

THE FUNGI OF NANTUCKET. CENTURY I¹

E. F. GUBA

INTRODUCTION

Nantucket is the name of a town, island, and county, a part of Massachusetts. The county comprises the islands of Nantucket, Tuckernuck, Muskeget, and a small group, the Gravelly Islands, all lying east of the island of Martha's Vineyard and some 28 miles at sea directly south of the peninsula of Cape Cod. Nantucket Island, the largest, averages about 14 miles long east and west, and $2\frac{1}{2}$ miles wide north and south, comprising about 30,000 acres. The outline of the island has been compared to a human stomach, a lamb chop, and an implement known as a billhook. Tuckernuck, the second in size, contains about 1260 acres, and Muskeget about 300 acres.

This island county is part of the extreme terminal moraine of the ice sheet that covered the northern part of our continent during the glacial period. In its physical constitution it is like New Jersey and Long Island and the coast-line extending south. In the composition of its higher flora this relationship is also strikingly suggested. The lands are composed mainly of glacial drift, sand, pebbles, and some boulders. They are broken up into hills, plains, ponds, bogs, deciduous woods, and pines. The charm of the dwarf deciduous trees, the heath-land, pond, salt marsh, beach, and dune vegetation is unsurpassed. The highest land is 91 feet at Saul's Hills and 105 feet at Sankaty Head. Anyone with a heart attuned to Nature cannot fail to find amid the solitude of these elevations a benediction and lasting joy. The northward curve of the isotherm and the proximity of the Gulf Stream account largely for the softness of its climate. Nevertheless, the almost treelessness of the island is an indication of the barren porous soil and the frequent beating winds and storms.

Small in area but rich in the variety of plants, many of which are rare or little known on the New England mainland, this island has for many years been a mecca for botanists and other scientists. Brought to fame by the whaling industry, this one-time prospering

¹ Contribution No. 268 of the Massachusetts Agricultural Experiment Station. I am gratefully indebted to the Nantucket Maria Mitchell Association, organized to honor the greatness of Maria Mitchell and to promote astronomy and the natural sciences on Nantucket, for their kindly and generous coöperation in making this study possible; especially to Miss Grace Wyatt, its director of Natural Science, for her interest in the pursuit of this work and assistance in the identification of host material.

community cherished then a great interest in local botany. Attesting to this fact were the existence of such organizations as the Maria L. Owen Society for the Protection of the Flora of Nantucket (previous to 1901), a class for the study of botany (previous to 1882), and in more recent and present time the Natural Science Department of the Nantucket Maria Mitchell Association (organized in 1903). When the whaling industry prospered in the first half of the 19th century, this island had its botanist, geologist, conchologist and others, and each in addition to acquiring foreign collections maintained collections from the island itself. The elaborate herbarium with other scientific treasures were swept away by the great fire of 1846.

The stimulus indicated by these early interests and endeavors culminated in the first list of indigenous plants of Nantucket in 1888, and with much suggestion of lament the author, Maria L. Owen, in the concluding part of her book states, "Here the catalogue must close with no record of the Lichens or Fungi. These two orders offer an unexplored field to any who will enter it." Some years later, (1901), Sarah Winthrop Smith in expressing a keen appreciation and admiration of the beauty and charm of the flora of Nantucket but apparently unwilling to admit, or lacking the faculty to discern, the presence of parasitic fungi and their effect on the health of the vegetation, remarked, "The great beauty of the flowers is due largely to the absence of blight or smut." Later, Jones in his convincing commentary denying the traditional claim of the existence of forest trees on Nantucket as a source of architectural timber wrote, "The trees of this island appear to die of rot before they attain any great age. . . . There is also the possibility that the mildews or mycelium fungi that exist on the island are inimical to prolonged tree growth." Jones's labors with cultivated plants and his interest in horticulture provided him with the faculty for noting their diseases.

There is a published record of only one fungus from Nantucket, and as far as the writer is aware no collections of fungi have ever been made. To Pelluet belongs the credit for reporting the parasitic occurrence there of *Exobasidium oxycocci* Rostr. on the American cranberry, *Vaccinium macrocarpon* Ait., and the huckleberry *Gaylussacia dumosa* (Andr.) T. & G. Specimens were collected in June and July, 1926, from the Taupaushaw Swamp region. Thus, half a century after the appearance of Maria L. Owen's appeal for a study of the fungi, nothing has been done.

