

THE CAPRIFOLIACEAE OF OHIO^{1, 2}

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ABSTRACT

This paper presents a current account of the range and distribution of Ohio's species of the Caprifoliaceae, of which the following genera are represented in this study: *Diervilla*, *Linnaea*, *Lonicera*, *Sambucus*, *Symphoricarpos*, *Triosteum*, and *Viburnum*. *Lonicera*, represented by twelve species, and *Viburnum*, represented by eleven species, are the largest genera. Of the thirty-two species considered in this study, eight are rare, ten are infrequent, five are frequent, and nine are common in their occurrence for the state. Keys for the identification of these species, cytological and ecological data, citation of significant specimens, and other useful data are also presented. Distribution maps are provided for all species.

This paper is the last of three that have been recently published on the Rubiales of Ohio (Hauser, 1963; 1964). The presentation of taxonomic keys and data and the methods employed in this study are identical to those discussed in the previous papers. The nomenclature throughout this paper follows the regional manuals (Fernald, 1950; Gleason, 1958).

The current study indicates that the Caprifoliaceae is represented by seven genera and thirty-two species. Only fourteen of these species are of frequent or common occurrence. *Triosteum* is the only herbaceous genus. Two other genera, *Diervilla* and *Linnaea*, are each represented by one species.

Economically, in Ohio this family is important for several hardy ornamental shrubs. Notable among the various genera are the honeysuckles (*Lonicera*), coralberry and snowberry (*Symphoricarpos*), and all species of *Viburnum*. The ripened fruit of elderberry (*Sambucus*) is used in making jelly and also wine in some localities.

Chromosome numbers have been reported for thirty of the thirty-two species considered in this study (table 1). Several of the literature reports do not indicate the tissue, somatic or gametic, from which chromosome counts were obtained. Therefore, only the diploid (2n) chromosome number is given.

Section *Odontotinus* of *Viburnum*, represented by *V. acerifolium*, *V. dentatum*, *V. molle*, *V. rafinesquianum*, and *V. recognitum*, is a taxonomically complex group within the genus. This section, consisting of diploid, tetraploid, and octaploid taxa, is also complex cytologically. Braun (1961) suggested that the recombination of characters observed in *V. dentatum* L. and *V. recognitum* Fern. could be attributed to introgressive hybridization, and that extensive study and collecting would be necessary to determine the true relationships. Thomas (1961) indicates the need for additional cytological work, well documented with herbarium specimens, before a sound and workable taxonomy can be developed within the genus.

The most recent and extensive cytological study of the genus by Egolf (1962) indicates that *V. dentatum* represents a cytotaxonomic complex consisting of a polyploid series (2n = 36, 72). Other data obtained from his hybridization experiments indicates relationships between *V. dentatum* and *V. rafinesquianum*. Crosses between these two species, the latter serving as the pollen parent, produced 190 seeds from 386 flowers; 123 plants were procured from these seeds (cf. Egolf: 163). It is obvious that a study of the cytology and morphology of native populations will be required to determine the phylogenetic relationships within section *Odontotinus*.

¹Based in part on a Master's thesis, *The Rubiales of Ohio*, submitted to the Graduate School of Kent State University in partial fulfillment of the requirements for the degree Master of Arts.

²Manuscript received November 2, 1963.

TABLE 1
Chromosome numbers reported for species of the Caprifoliaceae considered
in this study

