

Zeitschrift: Mycologia Helvetica
Herausgeber: Swiss Mycological Society
Band: 1 (1983-1986)
Heft: 3

Artikel: New records of Geastraceae from Israel
Autor: Binyamini, N.
DOI: <https://doi.org/10.5169/seals-1036460>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. [Siehe Rechtliche Hinweise.](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. [Voir Informations légales.](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. [See Legal notice.](#)

Download PDF: 04.05.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

MYCOLOGIA HELVETICA

Vol. I No 3

1984

(Manuscript received on 20th December 1983)

NEW RECORDS OF GEASTRACEAE FROM ISRAEL

N. BINYAMINI

Department of Botany, The George S. Wise Faculty of Tel Aviv
University, Tel Aviv, Israel.

Summary : Ten species are presented, five of which are new records for Israel. The investigation covered species on the sandy soil in the central and northern parts of the country.

Résumé : Dix espèces sont présentées, dont cinq sont nouvelles pour la flore israélienne. La recherche a couvert le nord et centre du pays.

Israeli contribution to the study of the Gasteromycetes is very limited. The only two lists concerning this subject are in Dring & Rayss (1963) and Binyamini (1973), which record only 4 species of the genus Geastrum, including G. simulans Lloyd, that we have not yet found.

The following account deals with 8 species of Geastrum of which 5 are new records for Israel. The collections were made during the years 1971-1983 from the central part (Sharon Plain), under

coniferous trees, and from the northern part (Upper Galilee and Mt. Carmel) under Quercus trees. Most of the species typically grow on sandy soil. Some of the examined specimens show slight differences compared with European material, possibly because of the dry climatic conditions, and consequently, it was deemed worthwhile providing at least a short description of the species in our collections.

Classification follows that of Eckblad (1955), van Eynhoven (1957), Stanek (1958), Dissing & Lange (1961), Coker & Couch (1969), Maas Geesteranus (1971), Demoulin (1975) and Demoulin & Marriott (1981). The source of each record is indicated at the end of the description and the herbarium numbers of dry specimens are given in parentheses. The code colour specified in parentheses is taken from Kornerup & Wanscher (1967). All collections cited are deposited in the herbarium of the Department of Botany-Myecology.

Geastrum pseudolimbatum Holl.

Fig. 1

Exoperidium splitting to 6-8 rays, 3-4 cm broad, subhygroscopic, tips bent inwards; pseudoparenchymatic layer dark brown, smooth, cracked when dry; mycelial layer with particles of soil which fall away; fibrillose layer pale brownish. Endoperidium subglobose, 1- 2.5 cm broad, tomentose in some parts, smooth, brownish to purple, becoming light greyish; peristome definite, up to 4 mm diam., apophysis concolorous or slightly darker than endoperistome ring; pedicel short, 1-4 mm high, 2-4 mm broad, more brightly coloured than endoperidium. Gleba dark brown (6F6); spores globose, 6-7.5 μ m diam., verrucose-rugose, brownish; capillitium 4-7 μ m broad, thick-walled, brownish.

Habitat. Sharon Plain, on sandy soil, under Pinus 17.2.79 (70g54), 15.5.71 (71g13), 30.1.74 (74g40), 23.8.76 (76g20), 18.4.77 (77g19), 11.12.77 (77g30).

The main characteristics of our specimens are: subhygroscopic tips of the exoperidium; definite peristome; short pedicel and verrucose-rugose spores. Our specimens conform well to the descriptions of Staněk (1958) and Dissing & Lange (1961).

Geastrum floriforme (With.: Pers.) Corda

Fig. 2

Exoperidium strongly hygroscopic, splitting in 5-10 unequal, acute rays, 2-4 cm broad; pseudoparenchymatic layer dark brown; mycelial layer smooth, pale after exposure; fibrillose layer dark brownish. Endoperidium subglobose or depressed, 6-8 mm broad, sessile, greyish to greyish brown; peristome indefinite lacking a silky zone. Gleba dark brown; spores globose, 6-7.5 μm diam., echinulate; capillitium 4-7 μm broad, thick-walled.

Habitat. Sharon Plain, close to Cupressus, on sandy soil. 30.11.74 (74g21), 30.8.75 (75g21), 28.9.75 (75g25), 11.11.78 (78g54).

This species is common in Sharon Plain, where dunes and sandy soil occur. Our specimens conform well to the descriptions and figures of Stanek (1958) and Coker & Couch (1969).

Geastrum recolligens (Woodw. em Sow.) Desv.

Fig. 3

Found in the Sharon Plain, on sandy soil, close to Cupressus, 30.11.74 (74g22), 1.11.80 (80g100).

Geastrum striatum DC.

Fig. 4

(Syn. : G. bryantii Berk.)

Exoperidium splitting to about the centre into 6-8 acute rays, 6-10 cm broad; pseudoparenchymatic layer fleshy, thick and hard when dry; mycelial layer often with particles of soil; fibrillose layer brownish red (7EC) or brown. Endoperidium globose to subglobose, up to 3 cm broad, smooth, vinaceous grey to pale ochraceous; peristome sulcate; apophysis with sharp edge and with about 25 shallow furrows; pedicel 3-5 mm high, broadest at apex, forming a collar around the pedicel. Gleba brown; spores globose, 5-6.5 μm , brown, with low warts; capillitium 3.5-7 μm broad, brownish.

