Back-Yard Fungi

Cooke, William Bridge

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For a number of years, while caring for flower beds, lawn, and shrubbery at his home, the writer has collected fruit bodies of those fungi which have been observed. The resulting list includes representatives of 138 species in most groups of fungi. While none of these is new to science, several records present interesting range extensions.

In a search for fungi, any habitat in which a fungus will grow is a potential source of records. The most intimate set of habitats is that found on one's own property. In routine work on flower beds, lawn, shrubbery, and trees, macroscopic fruit bodies of many kinds of fungi have been readily observed and collected. Soil samples were tested for molds when laboratory facilities were available, and certain mold-type fungi were noted occasionally. Within the limits of the community in which this property occurs, a number of types of fungi may be expectable on the basis of past records for the occurrence of fungi in Ohio. A few of these species require less distributed locations or locations disturbed infrequently. If it is true that there is at least one fungus to form a saprobic, parasitic, or mycorrhizal relation with each vascular plant, this list is very incomplete. However, it gives an indication of the variety of fungi which can be found in a small area, and it gives an idea of the complexity of the artificial ecosystem put together by the small householder in his search for serendipity in modern suburbia.

The address, 1135 Wilshire Court, represents a lot, measuring 50 x 142 feet, located in the Sun Ray Development of Anderson Township, Hamilton County, Ohio, approximately 15 miles east of downtown Cincinnati. In late 1945 or early 1946, before this subdivision was started, the lot was probably covered with a meadow-like association of native and adventive plants which were probably

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ABSTRACT

For a number of years, while caring for flower beds, lawn, and shrubbery at his home, the writer has collected fruit bodies of those fungi which have been observed. The resulting list includes representatives of 138 species in most groups of fungi. While none of these is new to science, several records present interesting range extensions.

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trying to repopulate an abandoned field in which some crown sprouts from an
earlier cover of second- or third-growth mixed mesophytic woodland were grow-
ing, an "old-field succession" of unknown age and stage of development. Some
of these crown-sprouts were left, apparently to provide the start of a source of
shade for the new houses being built. The soil is clayey and relatively impervious,
probably a modified Rossmoyne, although a sample from this lot has not been
analysed. The lot lies near the top of an east-west-oriented ridge on the side
facing north, with drainage into a tributary of Clough Creek, itself a tributary of
the Little Miami River, reaching that river at a point about two miles above the
confluence of the Little Miami with the Ohio River.

On the periphery of the property (but in neighboring lots) are a hackberry
(Celtis occidentalis), a scarlet oak (Quercus coccinea), and a white ash (Fraxinus
americana). Each contributes in its own way to the population of fungi on the
lot through leaf fall, dead wood, and potential mycorrhizal associates. Most of
the trees which have been planted on the lot during the last twenty years—Nor-
way maple (Acer pseudoplatanus), red maple (Acer rubrum), Scotch pine (Pinus
sylvestris), American hollies (Ilex opaca), and Douglas fir (Pseudotsuga menziesii)—
contribute habitat, but only the eastern hemlock (Tsuga canadensis) has not yet
become host to observed fungi. A variety of shrubs, perennial herbs, and an-
nuals in the flower beds, and the grasses in the lawn, together with a rich series
of adventives in both flower beds and lawns, have contributed substrata of living
or dead tissues on which a number of fungi have developed. The soil itself has
yielded a number of different species. Routine sampling of the soil could have
yielded an interesting story of the development of its fungal population; however,
this was not done.

The following list of fungi has resulted from the rather casual collection of
specimens noted as various parts of the yard were worked during weeding, cul-
tivating, grass cutting, and other routine chores. No effort has been made to
develop as complete a record as possible of the fungi which grow here. Thus
certain groups, such as the stromatic Pyrenomycetes, as well as a large percentage
of soil and quisquiloculous fungi, have been neglected. Despite this fact, the list
appears to be long, and demonstrates the great abundance, even in back yards,
of these little-known organisms.