Taxon	(2n)	Literature Reference
<i>Diervilla</i> (X=9)		
<i>lonicera</i> Mill.	18	Poucques, 1949
<i>Linnaea</i> (X=16)		
<i>borealis</i> L.	32	Darlington & Wylie, 1955
<i>Lonicera</i> (X=9)		
<i>X bella</i> Zabel	18	Poucques, 1949
<i>canadensis</i> Bart.	18	Janaki Ammal & Saunders, 1952
<i>dioica</i> L.	18	Sax & Kribs, 1930
<i>japonica</i> Thumb.	18	Sax & Kribs, 1930
<i>maackii</i> Maxim.	18	Sax & Kribs, 1930
<i>morrowi</i> Gray	18	Janaki Ammal & Saunders, 1952
<i>prolifera</i> Rehd.	18	Sax & Kribs, 1930
<i>sempervirens</i> L.	18	Poucques, 1949
<i>sempervirens</i> L.	36	Janaki Ammal & Saunders, 1952
<i>tatarica</i> L.	18	Sax & Kribs, 1930
<i>xylosteum</i> L.	18	Poucques, 1949
<i>Sambucus</i> (X=9)		
<i>canadensis</i> L.	36	Sax & Kribs, 1930
<i>pubens</i> Michx.	36	Bowden, 1940
<i>Symphoricarpos</i> (X=9)		
<i>albus</i> Blake	ca. 54	Sax & Kribs, 1930
<i>orbiculatus</i> Moench	18	Sax & Kribs, 1930
<i>Triosteum</i> (X=9)		
<i>angustifolium</i> L.	ca. 18	Lane, 1954
<i>aurantiacum</i> Bickn.	ca. 18	Lane, 1954
<i>perfoliatum</i> L.	ca. 18	Lane, 1954
<i>Viburnum</i> (X=9)		
<i>acerifolium</i> L.	18	Sax & Kribs, 1930; Janaki Ammal, 1953; Egolf, 1962
<i>alnifolium</i> Marsh.	18	Sax & Kribs, 1930
<i>cassinoides</i> L.	18	Thomas, 1961; Egolf, 1962
<i>dentatum</i> L.	36	Thomas, 1961
<i>dentatum</i> L.	36, 72	Egolf, 1962
<i>lentago</i> L.	18	Sax & Kribs, 1930; Janaki Ammal, 1953; Egolf, 1962
<i>molle</i> Michx.	36	Egolf, 1962
<i>opulus</i> L.	18	Sax & Kribs, 1930; Janaki Ammal, 1953; Egolf, 1962
<i>prunifolium</i> L.	18	Sax & Kribs, 1930; Janaki Ammal, 1953; Egolf, 1962
<i>rafinesquianum</i> Schult.	36	Egolf, 1962
<i>recognitum</i> Fern.	36	Egolf, 1962
<i>rufidulum</i> Raf.	18	Egolf, 1962

CAPRIFOLIACEAE (Honeysuckle Family)

Herbs, shrubs, and vines with opposite leaves, usually simple and estipulate, pinnately compound in *Sambucus* and stipulate in a few species of *Viburnum*; flowers perfect, regular or irregular; corolla rotate or tubular; style elongate with a capitate stigma, style absent in *Viburnum*; stamens as many as the corolla lobes, one less in *Linnaea*; sepals three to five, usually small or wanting; fruit a drupe or berry with one or several seedlike stones.

KEY TO GENERA

1. Flowers in compound cymes..... 2
 2. Leaves simple..... *Viburnum*
 2. Leaves pinnately compound..... *Sambucus*
1. Flowers not in compound cymes..... 3

- 3. Woody shrubs or vines, erect, climbing or trailing..... 4
 - 4. Evergreen; upright branches bearing a long peduncle forking into two pedicels, each bearing a flower; stamens 4..... *Linnaea*
- 4. Non-evergreen; upright branches not as above; stamens 5..... 5
 - 5. Leaves serrate; fruit a capsule..... *Diervilla*
 - 5. Leaves entire; fruit a berry or berry-like drupe..... 6
 - 6. Flowers in small, terminal clusters, sessile or nearly so; fruit a two-seeded, berry-like drupe; leaves distinct, never connate.... *Symphoricarpos*
 - 6. Flowers in cymose clusters, peduncled or sessile, uppermost leaves below sessile flowers connate; fruit a several-seeded berry..... *Lonicera*
- 3. Herbs, erect..... *Triosteum*

VIBURNUM L.

