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Charles I. Argue
University of Minnesota

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Range Extensions for *Orchis spectabilis*, *Corallorhiza trifida*, and *C. striata* in Minnesota

CHARLES L. ARGUE*

ABSTRACT — The Showy Orchis, the Striped Coral-root, and the Early Coral-root are reported as new additions to the orchid flora of Otter Tail County. The records for the first two species provide notable range extensions within Minnesota and represent, respectively, the most northern and southwestern localities thus far recorded for these species in the state.

Introduction

Although the flora of most areas of Minnesota has been extensively collected and mapped, that of Otter Tail County is an exception (G. B. Ownbey, personal communication). This exception is of some importance because Otter Tail County ranks among the most vegetatively diverse in the state. "Remnants" of four of Minnesota's six vegetation types occur here (prairie, oak and oak savanna-aspen parkland, maple-basswood, and pine) with only the spruce-fir and the highly restricted riverine elm-ash-cottonwood types unrepresented (1).

Efforts now underway to more fully characterize the flora of this county have produced a number of new records, including three orchids: the Showy Orchis (*Orchis spectabilis* L.), the Early Coral root (*Corallorhiza trifida* Chat.), and the Striped Coral-root (*Corallorhiza striata* Lindl.). The present note compares the previously established distribution in Minnesota, by collection site, of each of these orchid taxa with the new localities reported (Figure 1). It also provides a short description of the general community type and associates at each new station.

Materials and Methods

Standard methods of collection and preservation of specimens have been employed (e.g., 2), and vouchers are deposited in the University of Minnesota Herbarium (See Collections). Collection numbers refer to specimens collected by the author. The maps in Figure 1 are reproduced from the "Atlas of Minnesota Vascular Plant Distributions," by G. B. Ownbey and T. Morley, now in preparation, with the kind permission of the authors.

Observations and Discussion

The Showy Orchis was found in late May 1984 in a moist depression within a basswood, elm, ash community north of Clitherall Lake (3). Associated species were chiefly the Swamp Blackberry (*Rubus pubescence* Raf.), Jack-in-the-pulpit (*Ari-*

saema triphyllum (L.) Schoot.), Sweet scented Bedstraw (*Galium triflorum* Michx.), and Lady-fern (*Athyrium filix-femina* (L.) Roth.).

This orchid, now rare throughout Minnesota, occurs predominantly in the southeastern part of the state. According to Morley (4), it has been reported from Houston and Fillmore to Blue Earth, Meeker, and Chisago Counties and in Pope County. It also has been collected in southern Douglas County (University of Minnesota Herbarium data). The Otter Tail County site thus provides a significant northward extension of its known range in Minnesota (Figure 1A).

The Early Coral-root was found in abundance on May 14, 1986 northwest of Clitherall Lake near the edge of a cattail marsh in an oak, ironwood, basswood stand. Principal associated species were False Lily of the Valley (*Maianthemum canadense* Desf.), Wild Sarsaparilla (*Aralia nudicaulis* L.), False Solomon's Seal (*Smilacina stellata* (L.) Desf.), Early Meadow Rue (*Thalictrum dioicum* L.) and Enchanter's Nightshade (*Circaea quadrifida* (Maxim.) Franch. & Sav.).

This orchid has been reported from adjacent counties to the north and south and could therefore be expected in Otter Tail County. Even so, the Clitherall Lake site represents one of the more westerly locations thus far recorded in Minnesota (Figure 1B). It also establishes a closer correspondence between the southwestern limits of this species and the forest-prairie border zone that once ran diagonally across the state in a northwest to southeast direction (1).

The Striped Coral root was found on May 13, 1986 in a mature maple-basswood forest at Maplewood State Park. Principal associated species were Wild Sarsaparilla (*Aralia nudicaulis* L.), Honewort (*Cryptotaenia canadensis* (L.) DC.), Lopseed (*Phryma leptostachya* L.), Black Snakeroot (*Sanicula marilandica* L.), White and Yellow Avena (*Geum canadense* Jacq. and *G. aleppicum* Jacq., respectively), Early Meadow Rue (*Thalictrum dioicum* L.), Sweet Cicely (*Osmorhiza claytoni* (Michx.) Clarke), Hog Peanut (*Amphicarpa bracteata* (L.) Fern.), and Pointed-leaved Tick Trefoil (*Desmodium glutinosum* (Muhl.) Wood).

