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Robert F. Thorne
State University of Iowa

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Notes on Rare Iowa Plants

By ROBERT F. THORNE

Three years of field work in Iowa (1950-1952) have turned up many vascular plants that have been unreported previously from Iowa, that have not been collected in many years, or that have been generally considered rare in the state. For the information of botanists who might be interested in them, these collections are listed here in Englerian sequence with pertinent comments. Included with them are a few noteworthy species represented by old herbarium specimens that had been misidentified or otherwise overlooked heretofore. For some of the included species associated plants have been listed as being the best indicators of the type of habitat in which the species might be sought. Introduced species are indicated by an asterisk. Numbers not preceded by a collector's name represent the writer's collection numbers. All of the writer's collections are deposited in the Herbarium of the State University of Iowa.

EQUISETACEAE

Equisetum pratense Ehrh., the shade horsetail, has recently been collected in two counties in eastern Iowa. *Muscatine*: boggy, wooded ravine in north-facing slope of fixed dune, Skunk Hollow, Lake Twp., Sec. 7, 10990, August 9, 1952, and 12230, Sept. 27, 1952. *Winneshiek*: rich woods along Canoe Creek, Canoe Twp., Sec. 8, 11152, August 22, 1952. The species is reported also from Allamakee, Clay, Clayton, Dubuque, and Fayette counties.

LYCOPODIACEAE

Lycopodium clavatum L. is one of the rarest club-mosses in Iowa, being known only from *Johnson* County. It has been collected several times in the vicinity of Iowa City, the last time by B. Shimek in 1917. R. V. Drexler of Coe College in 1950 collected the species in the northern part of the county in a woodland near Shueyville, Jefferson Twp. At the same station Dr. Drexler also collected *L. complanatum* L. and *L. lucidulum* Michx. and the rare *Botrychium dissectum* Spreng. Probably no other station in Iowa can boast three species of *Lycopodium*.

OSMUNDACEAE

Osmunda cinnamomea L., Cinnamon Fern, is known to be indigenous at only one station in Iowa. It was recently recollected there in *Muscatine* County: boggy, wooded ravine bottom on the north-facing slope of an old, fixed dune, Lake Twp., Sec. 7, 10524,

May 17, 1952. Skunk-cabbage, *Symplocarpus foetidus* (L.) Nutt., *Polystichum acrostichoides* (Michx.) Schott, *Dryopteris spinulosa* (Muell.) Watt., and *Thelypteris hexagonoptera* (Michx.) Slosson were collected in the surrounding woods. The royal fern, *Osmunda regalis* L., originally collected in this area, has not been rediscovered here despite several intensive searches for it. It has, however, recently been collected in Cedar County (Fay, 1951).

SALVINIACEAE

Azolla mexicana Presl., identified in the past as *A. caroliniana* Willd. by most Iowa authors, has been found floating in great abundance and in excellent fruiting condition on shallow water at several stations in eastern Iowa. *Johnson*: Swan Lake, Madison Twp., 10050, July 30, 1951, and 10471, Oct. 1, 1950. *Muscatine*: small marsh, Seventy-six Twp., Sec. 12, R. F. Thorne and E. Beal, Sept. 1951; Brasenia Pond in sand hills, Lake Twp., Sec. 7, 10980, August 9, 1952. *Azolla*, presumably this species, has also been collected or reported from Allamakee, Cedar, Clayton, Decatur, Fremont, Louisa, and Story counties.

Asplenium platyneuron (L.) Oakes, reported as very rare by Cratty (1933), was collected in 1951 by G. W. Martin in upland woods near an old quarry in Iowa City, *Johnson* County. Dr. Martin has growing in his back yard a specimen transplanted several years ago from Pine Hollow, Dubuque County, the northernmost station in the state for this fern. It is known also from Iowa, Jefferson, Lee, Muscatine, and Van Buren counties.

Cheilanthes feei Moore is an infrequent fern on dolomitic limestone in the northeastern counties. *Allamakee*: high dolomitic ridge near Waterville, Paint Creek Twp., Sec. 23, 11191, Aug. 23, 1952. It is known also from Clayton, Dubuque, Jackson, Jones, and Winneshiek counties.