In view of the lack of knowledge of the fungi of this relict and peculiar flora, and the circumscribed limits of these lands which render possible the attainment of some degree of completeness in achieving a knowledge of the entire composition of this division of its flora, the writer became thoroughly interested. It has been written, "Of all the earth's surfaces the islands are the aristocrats." The fungous flora of Nantucket, rich as it is with interest and surprises, cannot escape this commendation. Dotted with ponds and bogs and sometimes enshrouded by heavy fogs and storms, conditions obtain here which are especially favorable for a rich fungous flora and for epidemics of plant diseases.

All of the collections and identifications of material are by the author except where indicated otherwise. It is the plan to issue the material in sets of centuries. The fleshy fungi must necessarily be omitted from these sets. However, one complete set including the fleshy fungi will be deposited in the herbarium of the Nantucket Maria Mitchell Association, Nantucket, Massachusetts, for permanent record and reference.

CENTURY I

1. *ARMILLARIA MELLEA* (Vahl) Quél. Common in Hidden Forest. Sept. 30, 1936.

2. *ALBUGO BLITI* (Biv.) O. Kuntze. On living leaves of *Amaranthus retroflexus* L. General in cultivated fields and gardens. Sept. 13, 1935.

3. *BACTERIUM APII* Jagger. On leaves of *Apium graveolens* L. (cult. celery) Nantucket town in vegetable garden. Sept. 13, 1935.

4. *BOLETUS GRANULATUS* L. In pine woods along road to Polpis outside of town. Oct. 1, 1936.

5. *BOTRYTIS CINEREA* Pers. On stems of *Callistephus chinensis* Nees. In nursery on Madaket Rd. outside of the town. Aug. 13, 1936. The occasion for some loss through rotting of the stems.

6. *BOTRYTIS PAEONIAE* Oud. On living leaves of *Paeonia officinalis* Retz. in town and in nurseries on the island. Sept. 16, 1935.

7. *CALVATIA GIGANTEA* (Batsch.) Fr. Around Chadwick's Folly at Squam. Oct. 1, 1936. Of rather frequent occurrence here.

8. *CERCOSPORA BETICOLA* Sacc. On living leaves of *Beta vulgaris* L. Polpis in vegetable garden. Sept. 11, 1935.

9. *CERCOSPORA CLAVATA* (Gerard) Cke. On living leaves of *Asclepias syriaca* L. Sept. 16, 1935.

10. *CERCOSPORA NYMPHAEACEA* C. & E. On living leaves of *Castalia odorata* (Ait.) W. & W. In pond at Madaket. Sept. 18, 1935.

11. *CLAVARIA PULCHRA* Pk. In pine woods. Sept. 1936. Coll. by J. C. Kimball. Det. by D. H. Linder.

12. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On needles of *Pinus rigida* Mill. The Larch Woods at Miacomet Pond. Coll. by E. F. Guba and I. H. Crowell. May 30, 1936. Strangely the fungus was generally confined to but a single tree and no more could be found in spite of diligent search in the same locality and elsewhere on the island at the time noted.

13. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On leaves of *Solidago graminifolia* (L.) Salisb. General. Sept. 13, 1835.

14. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On living leaves of *Solidago rugosa* Mill. Sept. 12, 1935. General over the island. E. F. Guba & G. Wyatt.

15. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On *Solidago rugosa* × *sempervirens*. Polpis Harbor. Sept. 12, 1936.

16. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On living leaves of *Solidago sempervirens* L. Long Pond. Sept. 13, 1935. E. F. Guba & G. Wyatt. Common along the beaches and inlets and very destructive in some locations. The host appears to be hybridized more than is at present recognized by taxonomists as is evidenced by striking variations in the degree of susceptibility.

17. *COLEOSPORIUM SOLIDAGINIS* (Schw.) Thüm. On living leaves of *Solidago tenuifolia* Pursh. Woods near Hummock Pond. Sept. 13, 1935. E. F. Guba & G. Wyatt.

18. *CONIOTHYRIUM CONCENTRICUM* (Desm.) Sacc. On leaves of *Yucca filamentosa* L. in private garden at Polpis. Aug. 12, 1936.

19. *CONIOTHYRIUM FUECKELII* Sacc. On canes of cultivated raspberry, *Rubus idaeus* L. (var. Latham). On farm at south end of Hummock Rd. Aug. 13, 1936.

