

Witherspoon and Robert B. Platt, *Emory University*, Atlanta, Ga. Female mosquitoes of a laboratory bred strain were subjected to various combinations of simultaneously controlled gradients of temperature, humidity, and wave length, color temperature and intensity of light, as set up in an experimental chamber. Results are based on the use of negative, positive, and indifferent reactions of 110 population samples, each sample consisting of 3 lots of 30 mosquitoes per lot. A distribution pattern under constant conditions was established on the basis of 150 mosquitoes introduced individually within the chamber. Humidity responses followed a sigmoid pattern, with response predominating positively below 83% RH and negatively above 83% RH. Only a small percentage of the population was reactive. This pattern was not significantly affected by temperatures ranging from 16-32°C. or by wave length or color temperature of light at intensities above 30 f.c. of light.

PRODUCTION OF REPEATED GONADAL, FAT, AND MOLT CYCLES WITHIN ONE YEAR IN THE JUNCO AND WHITE-CROWNED SPARROW BY MANIPULATION OF PHOTOPERIOD. Albert Wolfson, *Northwestern University*, Evanston, Ill. Slate-colored juncos and white-crowned sparrows were subjected to 8 alternate periods of long days and short days for about a year beginning in April. Observations were made on reproductive activity, fat deposition, body weight, and molt. In nature these species show only one period of spring fat deposition, reproductive activity, and molt per year. The three juncos which lived for the duration of the experiment showed 5 periods of fat deposition, 5 periods of reproductive activity and two molts within 369 days. The white-crowned sparrow which lived for the duration of the experiment showed 4 periods of reproductive activity and two molts within 343 days. Reproductive activity, fat deposition, and increase in body weight were correlated with long days. Regression of reproductive activity, loss of fat deposits, and decrease in body weight were correlated with short days. The relationship between molt and day length was not clear. It is concluded that the entire annual cycle in these species is regulated by day length. Whether the effective environmental stimulus is the daily dose or the total amount of light or darkness, or a relation between them remains to be determined for each phase of the cycle.

A NEW HYBRID SUNDEW AND ITS FERTILE COUNTERPART. Carroll E. Wood, *University of North Carolina*, Chapel Hill, N. C. *Drosera linearis* and *D. rotundifolia*, which differ strikingly in a number of characteristics, produce occasional hybrids in northern Michigan where their habitats come together. Although the hybrid fails to produce seeds, in some areas it is relatively abundant through vegetative reproduction. In contrast with the diploid parental species ( $n=10$ ), chromosomal behavior at meiosis is very irregular in the hybrid, resulting in almost complete sterility. One small colony of exceptional fertile plants has been found producing seeds which are identical in appearance with those of *Drosera anglica*, a wide-ranging tetraploid species ( $n=20$ ). Guard-cell volume measurements and the production of seeds indicate that the fertile hybrid is also tetraploid. Morphological comparisons and chromosomal behavior previously reported in a triploid European hybrid (*D. anglica* x *D. rotundifolia*) suggest that *D. anglica* may be a segmental allopolyploid derived from *D. linearis* x *D. rotundifolia*.

## SOME STUDIES OF TENNESSEE FERNS

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### FERN DISTRIBUTION IN TENNESSEE

#### NETVEIN CHAINFERN

*Lorinseria areolata* (L.) Presl

(Continued from the April number)

(1937); FENTRESS Co.: near Allardt, A. J. S. and J. K. U. no. 2056; FRANKLIN Co.: marsh at hospital, Sewanee, no. 4144; GREENE Co.: Horse Cr.

Recreational Area, no. 10731; \*HAMILTON Co.: East Chattanooga, *Eleanor McGilliard*, Apr. 22, 1934 (Univ. Chatt.); HARDEMAN Co.: swamp N. of Chickasaw Forest, *A. J. Sharp, E. Clebsch, and A. Clebsch* no. 244; HARDIN Co.: lower regions, *J. R. Endsley* (1937); HENDERSON Co.: marsh, rd. 20, 2.3 mi. E. of Lexington, no. 10440; HENRY Co.: swamp, 11.5 mi. SE. of Paris, rd. 69, no. 9151; \*MADISON Co.: bottoms, Sept., 1892, *S. M. Bain* no. 169 (U.S. Nat. Mus.); MARION Co.: 1 mi. from Grundy Co., rd. 108, no. 1541; MONROE Co.: White Cliff Sprgs., Starr Mtn., no. 1534; OVERTON Co.: marsh, rd. 85, 2 mi. E. of Livingston, no. 4099; POLK Co.: 2 mi. E. of dam no. 1, Parksville, no. 10014; PUTNAM Co.: swamp, top of Cumberland Plateau, U. S. 70, 11 mi. E. of Cookeville, no. 1549; SEQUATCHIE Co.: swamp, rd. 111, 12.5 mi. S. of Spencer, no. 10749; SEVIER Co.: near The Sinks, Little River, *H. M. Jennison* no. 4679; WHITE Co.: top of mtn., old railroad, Bon Air, no. 8246.

### AMERICAN HARTSTONGUE

#### *Phyllitis Scolopendrium* (L.) Nwm., var. *americana* Fern.

MARION Co.: deep sinkhole, side of Cumberland Plateau, near South Pittsburg, *Pollard and Maxon* no. 407 (U.S. Nat. Mus.)

### LOBED SPLEENWORT

#### *Asplenium pinnatifidum* Nutt.

BLED SOE Co.: bluff, Cumberland Plateau, W. of Pikeville, rd. 30, no. 4104; CAMPBELL Co.: tributary of Hickory Cr. above LaFollette, *R. F. Daubenmire, S. A. Cain, L. R. Hester, D. Bain, A. J. Sharp* no. 4297; FENTRESS Co.: N. side of Clear Cr., rd. 28, no. 1098; FRANKLIN Co.: Morgan Steep, Sewanee, no. 8023; \*HAMILTON Co.: cliffs, Lookout Mtn., *J. R. Churchill*, Apr. 29, 1906; MARION Co.: side of Cumberland Plateau E. of Monteagle, no. 1105; PUTNAM Co.: escarpment, Stamps Hollow near Monterey, no. 3077; \*ROANE Co.: bluffs, Piney Cr., U.S. 70, *D. S. and H. B. Correll* no. 8121 (U.S. Nat. Mus.); \*SCOTT Co.: Helenwood, *C. Lown*, Nov., 1884 (*Anderson*, 1931); SEQUATCHIE Co.: Cumberland Plateau, W. of Dunlap, no. 7930; VAN BUREN Co.: just W. of Spencer, rd. 30, no. 7952.

### PINNATE SPLEENWORT

#### *Asplenium Trudelli* Wherry

FRANKLIN Co.: bluff near Morgan Steep, Sewanee, no. 8022; MARION Co.: head of Fiery Gizzard Cove, near Tracy City, *Svenson* no. 9900 in part (Acad. Nat. Sci., Philadelphia).

### MOUNTAIN SPLEENWORT

#### *Asplenium montanum* Willd.

\*ANDERSON Co.: Coal Cr., *F. H. Bradley*, 1870 (Gray Herbarium); BLED SOE Co.: bluff, Cumberland Plateau, W. of Pikeville, no. 7938; BLOUNT Co.: Tremont Falls, *AJS and HMJ* no. 3362; \*CAMPBELL Co.: Cumberland Mtns., *F. H. Bradley*, Apr., 1870 (Yale Univ.); CLAIBORNE Co.: 1/4 mi. W. of Harrogate, *Frick* no. 31 (Lincoln Mem. Univ.); \*COCKE Co.: by French Broad River between Paint Rock and Del Rio, *T. H. Kearney* no. 980 (U.S. Nat. Mus.); CUMBERLAND Co.: cr., rd. 28, about 5 mi. N. of Crossville, no. 4112; FENTRESS Co.: Northrups Falls, Allardt, no. 9699; FRANKLIN Co.: Morgan Steep, Sewanee, no. 1376; GRAINGER Co.: side of Clinch Mtn., about 4 mi. W. of Bean Station, no. 10107; GRUNDY Co.: near Palmer, no. 1352; \*HAMILTON Co.: Lookout Mtn., *Eleanor McGilliard*, Apr. 17, 1931 (Univ. Chatt.); JOHNSON Co.: Backbone Recreational Area, 5 mi. S. of Damascus, Va., no. 10386; \*KNOX Co.: House Mtn. top, *Anderson* no. 1186 (erroneously given as Union Co.); MARION Co.: Foster Falls, no. 4158; MONROE Co.: Bald River, no. 1341; MORGAN Co.: near Rugby, no. 4077; PICKETT Co.: Hazard Cave, State Park, no. 5517; \*POLK Co.: map record in error (?); PUTNAM

Co.: near Monterey, no. 1375; \*RHEA Co.: Grandview, spring, 1912, *Martha Fisher* (Oberlin Col.); ROANE Co.: White River, Glen Alice, no. 9697; \*SCOTT Co.: Helenwood, *C. Lown*, Nov., 1884 (Anderson, 1931); SEQUATCHIE Co.: bluff, Cumberland Plateau, W. of Dunlap, no. 7929; SEVIER Co.: top of Mt. LeConte, no. 1370; VAN BUREN Co.: bluff, top of mtn., 2 mi. E. of Spencer, rd. 30; UNICOI Co.: near Unaka Sprgs., no. 1338; \*UNION Co.: this record as given in the map was based on Anderson (1931) but House Mtn. is not in Union Co.; WHITE Co.: bluff, top Cumberland Plateau, NE. of Sparta, U.S. 70S.

### AMERICAN WALL-RUE SPLEENWORT

#### *Asplenium Ruta-muraria* L., var. *cryptolepis* (Fernald) Weatherby

ANDERSON Co.: Savages, Coal Creek, *H. M. Jennison* no. 13; \*CARTER Co.: E. E. Gayle, July, 1891 (Anderson, 1931); CHEATHAM Co.: bluff, Harpeth River near Turnbull Cr., no. 1528; CLAIBORNE Co.: cliffs 4 mi. SW. of Harrogate, *T. A. Frick* no. 33 (Lincoln Mem. Univ.); \*COCKE Co.: limestone cliff, Newport, *J. S. Holmes*, Aug. 28, 1903 (Univ. of N. C.); \*CUMBERLAND Co.: *Leeds*, no. 119 (Acad. Nat. Sci. of Philadelphia); DAVIDSON Co.: Little Marrowbone Cr. region, no. 1527; \*DECATUR Co.: rd. 69, halfway between Parsons and Jeannette, *J. R. Endsley*, May 25, 1936 (Freed-Hardeman Col.); DICKSON Co.: bluffs, Jones Cr., rd. 47, no. 8054; FENTRESS Co.: small bluff, stream, rd. 28, 3 mi. SE. of Pickett Co., Mar. 26, 1944; GILES Co.: by Richland Cr., rd. 31, 6.1 mi. S. of Maury Co., no. 8209; GRAINGER Co.: Tampico Knob, Buffalo Sprgs. Fish and Game Preserve, *Morrison, Brown, and Kamper*, July 13, 1936; HAMBLEN Co.: bluffs, Holston, U.S. 25E, no. 10687; GRUNDY Co.: specimen misplaced; HARDIN Co.: bluffs, Indian Cr., Olive Hill, U.S. 64, no. 8294; HUMPHREYS Co.: bluffs, Buffalo River, 5 mi. W. of Bakerville, no. 4442; KNOX Co.: Paint Rock bluff, beyond Marbledale, French Broad River, *H. M. Jennison*, no. 94; LEWIS Co.: small bluffs, stream by rd. 48, 3.8 mi. N. of Hohenwald, no. 8016; McMINN Co.: quarry, rd. 30, 0.8 mi. E. of Meigs Co., no. 8361; \*MAURY Co.: Columbia, *B. Shimek*, July, 1891 (Chicago Nat. Hist. Mus.); MEIGS Co.: bluff, Tenn. River, W. of Decatur, no. 9935; MONROE Co.: bluffs, Sinkhole Cr., near Tellico Plains, no. 1517; MONTGOMERY Co.: King and Queen's Bluff, Clarksville, col. by *A. Clebsch*, no. 8132; PUTNAM Co.: mtn. side, Stamps Hollow, Monterey, no. 1532; ROANE Co.: bluff across Clinch River, from Kingston, no. 1522; SMITH Co.: bluff, Round Lick, Caplenor farm, Rome, no. 8381; WARREN Co.: mtn. side across Collins River from Irving College, no. 8240; WILLIAMSON Co.: bluffs, Brush Cr., NW. of rd. 100.

