

# PLANT TAXONOMY

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## ABSTRACTS

**The Portable Microcomputer and Herbarium Research: Distribution of Indiana Red and Black Oaks.** RICHARD J. JENSEN, Department of Biology, Saint Mary's College, Notre Dame, Indiana 46556.—Plant distribution records are based on voucher specimens deposited in herbaria. Deam presented distribution maps and the location of voucher specimens for all taxa included in his *Flora of Indiana* (1940). Since that publication, there has been no revision of the distributions of many taxa, including the red and black oaks. During the summer of 1983, I used an Osborne-1 portable microcomputer, employing a data storage and retrieval program, to establish a file of voucher specimens for each of nine red and black oaks, including hybrids, occurring naturally in Indiana. The data file was constructed from specimens examined at the following herbaria: Ball State University, Butler University, DePauw University, Earlham College, Field Museum, Indiana University, Miami University, Purdue University, Saint Mary's College, University of Illinois, University of Notre Dame, Wabash College. When the data gathered are compared to Deam's (1940) records, it is found that (1) some of Deam's reports cannot be verified, (2) there have been a number of additional county records since 1940, (3) some of Deam's reports were based on misidentified specimens, and (4) several hybrid combinations should be added to those mentioned by Deam.

**A Biosystematic Study of Selected Members of the Genus *Crataegus* Employing Electrophoretic Techniques.** MARY ANN MORSE, Indiana University East, Richmond, Indiana 47374 and BETTY D. ALLAMONG, Ball State University, Muncie, Indiana 47306.—Polyacrylamide gel electrophoresis was employed in an investigation of peroxidase isozymes extracted from the mature fruits of seventeen individuals belonging to the genus *Crataegus*. The purpose of this study was to develop procedures which could supplement existing information contributing to the biosystematics of this genus.

Samples were detected on 5%-20% linear gradient gels in a sodium borate—boric acid buffer (pH, 9.0). Following electrophoresis, incubation was carried out in a solution containing benzidine dihydrochloride and hydrogen peroxide in an acetate buffer (pH, 4.5).

Resulting zymograms were analyzed and eight different isozyme bands identified, based on width, staining characteristics and relationship to a horseradish peroxidase standard zymogram. Composite zymograms were drawn for each species, based on frequency of occurrence of individual bands. Within each species, some isozymes were observed in 100% of the individuals, while other bands appeared in 20% to 92% of the gels examined. Three of the seven species investigated exhibited unique zymograms. Similarities were noted in isozyme patterns among species. Three groups of species were established based on the presence or absence of certain variable bands. Two of these groups had some correspondence to series groupings based on observable

morphological characteristics. A third group consisted of species not related in traditional classification.