Other back-yard collectors, such as J. B. Ellis of Newfield, New Jersey (speci-
mens in the herbarium of the New York Botanical Garden), and A.P. Morgan,
Preston, Ohio (specimens in the Morgan Herbarium, University of Iowa, Iowa
City), obtained large numbers of species of fungi, but their "back-yards" were
probably larger in extent, perhaps covering almost as much territory as could be
walked in a day. In a broader context, Anderson Township, Hamilton County,
the Miami Valley, and the State of Ohio, are increasingly complex political or
physiographic collecting areas. Thus the present list forms the nucleus of a
systematic list of the fungi of Ohio. Grateful acknowledgment for assistance with
the identification of certain species is given to L. R. Batra, C. W. Ellett, M. B.
Ellis, J. J. Ellis, L. L. Kennedy, R. P. Korf, M. J. Larsen, A. E. Liberta, E. G.
Simmons, A. H. Smith, W. H. Snell, J. W. Trappe, and the late J. W. Groves and
L. E. Wehmeyer.

LIST OF FUNGI OBSERVED
AT 1135 WILSHIRE COURT, CINCINNATI, OHIO

GYMNOMYCETES
Myxomycetidae
Physarales
Physaraceae
Physarum cinereum (Batsch) Pers., on grasses in lawn, covering an area about a foot in diameter, apparently not parasitic.
Fungi

Zygomycetes

Mucorales

Mucoraceae

Mucor spp., isolated from soil.
Mucor angulisporus Naumov, isolated from soil.
Mucor hiemalis Wehmer, isolated from soil.
Rhizopus nigricans Ehrenb. ex Fr., isolated from soil.
Zygomychus moelleri Vuillemin, isolated from soil.

Choanephoraceae

Choanephora cucurbitarum (Berk. & Rav.) Thaxter, on withered perianth of *Hemerocallis* hybrids. Isolated in pure culture by J. J. Ellis.

Entomophthorales

Entomophthoraceae

Massospora cicadina Pk., on one specimen of seventeen-year locust during a population burst in August, 1970.

Ascomycetes

Hemiascomycetidae

Taphrinaceae

Taphrina caerulea (Mont. & Desm.) Tul., on *Quercus coccinea* leaves.
Taphrina polycephala Mix., on pinnae of fronds of *Polystichum acrostichoides* on plants transplanted from Deer Park, Highland Co., Ohio, an area soon to be inundated as a result of a flood-control dam.

Euascomycetidae

Erysiphales

Erysiphe cichoracearum DC. ex Merat, on leaves of *Plantago major*, and on leaves and stems of *Phlox paniculata*.
Erysiphe graminis DC. ex Merat, on leaves of *Triticum aestivum*. Seedlings germinating from wild bird feedings are usually heavily infected.
Erysiphe polygoni DC. ex St. Amans, on leaves of *Polygonum aviculare*.
Sphaerotheca fuliginea (Schlecht. ex Fr.) Fckl., on leaves of *Taraxacum vulgare*.
Uncinula necator (Schw.) Burr., on leaves of *Vitis* sp. adventive near wild bird perches under *Pinus sylvestris*.

Chaetomiaceae

Chaetomiaceae

Chaetomium sp., on cotton sheeting left on the ground over winter after having been used to tie up *Dahlia* plants.
Chaetomium globosum Kunze, isolated from soil samples, and appearing on the burlap wrapping of imported peat moss.

Pleosporales

Pleosporaceae

Didymosphaeria celtidis Ell. & Ev., on fallen twigs of *Celtis occidentalis*.

Xylariales

Xylariaceae

Xylaria longipes Nits., on buried dead wood in rose bed.
Xylaria polymorpha Pers. ex Grev., on buried dead wood in rose bed and on dead roots of *Cercis canadensis*.

Helotiales

Dermateaceae

Propolis versicolor (Fr.) Fr., on occasional acorn cups of *Quercus coccinea* overwintered on the ground in a flower bed.