Dryopteris cristata (L.) A. Gray is one of our rarer shield ferns, occurring sporadically in woods and bogs in eastern Iowa. *Johnson*: wooded bank near mouth of Turkey Creek, Newport Twp., Sec. 22, R. F. Thorne and M. J. Fay, 1951; rich woods along Iowa River, T-80 N, R-6 W, Sec. 33 and 34, R. F. Thorne and M. J. Fay, 1951; *Muscatine*: boggy marsh with abundant *Sphagnum*, Lake Twp., Sec. 15, 12221, Sept. 27, 1952. It is reported also from Allamakee, Chickasaw, and Hardin counties.

Woodsia ilvensis (L.) R. Br. has been collected in Iowa only on outcrops of Saint Peter sandstone in *Winneshiek* County: "Rattlesnake Bluff" 1 mile northwest of Hesper, Hesper Twp., Sec. 12,

11169, Aug. 22, 1952; B. Shimek, Aug. 19, 1903. Collected at the same station from the outcrops or from the sandy talus weathered from the sandstone were such Iowa rarities as *Selaginella rupestris* (L.) Spreng., *Polygonella articulate* (L.) Meisn., *Potentilla tridentata* Ait., *Prunus pumila* L., and *Pyrus melanocarpa* (Michx.) Willd. *Arctostaphylos uva-ursi* (L.) Spreng. was collected by Shimek in 1930 from this locality, but it was not found on this excursion.

The Hesper vicinity has been most productive of species rarely collected in Iowa. In addition to those mentioned above, Shimek collected in deep woods near Hesper *Corallorhiza maculata* Raf., *Goodyera pubescens* (Willd.) R. Br., *Habenaria hookeri* Torr., *Chimaphila umbellata* (L.) Bart., *Pyrola secunda* L., *Monotropa hypopithys* L., and *Mitchella repens* L.

SPARGANIACEAE

Sparganium androcladum (Engelm.) Morong has rarely been collected in Iowa, being known previously only from Muscatine and Story counties. Lately it has been found several times in ponds in the Iowan drift sheet. *Johnson*: Swan Lake, Madison Twp., Sec. 5, 10469, Oct. 1, 1950, and 10760, June 25, 1952; small pond, Madison Twp., Sec. 17, 10889, Aug. 2, 1952. *Linn*: marsh south of Coggon, Jackson Twp., 10843, July 19, 1952.

GRAMINEAE

**Miscanthus sacchariflorus* (Maxim.) Hack. is an introduced grass that is apparently spreading rapidly in Iowa as a naturalized species. The writer has observed it on roadsides and pond margins in Cedar, Johnson, and Muscatine counties, and it is reported in Hitchcock (1950) from Clinton County. The following collections have recently been acquired by the Herbarium of the State University of Iowa: *Cedar*: wet sandy lowlands, Linn Twp., Sec. 18, M. J. Fay 1933, Oct. 16, 1950. *Jones*: Case Twp., Sec. 6, R. G. Brown 542, 1948. *Montgomery*: slough north of Stennett, Sherman Twp., Sec. 27, M. J. Fay, 5956, Sept. 17, 1952.

Panicum clandestinum L. is one of our rarer panic grasses. *Muscatine*: upland woods, Wood Forest Preserve, Lake Twp., Sec. 28, 12253, Oct. 10, 1952. It has also been collected in Davis, Jefferson, and Van Buren counties.

CYPERACEAE

Fimbristylis autumnalis (L.) R. & S. is a very rare sedge in the Mississippi River counties of Iowa. It has been reported (Gilly, 1946) from Lee, Muscatine, and Scott counties on the basis of very old, undated specimens or literature citations. Abundant material

of the plant was collected Aug. 9, 1952, in a grassy swale among fixed dunes near the Cedar River, Lake Twp., Sec. 7, *Muscatine* County, 10970. Associated with it were such rare species as *Xyris torta* Sm., *Acalypha gracilens* A. Gray. *Viola lanceolata* L., and *Rhexia virginica* L.

Carex deweyana Schw., reported only from Dickinson, Emmet, and Webster counties in northwestern Iowa by Gilly (1946), was found in *Dubuque* County, in moist, rocky woods, White Pine Hollow, Liberty Twp. 10028, June 30, 1951.

XYRIDACEAE

Xyris torta Sm., reported previously as *X. flexuosa* Muhl. from the Cedar River region of *Muscatine* County by Barnes, Reppert, and Miller (1901), is not represented among the numerous Reppert collections in the University Herbarium nor is it included in Cratty's list (1933). On Aug. 9, 1952, the writer found it growing sparsely in a dried-out, sandy swale among wooded sandhills, Lake Twp., Sec. 7, *Muscatine* County, 10969, probably at the original station. With it was the sedge, *Fimbristylis autumnalis* (L.) R. & S., and the meadow-beauty, *Rhexia virginica* L., both mentioned above.