This species has been previously reported only from Cook to Roseau, Clearwater, and Kanabec Counties (4 and University of Minnesota Herbarium data). The Maplewood State Park

*Department of Botany, University of Minnesota

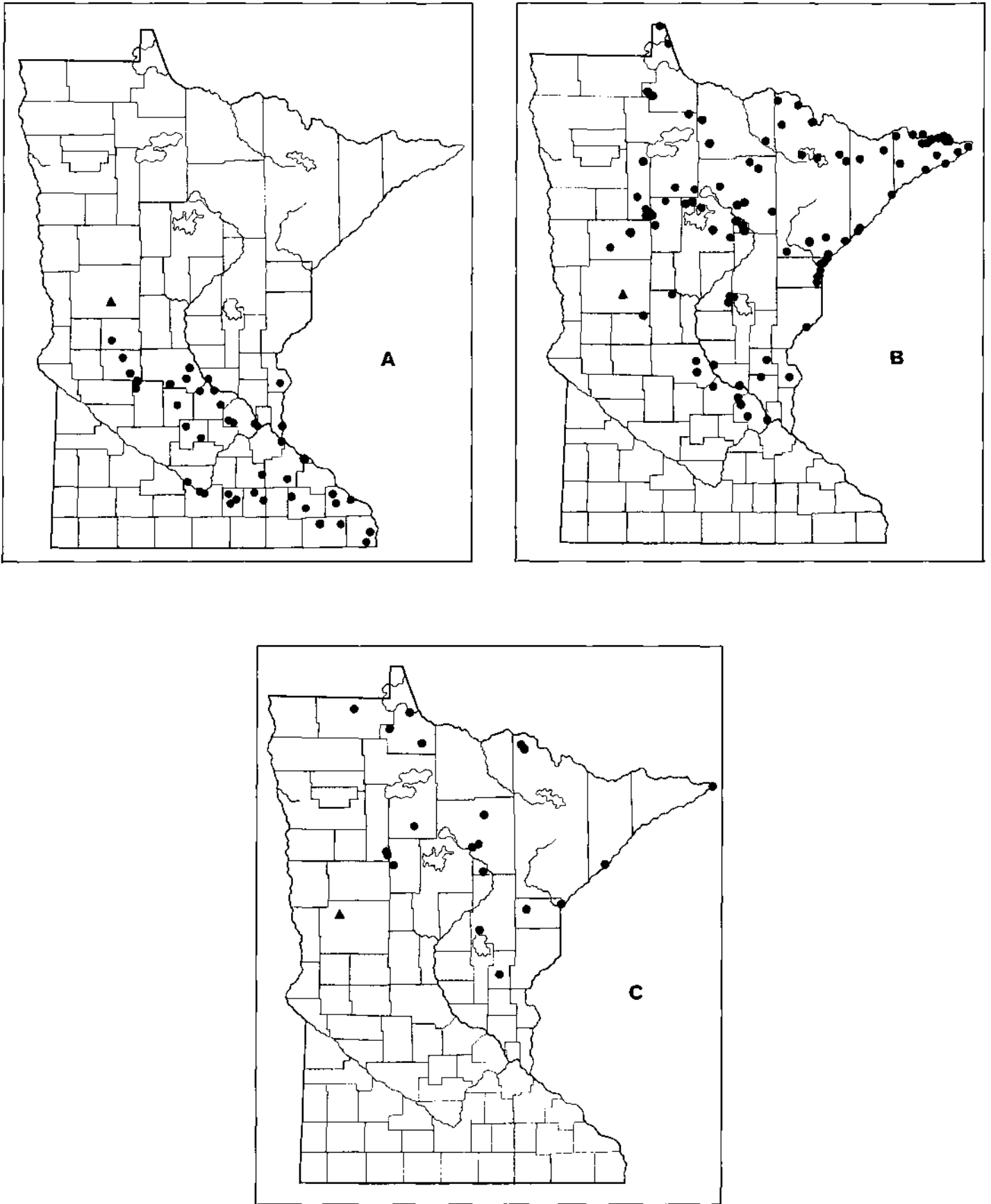


Figure 1. Previously reported locations (●) for the Showy Orchis (A), Early Coral-root (B), and Striped Coral-root (C) in Minnesota and new sites reported in this paper (▲). The distribution maps are reproduced from the "Atlas of Minnesota Vascular Plant Distributions", by G. B. Ownbey and T. Morley, now in preparation, with permission.

station therefore represents a notable southwestern extension of its recorded range in Minnesota (Figure 1C).