Helotiaceae

Cenangium ferruginenm Fr., on branches of *Pinus sylvestris*, causing some local damage on the host tree, but apparently not spreading or permanent.
Arachnopeziza aurelia (Pers.) Fckl., occasional on acorn cups of Quercus coccinea overwintered on the ground in flower bed and under Tsuga.

Hyaloscyphaceae

Dasyscyphus virginicus S. F. Gray, found once on acorn cup overwintered in flower bed.

Mollisiaceae

Mollisia sp., on cone scales of Pinus sylvestris.

Pezizales

Helvellaceae

Helvellacea lacunosa Aft. ex Fr., on the ground in a flower bed.

Tuberales

Tuberaceae

Tuber candidum Harkn., in lawn and flower bed under Quercus coccinea.

Basidiomycetes

Heterobasidiomycetidae

Pucciniaceae

Frommea obtusa (Str.) Arth. var. duchesnea (Arth.) Arth., common on leaves of adventive plants of Duchesnea indica.

Puccini a asteris Duby, on leaves of adventive plants of Aster sp.

Puccinialis impatiens Arth., on leaves of Impatiens biffora adventive in flower beds.

Puccinia iridis Rab., harbored by several plants of Iris tectorum apparently as a systemic parasite which does not spread to other species of Iris.

Puccinia menhuae Pers., occasional on leaves of Monarda fistulosa. Infection is heavier in some years than others.

Puccinia schoedonmariae Kell. & Sw. Colonies of the adventive host, Muhlenbergia mexicana, are regularly infected.

Uromyces euphorbiae Cke. & Pk. in Pk. Occasional plants of Euphorbia serpyllifolia are infected. The normal habit of this adventive species is prostrate; infected branches and sometimes whole plants assume an erect posture.

Ustilaginales

Ustilaginaceae

Ustilago syntherismae (Schw.) Pk. Occasional plants of the adventive Digitaria sanguinalis show smutted inflorescences.

Auriculariales

Auriculariaceae

Auricularia auricula (Hook.) Underw., on dead branches of Quercus coccinea.

Tremellales

Tremellaceae

Exidia glandulosa Fr., on dead wood of Salix babylonica and S. discolor.

Exidia recisa Fr., on dead branches of Quercus coccinea and Salix discolor.

Dacrymycetales

Dacrymycetaceae

Dacrymyces deliquescent (Bull. ex Mérat) Duby, on dead twigs of Quercus coccinea.

Dacryopinax spathularia (Schw.) Martin, on a board in a table made of wood of Sequoia sempervirens used in an outdoor patio during the summer.

Ditilo radicata Fr., on twigs of Quercus coccinea.

Homobasidiomycetidae

Aphyllophorales (Polyporales)

Corticinaceae

Corticaceae

Hyphodontia sambuci (Pers. ex Pers.) J. Erikss., on overwintered stems of Chrysanthemum sp. cult.

Hyphoderma nr. roseocremeum (Bres.) Donk, on dead cane bases of Rosa sp. cult.
Hypochnicum sp., on burlap covering of bale of imported peat moss.

Odontia sp. ss. lat., on fallen twig of Celtis occidentalis, and on cone scales of Pinus sylvestris lying on the ground.

Peniophora byssoides (Pers. ex Fr.) Bres., on litter and soil under Pinus sylvestris

Peniophora cinerea (Fr.) M. C. Cooke, on dead branches of Quercus coccinea, Syringa vulgaris, and Weigelia florida.

Peniophora (sect. Coloratae) sp., on dead cane bases of Rosa sp. cult.

Peniophora incarnata (Pers. ex Fr.) Karst., on dead cane bases of Rosa sp. cult. and on dead branches of Chrysanthemum sp. cult.

Peniophora nuda (Fr.) Bres., on dead branches of Syringa vulgaris and Weigelia florida.

Sistotrema brinkmannii (Bres.) J. Erikss., on burlap covering of bale of imported peat moss.