KEY TO SPECIES

- 1. Leaves palmately veined, usually lobed..... 2
 - 2. Flowers all fertile; petioles glandless; fruits red turning purple or black.....
 - 1. *V. acerifolium*
 - 2. Marginal flowers sterile, with greatly enlarged corollas; petioles with glands; fruits red..... 2. *V. opulus*
- 1. Leaves pinnately veined, not lobed..... 3
 - 3. Lateral veins simple or 1-2 forked, each extending to a tooth..... 4
 - 4. Marginal flowers sterile, with greatly enlarged corollas; leaves scarcely dentate.....
 - 3. *V. alnifolium*
 - 4. Flowers all fertile; leaves coarsely dentate..... 5
 - 5. Leaves with petioles 1 cm or less in length, nearly sessile in some plants....
 - 4. *V. rafinesquianum*
 - 5. Leaves with petioles more than 2 cm in length, never sessile..... 6
 - 6. Leaves stipulate, cordate at the base; bark of older branches exfoliating.....
 - 5. *V. molle*
 - 6. Leaves usually estipulate, not usually cordate at the base; bark never exfoliating..... 7
 - 7. Branchlets, petioles, and cymes usually pubescent..... 6. *V. dentatum*
 - 7. Branchlets, petioles, and cymes essentially glabrous. 7. *V. recognitum*
 - 3. Lateral veins branching and anastomosing before reaching the margin..... 8
 - 8. Leaf margin entire, undulate, or crenate; cymes with peduncles. 8. *V. cassinoides*
 - 8. Leaf margin serrate with sharp teeth; cymes sessile or nearly so..... 9
 - 9. Leaves leathery in texture, petioles and midribs rusty-tomentose beneath...
 - 9. *V. rufidulum*
 - 9. Leaves not as above..... 10
 - 10. Leaf blade sharply acuminate; petioles undulate-margined, subtending the cymes on branch ends..... 10. *V. lentago*
 - 10. Leaf blade acute or obtuse; petioles not undulate-margined, never subtending the cymes..... 11. *V. prunifolium*

- 1. *Viburnum acerifolium* L. (Maple-leaf Viburnum)

Common. Throughout most of Ohio. Rich, moist, mesophytic woods, river bluffs and banks, open, moist, rocky areas, and damp, open woodlands. May-June. Native.
- 2. *Viburnum opulus* L. (High-bush Cranberry)

Viburnum trilobum Marsh.

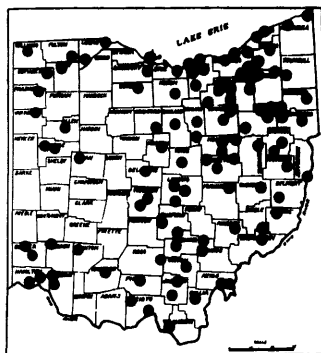
Infrequent. Mostly in northeastern part of the state. Low swampy and marshy areas, stream banks, roadside ditches, and moist woods, frequently cultivated and escaped. June-July. Native.
- 3. *Viburnum alnifolium* Marsh. (Hobble-bush)

Viburnum lantanoides Michx.

Infrequent. Restricted to northeastern Ohio. In woods near swamps, stream banks, and dense shaded ravines. May-June. Native.