### OHIO WALL-RUE SPLEENWORT

#### *Asplenium Ruta-muraria* L., var. *ohionis* (Fernald) Wherry

KNOX Co.: cliffs, Knoxville, *A. Ruth*, July, 1895, in part (Mo. Bot. Gar.).

### MAIDENHAIR SPLEENWORT

#### *Asplenium Trichomanes* L.

BLOUNT Co.: near foot, Schoolhouse Gap Trail, Great Smoky Mtns. Nat. Park, near Townsend, Sept. 12, 1937 (specimen lost but see picture, p. 334, *Jour. Tenn. Acad. Sci.*, 20(4), Oct., 1945); BRADLEY Co.: Henegars Bluff, E. of Charleston, no. 10145; COCKE Co.: near river bridge, U.S. 70, 16 mi. E. of Newport, no. 1102; \*FENTRESS Co.: 5 mi. N. of Fentress (?), *A. N. Leeds* no. 3136 (Acad. Nat. Sci. of Philadelphia); \*FRANKLIN Co.: Cumberland Plateau, Cowan, *A. Ruth* no. 6 (U.S. Nat. Mus.); GRAINGER Co.: Lea Lakes, *LRH and AJS* no. 1629; GREENE Co.: bluffs, Nolichucky River bridge, old road 107, no. 10366; GRUNDY Co.: bluff by cr. N. of Altamont, rd. 56, no. 9720; HAMILTON Co.: Falling Water Cr. gorge, Waldens Ridge, no. 1122; HAWKINS Co.: near Hancock Co., rd. 70, no. 10114; JOHNSON Co.: 2.9 mi. S. of Backbone Recreational Area, Beaverdam Cr., no. 10359; KNOX Co.: bluffs, Holston River, Kimberlin Heights, *M. B. Wilson* no. 99; MONROE Co.: 3.4 mi.

up Tellico River from Tellico Plains, no. 10325; \*POLK Co.: Parksville, *Gattinger*, Aug. 1878 (Anderson, 1931); PUTNAM Co.: Stamps Hollow near Monterey, no. 1130; \*RHEA Co.: Piney Falls, *Mrs. Bennett*, 1887 (Anderson, 1931); ROANE Co.: Laurel Gap, SE. of Kingston and Tenn. River, no. 10557; SCOTT Co.: 4.4 mi. SE. of Huntsville, rd. 63, no. 8440; SEVIER Co.: Rainbow Falls, Mt. LeConte, no. 1119; SULLIVAN Co.: bluff, Holston River, old rd. U.S. 421, no. 9752; VAN BUREN Co.: Cane Cr. rd., E. of Spencer, no. 10577; UNICOI Co.: Unaka Sprgs., off U. S. 23, no. 1114; UNION Co.: N.-facing bluff near Luttrell, rd. 61; WHITE Co.: bluff, mtn. top, E. of Sparta, rd. U.S. 70S.

### BLACKSTEM SPLEENWORT

#### *Asplenium resiliens* Kunze

ANDERSON Co.: rocks, 1.5 mi. S. of Clinton, rd. 61, no. 9944; BEDFORD Co.: bluff, Duck River, U. S. 41, E. of Shelbyville, no. 9833; BLEDSOE Co.: Low Gap rd. up Waldens Ridge, no. 10319; BLOUNT Co.: quarry, Calderwood, no. 10701; BRADLEY Co.: Henegars Bluff, E. of Charleston, no. 10151; CAMPBELL Co.: bluff, Cove Cr., U.S. 25W, no. 10658; CANNON Co.: 7 mi. from Woodbury on road to Short Mtn., no. 8176; CARTER Co.: 9.2 mi. from Hampton, on rd. 67, no. 10379; CHEATHAM Co.: bluff, Harpeth River, below Turnbull Cr., no. 1412; CLAIBORNE Co.: Blowing Sprgs., Tiprell, *T. A. Frick*, Sept. 23, 1943 (Lincoln Mem. Univ.); CLAY Co.: rocks, top of hill, rd. 52, 5 mi. E. of Celina, no. 5548; COCKE Co.: up French Broad River from rd. 35, Newport, no. 1382; COFFEE Co.: bluff, Rutledge Falls, no. 7920; \*CUMBERLAND Co.: Piney River rocks (Correll, 1939); DAVIDSON Co.: Little Marrowbone Cr. region, no. 1190; DECATUR Co.: by Beech Cr., near rd. 100, no. 9955; DEKALB Co.: bluff, Caney Fork River, old rd. 56, bridge, no. 4265; DICKSON Co.: bluffs, Jones Cr., rd. 47, 5 mi. S. of Charlotte, no. 8050; FENTRESS Co.: bluffs, rd. 28, 8.4 mi. N. of Jamestown, no. 10285; FRANKLIN Co.: rocks, mtn. side, Cowan, no. 1431; GILES Co.: specimen misplaced; GRAINGER Co.: by rd. U.S. 25E, W. of Hamblen Co., no. 10123; GREENE Co.: near Caney, Nolichucky River, no. 10692; GRUNDY Co.: mtn. side, Beersheba Sprgs., no. 8028; HAMBLEN Co.: bluffs, Holston River, U.S. 25E., no. 10686; HAMILTON Co.: N. of Ooltewah, U.S. 11, no. 10697; HANCOCK Co.: E. of Kyles Ford, no. 9734; HAWKINS Co.: E. of Kyles Ford and Hancock Co., no. 10115; HARDIN Co.: bluffs, Indian Cr., Olive Hill, U.S. 64, no. 10534; HICKMAN Co.: by rd. 48, 0.6 mi. S. of rd. 100, no. 8307; HOUSTON Co.: bluffs, Yellow Cr., rd. 49, no. 9978; HUMPHREYS Co.: 3.5 mi. W. of Waverly, U.S. 70, no. 4428; JACKSON Co.: bluffs across river at bridge, Gainesboro, no. 5481; JEFFERSON Co.: E. of Chestnut Hill, no. 10062; \*JOHNSON Co.: J. D. Smith, July 8, 1880; KNOX Co.: bluffs, near Loudon Co., Clinch River, no. 10490; LAWRENCE Co.: bluffs, Shoal Cr., W. part Lawrenceburg, no. 7992; LEWIS Co.: bluff, stream, Napier rd. S. from rd. 20, no. 8002; LINCOLN Co.: near fish hatchery, Flintville, no. 8313; LOUDON Co.: 0.4 mi. of Roane Co., rd. 72, no. 8372; McMINN Co.: by rd. 30, 0.8 mi. E. of Meigs Co., no. 8360; MARION Co.: rocks by cr., near Martin Sprgs., U.S. 41, no. 8254; MARSHALL Co.: 4 mi. S. of Duck River, rd. 11, no. 10354; MAURY Co.: narrows, Sowell Mill rd., Duck River, no. 10519; MEIGS Co.: Breedenton, Tenn. River, W. of Decatur, no. 10605; MOORE Co.: bluff, rd. 82, no. 8020; MONROE Co.: bluffs, Sinkhole Cr., near Tellico Plains, no. 1392; MONTGOMERY Co.: bluffs, Sheltons Branch, E. of Clarksville, U.S. 41A, no. 8152; OVERTON Co.: rocks, rd. 52, 9.9 mi. E. of Clay Co., no. 5542; PERRY Co.: bluffs, Buffalo River, rd. 13, Flat Woods, no. 4402; PICKETT Co.: rocks, stream, 3.5 mi. N. of Overton Co., rd. 42, no. 5498; POLK Co.: rocks, Hiwassee River, U.S. 411, no. 8342; PUTNAM Co.: rocks, pigeon roost, rd. 42, Cookeville, no. 1429; RHEA Co.: Clear Cr. near Tenn. River, no. 10588; ROANE Co.: bluff across Clinch River (old bridge) from Kingston, no. 1395; ROBERTSON Co.: rocks near Paines Cave, Cross Plains, no. 7976; RUTHERFORD Co.: sinkholes, 6 mi. S. of Murfreesboro, U.S. 241, no. 4332; SEQUATCHIE Co.: by rd. 8, W. of rd. 28, no. 9761; SEVIER Co.: rocks, Rays Gap, near Knox Co., no. 10644; SMITH Co.: cliffs by cr., Montrose Church, Defeated, no. 5488; STEWART Co.: bluff, Standingstone Cr., near Tenn. River, no. 8039; \*SULLIVAN Co.: Bluff

City, *Alice Hicks*, 1929 (East Tenn. State Col.); SUMNER Co.: rim region between Gallatin and Portland, rd. 109, no. 9817; TROUSDALE Co.: rocks, cedar glade, 3.2 mi. N. of Wilson Co., rd. 10, no. 8135; VAN BUREN Co.: bluff, mtn. side, E. of Cane Cr., rd. 30, no. 7945; UNICOI Co.: near Unaka Sprgs. (Shaver, 1937); UNION Co.: bluff, Bull Run Cr., 1 mi. N. of Knox Co., rd. 33, no. 10671; WARREN Co.: rocks, Rockey River, 1 mi. S. of rd. 30, no. 4273; WASHINGTON Co.: bluffs, Nolichucky River, NW. of Philadelphia, no. 10655; WAYNE Co.: 2 mi. N. of U.S. 64, 49th Cr., no. 10529; WHITE Co.: rocks, the gulf, Caney Fork River, Dodson, no. 1385; WILLIAMSON Co.: bluff, Brush Cr., NW. of rd. 100, no. 4467; WILSON Co.: Noneville, no. 10196.

## EBONY SPLEENWORT

### *Asplenium platyneuron* (L.) Oakes

(Excluding varieties but including *A. p.* forma *proliferum* (D. C. Eaton) Tanger; based on Shaver's collections only.)