20. *COPRINUS MICACEUS* (Bull.) Fr. On lawn over stump in town. Sept. 30, 1936.

21. *DICTYOPHORA DUPLICATA* (Bosc) Ed. Fisch. In pine woods east of town. Oct. 1, 1936.

22. *DIPLOCARPON ROSEUM* Wolf. On living leaves of *Rosa virginiana* Mill. Polpis. Sept. 13, 1936. E. F. Guba & G. Wyatt.

23. *ENTOMOSPORIUM MACULATUM* Lév. On leaf-blades and petioles of *Amelanchier canadensis* (L.) Medic. (of Bicknell's Flora; *A. laevis* Wiegand). In "Woods" near Hummock Road. Sept. 12, 1935. The fungus was responsible for general premature defoliation.

24. *ENTOMOSPORIUM MACULATUM* Lév. On leaves and fruit of *Cydonia oblonga* Mill. Aug. 15, 1936. Common among individual garden trees in town.

25. *ERYSIPHE CICHORACEARUM* DC. On living leaves of *Cucumis sativus* L. in vegetable gardens in town. Sept. 10, 1935.

26. *ERYSIPHE CICHORACEARUM* DC. On living leaves of *Helianthus tuberosus* L. Sept. 13, 1935. Common.

27. *ERYSIPHE CICHORACEARUM* DC. On living leaves of *Plantago major* L. Common in town. Sept. 12, 1935.

28. *ERYSIPHE CICHORACEARUM* DC. On leaves and stems of *Phlox paniculata* L. in gardens about the town. Aug. 15, 1936.

29. *ERYSIPHE CICHORACEARUM* DC. On living leaves and stems of *Rudbeckia hirta* L. in waste places near the waterfront. Aug. 15, 1936.
30. *ERYSIPHE CICHORACEARUM* DC. On living leaves of *Zinnia elegans* Jacq. In nursery and gardens. Sept. 10, 1935.
31. *ERYSIPHE POLYGONI* DC. On leaves and stems of *Baptisia tinctoria* (L.) R. Br. The Larches near Miacomet Pond. Sept. 16, 1935.
32. *ERYSIPHE POLYGONI* DC. On living leaves of *Lathyrus maritimus* (L.) Bigel. "Haul-over." Aug. 16, 1936.
33. *ERYSIPHE POLYGONI* DC. On living leaves of *Trifolium pratense* L. The "dump," Nantucket town.
34. *EXOASCUS COMMUNIS* Sadebeck. On fruits of cultivated *Prunus* (plum). In town. May 31, 1936. The plums on this tree are a total loss each year.
35. *EXOASCUS VARIUS* Atk. On leaves of *Prunus serotina* Ehrh. South end of Hummock Rd. Aug. 16, 1936.
36. *EXOBASIDIUM VACCINII* (Fckl.) Wor. On *Rhododendron viscosum* (L.) Torr. Hidden forest. May 30, 1936. E. F. Guba & I. H. Crowell.
37. *EXOBASIDIUM VACCINII* (Fckl.) Wor. On *Vaccinium corymbosum* L. The Larch Woods. May 30, 1936. E. F. Guba & I. H. Crowell.
38. *GLOEOSPORIUM DECOLORANS* E. & E. On living leaves of *Acer rubrum* L. Polpis. Sept. 16, 1936.
39. *GYMNOCONIA PECKIANA* (Howe) Trotter. On leaves of *Rubus flagellaris* Willd. (dewberry). East of town along Wauwinet Rd. and elsewhere. E. F. Guba & I. H. Crowell. May 29, 1936.
40. *GUIGUARDIA AESCULI* (PK.) Stewart. On living leaves of *Aesculus hippocastanum* L. Sept. 10, 1935. Present each year on the few trees in town.
41. *GYMNOSPORANGIUM CLAVIPES* C. & P. I. On leaves, fruits and twigs of *Amelanchier canadensis* (L.) Medic. (*A. laevis* Wieg.) Wauwinet Rd. beyond junction of Sconset Rd. E. F. Guba & I. H. Crowell. May 29, 1936.
42. *GYMNOSPORANGIUM CLAVIPES* C. & P. I. On fruit and spines of *Crataegus crus-galli* L. Nantucket town. Sept. 10, 1935.
43. *GYMNOSPORANGIUM CLAVIPES* C. & P. I. On fruits of *Crataegus oxyacantha* L. in private garden, Vestal Street. Aug. 12, 1936.
44. *GYMNOSPORANGIUM CLAVIPES* C. & P. I. On fruits and twigs of *Cydonia oblonga* Mill. in private garden, Vestal Street. Aug. 12, 1936.
45. *GYMNOSPORANGIUM CLAVIPES* C. & P. I. On twigs of *Juniperus virginiana* L. Wauwinet Rd. E. F. Guba & I. H. Crowell. May 29, 1936.
46. *GYMNOSPORANGIUM NIDUS-AVIS* Thaxter. On *Juniperus virginiana* L. Wauwinet Rd. beyond junction of Sconset Rd. E. F. Guba & I. H. Crowell. May 29, 1936. Det. by I. H. Crowell.