4. *Viburnum rafinesquianum* Schultes. (Downy Arrow-wood)
Viburnum pubescens (Ait.) Pursh
Viburnum affine Bush
 Frequent. Widely scattered in the western and northern portions of the state. Found along roadsides, in thickets, steep hillsides, dry prairie, and open woods. May-June. Native.
5. *Viburnum molle* Michx. (Kentucky Viburnum)
 Rare¹. Found in southwestern Ohio. May. Native.
 BUTLER: Reily Twp. Sec. 22, along Indian Creek, E. E. Good, Sept. 2, 1936 (OS, MU).
 HIGHLAND: Brush Creek Twp., near Ft. Hill, Bartley and Pontius, May 31, 1931 (OS).
 No habitat data given; according to Gleason (1958) the species is found in rocky and dry woods, especially of calcareous nature.
6. *Viburnum dentatum* L. (Southern Arrow-wood)
Viburnum venosum Britt.
Viburnum scabrellum (T. & G.) Chapm.
Viburnum pubescens (Ait.) Pursh.
 Frequent. Usually restricted to the southern portions of the state. In wet open woodlands, wet and dry meadows, and on stream banks. June-July. Native. A polymorphic species consisting of several varieties and forma; the glabrous entities are often indistinguishable from *V. recognitum*. Three new collecting stations were discovered by the author during the summer of 1963; these stations, located in Cuyahoga, Geauga, and Lake counties, are not included on the distribution maps.
7. *Viburnum recognitum* Fern. (Northern Arrow-wood)
Viburnum dentatum L. var. *lucidum* Ait.
 Common. Generally restricted to northeastern Ohio, where it is extremely common. Braun (1961) reported that specimens from southeastern Ohio are not typical. Specimens from Athens, Gallia, and Monroe counties examined by the author varied slightly from the typical form in leaf shape and outline. Low marshes, sphagnum bogs, wet woods and meadows, and fencerows. May-June. Native.
8. *Viburnum cassinoides* L. (Wild-raisin)
 Frequent. Generally found in the eastern half of Ohio. In sphagnum bogs, swamps, and marshy areas, near stream banks, rivers, lakes, and wet woods. June-Aug. Native.
9. *Viburnum lentago* L. (Nannyberry)
 Common. Throughout the state. Open weedy woods, wet pond areas, moist rocky ledges, roadsides, stream banks, and wet wooded ravines. May-June. Native.
10. *Viburnum prunifolium* L. (Black-haw)
 Common. Throughout the state. Wooded stream banks, slopes and ravines, in rich moist soil of meadows, and roadside thickets. April-May. Native.
11. *Viburnum rufidulum* Raf. (Southern Black-haw)
 Rare. Restricted to lowlands, usually along the Ohio River Valley. April-May. Native.
 ADAMS: Greene Twp., Edward S. Thomas, Aug. 13, 1939 (OS); Oliver Twp., open white oak woods, E. L. Braun, May 27, 1957 (OS).
 BROWN: Aberdeen, on a bluff along the Ohio River, Floyd Bartley, July 18, 1949 (OS).
 CHAMPAIGN: Spring Hills, swamps and bogs, Howard Brooks, May 16, 1937 (MU).
 HAMILTON: College Hill, Marcus Kreke, 1887 (CINC); woods, E. L. Braun, May 23, 1905 (CINC, OS).

¹Since completion of the manuscript, the author, currently studying the *V. dentatum* complex, found an Ohio specimen of *V. molle* in the herbarium of the State University of Iowa. The location is not included on the distribution map. The data are as follows: Montgomery Co.: Dayton, A. P. & L. V. Morgan 2456, June, 1880. The specimen was a part of the original Morgan Herbarium.



1. *V. ACERIFOLIUM*



2. *V. OPULUS*



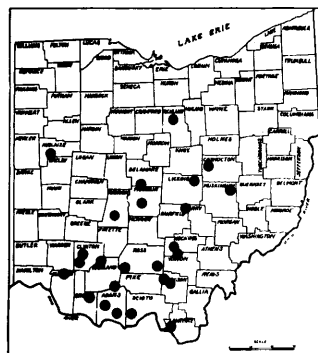
3. *V. ALNIFOLIUM*



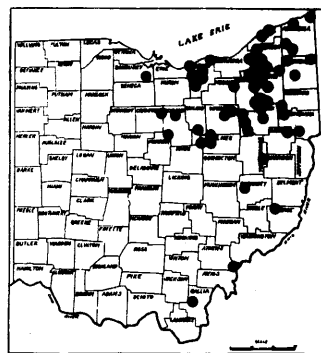
4. *V. RAFINESQUIANUM*



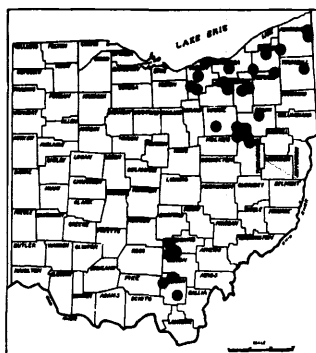
5. *V. MOLLE*



6. *V. DENTATUM*



7. *V. RECOGNITUM*



8. *V. CASSINOIDES*



9. *V. LENTAGO*

FIGURES 1-9. County distribution maps of nine species of *Viburnum* in Ohio. Each symbol on a map represents a specific location from which an herbarium specimen was collected.

SAMBUCUS L. (Elderberry)

KEY TO SPECIES

1. Cymes flat, umbelliform; berry dark purple to black; pith white.1. *S. canadensis*
 1. Cymes ovoid, paniculiform; berry red; pith brown.2. *S. pubens*
 1. *Sambucus canadensis* L. (Common Elderberry)
 Common. Throughout Ohio. Thrives in rich moist soil near streams, waste places, roadside thickets, open woodlands, wooded slopes, and ravines. June-July. Native.
 2. *Sambucus pubens* Michx. (Red-berried Elder)
Sambucus racemosa Gray.
 Common. Generally restricted to the eastern half of Ohio, especially northeastern Ohio. Found in low moist areas, in open woodlands, along railroad tracks, in thickets along stream banks, and along wooded slopes and ravines near streams. May-July. Native.