ANDERSON Co.: by rd. 61, 1.5 mi. S. of Clinton, no. 9944; BEDFORD Co.: ravine, E. of Shelbyville, U.S. 41A, no. 9824; BENTON Co.: ravine by cr., 1.3 mi. S. of Holladay, rd. 69, no. 9143; BLEDSOE Co.: mtn. side, W. of Pikeville, rd. 30, no. 4106; BLOUNT Co.: Bower Cr., Gregory Bald Trail, Cades Cove, no. 1209; BRADLEY Co.: Gilmer Branch, rd. 60, W. of rd. 33, no. 10018; CAMPBELL Co.: 1.5 mi. E. of Scott Co., rd. 63, no. 10292; CANNON Co.: near Spout Sprgs., Gassaway, no. 9200; CARROLL Co.: 7 mi. W. of Huntingdon, U.S. 70, no. 9887; CARTER Co.: near Hampton, U.S. 19E, no. 1214; CHEATHAM Co.: by Harpeth River, N. of White Bluff, no. 1274; CHESTER Co.: Garland Bottom, Henderson, no. 1302; CLAY Co.: 2.5 mi. E. of Hermitage Sprgs., rd. 52, no. 5534; COCKE Co.: near bridge, French Broad River, U.S. 70, 16 mi. E. of Newport, no. 1222; COFFEE Co.: near Rutledge Falls, no. 7924; CROCKETT Co.: 4.2 mi. E. of Bells, rd. 20, no. 10344; CUMBERLAND Co.: below falls, Ozone, U.S. 70, no. 1226; DAVIDSON Co.: Radnor Hills, no. 1229; DECATUR Co.: Tenn. River, rd. 100, no. 1300; DEKALB Co.: between Dowelltown and Smithville, rd. 26, no. 1404; DICKSON Co.: near Jones Cr., rd. 47, no. 8053; DYER Co.: river bluffs, NW. of Dyersburg, no. 10000; FAYETTE Co.: 10 mi. E. of Shelby Co., U.S. 64, no. 1232; FENTRESS Co.: near Clear Cr., rd. 28, no. 1270; GIBSON Co.: 8 mi. W. of Bradford, rd. 54, no. 4507; GILES Co.: 5.5 mi. N. of Elkton, rd. 31, no. 4342; GRAINGER Co.: E. of Tazewell, U.S. 25E, no. 9742; GREENE Co.: mtns., eastern part, rd. 70, no. 9783; GRUNDY Co.: 3 mi. E. of Palmer, rd. 108, no. 1264; HAMBLÉN Co.: Needmore Boat Docks, W. of Whitesburg, no. 10085; HAMILTON Co.: E. side, Suck Cr., rd. 27, no. 10304; HANCOCK Co.: S. of Sneedville, rd. 33, no. 9739; HAWKINS Co.: 4 mi. E. of Hancock Co., no. 10119; HARDEMAN Co.: 8 mi. E. of Fayette Co., U.S. 64, no. 4546; HARDIN Co.: by rd. 69, no. 9898; HENDERSON Co.: 6 mi. E. of Lexington, rd. 20, no. 4539; HENRY Co.: 5 mi. NW. of Big Sandy, rd. 69, no. 4508; HICKMAN Co.: 0.6 mi. S. of rd. 100, by rd. 48, no. 8305; HOUSTON Co.: by sprg., Erin, no. 8058; JACKSON Co.: 8 mi. from Gainesboro, rd. 53, no. 4051; JEFFERSON Co.: hills across river from Dandridge, no. 10056; JOHNSON Co.: E. side, Holston Mtns., U.S. 421, no. 9754; KNOX Co.: bluffs by Clinch River, near Loudon Co., no. 10493; LAUDERDALE Co.: Forked Deer River bluffs, 8 mi. W. of Halls, rd. 88, no. 4521; LAWRENCE Co.: near Marcelle Falls, 4 mi. E. of Alexander Sprgs., no. 8332; LEWIS Co.: 8 mi. E. of Hohenwald, rd. 99, no. 4377; LINCOLN Co.: rd. side, between Lynchburg and Petersburg, no. 4545; LOUDON Co.: 1 mi. W. of Loudon, rd. 72, no. 10125; McMINN Co.: Chilhowee Sprg., Starr Mtn., no. 10156; MACON Co.: 1 mi. N. of Smith Co., rd. 80, no. 10475; MADISON Co.: 2 mi. W. of Carroll Co., no. 2919; MARION Co.: near Battle Cr., U.S. 41A, no. 1331; MARSHALL Co.: Duck River, E. Mt. Pleasant Church, no. 10351; MAURY Co.: by R.R., W. of Rockdale, no. 9923; MOORE Co.: bluffs, rd. 82, near Bedford Co., no. 8019; MONROE Co.: Sinkhole Cr., near Tellico Plains, no. 1227; MONTGOMERY Co.: Sheltons Branch, Clarksville, U.S. 41A, no.

8151; MORGAN Co.: 8 mi. S. of Sunbright, U.S. 27, no. 7956; OBION Co.: Glady Cr., Reelfoot Lake, no. 1313; OVERTON Co.: 9 mi. E. of Clay Co., rd. 52, no. 5540; PERRY Co.: Buffalo River, rd. 13, Flat Woods, no. 4400; PICKETT Co.: 4 mi. N. of Overton Co., rd. 42, no. 5500; POLK Co.: near Parksville, no. 1264; RHEA Co.: mtn. side, 4.8 mi. W. of Dayton, rd. 30, no. 8269; top of mtn., near furnace, Rockwood, no. 8087; ROBERTSON Co.: South Fork, Sycamore Cr., W. of Greenbrier, no. 4309; RUTHERFORD Co.: glades, 6 mi. S. of Murfreesboro, U.S. 241, no. 4331; SCOTT Co.: 4 mi. of Morgan Co., U.S. 27, no. 10048; SEQUATCHIE Co.: mtn. side, 1.9 mi. W. of Dunlap, no. 9775; SEVIER Co.: near Sevierville, no. 1241; SHELBY Co.: Hershing Dr., Sloanville, no. 10260; SMITH Co.: cliffs, cr., Montrose Church, off rd. 85, no. 5489; STEWART Co.: Bumpus Mills, 10 mi. N. of Dover, no. 7958; SULLIVAN Co.: bluff, Holston River, U.S. 421 (at old bridge), no. 9754; SUMNER Co.: by cr., N. of Goodlettsville, U.S. 31W, no. 4304; TIPTON Co.: 1.7 mi. S. of Brighton, U.S. 51, woods to E., no. 9128; TROUSDALE Co.: glade 3 mi. N. of Wilson Co., rd. 10, no. 5525; VAN BUREN Co.: falls, Fall Creek State Park, no. 4021; UNICOI Co.: Unaka Sprgs., no. 1237; UNION Co.: by rd. 61, E. of rd. 33, no. 8417; WARREN Co.: by U.S. 70S, 5 mi. W. of McMinnville, no. 4368; WASHINGTON Co.: Embreeville, no. 9778; WAYNE Co.: 6.5 mi. W. of Waynesboro, U.S. 64, no. 10193; WEAKLEY Co.: near Martin, no. 1310; WHITE Co.: gulf of Caney Fork River, Dodson, no. 1198; WILLIAMSON Co.: Brush Cr., N. of rd. 100, no. 4464; WILSON Co.: bluffs, Spring Cr., U.S. 70, about 5 mi. NE. of Lebanon, no. 7876.

### TOOTHED EBONY SPLEENWORT

*Asplenium platyneuron* (L.) Oakes, var. *incisum* (E. C. Howe)  
Robinson

BEDFORD Co.: Duck River, Shelbyville, no. 4329; BLOUNT Co.: Kinzel Sprgs., no. 1240; COCKE Co.: by bridge, U.S. 70, 16 mi. E. of Newport, no. 1223; CUMBERLAND Co.: Caney Fork River, E. of Pleasant Hill, U.S. 70S, no. 1290; DAVIDSON Co.: Little Marrowbone Cr. region, no. 1195; DICKSON Co.: Beaverdam Cr., S. of White Bluff, no. 4476; FENTRESS Co.: 7 mi. SE. of Pickett Co., rd. 28, no. 5515; FRANKLIN Co.: below Claras Point, Sewanee, no. 1206; GILES Co.: hill on side rd. E. of Waco, no. 8214; HAMILTON Co.: Falling Water gorge, Waldens Ridge, no. 1256; HARDEMAN Co.: no. 1246; HAYWOOD Co.: 6 mi. S. of Crockett Co., no. 4515; HUMPHREYS Co.: W. of Waverly, U.S. 70, no. 4427; HOUSTON Co.: specimen misplaced; LINCOLN Co.: marsh near Kelso, no. 1203; LOUDON Co.: 0.4 mi. E. of Roane Co., rd. 72, no. 8374; McMINN Co.: rock quarry 0.8 mi. E. of Meigs Co., rd. 30, no. 8364; MARSHALL Co.: rd. E. of Cornersville, no. 4338; MAURY Co.: NW. part of Co., no. 4380; MEIGS Co.: 9 mi. N. of Decatur, rd. 58, no. 8353; MOORE Co.: by rd. from Shelbyville to Tullahoma, no. 4327; MONTGOMERY Co.: hillside, rd. 12, 4 mi. from U.S. 41A, no. 8145; MORGAN Co.: 8 mi. from Sunbright, U.S. 27, no. 4057; PUTNAM Co.: pigeon roost, rd. 42, Cookeville, no. 1328; SCOTT Co.: by rd. 63, 6.5 mi. N. of Campbell Co. no. 8436; SMITH Co.: ravine, Chestnut Mound, U.S. 70, no. 8168; STEWART Co.: specimen lost; SUMNER Co.: rim region, between Gallatin and Portland, rd. 109, no. 9815; UNICOI Co.: Limestone Cove, no. 1206; VAN BUREN Co.: Rocky River, rd. 30, no. 4374; WARREN Co.: by Barren Fork River, McMinnville, no. 1250; WAYNE Co.: 15 mi. W. of Waynesboro, U.S. 64, no. 8281; WILSON Co.: Suggs Cr., Stewart's Ferry rd., no. 4346.

### PROLIFEROUS FORMS OF EBONY SPLEENWORT

*Asplenium platyneuron* (L.) Oakes: CUMBERLAND Co.: hillside, Caney Fork River, E. of Pleasant Hill, U.S. 70S, no. 1289; DAVIDSON Co.: Knapp Farm, no. 1200; *Asplenium platyneuron* var. *incisum* (E. C. Howe) Robinson: LINCOLN Co.: near Fish Hatchery, Flintville, no. 8212; WAYNE Co.: 6.5 mi. W. of Waynesboro, U.S. 64, no. 7999.

### BRADLEY'S SPLEENWORT *Asplenium Bradleyi* D. C. Eaton

\*ANDERSON Co.: Coal Cr., *F. H. Bradley*, 1870 (N.Y. Bot. Gar.); FRANKLIN Co.: Sewanee, *Svenson* no. 7675 (Brooklyn Bot. Gar.); GRAINGER Co.: Clinch Mtn., near Bean Station, *A. J. Sharp* no. 234; GRUNDY Co.: near Palmer, no. 2822; \*HAMILTON Co.: natural bridge, Lookout Mtn., *Fuller*, May 14, 1905 (Gray Herbarium); \*MARION Co.: bluffs overlooking Kittys Corner, South Pittsburg, *R. Morton Middleton*, Aug., 1892 (N.Y. Bot. Gar.); \*MORGAN Co.: Emory Mines, *F. H. Bradley* 1873 (Yale Univ.); \*ROANE Co.: Watsons Ridge, Rockwood, *James Constable, Jr.* (N.Y. Bot. Gar.); \*SCOTT Co.: Helenwood, *Clarence Lown*, 1884 (Gray Herbarium); SEQUATCHIE Co.: mt. side, W. of Dunlap, no. 4133; VAN BUREN Co.: 2 mi. E. of Spencer, rd. 30, no. 4279.

### WALKING SPLEENWORT

#### × *Asplenosorus ebenoides* (R. R. Scott) Wherry

CAMPBELL Co.: Cove Cr. hillside, E. of U.S. 25W, no. 10662; DAVIDSON Co.: (2 stations): cedar glades, W. of Mt. View School, U.S. 70S, no. 2320; Little Marrowbone Cr. area, 2 mi. down Cr. from Eatons Cr. rd., no. 1191; FRANKLIN Co.: Lost Cr. Cove near Sewanee, *Svenson* no. 9313 (*Svenson*, 1941); GRUNDY Co.: mt. side, Beersheba Sprgs., *E. W. Graves* (1930); SMITH Co.: bank of Cumberland River near rd. 53 and Jackson Co., no. 10137.