JUNCACEAE

Luzula acuminata Raf. is recorded by Gratty (1933) only from Delaware County and is represented in the University Herbarium only from *Muscatine* County. June 30, 1951, the writer collected it in *Dubuque* County: White Pine Hollow, on moist, rich, wooded slope, 10005.

IRIDACEAE

Sisyrinchium angustifolium Mill., the blue-eyed-grass of woodlands, is much less common in Iowa than the prairie species, *S. campestre* Bickn. It is represented in the University Herbarium only from Henry and Johnson counties and reported by Gilly and McDonald (1948) only from Var Buren County. *Lee*: wooded ravine 2 miles west of Keokuk near bridge over Des Moines River, 9940, June 6, 1951. With it were found *Carex granularis* Muhl., *C. hirsutella* Mack., *C. shortiana* Dewey, *Aesculus glabra* Willd., *Asclepias quadrifolia* Jacq., and other species largely restricted to southeastern Iowa.

CANNABINACEAE

**Humulus japonicus* Sieb. & Zucc., Japanese hop, seems to be a rather rare weed in Iowa. *Johnson*: dump along bank above slough, Fremont Twp., Sec. 32, 10803, July 5, 1952; climbing over wire fence and weeds along Iowa River, Iowa City, 12246, Sept.

30, 1952. It is known elsewhere in the state only from Jefferson and Page counties.

CORYLACEAE

Alnus rugosa (Du Roi) Spreng., speckled alder, is restricted like *Abies balsamea* (L.) Mill., the balsam fir, to the northeasternmost corner of Iowa, formerly considered "driftless" but now believed to have been covered originally by Nebraskan and in part by Kansan till. *Allamakee*: base of north-facing bluff along Yellow River near Old Stone House, Post Twp., Sec. 12, 12254, Oct. 12, 1952. It is also found in Winneshiek County.

The related beaked Hazel, *Corylus cornuta* Marsh. (11145, 11176) is likewise limited to the "driftless" region, but is known from four counties, Allamakee, Clayton, Dubuque and Winneshiek.

Betula lutea Michx. f., yellow birch, (10020) and *B. alba papyrifera* (Marsh.) Spach, white birch, (10019) have slightly wider ranges in northeastern Iowa with outliers in Hardin County. The Eldora and Fallen Rock region of Hardin County is the known southwestern limit in Iowa also for *Pinus strobus* L., *Juniperus communis* L., *Dryopteris cristata* (L.) A. Gray, *D. marginalis* (L.) A. Gray, *Phegopteris dryopteris* (L.) Fée, *Adoxa moschatellina* L., and several other "boreal" species.

POLYGONACEAE

**Polygonum cuspidatum* Sieb. & Zucc., Japanese-bamboo, has become a naturalized member of the Iowa flora. Difficult to extirpate once it gets a hold, it spreads rapidly from cultivation. The writer has observed it as an escape in Cedar, Johnson, and Muscatine counties. It will probably become more abundant in eastern Iowa in coming years.

CHENOPODIACEAE

Chenopodium capitatum (L.) Aschers., strawberry-blite, is very rare in Iowa and is probably introduced. It was collected from disturbed ground on the campus of the State University, Iowa City, Johnson County, by M. J. Fay in the summer of 1951. It has not been seen here since, and has been reported elsewhere in Iowa only from Allamakee County (Goodman, 1943).

CARYOPHYLLACEAE

Cerastium arvensé L. (*C. velutinum* Raf.) seems to be confined in Iowa to the northeastern corner of the state. *Winneshiek*: wooded bank along the Upper Iowa River at Kendallville, Fremont Twp., Sec. 33. 11103, Aug. 22, 1952. Here it was closely associated with *Chrysosplenium ioense* Rydb., *Cryptogramma stelleri* (S. G.

Gmel.) Prantl. *Arabis lyrata* L., *Rhamnus alnifolia* L'Her., and *Solidago hispida* Muhl. *C. arvensis* has been reported from other parts of Winnishiek County, from White Pine Hollow, Dubuque County and from Fayette County.

**Myosoton aquaticum* (L.) Moench., giant chickweed, is also known only from northeastern Iowa. A specimen was collected, possibly from Clayton County, by H. S. Conard in the fall of 1946. The specimen is deposited in the University Herbarium.