47. *HETEROSPORIUM GRACILE* (Wal.) Sacc. On leaves of *Iris versicolor* L. In private garden, Polpis. Aug. 12, 1936.
48. *HYGROPHORUS MARGINATUS* Pk. Hidden Forest. Oct. 1, 1936. Det. by C. J. Gilgut.
49. *HYGROPHORUS MINIATUS* (Scop.) Schroet. In pine woods. Sept. 1936. Coll. by J. C. Kimball. Det. by D. H. Linder.
50. *HYPHOLOMA SUBLATERITIUM* Schaeff. Sept. 20, 1936. Coll. by E. V. Seeler. Det. by D. H. Linder.
51. *LACCARIA TRULLISATA* (Ellis) Pk. In sand basins on "Haul-over." Aug. 15, 1936. Det. by L. C. C. Kreiger.
52. *LOPHODERMIVM PINASTRI* (Schrad.) Chev. On blighted needles of *Pinus rigida* Mill. Sconset and Wauwinet Rds. May 30, 1936. E. F. Guba & I. H. Crowell. General over the island. The unfavorable conditions of soil and climate predispose the needles to infection. The heavy casting of the needles is quite adverse to the best growth of this pine.
53. *MACROSPORIUM SAPONARIAE* Pk. On living leaves of *Saponaria officinalis* L. South of town in the "dump." Sept. 10, 1935.
54. *MARASMIUS OREADES* (Bolt.) Fr. Growing in abundance in cow pasture at south end of Hummock Rd. Sept. 30, 1936. Det. by C. J. Gilgut.
55. *MICROSPHAERA ALNI* (DC.) Wint. On living leaves of *Syringa vulgaris* L. Nantucket town. Sept. 13, 1935.
56. *MICROSPHAERA ALNI* (DC.) Wint. var. *VACCINII* (S.) Salmon. On living leaves of *Catalpa bignonioides* Walt. Nantucket town. Sept. 15, 1935.
57. *NECTRIA CINNABARINA* (Tode) Fr. On stems of *Cytisus scoparius* (L.) Link. Nantucket, the "dump." Sept. 10, 1935.
58. *PERONOSPORA EFFUSA* (Grev.) Rabh. On living leaves of *Chenopodium album* L. In vegetable garden on Madaket Rd. outside the town. Aug. 15, 1936.
59. *PERONOSPORA HALSTEDII* Farl. On leaves and stems of *Erechtites hieracifolia* (L.) Raf. Long Pond at Madaket Rd. Aug. 16, 1936.
60. *PESTALOTIA ADUSTA* E. & E. On leaves of *Prunus serotina* Ehrh. "The Woods." Sept. 16, 1936. E. F. Guba & G. Wyatt.
61. *PHRAGMIDIUM AMERICANUM* (PK.) Diet. On living leaves of *Rosa virginiana* Mill. Banks of swamps at Polpis. Sept. 19, 1935. Common elsewhere around ponds and woods.
62. *PHYLLOSTICTA AMICTA* E. & E. On blighted leaves of *Arctostaphylos uva-ursi* (L.) Spreng. General over the island and doing much damage to this favored plant. May 30, 1936.
63. *PHYLLOSTICTA HIBISCINA* E. & E. On living leaves of *Hibiscus moscheutos* L. Great Neck along Long Pond. Sept. 16, 1935.
64. *PILEOLARIA TOXICODENDRI* (Berk. & Rav.) Arth. On foliage and petioles of *Rhus Toxicodendron* L. Hidden Forest. May 31, 1936.
65. *PLASMOPARA VIBURNI* Pk. On living leaves of *Viburnum pubescens* (Ait.) Pursh (*V. venosum* Britt.) Sept. 16, 1935.