### WALKING FERN

#### *Camptosorus rhizophyllus* (L.) Link

ANDERSON Co.: between Norris Dam and Lake City, rd. 71, no. 8422; BEDFORD Co.: sinkhole by rd. 16, 5 mi. NW. of Shelbyville, no. 7846; BLEDSOE Co.: 6 mi. E. of Pikeville, rd. 30, no. 4036; BLOUNT Co.: 1 mi. down R.R. from hotel at Kinzel Sprgs., no. 1063; BRADLEY Co.: "Ivy Bluff" by old Cleveland-Benton rd., no. 9927; CAMPBELL Co.: 10 mi. E. of Scott Co., rd. 63, no. 8426; CANNON Co.: foot of rim, rd. from Woodbury to Short Mtn., no. 9196; \*CARTER Co.: 4 mi. E. of Johnsons, *John H. Redfield*, Sept. 9, 1876 (Mo. Bot. Gar.); CHEATHAM Co.: Harpeth River bluff near Turnbull Cr., W. of Kingston Sprgs., no. 1085; \*CHESTER Co.: on sand rocks, *S. M. Bain*, June, 1892 (U.S. Nat. Mus.); CLAIBORNE Co.: W. bluff, Clinch River, U.S. 25E, no. 10651; CLAY Co.: 5 mi. E. of Celina, rd. 52, no. 5549; COCKE Co.: by French Broad River, 16 mi. E. of Newport, U.S. 70, no. 1054; COFFEE Co.: Old Stone Fort, Manchester, no. 4176; CUMBERLAND Co.: ravine in Grassy Cove, no. 8266; DAVIDSON Co.: Bosley Sprgs., Richland Cr., Nashville, no. 1041; DECATUR Co.: W. part of Parsons, no. 7842; DEKALB Co.: bluff, old bridge, Caney Fork River, rd. 56, no. 4262; DICKSON Co.: bluff, Beaverdam Cr., S. of White Bluff, no. 4484; FENTRESS Co.: 7.1 mi. SE. of Pickett Co., rd. 28, no. 5512; FRANKLIN Co.: S. of Morgan Steep, Sewanee, no. 1047; GILES Co.: bluff by Richland Cr., U.S. 31, 6.1 mi. S. of Maury Co., no. 8207; GRAINGER Co.: E. of Tazewell, U.S. 25E, no. 9741; GREENE Co.: Nolichucky River bridge, old rd. 107, E. of Tusculum, no. 10367; GRUNDY Co.: bluff, W. of Monteagle, no. 7915; HAMBLEN Co.: specimen misplaced; HAMILTON Co.: Falling Water gorge, Waldens Ridge, no. 1070; HANCOCK Co.: E. of Sneedville, no. 9727; HAWKINS Co.: Lee Valley, rd. 66, no. 9724; HARDIN Co.: bluff, Indian Cr., Olive Hill, U.S. 64, no. 8292; HICKMAN Co.: E. of rd. 100, side rd. turns off 5.1 mi. W. of Williamson Co., no. 9159; HOUSTON Co.: bluffs of Yellow Cr., rd. 49, no. 9975; HUMPHREYS Co.: by rd. 13, N. of Waverly, no. 10536; JACKSON Co.: 12 mi. S. of Whiteley intersection, by rd. 85, no. 5485; JEFFERSON Co.: Holston River bluff, S. of rd. 92, no. 10681; \*JOHNSON Co.: *John Donnell Smith*, July 8, 1880; KNOX Co.: scout camp, Copper Ridge, *M. E. Avery*, 1928; \*LAWRENCE Co.: cliffs W. of Lawrenceburg, *E. T. W.*, Aug. 22, 1937 (Acad. Nat. Sci., Philadelphia); LEWIS Co.: side rd. off of rd. 20, 1.2 mi. towards Napier, no. 4528; LINCOLN Co.: W. of Chestnut Ridge (U.S. 241) on Petersburg rd., no.

8163; LOUDON Co.: bluff by river, 0.7 mi. W. of Loudon, no. 8377; McMINN Co.: bluff in woods, rd. 30, 4.2 mi. E. of Meigs Co., no. 8338; MACON Co.: specimen misplaced; MARION Co.: mtn. side, Martin Sprg., U.S. 41, no. 1053; MARSHALL Co.: rocks, 9 mi. W. of Petersburg on country rd. to Cornersville, no. 4335; MAURY Co.: by side rd. NW. of rd. 99, no. 4382; MEIGS Co.: Breedenton, near Decatur, no. 10607; MOORE Co.: near junction rds. 55 and 82, no. 10446; MONROE Co.: Red Ankle Cr., near Hiwassee College, no. 1060; MONTGOMERY Co.: rock, Sheltons Branch, E. Clarksville, U.S. 41A, no. 8156; \*MORGAN Co.: Rugby, *M. S. Percival*, July, 1886 (Chicago Nat. Hist. Mus.); OVERTON Co.: near rd. 52, 9.9 mi. E. of Clay Co., no. 5549; PERRY Co.: Buffalo River bridge, rd. 13, Flat Woods, no. 4293; PICKETT Co.: by small river, 3.5 mi. N. of Overton Co., rd. 42, no. 5502; POLK Co.: Hiwassee Beach, rd. 30, 3 mi. E. of U.S. 411, no. 8347; PUTNAM Co.: pigeon roost, Cookeville, rd. 42, no. 1095; RHEA Co.: Clear Cr., near Tenn. River, no. 10589; ROANE Co.: bluffs across Clinch River (old bridge) from Kingston, no. 1066; ROBERTSON Co.: bluffs near Paines Cave, Cross Plains, no. 7978; RUTHERFORD Co.: Snailshell Cave near Rockvale, no. 7872; SCOTT Co.: 6.5 mi. NW. of Campbell Co., rd. 63, no. 8437; SEQUATCHIE Co.: mtn. side, rd. 8 near rd. 28, no. 8333; SEVIER Co.: knobs, 2 mi. W. of Sevierville, no. 1058; SMITH Co.: across cr. from church, Elmwood, U.S. 70, no. 8389; STEWART Co.: Standingstone Cr., 1 mi. up cr. from Tenn. River, no. 8040; SULLIVAN Co.: near foot of Holston Mtns., old rd. U.S. 421, no. 9748; SUMNER Co.: near top of rim, between Gallatin and Portland, rd. 109, no. 9816; TROUSDALE Co.: 3.2 mi. N. of Wilson Co., rd. 10, sinkhole rocks, no. 8137; VAN BUREN Co.: E. side of mtn., Cane Cr., rd. 30, no. 7947; \*UNICOI Co.: Erwin, *W. W. Ashe*, Aug., 1893 (Univ. of N. C.); UNION Co.: bluff, Bull Run Cr., rd. 33, 1 mi. N. of Knox Co., no. 10672; WARREN Co.: W. side of Rokey River, no. 4271; WASHINGTON Co.: Nolichucky River, NW. of Philadelphia, no. 10654; WAYNE Co.: 6.5 mi. W. of Waynesboro, U.S. 64, no. 7995; WHITE Co.: mtn. side E. of Sparta, U.S. 70S, no. 1069; WILLIAMSON Co.: bluffs, Brush Cr., N. of rd. 100, no. 4474; WILSON Co.: E. of Noneville rd. and 3.7 mi. NE. of U.S. 70, near Mt. Juliet, no. 8200.

### **Camptosorus rhizophyllus (L.) Link, forma *auriculatus* Hoffman**

DAVIDSON Co.: limestone boulder by Richland Cr. near Bosley Sprgs., Nashville, no. 1040; MARION Co.: bluffs, 1 mi. down Tenn. River from Ladds Sta. (near river bridge).

### **NARROWLEAF SPLEENWORT**

#### ***Athyrium pycnocarpon* (Spreng.) Tidestrom**

BLEDSOE Co.: mtn. side, Waldens Ridge, Low Gap rd., no. 9688; BLOUNT Co.: Bull Cave, Rich Mtn., Cades Cove, no. 10677; CANNON Co.: ravine by spring, rim near Short Mtn., no. 8171; CARROLL Co.: side rd. off U.S. 70, no. 10433; CHEATHAM Co.: ravine by Turnbull Cr. bluff, W. of Kingston Sprgs., no. 8227; CLAIBORNE Co.: 1 mi. W. of Grainger Co., U.S. 25W, no. 10710; CLAY Co.: ravine across Tenn. River from Celina, no. 8112; \*COCKE Co.: Lemons Gap, *Ruth* no. 557 (Gray Herbarium); COFFEE Co.: 6.5 mi. E. of Rutherford Co., U.S. 41, no. 10823; \*CUMBERLAND Co.: sink, head Sequatchie Valley, *Harger* no. 7802 (Gray Herbarium); DAVIDSON Co.: bluff, Harpeth River, Bellevue, no. 876; \*DECATUR Co.: 3.5 mi. SE. Decaturville, margin of bottoms, *J. R. Endsley*, May 18, 1936 (Freed-Hardeman Col.); DEKALB Co.: 3.2 mi. W. of White Co., rd. 26, no. 8172; DICKSON Co.: ravine S. of Jones Cr., S. of White Oak Flats (rd. 49), no. 8220; FENTRESS Co.: 7.7 mi. NW. of Jamestown, rd. 52, no. 10506; FRANKLIN Co.: Sherwood, near Sewanee, specimen lost; GRUNDY Co.: near foot of Cumberland Plateau, rd. 56, no. 905; HANCOCK Co.: E. of Kyles Ford, no. 9733; HAWKINS Co.: by Flat Gap rd., E. of Sneedville, no. 10858; HICKMAN Co.: turnoff of rd. 100 5.1 mi. W. of Williamson Co. on side rd. to E. going 8.1 mi., no. 9163; HOUSTON Co.: Yellow Cr., rd. 49, no. 9976; HUMPHREYS Co.: Duck River, S. of Hurricane

Mills, *Svenson* no. 10308; JACKSON Co.: above Cummins Falls, off of rd. 56, no. 8105; JOHNSON Co.: 2.5 mi. S. of Backbone Recreational Area, Beaverdam Cr., no. 10357; KNOX Co.: by Clinch River near Loudon Co., no. 10496; LAWRENCE Co.: Shoal Cr., S. of Westpoint rd., no. 10269; LINCOLN Co.: marsh near Kelso, no. 867; LOUDON Co.: Hickory Cr. and Clinch River, no. 10497; MACON Co.: 1 mi. N. of Smith Co., rd. 80, no. 10473; MARION Co.: Big Sequatchie River near Jasper, *Sharp and Underwood* no. 2391; MAURY Co.: 2 mi. W. of Hampshire, rd. 99, no. 10238; MOORE Co.: Elk River near Marble Hill, no. 10448; MONROE Co.: ravine near White Cliff Sprgs., Starr Mtn., no. 873; MONTGOMERY Co.: Big McAdoo Cr. area, no. 9822; OBION Co.: ravine, Chigger Ridge, Reelfoot Lake, no. 897; PERRY Co.: 11.3 mi. W. of Lewis Co., rd. 20, no. 10266; PICKETT Co.: hillside, S. of Obey River, rd. 42, no. 8090; PUTNAM Co.: Stamps Hollow, Monterey, no. 2992; ROANE Co.: Post Oak Sprgs., *C. L. Pollard and William R. Maxon* no. 416 (U.S. Nat. Mus.); \*ROBERTSON Co.: Eldorado Sprgs., *Lewis* (1930); RUTHERFORD Co.: Snailshell Cave, near Rockvale, no. 7865; SEVIER Co.: hillside, Roaring Fork, Gatlinburg; SHELBY Co.: Shelby Forest, no. 10735; SMITH Co.: recess in bluff, Cumberland River, Rome, no. 10432; SUMNER Co.: near Tyree Sprgs., White House, no. 4300; VAN BUREN Co.: mtn. side, E. of Cane Cr., rd. 30, no. 10580; UNION Co.: ravine, rd. 61, near Anderson Co., no. 10933; WARREN Co.: W. side of Mt. Cardwell, no. 9733; WASHINGTON Co.: Cherokee Mt., Johnson City, *A. J. Sharp* no. 3839; WHITE Co.: mtn. top, rd. from De Rossett NW. to Calfkiller River, no. 8170; WILLIAMSON Co.: near Ferndale, E. of rd. 100, no. 8178.

