klemm 1972). However, the following elements appear to be generally desirable:

a) Brief introduction explaining the scope of the checklist and the sources used in its compilation;
b) List of species with authors. Long lists should be organized by major taxonomic sub-groups (e.g., classes, orders, families). Within families, species should be listed in alphabetical order;
c) Location of type specimens and other reference material, as appropriate;
d) Probable synonyms and their sources;
e) Discussion of unresolved taxonomic

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problems;

f) Brief discussion of geographic distribution, habitat preference, and relative abundance in the Great Lakes;
g) Information on availability of keys and other matters pertinent to taxonomy, as appropriate. Perhaps include keys if they are not available elsewhere;
h) Literature cited.

Checklists are needed to provide a benchmark on our current knowledge of Great Lakes biotic composition. Rather than being an end point, they offer a means to advance our knowledge of Great Lakes flora and fauna. Compilation of these checklists should encourage further efforts in coordination of biological studies in the Great Lakes.

REFERENCES

Berry, E. G. 1943. *The Amnicolidae of Michigan: Distribution, ecology, and taxonomy.* Mus. Zool., Univ. Michigan, Misc. Publ. No. 57.

Burch, J. B. 1973. *Freshwater unionacean clams (Mollusca: Pelecypoda) of North America.* Biota Freshw. Ecosystems, E.P.A. Ident. Manual No. 11.

Chengalath, R. 1977. *A list of Rotifera from Canada with synonyms.* Nat. Mus. Natur. Sci., Ottawa, Syllogeus No. 11.

Henson, E. B. 1966. *A review of Great Lakes benthos research.* Univ. Michigan Great Lakes Res. Div., Publ. No. 14:37-54.

Klemm, D. J. 1972. The leeches (Annelida: Hirudinea) of Michigan. *Mich. Acad.* 4:405-444.

Scott, W. B. and Crossman, E. J. 1969. *Checklist of Canadian freshwater fishes with keys for identification.* Life Sci. Misc. Publ., R. Ont. Mus.

Whitford, L. A. 1943. The fresh-water algae of North Carolina. *J. Elisha Mitchell Sci. Soc.* 59:131-170.