**Silene cserei* Baumg. is another rare European weed in Iowa. Cratty (1933) reported it from Chickasaw and Emmet counties. Since then R. Lommasson collected it in Iowa County: cinders of railroad tracks near Ladora, July 15, 1946.

**Silene cucubalus* Wibel has recently been collected by the writer in Johnson County: once in Iowa City as a garden weed, July 1950, and again near Swan Lake, Madison Twp., Sec. 32, in July 1951. These apparently are the first specimens of this weed recorded from Iowa although Fitzpatrick (1899) mentioned a report from Story County.

NYMPHAEEACEAE

Brasenia schreberi Gmel., water shield, is our least common member of the water-lily family. *Johnson*: a seedling and 1 or 2 old peltate leaves floating in water 2 feet deep, Swan Lake, Madison Twp., 10050, July 30, 1951. *Linn*: a seedling in shallow water of pastured marsh, Jackson Twp., 10855, July 19, 1952. *Muscatine*: shallow Brasenia Pond among wooded sandhills near the Cedar River, Lake Twp., Sec. 7, 10977, Aug. 9, 1952. It had been collected from this pond also in 1878, 1892, 1920, 1929, and 1951 despite the fact that at intervals the pond dries up completely. At the time of the last collection it was abundant in the then diminishing pond along with *Azolla mexicana* Presl., *Sagittaria graminea* Michx., *Eleocharis obtusa* (Willd.) Schultes, *Pontederia cordata* L., *Rotala ramosior* (L.) Koehne, and *Gratiola neglecta* Torr. *Brasenia* has been collected also from Allamakee, Carroll, Crawford, Hamilton, and Hancock counties.

RANUNCULACEAE

Ranunculus aquatilis L., one of the white-flowered water crowfoots, is apparently restricted in Iowa to the clear, cold, spring-fed streams of the "driftless" region. *Allamakee*: with *Nasturtium officinale* R. Br. in shallow water of Yellow River at foot of bluff near Old Stone House, Post Twp., Sec. 12, 12256, Oct. 12, 1952. It is reported also from Clayton and Winneshiek counties (Monson, 1952).

Myosurus minimus L., mouse-tail, is probably more overlooked than rare in Iowa. Two recent attempts to find it on alluvial flats in late spring produced both times an abundance of plants. *Louisa*: along Iowa River 2 miles west of Wapello, 9921, June 6, 1951. *Muscatine*: along Cedar River at Saulsbury Bridge, Lake Twp., Sec. 2, 10546, May 17, 1952. It has been collected also in Linn and Page counties.

Hydrastis canadensis L., golden seal, described by Cratty (1933) as rare in the northeastern part of Iowa, is represented by the following collections at Iowa City: *Dubuque*: White Pine Hollow, B. Shimek, May 11-12, 1901. *Henry*: woods, T. E. Savage, Aug. 8, 1899. *Muscatine*: F. Reppert, May 1901. It is also reported from Fayette, Lee, and Winnishiek counties by the Fitzpatrick (1901).

White Pine Hollow, 2 miles northwest of Luxemburg in the extreme northwestern corner of Dubuque County, is a haven for the more northerly-distributed species that have entered Iowa. Besides the *Hydrastis* and related plants like *Aconitum noveboracense* Gray and *Jeffersonia diphylla* (L.) Pers., there are such "boreal" disjuncts as *Lycopodium obscurum* L., *Athyrium pycnocarpon* (Spreng.) Tidestr., *Dryopteris marginalis* (L.) Gray, *Gymnocarpium robertianum* (Hoff.) Newm., *Thelypteris phegopteris* (L.) Slosson, *Pinus strobus* L., *Taxus canadensis* Marsh., *Poa wolfii* Scribn., *Luzula acuminata* Raf., *L. campestris* (L.) DC., *Maianthemum canadense* Desf., *Betula alba papyrifera* (Marsh.) Spach, *Betula lutea* Michx. f., *Corylus cornuta* Marsh., *Cerastium arvense* L., *Clematis verticillaris* DC., *Chrysosplenium ioense* Rydb., *Ribes hudsonianum* Rich., *Rhamnus alnifolia* L'Her., *Hybanthus concolor* (T. F. Forst.) Spreng., *Viola renifolia* Gray, *Viola rugulosa* Greene, *Sambucus pubens* Michx., and *Adoxa moschatellina* L.

PAPAVERACEAE

**Chelidonium majus* L., Celandine, is a rare escape in Iowa. In the University Herbarium it is represented by collections from Cherokee and Iowa counties and it is reported by Tolstead (1938) from Winnishiek County. Recently it was seen by the writer as an alley weed in Iowa City.