### SILVERY SPLEENWORT

#### *Athyrium thelypteroides* (Michx.) Desv.

BLED SOE Co.: mtn. side sprg., 2.9 mi. W. of Rhea Co., rd. 30, no. 8271; BLOUNT Co.: ravine down river from Kinzel Sprgs, no. 934; CAMPBELL Co.: 1.8 mi. SE. of Scott Co., rd. 63, no. 10299; CARTER Co.: side of Roan Mtn., 9.5 mi. from Roan Mtn. village, no. 919; CHEATHAM Co.: ravine across Cumberland River from Ashland City, no. 8218; \*CLAIBORNE Co.: Valley Cr., *T. A. Frick*, Aug. 29, 1945 (Lincoln Mem. Univ.); COCKE Co.: near bridge, French Broad River, U.S. 25E, 16 mi. E. of Newport, no. 9799; COFFEE Co.: 0.5 mi. E. of Rutherford Co., U.S. 70S, no. 10822; DAVIDSON Co.: Little Marrowbone Cr. area, no. 947; \*DECATUR Co.: 2 mi. SE. of Sugar Tree, *J. R. Endsley*, June 20, 1936 (Freed-Hardeman Col.); DEKALB Co.: 2 mi. E. of Caney Fork River, rd. 26, no. 8173; DICKSON Co.: NE. of rd. 47, 2 mi. N. of White Bluff, no. 8238; DYER Co.: 6.2 mi. S. of Obion Co., rd. 78, no. 10345; FENTRESS Co.: 8.4 mi. N. of Jamestown, rd. 28, no. 10288; GREENE Co.: near N. C., mtn., rd. 70, no. 10407; GRUNDY Co.: ft. of mtn., Laurel Fork Branch and Collins River, no. 10185; \*HAMILTON Co.: Missionary Ridge, *J. H. Ferriss* (Gray Herbarium); HANCOCK Co.: E. of Kyles Ford, no. 9736; HICKMAN Co.: 8.1 mi. E. on side rd. off of rd. 100, 5.1 mi. W. of Williamson Co., no. 9164; HUMPHREYS Co.: 3.5 mi. W. of Waverly, U.S. 70, no. 4437; JOHNSON Co.: Iron Mtn., W. side, U.S. 421, no. 10417; LAWRENCE Co.: specimen lost; LEWIS Co.: 6.2 mi. W. of Maury Co., rd. 99, no. 10234; LINCOLN Co.: marsh near Kelso, no. 914; MACON Co.: 1 mi. N. of Smith Co., rd. 80, no. 10474; \*MARION Co.: (Acad. Nat. Sci., Philadelphia); OBION Co.: Chigger Ridge, no. 952; POLK Co.: Little Frog Mtn. near top, Kemzie rd., no. 941; PUTNAM Co.: Stamps Hollow, near Monterey, no. 971; \*RHEA ? Co.: Waldens Ridge, *Mrs. Bennett* (Anderson, 1931); ROANE Co.: Laurel Ridge Gap, S. of Kingston and Tenn. River, no. 10556; \*ROBERTSON Co.: Eldorado Sprgs., *Lewis* (1930); SEQUATCHIE Co.: by rd. 8, near rd. 28, no. 9763; SEVIER Co.: lower slopes, Bear Pen Hollow Trail to Mt. Le Conte, no. 969; SHELBY Co.: Shelby Forest, no. 10736; STEWART Co.: ravine, country rd. N. of Carlisle Sprgs., no. 8064; VAN BUREN Co.: mtn. side, E. of Spencer, rd. 30, no. 10578; UNICOI Co.: top of Mt. Unaka, beyond Beauty Spot, no. 10099; UNION Co.: by rd. 61 towards Luttrell, 24 mi. E. of rd. 33, no. 10078; WHITE Co.: mtn. side, E. of Sparta, U.S. 70S, no. 938.

## SOUTHERN LADY FERN

*Athyrium asplenoides* (Michx.) Eaton

BEDFORD Co.: ravine near Moore Co., U.S. 41A, no. 9828; BENTON Co.: marsh by U.S. 70, 5 mi. W. of Camden, no. 1152; BLEDSOE Co.: W. side of Waldens Ridge, rd. 30, no. 9746; BLOUNT Co.: side of Gregorys Bald, no. 992; BRADLEY Co.: 7.5 mi. E. of Cleveland, U.S. 64, no. 10011; CAMPBELL Co.: by rd. 63, 1.8 mi. SE. of Scott Co., no. 10293; CANNON Co.: specimen misplaced; CARROLL Co.: NE. of Rosser, side rd. from U.S. 70, no. 10435; CARTER Co.: near Burbank, no. 994; CHEATHAM Co.: by pond, R.R., W. of Turnbull Cr., no. 1184; CHESTER Co.: Garland Bottom, Henderson, no. 1149; \*CLAIBORNE Co.: Cumberland Gap, T. A. Frick, Sept. 26, 1943 (Lincoln Mem. Univ.); CLAY Co.: specimen lost; COCKE Co.: near bridge, U.S. 70, French Broad River, 16 mi. E. of Newport, no. 982; \*COFFEE Co.: boggy woodlands, Tullahoma, A. Gattinger, Sept. 1878 (Mo. Bot. Gard.); CUMBERLAND Co.: below falls, Ozona, U.S. 70, no. 1004; DAVIDSON Co.: ravine near Joelton, no. 976; DECATUR Co.: by Tenn. River, rd. 100, no. 1144; DEKALB Co.: side of rim between Dowelltown and Smithville, rd. 26, no. 1146; DICKSON Co.: by Beaverdam Cr., 5 mi. SE. of White Bluff, no. 4478; FAYETTE Co.: 2 mi. W. of Hardeman Co., U.S. 64, no. 9137; FENTRESS Co.: 4 mi. S. of Jamestown, rd. 28, no. 1018; FRANKLIN Co.: Morgan Steep, Sewanee, no. 1034; GILES Co.: 0.6 mi. E. of Lawrence Co., U.S. 64, no. 10272; GRAINGER Co.: E. side, Clinch Mtn., U.S. 25E, no. 9698; GREENE Co.: mtn. side, near N. C., rd. 70, no. 9785; GRUNDY Co.: near cr., N. of Altamont, rd. 56, no. 9722; HAWKINS Co.: W. of Rogersville, rd. 66, no. 9717; HARDEMAN Co.: 1.2 mi. E. on rd. 100 from rd. 18, no. 9175; HARDIN Co.: 0.8 mi. W. of Olive Hill, U.S. 64, no. 8304; HENDERSON Co.: stream by rd. 22, 6.6 mi. W. of Lexington, no. 8182; HENRY Co.: marsh, 11.5 mi. SE. of Paris, rd. 69, no. 9150; HICKMAN Co.: 4.4 mi. E. of rd. 100 on side rd., leaving 100, 5.1 mi. W. of Williamson Co., no. 9158; HUMPHREYS Co.: 6.2 mi. W. of Waverly, U.S. 70, no. 10339; JACKSON Co.: Flynn Cr. rd., W. of rd. 56, near Putnam Co., no. 8109; JOHNSON Co.: W. side of Iron Mtn., U.S. 421, no. 9766; LAWRENCE Co.: 8 mi. W. of Lawrenceburg, U.S. 64, Shoal Cr., no. 10248; LEWIS Co.: 6.2 mi. W. of Maury Co, rd. 99, no. 10235; LINCOLN Co.: Wells Ridge, S. of Fayetteville, no. 10168; McMINN Co.: Chilhowee Sprg., Starr Mtn., near Etowah, no. 10157; McNAIRY Co.: 6.4 mi. W. of Adamsville, U.S. 64, no. 10243; MACON Co.: 5 mi. E. of LaFayette, rd. 52, no. 8119; MADISON Co.: Pine Ridge rd., S. of Jackson, off of rd. 18, no. 9673; MARION Co.: mtn. side, 9 mi. E. of Palmer, rd. 108, no. 1014; MAURY Co.: ravine by U.S. 43, Rockdale, no. 9949; MEIGS Co.: Dry Fork Cr., No Pine Ridge, no. 10161; MOORE Co.: 0.5 mi. E. of Bedford Co., rd. 16, no. 7850; MONROE Co.: mtn. top, rd. from Tellico Plains to Ducktown, rd. 68, no. 7892; MORGAN Co.: by rd. 27, 3.2 mi. S. of Scott Co., no. 8077; OBION Co.: Gladly Cr., Reelfoot Lake, no. 1155; OVERTON Co.: marsh, 2 mi. E. of Livingston, rd. 85, no. 4098; PERRY Co.: 6.2 mi. S. from Buffalo River bridge, rd. 13, near Lobelville, no. 4450; PICKETT Co.: Hazards Cave, Pickett State Forest, no. 9683; POLK Co.: ravine near top of Little Frog Mtn., Kemsie rd., no. 1011; PUTNAM Co.: head of Monterey Lake, U.S. 70, no. 1173; RHEA Co.: 1.3 mi. E. of Bledsoe Co., rd. 30, no. 4047; ROANE Co.: 0.3 mi. E. of Cumberland Co., U.S. 70, no. 4119; ROBERTSON Co.: W. of Greenbrier, S. Fork of Sycamore Cr., no. 4313; SCOTT Co.: 2.7 mi. W. of Rugby Road village, no. 4070; SEQUATCHIE Co.: Waldens Ridge, rd. 8, top of mtn., no. 4151; SEVIER Co.: specimen misplaced, but see A. J. Sharp and H. M. Jennison no. 2747; from Curry He Mtn. rd.; SHELBY Co.: W. of Millington near Shelby Forest, no. 9992; SMITH Co.: Chestnut Mound, U.S. 70, no. 8169; STEWART Co.: near Carlisle Sprgs., no. 8063; SULLIVAN Co.: foot, Holston Mtns., W. side, old U.S. 421, no. 9745; \*SUMNER Co.: Richland Sta., Gattinger, Aug. 27, 1883 (Anderson, 1931: he has it Turner Co.); VAN BUREN Co.: mtn. top, rd. 30, 2.5 mi. E. of Spencer, no. 4289; UNICOI Co.: Unaka Sprgs., no. 983; WARREN Co.: S. side, Barren Fork River, McMinnville, no. 995; WASHINGTON Co.: Dry Cr. rd., no. 9773; WAYNE Co.: by rd. 69, SE. of

Savannah, SW. cor. of county, no. 9903; WHITE Co.: mtn. side, E. of Sparta, U.S. 70S, no. 999; WILLIAMSON Co.: by Brush Cr., N. of rd. 100, no. 4461.

**Athyrium asplenoides** (Michx.) Eaton, forma **subtripinnatum** Butters

BLOUNT Co.: lead from Bote Mtn. to Spence Field, *A. J. Sharp* no. S-0418; SEVIER Co.: Cherokee Orchard Trail up Mt. LeConte, no. 1001.