66. *POLYPORUS VERSICOLOR* (Linn.) Fries. On dead log, Hidden Forest. Sept. 13, 1935.
67. *POLYSTICTUS PERGAMENUS* Fr. On unidentified log in Hidden Forest. Sept. 14, 1935. Det. by D. Linder.
68. *POLYSTICTUS VERSICOLOR* (L.) Fr. On dead log of *Prunus* (cherry), Hidden Forest. May 31, 1936.
69. *PSALLIOTA CAMPESTRIS* (L.) F. Nantucket at the "dump." Sept. 14, 1935. Common in pastures on the island.
70. *PUCCINIA ANTIRRHINI* Diet. & Holw. On living leaves of *Antirrhinum majus* L. In nurseries and gardens. Sept. 10, 1935.
71. *PUCCINIA BARDANAE* (Wallr.) Cda. On living leaves of *Arc-tium minus* Bernh. In farm yard on main highway near Polpis; also at Madaket. Sept. 10, 1935.
72. *PUCCINIA GRAMINIS* Pers. On leaves and stems of *Agrostis alba* L. On farm at south end of Hummock Rd. Aug. 13, 1936.
73. *PUCCINIA GRAMINIS* Pers. On leaves and stems of *Phleum pra-tense* L. South end of Hummock Rd. Aug. 16, 1936.
74. *PUCCINIA INVESTITA* Schw. On *Gnaphalium polycephalum* Michx. Sept. 18, 1935. Common all over the island and killing off the lower leaves.
75. *PUCCINIA MENTHAE* Pers. On leaves and stems of cultivated mint, *Mentha arvensis* L. in nursery on Madaket Rd. outside of the town. Aug. 10, 1936.
76. *PUCCINIASTRUM MYRTILLI* (Schum.) Arth. On living leaves of *Vaccinium pennsylvanicum* Lam. Miacomet Pines. Sept. 18, 1935. E. F. Guba & G. Wyatt.
77. *RAMULARIA TULASNEI* Sacc. On living leaves of *Fragaria virginiana* Duch. In open spaces in the woods, around Hummock Pond. Aug. 12, 1936.
78. *RHYTISMA ANDROMEDAE-LIGUSTRINAE* (S.) Wilson & Seaver. On living leaves of *Lyonia ligustrina* (L.) DC. Sept. 16, 1935.
79. *RHYTISMA CONCAVUM* Ell. & Kell. On living leaves of *Ilex verticillata* (L.) Gray. Sept. 16, 1935. General on the island; common around Hidden Forest and in the "Woods." E. F. Guba & G. Wyatt.
80. *RHYTISMA VACCINII* (S.) Fr. On living leaves of *Vaccinium vacil-lans* Kalm. Polpis. Sept. 18, 1935.
81. *SEPTORIA ATROPURPUREA* Pk. On leaves of *Aster* Sp. Coskata Thicket. July 13, 1936. Coll. by G. Wyatt.
82. *SEPTORIA OENOTHERAE* Westd. On living leaves of *Oenothera biennis* L. South of town and along the Hummock Rd. Sept. 17, 1935.
83. *SEPTORIA POLYGONORUM* Desm. On living leaves of *Polygonum persicaria* L. The "dump," south of town. Sept. 15, 1935.
84. *SEPTORIA RUBI* Westd. On leaves of *Rubus idaeus* L. var. Latham (cultivated raspberry). South end of Hummock Rd. Aug. 15, 1936. Epidemic.
85. *SEPTORIA RUBI* Westd. On living leaves of *Rubus flagellaris*

Willd. (dewberry) near pine grove at end of Hummock Rd. Aug. 12, 1936.

86. *SCLERODERMA VULGARE* Hornem. Pine woods near Hummock Pond. Sept. 14, 1935. Det. by C. J. Gilgut.

87. *SCLEROTINIA FRUCTICOLA* (Wint.) Rehm. On fruits of *Prunus maritima* Wang. Along roadside of Polpis. Sept. 11, 1935. Common in 1935 but more in 1936.