Corydalis curvisiliqua grandibracteata Fedde has in Iowa a northeastern outlier from its more southwesterly range. *Louisa*: roadside 1 mile north of Wapello, 9924, June 6, 1951. *Muscatine*: sandy fields and banks, Moscow Twp., 10556, May 17, 1952. Earlier collections from 1897 to 1924 were made at Pine Mills, Bayfield, and Big Sand Mound in the above-mentioned counties. If this plant is introduced, it must have been introduced in the last century.

Corydalis sempervirens (L.) Pers., unlike the preceding species, reaches Iowa from the north. The University Herbarium possesses 2 sheets from Linn County: Wild Cat Grove 4 miles northeast of Marion, G. H. Berry, June 19, 1907. Berry was apparently a very keen collector with an eye for noteworthy plants. Among his specimens at Iowa City are such extraordinary species for Iowa as *Pogonia ophioglossoides* (L.) Ker, *Calla palustris* L., *Orontium aquaticum* L., *Parnassia parviflora* DC., *Drosera rotundifolia* L., *Polygala paucifolia* Willd., *Decodon verticillatus* (L.) Ell., and *Cornus canadensis* L., each with precise data as to time and place of collection in Linn County. It would be highly desirable to have some of these old collections substantiated by recent collections.

CRUCIFERAE

**Arabis glabra* (L.) Bernh., tower mustard, was reported by Paris (1940) from Allamakee and Johnson counties. *Muscatine*: sandy roadside near Cedar River, Pike Twp., Sec. 10, 10555, May 17, 1952.

**Rorippa sylvestris* (L.) Bess., creeping yellow cress, is an introduced weed of low, alluvial places along streams. *Guthrie*: wet woods, Springbrook State Park, M. J. Fay 2876, June 17, 1952; prairie swale along railroad, Beaver Twp., Sec. 9, M. J. Fay 2963, June 21, 1952. *Johnson*: along Iowa River, Iowa City, M. J. Fay, July 1951.

CAPPARIDACEAE

Cristatella jamesii T. & G. has been credited to Iowa on the basis of specimens collected by F. Reppert and by B. Shimek in the 1890's on sandy soil along the Cedar River, Lake Twp., *Muscatine* County. It is still found in Lake Twp. in considerable abundance in Sec. 15 on Knox fine sand, 12224, Sept. 27, 1952, growing with *Bouteloua hirsuta* Lag., *Triplasis purpurea* (Walt.) Chapm., *Croton glandulosus* L., *Euphorbia geyeri* Engelm., *Opuntia humifusa* Raf., *Helianthus petiolaris* Nutt., and other plants characteristic of Iowa sand dunes. *Selaginella rupestris* (L.) Spreng. was collected near this station in 1894 and 1916.

SAXIFRAGACEAE

Chrysosplenium ioense Rydb. is a small herb of moist, cool, wooded, rocky slopes in Iowa. *Winneshiek*: wooded bank along Upper Iowa River at Kendallville, Fremont Twp., Sec. 33, 11099, Aug. 22, 1952. The University Herbarium contains specimens also from the Decorah area and from Allamakee and Dubuque counties.

Sullivantia renifolia Rosend. is a characteristic crevice plant of

vertical, dripping limestone ledges in northeastern Iowa. *Allamakee*: along Bear Creek at Quandahl, Waterloo Twp., Sec. 30, 11177, Aug. 23, 1952. *Dubuque*: Pine Hollow, 9991, June 30, 1951. It is known also from Cedar, Clayton, Delaware, Jackson, Jones, Linn, and Winneshiek counties. Frequently found with the *Sullivantia* is the small fern *Cryptogramma stelleri* (Gmel.) Prantl.

ROSACEAE

Aruncus dioicus (Walt.) Fern. is rare in the Mississippi River counties of Iowa. It has been collected or reported from Clinton, Des Moines, Dubuque, Jackson, Lee, and *Muscatine* counties: wooded bank, Wild Cat Den State Park, Montpelier Twp., Sec. 17, 10724, June 21, 1952.

Filipendula rubra (Hill) Robins, queen-of-the-prairie, is even rarer in Iowa. It is known only from moist soil in the Cedar River region, Lake Twp., *Muscatine* County. A specimen at Iowa City was collected at that station by K. Mackenzie in June 1894. It apparently has not been collected since.