LINNAEA Gron.

1. *Linnaea borealis* L. (Twin Flower)
Linnaea americana Forbes
 Rare. From northeastern Ohio. Tamarack bogs and swamps. June-July. Native.
 LAKE: Painesville, H. C. Beardslee (OS). No other data.
 STARK: Canton, T. W. Case, July 28, 1900 (OS).
 Case stated on this herbarium sheet that she had observed no signs of any blossoms of this specimen since June 9, 1895; all that remained were a few roots and vegetative structures on several old stumps in what was once a tamarack bog.
 Due to man's destruction of many tamarack bogs in northeastern Ohio, it seems likely that this species is now extinct in the state; however, the possibility remains that the species may be in existence in an isolated bog or swamp.
 This species is circumpolar in geographical distribution and is commonly found in the boreal flora of North America.

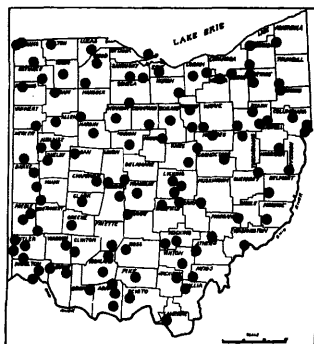
DIERVILLA Duham.

1. *Diervilla lonicera* Mill. (Bush Honeysuckle)
Diervilla diervilla (L.) Machm.
 Frequent. Generally more common in northeastern Ohio; infrequent in the southern and western portions of the state. Found along river and stream banks, on talus slopes bordering streams, and on crests of sandstone bluffs and ridges along river gorges. Generally it can be found on hemlock slopes in a glacial relic type habitat. June-August. Native.

SYMPHORICARPOS Duham.

KEY TO SPECIES

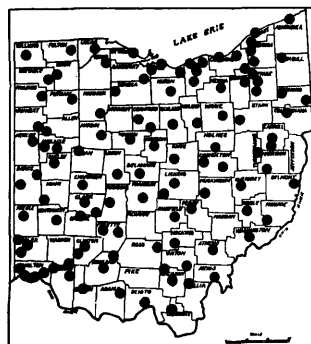
1. Pith continuous, white; flowers in dense axillary clusters; fruits red.1. *S. orbiculatus*
 1. Pith hollow; flowers in pairs or on short few-flowered spikes; fruits white.2. *S. albus*
 1. *Symphoricarpos orbiculatus* Moench. (Coralberry)
Symphoricarpos symphoricarpos (L.) MacM.
 Common. Throughout the state. Found along dry stream banks, woodland borders, railroad tracks, and roadside thickets. July-August. Native.
 2. *Symphoricarpos albus* (L.) Blake. (Snowberry)
Symphoricarpos racemosa Michx.
 Infrequent. Widely scattered throughout the northern and central parts of the state. Found on limestone ridges and gravelly crests of rocky bluffs. Commonly cultivated and escaped locally. May-June. Native.



10. *V. PRUNIFOLIUM*



11. *V. RUFIDULUM*



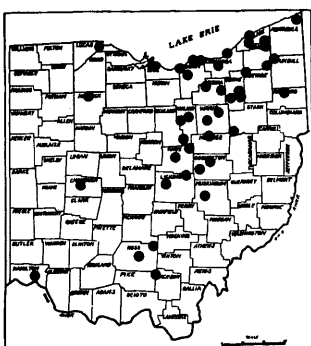
12. *S. CANADENSIS*



13. *S. PUBENS*



14. *L. BOREALIS*



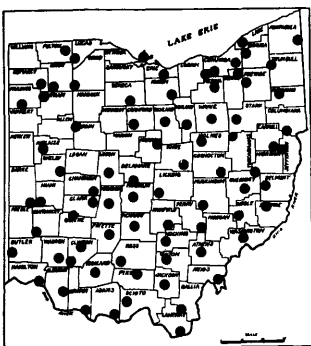
15. *D. LONICERA*



16. *S. ORBICULATUS*



17. *S. ALBUS*



18. *L. JAPONICA*

FIGURES 10-18. County distribution maps. Fig. 10, 11. *Viburnum*. Fig. 12, 13. *Sambucus*. Fig. 14. *Linnaea*. Fig. 15. *Diervilla*. Fig. 16, 17. *Symphoricarpos*. Fig. 18. *Lonicera*.