**NEW YORK FERN**

**Thelypteris noveboracensis** (L.) Nieuwl.

ANDERSON Co.: by rd. 116, SW. of Briceville, no. 10036; BEDFORD Co.: ravine, near Moore Co., U.S. 41A, no. 9830; BENTON Co.: swamp, Lipes Switch, near Carroll Co., U.S. 70, no. 9670; BLEDSOE Co.: mtn. side, E. of Pikeville, rd. 30; BLOUNT Co.: S. side, Rich Mtn., Cades Cove, no. 524; CAMPBELL Co.: 1.8 mi. SE. of Scott Co., rd. 63, no. 10295; CANNON Co.: top of ridge, rd. from Woodbury to Gassaway, no. 9203; CARTER Co.: near Johnson Co., rd. 91, no. 9768; CHESTER Co.: Tull Bottom, Henderson, no. 564; \*CLAIBORNE Co.: 0.5 mi. E. of Tiprell, *T. A. Frick* no. 61 (Lincoln Mem. Univ.); COCKE Co.: near French Broad River bridge, U.S. 70, 16 mi. E. of Newport, no. 511; \*COFFEE Co.: Tullahoma, *Gattinger* (Anderson, 1931); CUMBERLAND Co.: by cr., 1 mi. E. of Ozone, U.S. 70, no. 563; DAVIDSON Co.: Little Marrowbone Cr. area near Eatons Cr. rd., no. 568; DECATUR Co.: marsh by rd. 100, 7.5 mi. W. of Decaturville, no. 9867; FENTRESS Co.: 4.3 mi. S. of Jamestown, rd. 28, no. 542; FRANKLIN Co.: marsh, Sewanee Hospital, no. 4143; GILES Co.: W. of Campbellsville, no. 10175; GRAINGER Co.: E. side of Clinch Mtn., U.S. 25E, no. 9607; GREENE Co.: mtn. side near N. C., rd. 70, no. 9805; GRUNDY Co.: stream S. of Monteagle Assembly, no. 572; \*HAMILTON Co.: swamp, Signal Mtn., E. brow, *Eleanor McGilliard*, Aug. 17, 1946 (Univ. of Chattanooga); HAWKINS Co.: W. of Rogersville, rd. 66, no. 9715; HARDEMAN Co.: by rd. 100, just E. of rd. 18, no. 9894; HARDIN Co.: by rd. 69, SE. of Savannah, no. 9910; HENDERSON Co.: 3.3 mi. E. of Lexington, rd. 20, no. 9185; HENRY Co.: by rd. 69, SE. of Paris, no. 9662; HUMPHREYS Co.: New Johnsonville, no. 10764; JOHNSON Co.: W. side of Iron Mtn., E. of Shady Valley, U.S. 421, no. 9764; LAWRENCE Co.: 8 mi. NW. of Lawrenceburg, no. 10249; LEWIS Co.: 6.2 mi. W. of Maury Co., rd. 99, no. 10236; LINCOLN Co.: marsh, near Kelso, no. 2766; MCNAIRY Co.: 1 mi. E. of Hardeman Co., U.S. 64, no. 9891; MACON Co.: low pond, western part of Lafayette, no. 8116; MADISON Co.: Pine Ridge Rd., off of rd. 18, S. of Jackson, no. 9678; MARION Co.: below Fosters Falls, near Tracy City, no. 4165; MEIGS Co.: Dry Fork cr., No Pone Ridge, no. 10163; MOORE Co.: by rd. 16, E. of Bedford Co., no. 7857; MONROE Co.: 3.3 mi. up Tellico River from Tellico Plains, no. 526; MORGAN Co.: U.S. 27, 8 mi. S. of Sunbright, no. 4059; OVERTON Co.: marsh, rd. 85, 2 mi. E. of Livingston, no. 4096; PICKETT Co.: Hazards Cave, Pickett State Forest, no. 9687; POLK Co.: near top of Little Frog Mtn., Kemsie rd., no. 537; PUTNAM Co.: marsh, 1 mi. E. of Monterey, U.S. 70, no. 584; RHEA Co.: cr. bank near Bledsoe Co., rd. 30, no. 4044; ROANE Co.: by U.S. 70, just E. of Cumberland Co., no. 4118; SCOTT Co.: by U.S. 27, just N. of Morgan Co., no. 10049; SEQUATCHIE Co.: ravine, mtn. top, W. brow, rd. 8, Waldens Ridge, no. 9769; SEVIER Co.: specimens lost, but see *H. M. Jennison* no. 479 from 2500 ft. at Greenbrier; SULLIVAN Co.: E. of Holston River, old U.S. 421, no. 10875; \*SUMNER Co.: Richland Sta., *Gattinger*, Aug. 27, 1883 (Anderson, 1931—he calls this Turner Co.); VAN BUREN Co.: Fall Cr. Falls, no. 4031; UNICOI Co.: Unaka Sprgs., no. 2769; WASHINGTON Co.: Dry Valley Rd., no. 10843; WAYNE Co.: by rd. 69, SW. corner of county, no. 9908; WHITE Co.: marsh, 1 mi. W. of De Rossett, U.S. 70S, no. 562.

**NORTHEASTERN MARSHFERN**

**Thelypteris palustris** (Salisb.) Schott, var. **pubescens** (Lawson) Fern.

CANNON Co.: by rd. 53, near Coffee Co., no. 10830; CARROLL Co.: marsh,

side rd. to E. from rd. 22, S. of Huntingdon, no. 9880; CHEATHAM Co.: wet bluff at Turnbull Cr., W. of Kingston Sprgs., no. 592; CHESTER Co.: specimen misplaced; CLAIBORNE Co.: below Powell River bridge, U.S. 25E, *Frick* (Lincoln Mem. Univ.); \*FRANKLIN Co.: near Sewanee, J. T. McGill (1917); HARDEMAN Co.: marsh by rd. 100, 2 mi. E. of rd. 18, no. 9180; HUMPHREYS Co.: by U.S. 70, about 3-4 mi. W. of Waverly, no. 10765; JOHNSON Co.: marsh, Shady Valley, no. 2292; \*KNOX Co.: *F. Lamson-Scribner* (Gattinger, 1901); MCNAIRY Co.: marsh, U.S. 64, near Selmer, no. 9917; MAURY Co.: in wet alder thicket by stream, U.S. 43, 0.5 mi. S. of Rockdale, no. 9838; MONROE Co.: by Peace Fish Pond, rd. 33, 2.9 mi. NE. of Madisonville, no. 796; STEWART Co.: by rd. 49, near Houston Co., no. 10783; WILLIAMSON Co.: by Brush Cr., N. of rd. 100, no. 4458A.

### LEATHER WOODFERN

#### *Dryopteris marginalis* (L.) A. Gray

ANDERSON Co.: SE. of Briceville, rd. 116, no. 10034; BLEDSOE Co.: W. side of Waldens Ridge, rd. 30, no. 4034; BLOUNT Co.: by Little River, 2.4 mi. W. of Sevier Co., no. 625; BRADLEY Co.: Henegars Bluff, E. of Charleston, no. 10147; CAMPBELL Co.: 1.8 mi. SE. of Scott Co., rd. 63, no. 10300; CARTER Co.: side of Roan Mtn., no. 602; CHEATHAM Co.: bluff, Jordan Stokes farm, Harpeth River, no. 677; CLAIBORNE Co.: ¼ mi. W. of Cumberland Gap, *T. A. Frick* no. 60; COCKE Co.: near bridge, French Broad River, U.S. 70, 16 mi. E. of Newport, no. 606; COFFEE Co.: Rutledge Falls near Tullahoma, no. 2709; CUMBERLAND Co.: below falls, Ozone, no. 609; DAVIDSON Co.: bluffs, Big Hollow, Little Marrowbone Cr. region, no. 597; FENTRESS Co.: Clear Cr., near Cumberland Co., rd. 28, no. 651; FRANKLIN Co.: Morgan Steep, Sewanee, no. 2311; GRAINGER Co.: E. of Clinch River, U.S. 25E, no. 9705; GREENE Co.: mtn. side, E. of Greystone School, no. 10104; GRUNDY Co.: E. of Palmer, rd. 108, no. 648; HAMILTON Co.: gorge, Falling Water Cr., Waldens Ridge, no. 636; HANCOCK Co.: bluff, Clinch River, E. of Sneedville, rd. 66, no. 9726; HAWKINS Co.: near top of Clinch Mtn., Flat Gap rd., W. of Mooresburg, no. 10853; JACKSON Co.: Cummins Falls, no. 8099; JEFFERSON Co.: map in error, not collected here; JOHNSON Co.: Iron Mtn., E. of Shady Valley, U.S. 421, no. 10083; KNOX Co.: mtns. in N. part of Co., no. 10070; McMINN Co.: not here but across line in Monroe Co.; MARION Co.: mtn. side, E. of Monteagle, U.S. 41, no. 670; MONROE Co.: falls, Bald River, near Tellico River, no. 599; MORGAN Co.: 8 mi. S. of Sunbright, U.S. 27, no. 4061; OVERTON Co.: 3 mi. W. of Fentress Co., rd. 85; PICKETT Co.: Hazards Cave, Pickett State Forest, no. 5519; POLK Co.: Hiwassee Beach, rd. 30, no. 8351; PUTNAM Co.: Stamps Hollow, near Monterey, no. 633; RHEA Co.: mtn. side, Grandview, rd. 68, no. 8365; ROANE Co.: bluff across Clinch River from Kingston, old bridge, no. 631; \*RUTHERFORD Co.: Snailshell Cave, near Rockvale, *Bain*, July 4, 1891 (Anderson, 1930); SCOTT Co.: 7 mi. W. of Campbell Co., rd. 63, no. 8437; SEQUATCHIE Co.: top of mtn., W. of Dunlap, no. 7932; SEVIER Co.: Cherokee Orchards Trail to Mt. LeConte, no. 613; SULLIVAN Co.: bluff by old bridge, Holston River, U.S. 421, no. 9750; VAN BUREN Co.: bluff by cr., Fall Cr. State Park, no. 9642; UNICOI Co.: Unaka Sprgs., no. 619; UNION Co.: turnoff of rd. 33, 6.8 mi. N. of Knox Co., on rd. 61 to E. 2.6 mi., no. 8420; WARREN Co.: top of Pinnacle Mtn., Irving College, no. 9718; WASHINGTON Co.: Embreeville, no. 9790; WHITE Co.: mtn. side, E. of Sparta, no. 621.

#### *Dryopteris marginalis* (L.) A. Gray, forma *Trilliae* (Lawson) Gruber

SEVIER Co.: side of Mt. LeConte above Cherokee Orchards, nos. 605, 608, 617.

### CRESTED WOODFERN

#### *Dryopteris cristata* (L.) A. Gray

JOHNSON Co.: bog at Shady Valley, no. 2295.

**CLINTON'S FERN****Dryopteris Clintoniana** (D. C. Eaton) Dowell

COFFEE CO.: Tullahoma, *Gattinger*, July, 1867? (Univ. of Tenn. herbarium).

**Dryopteris Clintoniana** (D. C. Eaton) Dowell × **Dryopteris Goldiana** (Hook) A. Gray

(*Dryopteris celsa* (W. Palmer) Small)

COCKE CO.: "... in the Blue Ridge of Tennessee near Hot Springs, North Carolina" (Small, 1938, p. 274), bridge, French Broad River, 16 mi. E. of Newport, U.S. 70; COFFEE CO.: Rutledge Falls near Tullahoma, no. 200; Duck River, Old Stone Fort, Manchester, no. 4181; JEFFERSON CO.: in branch, mtn. side E. of Chestnut Hill, no. 10334; LINCOLN CO.: Wells Ridge, about 5 mi. S. of Fayetteville, rd. 110.

**GOLDIE WOODFERN****Dryopteris Goldiana** (Hook.) A. Gray

\*CARTER CO.: Roan Mtn., *C. Chickering*, *Gattinger's* collection (Anderson, 1930); CLAIBORNE CO.: canyon, 1 mi. S. of Arthur, *T. A. Frick* no. 178; \*CUMBERLAND CO.: head of Sequatchie Valley, *E. B. Harger* no. 7803 (Gray Herbarium); FENTRESS CO.: 8.4 mi. N. of Jamestown, mtn. side by rd. 28, no. 10291; FRANKLIN CO.: down Chalybeate Sprg. branch, Sewanee, *J. T. McGill*, Aug. 1881; PUTNAM CO.: Stamps Hollow near Monterey, no. 134; SEVIER CO.: cove on Bullhead, 3000 ft., *S. A. Cain*, June 15, 1938; SULLIVAN CO.: near sprg., top of Holston Mtn., U.S. 241, no. 181; WHITE CO.: mtn. side above sprg., U.S. 70S, E. of Sparta, no. 131.

**COMMON WOODFERN****Dryopteris intermedia** (Muhl.) A. Gray

BLOUNT CO.: Kinzel Sprgs., no. 100; CARTER CO.: mtn. side, near Johnson Co., rd. 91, no. 9771; CLAIBORNE CO.: *T. A. Frick* (Lincoln Mem. Univ.); COCKE CO.: specimen lost but see *Thomas H. Kearney, Jr.* no. 982 (Univ. N. Car.) from Bluff Mtn., 4700 ft.; CUMBERLAND CO.: below falls, Ozone, no. 10425; FENTRESS CO.: below Northrups Falls, Allardt, no. 9701; FRANKLIN CO.: Mud Cr., near St. Andrews, no. 9784; GREENE CO.: near top of mtn. and N. Car., rd. 70; GRUNDY CO.: Big Fiery Gizzard gulch, Tracy City, no. 9785; JOHNSON CO.: 10.3 mi. N. of Mountain City, rd. 91, no. 10383; MARION CO.: below Fosters Falls, 8 mi. E. of Tracy City, no. 4162; MONROE CO.: near top of Haw Knob, Nat. Forest, no. 101; MORGAN CO.: Clear Cr., rd. 52, no. 8445; PICKETT CO.: Hazards Cave, Pickett State Forest, no. 5518; PUTNAM CO.: Stamps Hollow, near Monterey, no. 122; RHEA CO.: Ruby Falls, Grandview, no. 9682; ROANE CO.: bluffs, S. side Emory River, 1 mi. down river from Harriman, no. 10390; SEVIER CO.: Bear Pen Hollow Trail up Mt. LeConte, no. 114; SULLIVAN CO.: W. side of Holston Mtn., old U.S. 421, no. 179; VAN BUREN CO.: gorge below Cane Cr. Falls, Fall Creek State Park, no. 9706; UNICOI CO.: top of Mt. Unaka, no. 10097; WASHINGTON CO.: mtn. side, E. of rd. 107, no. 10091.