Prunus hortulana Bailey, although credited to Iowa in Gray's Manual (1950), was not reported by Cratty (1933), Goodman (1940, 1943), or Hayden (1940, 1945). *Lee*: bank along highway near bridge over Des Moines River 2 miles west of Keokuk, 9939, June 6, 1951.

Prunus pumila L., sand cherry, is rare in sandy soil in the tier of counties bordering Minnesota. *Winneshiek*: on St. Peter sandstone and adjacent sandy talus, 1 mile northeast of Hesper, Hesper Twp., Sec. 12, 11158, Aug. 22, 1952. At this station were also found four other species of *Prunus*, *P. americana* Marsh., *P. pensylvanica* L. f., *P. serotina* Ehrh., and *P. virginiana* L.

POLYGALACEAE

Polygala paucifolia Willd., bird-on-the-wing, is represented from Iowa in the University Herbarium by the following specimens from *Linn* County: damp ravine in woods southeast of Indian Creek about ½ mile below iron bridge, Cedar Rapids, G. H. Berry, June 25, 1912. This specimen was previously overlooked due to its original misidentification as the even more improbable *Arethusa bulbosa* L. Another species *P. cruciata* L., not listed by Cratty (1933), is represented at Iowa City by collections from *Linn* and *Muscatine* counties.

ACERACEAE

Acer spicatum Lam., mountain maple, has a very restricted range in Iowa, being known only from cool, moist, wooded slopes in the

northeastern part of the state. *Allamakee*: bluff along Bear Creek at Quandahl, Waterloo Twp., Sec. 30, 11178, Aug. 23, 1952. There it was associated with *Taxus canadensis* Marsh., *Corylus cornuta* Marsh., *Salix discolor* Muhl., *Dirca palustris* L., and *Sambucus pubens* Michx. This maple has been collected also near Old Stone House near Lansing. Fitzpatrick (1899) reported it on bluffs of the Mississippi River in Allamakee, Clayton, and Dubuque counties.

RHAMNACEAE

Rhamnus alnifolia L'Her is another rare shrub which is known in Iowa only from wooded slopes and bluffs in the northeasternmost counties. There are specimens in the University Herbarium from *Allamakee*: bluff near Stone House, B. Shimek, June 24, 1929. *Dubuque*: Pine Hollow, B. Shimek, May 12, 1901. *Winnishiek*: along upper Iowa River at Kendallville, Fremont Twp., Sec. 33, 11104, Aug. 22, 1952, and at Bluffton, Bluffton Twp., Sec. 9-10, 11140, Aug. 22, 1952.

VITACEAE

Ampelopsis cordata Michx., previously unrepresented from Iowa in the University Herbarium, was reported as rare in northeastern Iowa and Fremont County (Cratty, 1933). We now have a specimen from another corner of the state, *Lee* County: wooded bluff near bridge over Des Moines River 2 miles west of Keokuk, 10461, Sept. 4, 1951. Near it on the bluff were *Vitis vulpina* L. (*V. cordifolia* Michx.), *Campsis radicans* (L.) Seem., *Triosteum aurantiacum* Bickn., *Fraxinus quadrangulata* Michx., *F. americana* L., *Aesculus glabra* Willd., *Ptelea trifoliata* L., *Cercis canadensis* L., and other noteworthy species.

LYTHRACEAE

Peplis diandra Nutt., water-purslane, is a nondescript little water plant that is usually overlooked by botanists, hence thought to be uncommon. It has been reported only from Appanoose, Decatur, Louisa, Ringgold, and Scott counties. Recently specimens have been collected from *Iowa* County: pond along railroad east of Homestead, Iowa Twp., N.W. Easterly 470, 1950. *Johnson*: small woodland pond near Clear Creek, Clear Creek Twp., Sec. 1, 10739, June 23, 1952. *Muscatine*: fruiting specimens (10605 and 10926) grown in greenhouse tank at Iowa City from sterile material collected Sept. 1951 from a small marsh, Seventy-six Twp., Sect. 12.

Rotala ramosior (L.) Koehne, tooth-cup, likewise is probably often overlooked because of its inconspicuous habit and aquatic habitat. *Johnson*: small pond in Iowan drift, Madison Twp., Sec.

17, 10890, Aug. 2, 1952. *Lee*: small, shallow pond on sandy flats

south of Fort Madison, R. A. Davidson, October 4, 1952. *Muscatine*: muddy margin of shallow Brasenia Pond, Lake Twp., Sec. 7, 10974, Aug. 9, 1952. It is reported also from Benton, Cedar, Henry, Lyon, Palo Alto, and Van Buren counties.