LONICERA L. (Honeysuckle)

KEY TO SPECIES

- 1. Leaves all distinct; flowers or fruits in pairs on single, axillary or terminal peduncles... 2
- 2. Climbing, trailing, or spreading vines; peduncles bearing two leaf-like bracts.
 - 1. *L. japonica*
- 2. Upright or ascending shrubs..... 3

- 3. Ovaries solitary, apparently wholly united; fruit blue.....2. *L. villosa*
- 3. Ovaries obviously separate; fruits red or orange.....4
- 4. Peduncles shorter than the petioles, not bearing any bracts.....3. *L. maackii*
- 4. Peduncles longer than the petioles, with bracts.....5
- 5. Pith hollow; bracts at base of ovaries distinct.....6
- 6. Corolla bilabiate; ovaries glandular.....4. *L. xylosteum*
- 6. Corolla regular; ovaries glandless.....7
- 7. Leaves and branches glabrous.....5. *L. tatarica*
- 7. Leaves and branches pubescent.....8
- 8. Corolla glabrous, pink; sepals eciliate.....6. *L. bella*
- 8. Corolla pubescent, white to yellow; sepals ciliate.....7. *L. morrowi*
- 5. Pith solid; bractlets at base of ovaries minute or absent.....9
- 9. Leaves ciliate, glabrous, petioles distinct; corolla almost regular.....8. *L. canadensis*
- 9. Leaves eciliate, pilose beneath, petioles very short; corolla distinctly two-lipped.....9. *L. oblongifolia*
- 1. Uppermost leaves connate; flowers or fruits in sessile, terminal or axillary clusters.....10
- 10. Corolla tubular, almost regular; stamens and style included or barely exerted.....10. *L. sempervirens*
- 10. Corolla bilabiate; stamens and style usually exerted.....11
- 11. Uppermost connate leaves green above, whitened below, pointed or mucronate at the end.....11. *L. dioica*
- 11. Uppermost connate leaves glaucous above, rounded at the end.....12. *L. prolifera*

1. *Lonicera japonica* Thumb. (Japanese Honeysuckle)
 Common. Throughout the state. Escaped from roadside plantings, along fence-rows, railroads tracks, vacant lots, and edges of woods. Once established, it is difficult to eradicate. May-June, also Sept.-Oct. Naturalized from Asia.

2. *Lonicera villosa* (Michx.) R. & S. (Mountain Fly Honeysuckle)
Lonicera caerulea L.
 Rare. Northeastern Ohio. Peat bogs and swamps. May-June. Native.
 ASHTABULA: Pymatuning Region, L. E. Hicks, June 21, 1931 (OS).
 This species is probably extinct in Ohio. The only known habitat, near the Penn. Line bog, has been destroyed by man for construction purposes.

3. *Lonicera maackii* Maxim.
 Rare. Northeastern and southwestern Ohio. June-July. Introduced from Asia.
 HAMILTON: Anderson Twp., abundant in woods, an escape, E. L. Braun, Nov. 9, 1958 (OS).
 STARK: Jackson Twp., Section 31 along Rt. 236, roadside thicket, Joyce Amann, Nov. 10, 1963 (KE).

This species is being planted extensively for conservation purposes in Ohio's strip mine areas; it is known to be reproducing and spreading from these sites.

4. *Lonicera xylosteum* L. (European Fly Honeysuckle)
 Rare. Northeastern Ohio. Escaped from cultivation. May-June. Introduced from Eurasia.
 CUYAHOGA: Cleveland, along the lake shore, Wm. Krebs, 1891 (OS).
 LAKE: Painesville, Otto Hacker (OS).