Acknowledgements

I thank landowner Charles Moliter for permission to examine the wooded areas at Clitherall Lake. Information on Minnesota distributions was drawn in part from the "Atlas of Minnesota Vascular Plant Distributions," by G. B. Ownbey and T. Morley, now in preparation, through the courtesy of the authors.

Collections

Orchis spectabilis L. Otter Tail County: 2.5 miles SSW of the village of Battle Lake and north of Clitherall Lake. T 132 N, R 40 W, SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 10. Collection number 1877a.

Corallorbiza trifida Chat. Otter Tail County: 2.8 miles SSW of the village of Battle Lake and northwest of Clitherall Lake. T 132 N, R 40 W, SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 10. Collection number 1886a.

Corallorbiza striata Lindl. Otter Tail County: Maplewood State Park, 0.5 miles W of swimming beach on Lake Lida, T 135 N, R 42 W, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 4. Collection number 1892a.

References

1. Wendt, K. M. 1984. *A Guide to Minnesota Prairies*. St. Paul: State of Minnesota, Department of Natural Resources 71 pp.
2. Lawrence, G. H. M. 1951. *Taxonomy of Vascular Plants*. New York: Macmillan Co. 823 pp.
3. Argue, S., and Argue, C. L. 1984. Showy Orchis in Otter Tail County. *Minnesota Plant Press* 3 (4): 3.
4. Morley, T. 1966. *Spring Flora of Minnesota*. Minneapolis: University of Minnesota Press 283 pp.

CALENDAR OF EVENTS

Editor's note: This calendar is intended to inform MAS members and others about scientific meetings and symposia of interest in Minnesota and surrounding states. Please send notices of upcoming events to The Editor, Minnesota Academy of Science Journal, Suite 916 Pioneer Building, St. Paul, MN 55101.

April

9-10: Science Careers in Search of Women. Conference for undergraduate women enrolled in science or mathematics programs. Contact: Division of Educational Programs, Argonne National Laboratory, 9700 Cass Ave., Argonne, IL 60439.

12-14: 50th Annual State Science Fair and Research Program. Mankato State University. Wayne Anderson, chair.

20: Minnesota Society of Optical Microscopists Meeting. Dr. Walter McCrone. "Recent Advances in Microscopy."

21: American Chemical Society Meeting, Minnesota Section. College of St. Thomas, St. Paul, MN.

21-23: Women in Natural Resources. Midwest Regional Conference. Contact: Ann Mayhew, College of Forestry, University of Minnesota, St. Paul, MN 55108.

23-25: Minnesota Academy of Science 55th Annual Meeting. North Dakota State University. Fargo, ND.

29-30: Biotechnology and the Future. Public Conference. Science Museum of Minnesota. St. Paul, MN.

May

1: Association of Energy Educators Meeting. Minnesota Department of Energy and Development. St. Paul, MN. Contact: Dr. Hameed Nezap, Moorhead State University, Moorhead, MN 56560.

1: 14th Annual Undergraduate Research Symposium in Biology. St. Mary's College, Winona, MN.

1: ACTC Symposium of Undergraduate Research in Biology. College of St. Thomas, St. Paul, MN.

4: Minnesota Society of Optical Microscopists Spring Symposium. "Techniques in Photomicrography and Photomacrography."

19: American Chemical Society Meeting, Minnesota Section. Tartan Park (3M), Lake Elmo, MN.

31-June 5: Second International Conference on Quantitative Genetics. Department of Statistics, North Carolina State

University. Raleigh, NC 27695.

June

12-15: Second Symposium on the Marine and Terrestrial Botany of the Bahamas. College Center of the Finger Lakes, Bahamian Field Station, San Salvador, Bahamas. Contact: Dr. Donald T. Gerace, Director, CCFI Bahamian Field Station, 270 SW 34th St., Fort Lauderdale, FL 33315.

14-16: Genetics Society of America Annual Meeting. San Francisco, CA. Contact: GSA Administrative Office, 15501-B Monona Drive, Derwood, MD 20855.

15-Aug. 7: 12th Summer Teacher Internship Program. The Center for Economic Education. College of St. Thomas, St. Paul, MN.

22-25: Annual Meetings of the Mycological Society and the Canadian Phytopathological Society. Carleton University, Ottawa, Canada. Contact: Mrs. H. LaCoste, Executive Secretary, MSA/CPS '87 Conference Services, National Research Council Canada. Ottawa, ON, Canada K1A 0R6.