MELASTOMATACEAE

Rhexia virginica L. in Iowa is known only from the following counties: *Cedar*: small sandy bog with *Sphagnum* near Cedar River, Rochester Twp., M. J. Fay 1324, 1950. *Linn*: hillside opposite Eagle Cliff County Club, Kenwood, G. H. Berry, July 3, 1913. *Muscatine*: sandy swale among wooded sand hills, Lake Twp., Sec. 7, 10964, Aug. 9, 1952; also in Lake Twp. (probably at the same station), B. Shimek, Aug. 22, 1926, July 20, 1922, and Aug. 31, 1922.

ONAGRACEAE

Oenothera laciniata Hill is possibly introduced in Iowa. *Muscatine*: sandy flat along Cedar River at Saulsbury Bridge, Lake Twp., Sec. 2, 10534, May 17, 1952. It was associated there with *Hordeum pusillum* Nutt., *Tradescantia bracteata* Small, *Myosurus minimus* L., *Corydalis micrantha* (Engelm.) Gray, *Draba reptans* (Lam.) Fern., *Rorippa islandica* (Oeder) Borbas, *R. sessiliflora* (Nutt.) Greene, *Euphorbia dictyosperma* Fisch. & Mey., *Androsace occidentalis* Pursh, *Myosotis verna* Nutt., *Hedeoma hispida* Pursh, *Scutellaria parvula* Michx., and *Plantago virginica* L. The writer has observed this *Oenothera* as a weed along railroad tracks at Iowa City. It has been reported also from Fremont, Jefferson, Lee and Polk counties.

HALORAGACEAE

Proserpinaca palustris L., mermaid weed, is one of the rarest aquatic dicotyledons in Iowa. It was collected in Aug. 1894 by F. Reppert in *Muscatine* County: in mud about the shallow margins of ponds in Cedar River bottoms, Saulsbury bridge region, then growing in moist soil during a drought. In September 1951 the writer and E. Beal rediscovered the plant at the same station, Lake Twp., Sec. 12, in shallow water and on muddy shores of a small pond.

OLEACEAE

Fraxinus quadrangulata Michx., blue ash, confined to the extreme southeastern portion of Iowa, was unreported by Gilly and McDonald (1949) in their flora of southeastern Iowa. It was observed by the writer on a high bluff along the Mississippi River in Burlington City Park, Des Moines County, and was collected in Lee Coun-

ty: wooded bluff near bridge over Des Moines River 2 miles west of Keokuk, 10460, Sept. 4, 1951. This ash has one of the most restricted ranges of any of the several tree species found chiefly in southeastern Iowa, such as *Quercus imbricaria* Michx., *Q. marilandica* Muenchh., *Q. stellata* Wang., *Q. palustris* Muenchh., *Carya illinoensis* (Wang.) K. Koch, *C. laciniosa* (Michx.) Loud., *C. tomentosa* Nutt, and *Aesculus glabra* Willd. Perhaps only *Sassafras albidum* (Nutt.) Nees (Lee County), *Prunus hortulana* Bailey (Lee), *Aesculus octandra* Marsh. (Jefferson), and *Diospyros virginiana* L. (Van Buren) are rarer in southern Iowa.

LABIATAE

**Mentha piperita* L., peppermint, is usually planted as a doorway herb. It escapes occasionally and becomes naturalized. *Allamakee*: moist open ground along Bear Creek at Quandahl, Waterloo Twp., Sec. 30, 11189, Aug. 23, 1952. It is reported also from Decatur, Jefferson, Madison, and Muscatine counties.

SOLANACEAE

**Nicandra physalodes* (L.) Pers., apple-of-Peru, is an ornamental annual from South America which occasionally escapes and persists in waste ground or cornfields near gardens. In the University Herbarium it is represented by the following specimens: *Allamakee*: Quandahl, Waterloo Twp., Sec. 30, 11190, Aug. 23, 1952. *Muscatine*: bluff road, F. Reppert, Sept. 1896.

OROBANCHACEAE

Orobanche uniflora L., cancer-root, is a rare parasite found at scattered locations in the state. *Van Buren*: woods along small creek 1 mile east of Bonaparte, 9953, June 7, 1951. It has been collected also in Dickinson, Emmet, Jefferson, Johnson, Linn, and Muscatine counties. Even less common in Iowa is *O. ludoviciana* Nutt., a plains species known only from *Lyon County*: northwest corner, B. Shimek, Aug. 6, 1896.