Field studies by the author and other floristic students conducting county floras in north-eastern Ohio have failed to disclose any specimens of this species. Since the only reports of this species are previous to 1900, it is doubtful that it presently exists in Ohio.

5. *Lonicera tatarica* L. (Tatarican Honeysuckle)
 Infrequent. Scattered throughout the state, common in northeastern Ohio. Found in clumps or thickets, along roadsides, fencerows, open fields and woodland borders. May-June. Naturalized from Eurasia.

6. *Lonicera X bella* Zabel.

Rare. Generally restricted to northeastern Ohio. May-June. Introduced from Asia. Gleason (1958) indicates that *L. bella* is a hybrid of *L. tatarica* and *L. morrowi*. On the basis of field observations, the author is inclined to believe that this entity is of hybrid origin rather than man's introduction in Ohio. Further studies of *L. bella* in Ohio are being conducted by the author.

CUYAHOGA: Bentleyville Village, wooded slopes along roadside bordering the Chagrin R., Ed Hauser, May 23, 1961 (KE).

GEAUGA: Chesterland Twp., east portion of grazed woods, Ray Battles, May 30, 1961 (KE).

HAMILTON: Mt. Washington, open fields, escaped, Margaret Fulford (CINC).

PORTAGE: Between Kent and Twin Lakes, dry banks of gravel pit along roadside of Rt. 43, Ed Hauser, May 23, 1961 (KE); Streetsboro Twp., roadside along Rt. 43, Ed Hauser, May 23, 1961 (KE).

STARK: Plain Twp., Section 27, along Nimishillen Creek, moist woods, Joyce E. Amann, May 7, 1960 (KE).

7. *Lonicera morrowi* Gray.

Infrequent. Occurs generally in northeastern Ohio, widely scattered throughout remainder of the state. Roadsides, woodland borders, open fields, and pastures. In northeastern Ohio, this species usually occurs in association with *L. tatarica*. May-June. Naturalized from Eurasia.

8. *Lonicera canadensis* Bartr. (Fly Honeysuckle)

Lonicera ciliata Muhl.

Lonicera canadensis Marsh.

Infrequent. Restricted to northeastern Ohio. Along sandstone cliffs and ledges, rocky hillsides, and hemlock gorges, usually in cool, moist, moderately dense woods. April-June. Native.

9. *Lonicera oblongifolia* (Goldie) Hook. (Swamp Fly Honeysuckle)

Rare. Northeastern Ohio. Bogs and swamps. May-June. Native.

ASHTABULA: Penn.Line bog, L. E. Hicks, June 16 and 17, 1933 (OS); A. G. Chapman and C. A. Dambach, Aug. 9, 1934 (OS).

10. *Lonicera sempervirens* L. (Trumpet Honeysuckle)

Infrequent. Widely scattered throughout the state. Found along woodland borders and along roadside thickets. Frequently cultivated and escaped. April-July. Native.

11. *Lonicera dioica* L.

Lonicera glaucescens Rydb.

Common. Throughout the state. Damp wooded slopes, thickets in swampy lowlands, moist woods, and along river banks and creek beds. May-June. Native.

12. *Lonicera prolifera* (Kirchn.) Rehd. (Grape Honeysuckle)

Lonicera sullivantii Gray

Infrequent. Generally from central and southern Ohio. Found on dolomite slopes, in rocky woods, and along river banks. Occasionally cultivated and escaped. May-June. Native.

TRIOSTEUM L. (Horse Gentian)

KEY TO SPECIES

- 1. Sepals uniformly pubescent; stipules not extended beyond the sepals; stems densely glandular-puberulent and hairless to less densely glandular-puberulent with glandless hairs up to 1.5 mm long; a few or all the hairs of the fruit glandular; corolla purplish and often green on the lower portions. 2
- 2. Leaves, at least median ones, connate-perfoliate; stems densely glandular-puberulent, scarcely with elongate hairs; style usually exserted; majority of the hairs of the fruit glandular. 1. *T. perfoliatum*
- 2. Leaves distinct; stems sparsely glandular-puberulent with glandless hairs not exceeding 1.5 mm; style usually included, fruits with few scattered glandular hairs. 2. *T. aurantiacum*



19. *L. villosa*



20. *L. maackii*



21. *L. xylosteum*



22. *L. tatarica*



23. *L. bella*



24. *L. morrowi*



25. *L. canadensis*



26. *L. oblongifolia*



27. *L. sempervirens*

FIGURES 19-27. County distribution maps of nine species of *Lonicera*.