Meruliacae

Merulius sp., on roots of unpotted plant in flower bed.

Merulius corium (Pers.) Fr., on fallen twigs of Acer pseudoplatanus.

Merulius tremellosus Fr., on rotting stump of Fraxinus americana, appearing three years after the tree was cut and the stump chemically treated for more rapid, but unsuccessful, removal.

Stereaceae

Laxistextum roseo-carneum (Schw.) Lentz, on bark of Salix babylonica.

Stereum albobadium (Schw. ex Fr.) Fr., on branches of Kolkwitzia amabilis, Calycanthus floridus, Celtis occidentalis, Prunus sp. cult., Spiraea sp., and cones of Pinus sylvestris.

Stereum complicatum (Fr.) Fr., on twigs and branches of Quercus coccinea and Weigelia florida.

Stereum purpureum (Pers. ex Fr.) Fr., on bark and branch of Salix babylonica.

Stereum subpileatum Berk. & Curt. in Hook., on dead branches of Celtis occidentalis.

Cyphellineae

Porotheleaceae

Calypella capula (Holmsk. ex Fr.) Quél., on dead stem of Pelargonium zonale in flower pot.

Schizophyllaceae

Schizophyllum commune Fr., on stump of Fraxinus americana. The tree was cut less than a year before the fungus was first seen.

Hymenochaetineae

Macronoporaceae

Phellinus ferruginosus (Schrad. ex Fr.) Bourd. & Galz., on dead cane bases of Rosa sp. cult.

Phellinus punctatus (Fr.) Pilát, on dead canes of Forsythia viridissima.

Porohydnineae

Auriscalpiaceae

Auriscalpium vulgare S. F. Gray, common one year on cones of Pinus sylvestris on the ground under an ornamental tree, occasional to absent in other years.

Polyporaceae

Bjerkandera adusta (Wild. ex Fr.) Karst., occasional on the bases of dead canes of Rosa sp. cult.

Coriolus versicolor (L. ex Fr.) Quél., occasional at the base of dead canes of Rosa sp. cult, and on pine boards lying on the ground beside fence.

Heteroporus biennis (Bull. ex Fr.) Lazaro, found twice in flower beds made on filled land several years after construction of the house, thus probably on buried wood. This species is also known by its synonyms, Polyporus or Abortiporus abortivus.

Irpiciporus lacteus (Fr.) Murr., on dead canes of Buddleia sp. cult., Calycanthus floridus, and Prunus sp. cult.

Poria spp., on leaves and buried wood, on Fraxinus americana stump, and on canes of Weigelia florida.

Agaricales

Tricholomataceae

Clitocybe sp., in lawn and border of flower beds.

Clitocybe nuda (Fr.) Bigelow & A. H. Smith, on soil in flower beds, and under Pseudotsuga menziesii. This species is also known as Lepisia nuda, Tricholoma nudum, and T. personatum.
Marasmius sp., on litter in flower bed.
Marasmius graminum (Lib.) Berk., on grasses in lawn, sometimes apparently killing patches of grass.
Mycena sp., on litter in flower bed.
Oudemansiella radicata (Reh. ex Fr.) Singer, found in 1969 in the lawn some distance from an apparent location of living or dead tree roots.

Amanitaceae

Volvariella sp., found once in lawn.
Volvariella spectosa (Fr. ex Fr.) Singer, found once in lawn.

Agaricaceae

Lepiota naucina (Fr.) Kummer, occasional in lawn.
Agaricus campestris L. ex Fr., occasional in lawn.

Corticariaceae

Cortinarius sp., found once in the lawn under Quercus coccinea.
Inocybe sp., found regularly in the lawn under Quercus coccinea.

Coprinaceae

Psathyrella veiutina (Pers. ex Fr.) Singer, abundant in lawn in mid-1950's, occasional during the following year or two, not observed since. Appearing occasionally in lawns in the Anderson Township area.