LENTIBULARIACEAE

Utricularia gibba L. was apparently unreported as such from Iowa when collected in *Johnson County*: Swan Lake, Madison Twp., Sec. 5, 10467, Oct. 1, 1950. It probably was the species reported as *U. biflora* Lam. by Barnes, Reppert, and Miller (1901) from Muscatine County in a pond near the Cedar River, October, 1878. The latter species is a Coastal Plain plant and would hardly be expected in Iowa. The writer has failed to find any *Utricularia gibba* at the Muscatine station, however.

CAPRIFOLIACEAE

Viburnum molle Michx. is a shrub of rocky woods and limestone ledges in southern Iowa. *Van Buren*: rocky outcrops along small creek 2 miles east of Bonaparte, 9947, June 7, 1951. It has been reported also from Henry, Jefferson, and Pottawattamie counties.

ADOXACEAE

Adoxa moschatellina L. is a dwarf perennial of moist woods in northeastern Iowa. *Hardin*: rich woods at base of bluff along Iowa River with *Maianthemum candense* Desf. under *Betula lutea* Michx. f., Fallen Rock, Clay Twp., Sect. 32, 9599, June 3, 1950. It is reported also from Dubuque (Pine Hollow), Floyd, Mitchell, and Winneshiek counties.

DIPSACACEAE

**Dipsacus sylvestris* Huds. seems to be unreported from Iowa. Recently, March 1953, T. Morrissey of Davenport brought to the University Herbarium a specimen of teasel that he had found still standing since last fall in a field north of McCausland near the Wapsipinicon River, Butler Twp., *Scott* County.

COMPOSITAE

Aster furcatus Burgess is a very large-leaved, white-flowered aster that is rare on wooded slopes in southern Iowa. *Muscatine*: moist, wooded north slope of fixed dune, Lake Twp., Sec. 7, 10988, Aug. 9, 1952, and 12234, Sept. 27, 1952. It is recorded also from other stations in Muscatine County and from Madison and Monroe counties.

Solidago hispida Muhl. is one of our less common goldenrods reported from Delaware, Jefferson, Van Buren, and Webster counties. The writer collected it also in *Winneshiek* County: wooded bank along Upper Iowa River at Kendallville, Fremont Twp., Sec. 33, 11093, Aug. 22, 1952.

Solidago patula Muhl. was reported by Barnes, Reppert, and Miller (1901) as infrequent in boggy places along the Cedar River. The only specimen at Iowa City, however, was collected by B. Shimek, Aug. 18, 1925 from a bog near the base of large wooded sand dune 8 miles northwest of Muscatine. Several trips in search of this species were finally rewarded by the finding of some excellent specimens at Shimek's station, Lake Twp., Sec. 7, in wet woods. With the goldenrod was the *Aster furcatus* Burgess mentioned above.

Solidago sciaphila Steele is perhaps the most characteristic flowering plant of the "driftless" area of northeastern Iowa. Formerly misidentified or overlooked by Iowa authors, it is very abundant

and conspicuous in the fall on the dry limestone ledges and "castles" of Iowa's "Little Switzerland." The writer collected it in the autumn of 1952 in Allamakee and Winnishiek counties, and the University Herbarium has accessioned specimens from Clayton and Dubuque counties. Other noteworthy species frequenting these limestone bluffs and ridges are *Cheilanthes feei* Moore, *Pellaea glabella* Mett., *Pinus strobus* L., *Juniperus communis* L., *J. virginiana* L., *Quercus ellipsoidalis* E. J. Hill, *Q. muehlenbergii* Engelm., *Ulmus rubra* Muhl., *Aquilegia canadensis* L., *Physocarpus opulifolius* (L.) Maxim., *Dodecatheon amethystinum* Fassett, *Gentiana quinquefolia* L., *Galium boreale* L., *Campanula rotundifolia* L., and *Artemisia caudata* Michx.

SUMMARY

A total of 65 vascular plants are listed in this paper with notes on their habitats and distribution in Iowa. Several of the species have not previously been reported from Iowa. Many were not included in Cratty's list (1933) of vascular plants represented in the Iowa State College Herbarium nor in the several supplements to that list by Goodman (1940, 1943) and Hayden (1940, 1945). The remainder of the species discussed can be considered rare or infrequent in Iowa or restricted to very limited sections of the state.

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STATE UNIVERSITY OF IOWA
IOWA CITY, IOWA