Habitat. Upper Galilee, Bar'am Wood. Under Quercus, 27.11.72 (72g112), 21.12.82 (82g113).

The specimens conform well to the description and figure of Stanek (1958). The vinaceous tinge of the exoperidium is mentioned by Dissing & Lange (1961).

Geastrum sessile (Sow.) Pouz.

Fig. 5

(Syn. : G. fimbriatum Fr.; G. rufescens Pers. : Pers. em. Kits van Waveren)

Exoperidium saccate, non-hygroscopic, splitting to about the centre into 5-10 acute rays, 3-7 cm broad; pseudoparenchymatic layer pale brown to brownish, soon disappearing; mycelial layer thin with particles of soil, which fall away; fibrillose layer pale brown. Endoperidium subglobose, 1-3 cm broad, sessile, smooth, pale brownish; peristome indefinite, silky, concolorous with endoperidium. Gleba brown; spores globose 3.8 - 4.8 μ m diam., hyaline to light brownish, finely echinulate; capillitium 3-7 μ m, almost hyaline to brownish, with adhering debris.

Habitat. Sharon Plain. Rosh Ha'ayin, under Eucalyptus , 28.9.78 (78g47).

The acute incurved rays and the indefinite peristome characterise our specimens, which conform to the descriptions of Calonge & Demoulin (1975) and to the figure of Staněk (1958) for G. fimbriatum Fr. According to Demoulin (1975) and Demoulin & Marriott (1981), G. sessile is synonymous with G. fimbriatum Fr. and G. rufescens Pers.: Pers. em. Kits van Wav.

Geastrum saccatum Fr.

Fig. 6

Exoperidium saccate, non-hygroscopic, splitting almost to the centre into 5-9 acute rays, 2-5 cm broad; pseudoparenchymatic layer brownish, smooth, cracked when dry; mycelial layer brownish, straw colour, smooth, with particles of soil, base sometimes with a prominent umbilical scar where a mycelial tuft was attached; fibrillose layer pale brownish. Endoperidium subglobose 1-1.5 cm broad, smooth, concolorous or darker than the pseudoparenchymatic layer, sessile; peristome definite, concolorous with endoperidium or paler. Gleba brown; spores globose, 4-5(-6) μ m diam., echinulate, brown; capillitium 4-7 μ m broad, pale brownish, with adhering debris.

Habitat. Upper Galilee, Bar'am Wood. Under Quercus , 3.2.81 (81g100), 21.12.82 (82g112).

The saccate form with acute rays and definite peristome are typical,

and conform well to the descriptions of Staněk(1958) and Dring & Rayner (1966).

Geastrum minimum Schwein.

Our specimens were found in the Sharon Plain, on sandy soil, under Eucalyptus , 12.12.74 (74g27), and Casuarina 18.4.77 (77g18).

Geastrum fornicatum (Huds.) Hook.

Found in the Sharon Plain, on sandy soil, under Casuarina , 21.1.71 (71g11), and Eucalyptus , 12.12.74 (74g26), 12.1.77 (77g13).

Astraeus hygrometricus (Pers.) Morg.

Our specimens were found in large quantities on Mt. Carmel under Quercus , 9.2.81 (81g101), 10.12.81 (81g109), Sharon Plain, on sandy soil, under Grevillea 21.11.73 (73g14).