Russulaceae

Russula sp., found once in a flower bed under Quercus coccinea.
Russula pulverulenta Pk., appearing regularly through summer and early autumn months in lawn under Quercus coccinea.

Boletaceae

Boletus chrysenteron Bull. ex St. Amans, appearing regularly in the summer under Quercus coccinea in lawn and adjacent flower beds.

Boletus rubellus Krombh. ssp. fraternus (Pk.) Singer, in lawn and flower beds under Quercus coccinea. While specimens were identified by W. H. Snell under this name, the taxon was called B. fraternus Pk. by Snell and Dick (1970) and by Smith and Thiers (1971). Smith and Thiers did not find it in Michigan, but Snell and Dick reported it from Nova Scotia and New Hampshire west to the Mississippi River.

Boletinellus merulioides (Schw.) Murr., appearing commonly and regularly in the graveled walk near tree of Fraxinus americana. This fungus also fruiting abundantly in the lawn around the tree, but has not fruited since the tree, which was a crown sprout, was cut down, although the stump remains in place. This species is also known by its synonyms Gyrodon merulioides and Boletinus porosus.

Gasteromycetidae

Lycoperdales

Lycoperdaceae

Calvatia craniiformis (Schw.) Fr., on the ground in lawn and flower bed.
Disciseda candida (Schw.) Lloyd, occasional on bare soil in rose bed.
Geastrum sp. An old exoperidium was found in a flower bed.
Lycoperdon curtisii Berk., appearing regularly on bare soil at edge of rose bed.

Sclerodermatales

Scleroderma cepa Pers., occasional on bare soil in rose bed.
Scleroderma nitidus Berk., found regularly on bare soil in rose bed and under Pinus sylvestris.
Scleroderma verrucosum Pers., on bare soil in rose bed.
Nidulariales

Nidulariaceae

Cyathns sterocorarius (Schw.) De Toni, on peat moss covering bare soil in a rose bed.

Fungi Imperfecti (Deuteromycetes)

Sphaeropsidales

Sphaeropsidaceae

Coniothyrium sp., isolated from soil.

Diplodia pinea Kickx, causing a tip blight disease of Pinus sylvestris. This fungus fruits on the ends of cone scales, on twigs, and on branches, as well as on branch tips and leaders.

Peyronellaea spp., probably including P. gloverata (Corda) Goidanich ex Togliani, isolated from soil.

Phoma spp., including P. herbarum Westd., isolated from soil.

Phyllosticta platanoides Sacc, on cotyledons of Acer pseudoplatanus seedlings, common during the springs of 1965 and 1966, during which seedlings were allowed to develop abundantly in a flower bed.

Melanconiales

Melanconiaceae

Colletotrichum dematium (Pers. ex Fr.) Grove, fruiting on overwintered stems and foliage of various herbaceous plants including Hemerocallis hybrids, Lilium hybrids, Poa pratensis, Phlox paniculata, and Tradescantia sp. Possibly strains isolated from soil samples should be included in this species.

Colletotrichum viola-tricoloris R. E. Smith, on leaves of Viola papilonacea.

Pestalotia funerea Desm., the colony observed on a slide prepared from a colony growing on a primary isolation plate was recovered from soil from a flower bed. The fungus was possibly associated with decaying leaves or stems from a species of Taxus, an ornamental shrub growing near this flower bed.

Sphaceloma violae Jenkins, on Viola papilonacea annually, sometimes causing a heavy infection and usually associated, probably coincidentally, with Sclerotium rolfsii.

Moniliales

Cryptococcaceae

A number of strains of white yeasts assignable to the genera Candida, Cryptococcus, Torulopsis, and Trichosporon were recovered from soil. One or two species of Rhodotorula were also isolated. None of these isolates were identified to species. At least ten species of these yeasts were perhaps present in a preliminary superficial test.

Moniliaceae


Cephalosporium spp., in the broad sense, isolated from soil, and found on cone scales of Pinus sylvestris.