**Dryopteris intermedia** (Muhl.) A. Gray, var. **fructuosa** (Gilbert) Wherry

CARTER CO.: side of Roan Mtn., no. 2291; CUMBERLAND CO.: below falls, gulch, Ozone, no. 93; PICKETT CO.: Hazards Cave, Pickett State Forest, no. 9684; SEVIER CO.: side of Mt. LeConte above Cherokee Orchards, near Gatlinburg, no. 95; WHITE CO.: mtn. side, E. of Sparta, U.S. 70S, no. 111. I do not have data available on the occurrence of this variety in Morgan and Putnam counties.

**MOUNTAIN WOODFERN****Dryopteris campyloptera** (Kunze) Clarkson

BLOUNT Co.: data lost; CARTER Co.: Roan Mtn., no. 158; COCKE Co.: (Univ. of Minn.); MONROE Co.: top of Haw Knob, Nat. Forest, no. 161; SEVIER Co.: top of Mt. LeConte, spruce-fir zone, no. 162.

**BROAD BEECHFERN****Phegopteris hexagonoptera** (Michx.) Fee

ANDERSON Co.: Island Ford Baptist Church rd., W. side of Clinch River, S. of Norris Dam, no. 9712; BEDFORD Co.: 10 mi. E. of Shelbyville, U.S. 41A, no. 8161; BENTON Co.: Lipes Switch, U.S. 70, near Carroll Co., no. 2909; BLEDSOE Co.: W. side Waldens Ridge, E. of Pikeville, no. 4039; BLOUNT Co.: Gregorys Bald Trail, Cades Cove, no. 707; BRADLEY Co.: by Chatata Cr., E. of Tasso, no. 10144; CAMPBELL Co.: N. of Pioneer, by country rd., no. 10665; CANNON Co.: top of ridge, rd. from Woodbury to Gassaway, no. 9207; CARROLL Co.: near Yuma, no. 9852; CARTER Co.: S. of Burbank, no. 708; CHEATHAM Co.: near Harpeth River, no. 739; CHESTER Co.: Garland Bottom, Henderson, no. 770; \*CLAIBORNE Co.: *T. A. Frick* (Lincoln Mem. Univ.); CLAY Co.: by cr., E. of river, S. of Celina, rd. 53, no. 8130; COCKE Co.: by bridge, French Broad River, U.S. 70, 16 mi. E. of Newport, no. 713; COFFEE Co.: Old Stone Fort, Manchester, no. 4183; CUMBERLAND Co.: Sequatchie Valley, rd. 28, 2.9 mi. N. of Bledsoe Co., no. 10324; DECATUR Co.: Wilkinson Hollow, NE. of Joelton, no. 746; DECATUR Co.: by Beech Cr., rd. 100, N. of Decaturville, no. 9960; DEKALB Co.: side of rim, rd. 26, between Dowelltown and Smithville, no. 744; DICKSON Co.: near Beaverdam Cr., S. of White Bluff, no. 4486; DYER Co.: 6.2 mi. S. of Obion Co., rd. 78, no. 10347; FAYETTE Co.: 10 mi. E. of Shelby Co., U.S. 64, no. 692; FENTRESS Co.: W. of Jamestown, rd. 52, no. 4094; FRANKLIN Co.: Natural Bridge, near Sewanee, no. 2299; GIBSON Co.: side rd. to E., Cades, no. 10428; GILES Co.: W. of Campbellville, no. 10173; \*GRAINGER Co.: E. of Thorn Hill, U.S. 25E., *T. A. Frick* no. 95 (Lincoln Mem. Univ.); GREENE Co.: top of mtn., near Greystone School, no. 10101; GRUNDY Co.: Monteagle, no. 7917; HAMBLEN Co.: hillside, Needmore Boat Docks, W. of Whitesburg, no. 10088; HAMILTON Co.: E. side of Suck Cr., Waldens Ridge, rd. 27, no. 10308; HANCOCK Co.: E. of Kyles Ford, rd. 70, no. 9731; HAWKINS Co.: W. of Rogersville, rd. 66, Sept. 9, 1946; HARDEMAN Co.: near Chickasaw Forest, rd. 100, no. 9171; HARDIN Co.: near Olive Hill, U.S. 64, no. 8303; HENDERSON Co.: rd. 100, W. of Decatur Co., no. 10004; HENRY Co.: 12 mi. SE. of Paris, rd. 69, no. 9148; HICKMAN Co.: ravine, Duck River, Centerville, no. 760; HOUSTON Co.: W. of Dickson Co., rd. 49, no. 9982; HUMPHREYS Co.: W. of Waverly, by U.S. 70, no. 2937; JACKSON Co.: 8 mi. of Gainesboro, rd. 53, no. 4052; JEFFERSON Co.: ravine across river from Dandridge no. 10058; JOHNSON Co.: W. side of Iron Mtn., U.S. 421, E. of Shady Valley, no. 10081; KNOX Co.: W. side of House Mtn., no. 10073; LAUDERDALE Co.: more than 8 mi. W. of Ripley, rd. 19, no. 9988; LAWRENCE Co.: by rd. to High Point, W. of Leoma, no. 9225; LEWIS Co.: small cr. by Napier, off of rd. 20 to S., no. 9971; LINCOLN Co.: marsh near Kelso, no. 696; LOUDON Co.: E. of Roane Co., rd. 72, no. 10134; McMINN Co.: Chilhowee Sprgs., Starr Mtn., E. of Etowah, no. 10158; McNAIRY Co.: 7 mi. W. of Selmer, U.S. 64, no. 9953; MACON Co.: 1 mi. N. of Smith Co., rd. 80, no. 10472; MADISON Co.: near Medon, rd. 18, no. 9675; MARION Co.: W. side of Waldens Ridge, rd. 27, no. 791; MAURY Co.: ravine near top of hill, S. of Rockdale, U.S. 43, no. 9950; MEIGS Co.: Dry Fork Cr., No Pone Ridge, no. 10165; MOORE Co.: E. of Bedford Co., rd. 16, no. 7849; MONROE Co.: E. side Starr Mtn., no. 710; MONTGOMERY Co.: head of Big McAdoo Cr., no. 9972; MORGAN Co.: S. of Scott Co., U.S. 27, no. 4066; OBION Co.: Lasiters Corner, Reelfoot Lake, no. 776; OVERTON Co.: 8 mi. W. of Livingston, rd. 85, no. 4056; PERRY Co.: specimen lost; PICKETT Co.: N. of Overton Co., across Obey River to N., rd. 42, no. 8092; POLK Co.: Quinn Sprgs., rd. 30, near Hiwassee

Beach, no. 10027; PUTNAM Co.: mtn. side, SE. of Monterey, no. 8003; RHEA Co.: sprg., Cramore Cove, SW. of Dayton, no. 9703; ROANE Co.: bluff across Clinch River from Kingston, old bridge, no. 732; ROBERTSON Co.: W. of Greenbrier, no. 4315; SCOTT Co.: hillside by New River, U.S. 27, no. 10024; SEQUATCHIE Co.: Stone Cave Sprg., Daus, no. 10624; SEVIER Co.: Cherokee Orchards, Gatlinburg, no. 720; SHELBY Co.: W. of Millington, no. 9987; STEWART Co.: Carlisle Sprgs., no. 8066; SULLIVAN Co.: Holston River near old bridge, U.S. 421, no. 9776; SUMNER Co.: Tyree Sprgs., near White House, no. 4299; TIPTON Co.: S. of Brighton, U.S. 51, no. 9127; VAN BUREN Co.: near entrance, Fall Cr. State Park, no. 4032; UNICOI Co.: Limestone Cove, no. 2309; UNION Co.: by rd. 61, N. of Luttrell, no. 10074; WARREN Co.: Barren Fork River, McMinnville, no. 726; WASHINGTON Co.: cove in mtns. SE. of rd. 107, no. 10092; WAYNE Co.: E. of Waynesboro where Natural Bridge rd. leaves U.S. 64, no. 4414; WEAKLEY Co.: NE. of Greenfield, no. 10778; WHITE Co.: gulf of Caney Fork River, Dodson, no. 698; WILLIAMSON Co.: near Brush Cr., N. of rd. 100, no. 4459.

### NARROW BEECHFERN

#### *Phegopteris connectilis* (Michx.) Watt

SEVIER Co.: near top of Mt. LeConte, *A. J. Sharp* no. S460.

### CHRISTMASFERN

#### *Polystichum acrostichoides* (Michx.) Schott

ANDERSON Co.: 1 mi. S. of Briceville, rd. 116, no. 10038; BEDFORD Co.: S. of Shelbyville, U.S. 241, no. 8157; BENTON Co.: Lipas Switch, U.S. 70, near Carroll Co., no. 2907; BLEDSOE Co.: cr. region, E. of Van Buren Co., rd. 30, no. 4020; BLOUNT Co.: Little River, S. of Townsend, no. 59; BRADLEY Co.: near Hamilton Co., U.S. 64, no. 8337; CAMPBELL Co.: 11 mi. SE. Scott Co., rd. 63, no. 8431; CANNON Co.: Gassaway, no. 9205; CARROLL Co.: 11 mi. E. of Madison Co., no. 2920; CARTER Co.: Burbank, no. 62; CHEATHAM Co.: Turnbull Cr. region, W. of Kingston Sprgs., no. 34; CHESTER Co.: Garland Bottom, near Henderson, no. 76; CLAIBORNE Co.: W. of Grainger Co., U.S. 25E, no. 8454; CLAY Co.: woods by rd. 52, no. 5531; COCKE Co.: Wolf Cr. at French Broad River, U.S. 70, no. 56; COFFEE Co.: Aug. 27, 1943, no. 4172; CROCKETT Co.: 0.2 mi. E. of Bells, no. 10343; CUMBERLAND Co.: 4 mi. W. of Crossville, U.S. 70S, no. 6; DAVIDSON Co.: Little Marrowbone Cr. Region, no. 79; DECATUR Co.: bluffs, at bridge, Tenn. River, rd. 100, no. 73; DEKALB Co.: side of rim between Dowelltown and Smithville, rd. 26, no. 29; DICKSON Co.: Beaverdam Cr., SE. of White Bluff, no. 4481; DYER Co.: 6 mi. S. of Obion Co., rd. 78, no. 9117; FAYETTE Co.: just E. of Shelby Co., U.S. 64, no. 4519; FENTRESS Co.: 5 mi. S. of Jamestown, rd. 28, no. 26; FRANKLIN Co.: Morgan Steep, no. 58; GIBSON Co.: W. of Bradford, rd. 54, no. 4506; GILES Co.: near Waco, no. 8216; GRAINGER Co.: 8 mi. E. of Claiborne Co., U.S. 25E, no. 8459; GREENE Co.: mtns. near N. Car., rd. 70, no. 9781; GRUNDY Co.: Monteagle, no. 4131; HAMLEN Co.: Holston River bluffs, U.S. 25E, no. 8485; HAMILTON Co.: Falling Water gorge, Waldens Ridge, no. 11; HANCOCK Co.: N. of Hawkins Co., rd. 70, no. 8480; HAWKINS Co.: N. of Bulls Gap, rd. 66, no. 8461; HARDEMAN Co.: E. of Fayette Co., no. 2; HARDIN Co.: Olive Hill, no. 8290; \*HAYWOOD Co.: Forked Deer, *Bain* no. 165 (Anderson, 1930); HENDERSON Co.: E. of Lexington, no. 4538; HENRY Co.: SE. of Paris, rd. 69, no. 4509; HICKMAN Co.: bluffs, across river from Centerville, no. 75; HOUSTON Co.: N. of Cumberland City, no. 2996; HUMPHREYS Co.: W. of Waverly, no. 2936; JACKSON Co.: E. of Gainesboro, rd. 85, no. 5492; JEFFERSON Co.: ravines, E. of river across from Dandridge, no. 10056; JOHNSON Co.: E. of Holston Mtns., U.S. 421, no. 9760; KNOX Co.: W. of Sevier Co., rd. 71, no. 10066; LAUDERDALE Co.: W. of Ripley, rd. 19, no. 9989; LAWRENCE Co.: marsh by rd. from near Deerfield to Henryville, no. 4418; LEWIS Co.: Napier rd., near rd. 20, no. 4530; LINCOLN Co.: near Kelso, no. 4; LOUDON Co.: E.