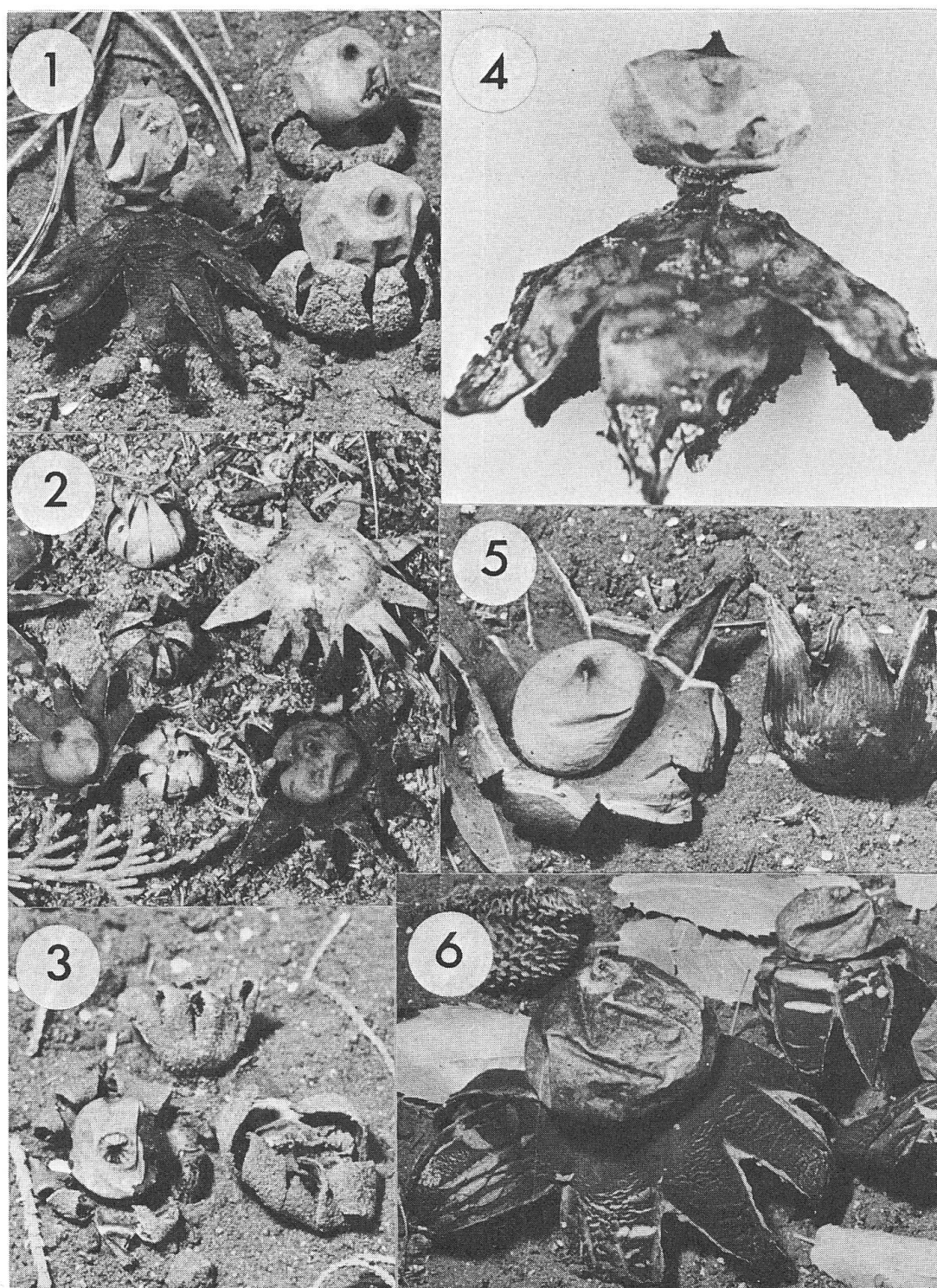
Myriostoma coliforme (With. ex. Pers.) Corda.

Our specimens were found in the Sharon Plain, on sandy soil, under Ficus sycomorus , 1.12.76 (76g29), 16.12.75 (75g12), and Grevillea , 21.1.72 (72g106), 25.11.72 (72g115), 12.1.77 (77g14).

BIBLIOGRAPHY

- Binyamini, N. 1973: Gasteromycetes of the Sinai Desert. Israel J. Bot. 22 : 33-37.
- Calonge, F. D. & V. Demoulin. 1975: Les Gastéromycètes d'Espagne. Bull. Soc. Mycol. France 91 : 247-292.
- Coker, W. C. & J. N. Couch. 1969: The Gasteromycetes of the Eastern United States and Canada. Bibliotheca Mycologica 19 : 1-201.
- Demoulin, V. 1975: Les Gastéromycètes. Introduction à l'étude des Gastéromycètes de Belgique. Nat. Belges Bull. 56 : 192-200.
- Demoulin, V. & J. V. R. Marriott. 1981: Key to the Gasteromycetes of Great Britain. Bull. Br. Mycol. Soc. 15(1) : 37-56.
- Dissing, H. & M. Lange. 1961: The genus Geastrum in Denmark. Botanisk Tidsskrift. 57 : 1-27.

- Dring, D. M. & T. Rayss. 1963: The Gasteromycete fungi of Israel. Israel J. Bot. 12 : 147-178.
- Dring, D. M. & R. Rayner. 1966: Some Gasteromycetes from Eastern Africa. J. E. Afr. Nat. Hist. Soc. 26, 1(114) : 5-46.
- Eckblad, F. E. 1955: The Gasteromycetes of Norway. The Epigaeal genera. Nytt. magasin for Botanik 4 : 19-86.
- Kornerup, A. & J. H. Wanscher. 1967: Methuen Handbook of Colour. Methuen & Co. Ltd., London, 243 p.
- Maas Geesteranus, R. A. 1971: Gasteromycetes van Nederland. Coolia 15(3) : 49-92.
- Staněk, V. J. 1958. Geastraceae. In Flora CSR. Gasteromycetes, B., 1 : 392-526. Praha : Česk. Acad. Ved.
- van Eindhoven, G. L. 1957: Determinatietabel voor de Nederlandse Aardsterren. Coolia 4(4) : 27-34.



Figs. 1-6. 1. Geastrum pseudolimbatum x1. 2. G. floriforme x1.
3. G. recolligens x1. 4. G. striatum x1. 5. G. sessile x1.
6. G. saccatum x1.