Chrysosporium punctorum (Lk.) Hughes, isolated from soil.

Chrysosporium pruinosum (Gilman & Abbott) Carmichael, isolated from soil.

Costantinella terrestris (Lk. ex Pers.) Hughes, on a buried piece of Dahlia tuber.

Cladobotryum varium Nees ex Duby, on Coriolus versicolor on pine boards, lying along a fence behind shrubbery. An earlier name for this species is Didymocladium ternatum (Bon.) Sacc.

Cylindriuni sp. (or Hormiactis sp.), on scales of cones of Pinus sylvestris.

Fusidium griseum Lk., on leaves of Quercus coccinea, in roof drain-gutters.

Geotrichum candidum Lk. ex Pers., isolated from soil.

Gliocladium catenulatum Gilman & Abbott and G. roseum (Lk.) Bainier, isolated from soil. In addition, G. roseum was found once on stems of Pelargonium sonale in a flower pot.

Penicillium spp., including P. herquei Bainier & Sartory, P. lilacinum Thom, and P. velutinum van Beyma, isolated from soil.

Scopulariopsis brevicaule Bainier, isolated from soil.

Sepedonium sp., isolated from soil.

Sepedonium chrysospermum Bull. ex Fr., on old but turgid sporocarps of Boletinellus merulioides and Boletus chrysenteron.
Trichoderma spp., including *T. hamatum* (Bon.) Bainier, *T. pseudokoningii* Rifai, and *T. viride* Pers. ex S. F. Gray *sensu latissimo*, isolated from soil. Until the appearance of Rifai's monograph (1969) on *Trichoderma*, I accepted Bisby's interpretation (1939) of this genus in which all isolates with green spores are assigned to *T. viride*. However, according to Rifai, this species is the only one of seven green-spored species in which the spores are roughened. All of my isolates for which this character was checked had smooth spores.

*Tritrichium roseum* van Beyma, on a button which had lain on the ground, in the vicinity of where laundry had dried, for an unknown length of time.

*Verticillium* sp., isolated from soil.

*Dematiaceae*

*Alternaria alternata* (Fr.) Keissler, on leaves of *Viola papilionacea*, fruits of *Calycanthus floridus* still on the shrub, and isolated from soil.

*Alternaria tenuissima* (Fr.) Wiltshire, on *Gloxinias* leaves, herbaceous stems, and cones of *Pinus sylvestris*.

*Arthrinium phaeospermum* (Corda) M. B. Ellis, forming discrete to continuous patches of black mold on bamboo stakes in flower beds.

*Ascobasidium pullulans* (deBary) Arnaud, isolated from soil sample. A sarcinaeform development ascribed to this fungus was obtained on overwintered leaves of *Senecea* sp.

*Botrytis cinerea* sp., among other moulds on burlap around imported peat moss.

*Chlorosporium cladosporioides* (Fres.) de Vries, isolated from soil.

*Cladosporium herbarum* (Pers.) Lk. ex S. F. Gray, on dead stems of *Phlox paniculata*.

*Cladosporium humile* (Davis), on senescent leaves of *Acer pseudoplatanus*.

*Curvularia lunata* (Wakker) Boedijn, isolated from soil.

*Dendryphiis cladosporioides* (Pres.) de Vries, isolated from soil.

*Chlorosporium altivelatum* (Pers.) ex S. F. Gray, on dead stems of *Phlox paniculata*.

*Cladosporium palmatum* (Lk.) Davis, on senescent leaves of *Acer pseudoplatanus*.

*Epichloë purpureascens* Ehrenb. ex Schlecht., described by Roy & Gujarati (1966), recovered from the rhizosphere of *Dichanthium annulatum* in grassland in India, is very similar, judging from the published description and illustration. Its description and two figures are reproduced by Barron (1968).
Mycelia Sterilia

Sclerotium rolfsii Sacc. Masses of sclerotia have been found on crowns of plants and on soil surrounding Viola papilionacea.

REFERENCES