88. *SPHAEROPSIS MALORUM* Pk. On leaves and twigs of *Pyrus malus* L. On old seedling in Hidden Forest. E. F. Guba & I. H. Crowell. May 29, 1936. Tree badly defoliated by the fungus as early as this date. The twigs were also badly infested.

89. *SPHAEROPSIS QUERCINA* Cke. & Ellis. On twigs and branches of *Quercus ilicifolia* Wang. Entrance to Hidden Forest. May 29, 1936.

90. *SPHAEROPSIS VISCOSA* Cke. & Ellis. On leaves of *Pyrus arbutifolia* (L.) L. f. Coskaty Thicket. July 13, 1936. Coll. by G. Wyatt.

91. *TRANZSCHELIA PRUNI-SPINOSAE* (Pers.) Diet. O and I. On living leaves of *Anemone quinquefolia* L. Hidden Forest. May 30, 1936.

92. *TRANZSCHELIA PRUNI-SPINOSAE* (Pers.) Diet. II and III. On living leaves of *Prunus serotina* Ehrh. Hidden Forest. Sept. 18, 1935. E. F. Guba & G. Wyatt.

93. *UNCINULA NECATOR* (S.) Burrill. On leaves of *Pseodera quinquefolia* (L.) Greene. Nantucket town. Sept. 13, 1935.

94. *UROMYCES PHASEOLI* (Pers.) Wint. var. *TYPICA* Arth. On leaves of *Phaseolus vulgaris* L. var. *humilis* Alef. In vegetable gardens. Aug. 15, 1936. Epidemic and general causing considerable damage.

95. *UROMYCES FALLENS* (Desm.) Kern. On living leaves of *Trifolium pratense* L. The "dump," Nantucket town and around cottages about the island. Sept. 10, 1935.

96. *UROMYCES HEDYSARI-PANICULATI* (Schw.) Farl. On leaves of *Desmodium obtusum* (Muhl.) DC. E. F. Guba & G. Wyatt. Sept. 13, 1935.

97. *UROMYCES HYPERICI* (Spreng.) Curt. On living leaves of *Hypericum perforatum* L. In field south of town. Sept. 11, 1935.

98. *UROMYCES LIMONII* (DC.) Lev. On living leaves of *Limonium carolinianum* (Walt.) Brit. Madaket Harbor. E. F. Guba & G. Wyatt. Sept. 13, 1935. Very common and destructive to the lower leaves. Always encountered on my walks to Coskaty over the "Haul-over" from Wauwinet.

99. *UROMYCES TRIFOLII* (Hedw.) Lev. On living leaves of *Trifolium repens* L. near Children's Beach and about cottages along the water front. Aug. 16, 1936.

100. *USTILAGO AVENAE* (Pers.) Jens. On *Avena sativa* L. On farm at end of Hummock Rd. Aug. 15, 1936.

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This species seems to have been overlooked by authors. Neither Abrams, Phytologia 1:89-94. 1934 (Mahonias of the Pacific States) nor Munz, Manual of So. Calif. Bot., 1935, mentions it.

It seems to be most closely related to *Berberis pumila* Greene from which it differs in the mostly orbicular cordate-based leaflets. The overlapping of the lobes of the leaflet-bases is very striking. The marginal prickles vary from 14 to 27 per leaflet. The upper surface of the leaflets is dull and the lower surface is duller and papillate. The pairs of leaflets are sufficiently discrete that they overlap little if at all, except the terminal pair which usually overlaps the terminal leaflet considerably. These additional characters are drawn from the type. The label reads: 66 *Berberis pinnata* Lag. Rootstocks brilliant yellow. "Oregon Grape," 1-2 ft. tall. One locality along a streamway. Not in bloom. Garnet Queen Mine, Sta. Rosa Mts., Nov. '04, Blanche Trask, Coll. This locality is on the west slope of Santa Rosa Mt., Santa Rosa Mts., Riverside Co., Calif. Alt. ca. 6,200 ft. Township 7 South, Range 5 East, San Bernardino Meridian. See U. S. G. S. topographic map, Indio Special, California.—LOUIS C. WHEELER, Gray Herbarium.

Volume 39, no. 464, including pages 277-320 and plates 466-473, was issued 13 August, 1937.



Guba, Emil Frederick. 1937. "THE FUNGI OF NANTUCKET. CENTURY I."
Rhodora 39, 367–376.

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