1. Sepals hispid-ciliate; stipules usually extended beyond the sepals; stems retrose-setose, with bristle-like hairs 1.5-3 mm long; fruits without glandular hairs; corolla yellow. . . .

3. *T. angustifolium*

1. *Triosteum perfoliatum* L. (Common Horse Gentian)

Infrequent. Throughout the state. Found in wet to dry soils, along woodland borders, in openings of woods, on hillsides, and in pastures. May-July. Native.

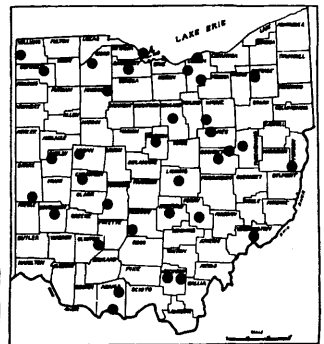
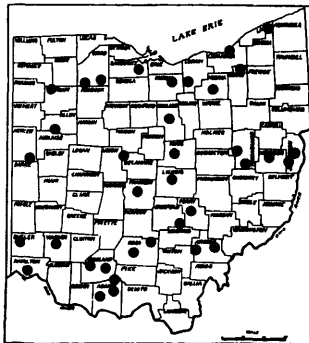
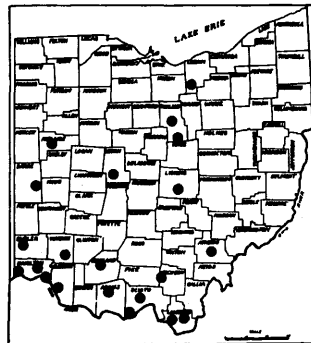
2. *Triosteum aurantiacum* Bickn. (Wild Coffee)*Triosteum perfoliatum* L. var. *aurantiacum* Wieg.

Frequent. Scattered throughout the state. Generally found in rich moist soil, along creek beds, river banks, and woods bordering lakes and ponds. May-July. Native.

3. *Triosteum angustifolium* L. (Yellow Horse Gentian)

Infrequent. Usually restricted to the southern half of the state. Found on dry, shaded soils of wooded slopes and marginal woodlands. April-June. Native.

The herbarium specimens from Licking, Lorain, Richland, and Union Counties differed from the typical *T. angustifolium* described by Fernald in *Gray's Manual of Botany* (1950) in the following characteristics: (1) fruits and flowers 2 or 3 per axil, (2) sepals blunt or acutish, (3) fruits not strigose-hirsute, and (4) stipules not extended beyond the sepals. However, other diagnostic characteristics merited treating them as *T. angustifolium*.

28. *L. DIOICA*29. *L. PROLIFERA*30. *T. PERFOLIATUM*31. *T. AURANTIACUM*32. *T. ANGUSTIFOLIUM*

FIGURES 28-32. County distribution maps. Fig. 28, 29. *Lonicera*. Fig. 30-32. *Triosteum*.

EXCLUDED SPECIES

Lonicera hirsuta Eaton.

All specimens cited by Schaffner (1932) from Green, Lorain, Monroe, Ottawa, and Pike Counties have been determined to be a form of *L. dioica*. These specimens are characterized by very pubescent leaves and an ovary which is densely glandular and hirsute. Braun (1961) states that the only specimen she observed in the Gray Herbarium, reported for Ohio by Fernald (1950), is *L. dioica* var. *glaucescens*.

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TABLE 2
 Statistical summary of the Caprifoliaceae based on the frequency of
 occurrence of species in each genus

Genus	Rare	Infrequent	Frequent	Common	Total
<i>Diervilla</i>	0	0	1	0	1
<i>Linnaea</i>	1	0	0	0	1
<i>Lonicera</i>	5	5	0	2	12
<i>Sambucus</i>	0	0	0	2	2
<i>Symphoricarpos</i>	0	1	0	1	2
<i>Triosteum</i>	0	2	1	0	3
<i>Viburnum</i>	2	2	3	4	11
Family totals	8	10	5	9	32

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