of Roane Co., rd. 72, no. 8375; McMINN Co.: E. of Meigs Co., rd. 30, no. 8339; McNAIRY Co.: W. of Selmer, U.S. 64, no. 9954; MACON Co.: 5.9 mi. E. of Lafayette, rd. 52, no. 10482; MADISON Co.: Pine Ridge rd., E. of rd. 18, near Medon, no. 9676; MARION Co.: W. side of Waldens Ridge, rd. 27, no. 36; MARSHALL Co.: W. of Petersburg, no. 4337; MAURY Co.: ravine by U.S. 43, S. of Rockdale, no. 9788A; MEIGS Co.: Dry Fork Cr. at No Pone Ridge, no. 10160; MOORE Co.: near Bedford Co., no. 4326; MONROE Co.: Nat. Forest, Tellico River, no. 65; MONTGOMERY Co.: Sheltons Branch, U.S. 41, S. of Clarksville, no. 8154; MORGAN Co.: Clear Fork, rd. 52, no. 8442; OBION Co.: Chigger Ridge, Reelfoot Lake, no. 77; OVERTON Co.: E. of Clay Co., rd. 52, no. 5546; PERRY Co.: Flat Woods, no. 4403; PICKETT Co.: Obey River, N. of Overton Co., rd. 42, no. 5503; POLK Co.: Ocoee River above Parksville, no. 14; PUTNAM Co.: pigeon roost, Cookeville, no. 49; RHEA Co.: near cr. E. of Bledsoe Co., rd. 30, no. 4049; ROANE Co.: E. of Cumberland Co., U.S. 70, no. 4117; ROBERTSON Co.: near Greenbrier, no. 4311; RUTHERFORD Co.: hills near Coffee Co., U.S. 41, no. 9779; SCOTT Co.: 5 mi. S. of Oneida, U.S. 27, no. 10022; SEQUATCHIE Co.: W. side of Waldens Ridge, rd. 8, no. 4152; SEVIER Co.: Cherokee Orchards near Gatlinburg, no. 54; SHELBY Co.: near Arlington, no. 9680; SMITH Co.: cr. banks, near Rome, U.S. 70, no. 8384; STEWART Co.: Carlisle Sprgs., no. 8061; SULLIVAN Co.: by Holston River, old bridge, U.S. 421, no. 9756; SUMNER Co.: by rd. 109, W. of Gallatin, no. 9814; TIPTON Co.: S. of Brighton, U.S. 51, no. 9126; VAN BUREN Co.: above Fall Cr. Falls, State Park, no. 4026; UNICOI Co.: Unaka Sprgs., no. 51; UNION Co.: NE. of Luttrell, rd. 61, no. 8416; WARREN Co.: across Barren Fork River from McMinnville, no. 7; WASHINGTON Co.: near Embreeville, no. 9793; WAYNE Co.: 15 mi. W. of Waynesboro, U.S. 64, no. 8287; WEAKLEY Co.: W. of Henry Co., rd. 54, no. 4505; WHITE Co.: mtn. side, E. of Sparta, U.S. 70S, no. 50; WILLIAMSON Co.: Brush Cr., N. of rd. 100, no. 4473; WILSON Co.: near Shop Sprgs., rd. 26, no. 10194.

**Polystichum acrostichoides** (Michx.) Schott, forma **incisum** (A. Gray) Gilbert

FENTRESS Co.: 7.7 mi. W. of Jamestown, rd. 52, no. 10505; PERRY Co.: 11.3 mi. W. of Lewis Co., rd. 20, no. 10267; POLK Co.: Ocoee River above Parksville, no. 16; ROANE Co.: Marny Bluff, Tenn. River, S. of Kingston, no. 10559.

**Cystopteris fragilis** (L.) Bernh., forma **simulans** Weatherby

BLEDSEY Co.: Low Gap Rd., no. 9690D, E, F; CANNON Co.: specimen lost; CUMBERLAND Co.: below falls, Ozone, no. 10216; HOUSTON Co.: Yellow Cr., rd. 49, no. 9974; HUMPHREYS Co.: small bluff, Trace Cr., 6.2 mi. W. of Waverly, U.S. 70, no. 10232; LEWIS Co.: Cane Cr., W. of rd. 48, N. of Hohenwald, no. 10208 (in part); MAURY Co.: small cr. bank, rd. 99, 4 mi. E. of Lewis Co., no. 4384; SMITH Co.: rocky bank by cr., Elmhill Church, U.S. 70, no. 8388; WAYNE Co.: Green Cr., S. of Waynesboro, no. 9952 (in part).

**UPLAND BRITTLE BLADDERFERN**

**Cystopteris fragilis** (L.) Bernh., var. **Mackayii** Lawson

BLOUNT Co.: bluff by sprg., rd. by R.R., N. of Friendsville, no. 10705; COCKE Co.: Low Gap area, Cosby, no. 10370; GREENE Co.: bank, Nolichucky River, old bridge, rd. 107, E. of Tusculum, no. 10365; LOUDON Co.: Hickory Cr. and Clinch River near Knox Co., no. 10500; MARION Co.: ravine, down Tenn. River from bridge and Ladds Sta.; MONROE Co.: by Tellico River, Nat. Forest, no. 10226; OBION Co.: Glady Cr., Reelfoot Lake, no. 468; POLK Co.: spr. by Ocoee River, more than 5 mi. E. of Parksville, no. 10698; SEVIER Co.: below Rainbow Falls, Mt. LeConte, no. 445; UNICOI Co.: Unaka Sprgs., no. 10380; WASHINGTON Co.: rocks by cr., foot of mtn., E. of rd. 81 near junction with rd. 107, no. 10093.

**LOWLAND BRITTLE BLADDERFERN**  
***Cystopteris fragilis* (L.) Bernh., var. *protrusa* Weatherby**

ANDERSON CO.: Bull Run near Clinch River, no. 10569; BEDFORD CO.: at junction of Norman Cr. and Duck River, Normandy, no. 10456; BENTON CO.: Lipes Switch, near Carroll Co., U.S. 70, no. 465; BLEDSOE CO.: Low Gap, Waldens Ridge, no. 9690; BLOUNT CO.: Kinzel Sprgs., no. 441; BRADLEY CO.: Henegars Bluff, E. of Charleston, no. 10228; CANNON CO.: 8 mi. NE. of Woodbury on Short Mtn. road, no. 10206; \*CARROLL CO.: Huntingdon, Scribner, July, 1892 (Anderson, 1930); CHEATHAM CO.: Turnbull Cr. region. W. of Kingston Sprgs., no. 478; \*CHESTER CO.: *J. R. Endsley* (1935); CLAIBORNE CO.: 1.4 mi. W. of Clinch River, U.S. 25E, no. 10210; CLAY CO.: 2.1 mi. W. of Celina and river, S. across field from rd. 52, no. 10513; COCKE CO.: hillside by French Broad River, E. of rd. 52, no. 432; CUMBERLAND CO.: 2.7 mi. N. of Bledsoe Co. in Sequatchie Valley, rd. 28, no. 8277; DAVIDSON CO.: Little Marrowbone Cr. region, no. 470; DECATUR CO.: Beech Cr., rd. 100, N. of Decaturville, no. 9864; DEKALB CO.: bluff, Caney Fork River, old bridge, rd. 56, N. of Smithville, no. 9639; DICKSON CO.: Jones Cr. region, S. of White Oak Flats, rd. 49, no. 8224; \*FRANKLIN CO.: vicinity of Sewanee, *J. T. McGill* (1917); GILES CO.: Big Cr. bluffs, near Milky Way Farm, no. 10469; GRAINGER CO.: 6.5 mi. E. of Claiborne Co., U.S. 25E, no. 10211; GREENE CO.: Caney, Nolichucky River, no. 10691; HAMILTON CO.: Falling Water gorge, Waldens Ridge, no. 10633; HAWKINS CO.: Flat Gap Rd., W. of Mooresburg, no. 10857; HARDIN CO.: E. of Olive Hill, U.S. 64, no. 10205; HICKMAN CO.: 8 mi. E. of rd. 100 on side rd, with turnoff 5 mi. W. of Williamson Co., no. 9162; HOUSTON CO.: 4.2 mi. N. of Humphreys Co., rd. 13, no. 10540; HUMPHREYS CO.: 3.5 mi. W. of Waverly, U.S. 70, no. 4429; JACKSON CO.: NW. of Gainesboro, river road, no. 5480; KNOX CO.: wooded hillside, Clinch River, near Loudon Co., no. 10494; LAWRENCE CO.: small cr., S. of Shoal Cr., near Westpoint, no. 10207; LEWIS CO.: Cane Cr., W. of rd. 48, N. of Hohenwald, no. 10208; LINCOLN CO.: marsh near Kelso, no. 431; LOUDON CO.: Clinch River hills near Hickory Cr. and Knox Co., no. 10501; McNAIRY CO.: S. of Selmer near intersection, no. 10204; MACON CO.: 1 mi. N. of Smith Co., rd. 80, no. 10471; MARION CO.: down Tenn. River from bridge, U.S. 41, and R.R. from Ladd Sta., 1 mi., no. 462; MARSHALL CO.: cr. bluff E. of cr. bridge, rd. from Cornersville to Diana, no. 10461; MAURY CO.: 2 mi. W. of Hampshire, rd. 99, no. 10203; MEIGS CO.: Breedenton, near Decatur, no. 10604; MOORE CO.: bluff, Elk River, near Marble Hill, no. 10449; MONROE CO.: Red Ankle Cr., near Hiwassee College, no. 452; MONTGOMERY CO.: Sheltons Branch, U.S. 41A, no. 9248; OBION CO.: Glady Cr., Reelfoot Lake, no. 468; OVERTON CO.: by cr., Standingstone State Park, no. 10512; PERRY CO.: 11.3 mi. W. of Lewis Co., rd. 20, no. 10215; PICKETT CO.: 2 mi. W. of Forbus, rd. 52, no. 10509; POLK CO.: dripping sprg. by U.S. 64, E. of Parksville, no. 403; PUTNAM CO.: Stamps Hollow, near Monterey, no. 484; ROANE CO.: small bluff, SE. of Kingston and Tenn. River, no. 10571; \*ROBERTSON CO.: *Lewis* (1930); \*RUTHERFORD CO.: *Lewis* (1930); SEQUATCHIE CO.: W. side of Waldens Ridge, rd. 8, no. 10625; SEVIER CO.: Rays Gap and French Broad River, near Knox Co., no. 10642; SMITH CO.: rocky bank, sprg., Elmhill Church, U.S. 70, no. 8388; STEWART CO.: Standing Rock Cr., E. of Tenn. River, no. 8041; SULLIVAN CO.: E. of Holston River, ft. of Holston Mtn., old U.S. 421, no. 10209; SUMNER CO.: Tyree Sprgs., near White House, no. 7972; TIPTON CO.: 1.7 mi. S. of Brighton, U.S. 51, no. 9129; TROUSDALE CO.: Goose Cr., old rd. 10, no. 10524; VAN BUREN CO.: Cane Cr. rd., E. of Spencer, no. 10575; UNICOI CO.: Unaka Sprgs., no. 448; UNION CO.: Bull Run Cr., 1 mi. N. of Knox Co., rd. 33, no. 10670; WARREN CO.: ravine, Mt. Cardwell, no. 9737; WASHINGTON CO.: specimens lost; WAYNE CO.: small cr., 2.5 mi. W. of Waynesboro, no. 7988; WILLIAMSON CO.: E. of Fernvale and E. of rd. 100, no. 8184; WILSON CO.: hillside by country rd.

(To be continued)