

Lichens of Great Britain & Ireland edn 3

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Prepared by Alan Orange & Mark Powell, based on the LGBI2 account by Purvis & Orange (2009)

ACROCORDIA A. Massal. (1854)

A. Orange & M.J. Powell

Thallus crustose, effuse, whitish or pale, thin or immersed in the substratum, ecorticate. **Photobiont** *Trentepohlia*. **Ascomata** perithecia, almost entirely immersed to sessile, black (rarely pink or whitish), compound, with a hemispherical to globose, brown-black K– involucrellum surrounding a ± globose, colourless or pale brownish exciple. **Hamathecium** of persistent, slender, sparingly branched or anastomosing, long-celled pseudoparaphyses; paraphyses absent. **Hymenial gel** I–, K/I–. **Asci** 8-spored (rarely 4-spored), cylindrical, K/I–, fissitunicate, with a broad bulbous ocular chamber, above which the apical dome contains a mildly refractive hemispherical structure which can be observed in water mounts and stains in Congo Red (Fig. 11a). **Ascospores** uniseriate, colourless, ellipsoid to oblong-ellipsoid, the ends usually rounded, 1(-3)-septate, the median septum thick and cells ± equal in size, not or slightly constricted at the septum, additional septa (if present) thin; perispore ornamented with minute warts that disappear in K. **Conidiomata** pycnidia; conidiogenous cells cylindrical, elongate; conidia acrogenous, ellipsoid to narrowly ellipsoid, aseptate, colourless. **Chemistry**: lichen products not detected by TLC. **Ecology**: on ± base-rich substrata, on bark of broad-leaved trees or on mostly vertical surfaces of calcareous or basic rocks in humid situations. **Distribution**: ca ten species in temperate areas.

Characterized by the cylindrical asci, with an apparently unique apical structure, and by the uniseriate, ellipsoid ascospores with a warted perispore. The perispore causes the ascospores to appear finely to strongly verrucose in water, and often with a slightly projecting septum; in K the perispore apparently swells or becomes diffuse, so that the warted surface disappears or is represented only by a slightly lumpy, diffuse layer. The K– pigmentation of the perithecial wall (slight darkening in K but remaining brown) is useful in distinguishing specimens of *Acrocordia* from look-alikes in *Anisomeridium* (the latter genus having a K+ greenish pigment in the perithecial wall).

Literature:

Aptroot, A. (2002). *Acrocordia*. In: *Lichen Flora of the Greater Sonoran Desert Region* Vol. 1. (Nash, T.H., III, Ryan, B.D., Gries, C., Bungartz, F. eds.). Arizona, Tempe: Lichens Unlimited. p. 89.

Orange, A. (2013). *British and Other Pyrenocarpous Lichens*. Version 2. 250 pp. Cardiff: National Museum of Wales, available at <https://museum.wales/media/13849/Orange-A-2013-British-and-other-pyrenocarpous-lichens.pdf>.

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|------|---|-------------------|
| 1 | On rocks, rarely on soil | 2 |
| | On bark, rarely on wood | 5 |
| 2(1) | Involucrellum spreading laterally away from exciple, never continuous below it..... | 3 |
| | Involucrellum incurved under exciple, often more or less continuous below | 4 |
| 3(2) | Ascospores 12-19 × 6-9 µm; perithecia with the ostiole often projecting as a papilla;
thallus usually immersed | <i>conoidea</i> |
| | Ascospores 19-26(-28) × 9.5-12 µm; perithecia without a distinctly papilla-like ostiole;
thallus superficial | <i>macrospora</i> |
| 4(2) | Perithecia 0.7-1.5 mm diam.; ascospores 20-35 × 10-15 µm | <i>salweyi</i> |

- Perithecia 0.4-0.7 mm diam.; ascospores $13-14 \times 5-7 \mu\text{m}$ *subglobosa*
- 5(1) Perithecia 0.5-1 mm diam.; ascospores $15-27(-30) \times 8-12 \mu\text{m}$ *gemmata*
 Perithecia 0.3-0.6 mm diam.; ascospores $11-16.5 \times 5.5-9.5 \mu\text{m}$ *cavata*

Acrocordia cavata (Ach.) R.C. Harris (1974)

Thallus immersed, grey-white. Perithecia 0.3-0.6 mm diam., half-immersed; involucrellum hemispherical. Ascospores $11-16.5 \times 5.5-9.5 \mu\text{m}$. Pycnidia not known.

On wood of *Ilex* and on bark of *Corylus*, *Fraxinus* and *Populus tremula*. Scotland (Argyll, Caithness, Perthshire), N. Somerset. Europe, N. America.

Similar to *A. gemmata* but with smaller perithecia and ascospores. *Anisomeridium biforme* differs in the ascus structure and the smaller, smooth ascospores.

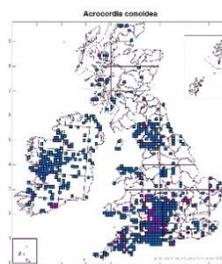


Acrocordia conoidea (Fr.) Körb. (1855)

Thallus mainly immersed, occasionally superficial and cracked, smooth or finely granular, effuse, pale grey or brownish grey, often with pinkish tinge when fresh. Perithecia 0.5-1 mm diam., one quarter to half immersed, conical-hemispherical, apices often flattened and with the ostiole projecting as a small papilla; involucrellum spreading outwards away from the exciple. Asci (Fig. 11a). Ascospores $12-19 \times 6-9 \mu\text{m}$, the ends mostly rounded but sometimes pointed, occasionally with a thin secondary septum dividing each cell. Pycnidia 0.14-0.2 mm diam., frequent, often numerous. Conidia ellipsoid, ca $3.3 \times 1.5 \mu\text{m}$.

On hard limestones and calcareous walls in ± shaded and moist situations; abundant in areas with naturally occurring hard limestones (particularly Devonian and Carboniferous limestone). C., N., & W. Britain, N.W. Ireland. Europe, N. America.

When well developed, easily recognized by the shallowly conical shape of the rather evenly dispersed perithecia. Difficult specimens can be distinguished from *A. macrospora* and *A. salweyi* in sections by the more outwardly spreading base of the involucrellum and the smaller ascospores.

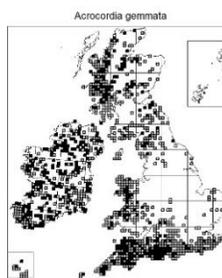


Acrocordia gemmata (Ach.) A. Massal. (1854)

Thallus immersed, white or pale grey. Perithecia 0.5-1 mm diam., black (rarely pink), one quarter to entirely immersed; ostiole often eccentric and sometimes papilla-like. Asci occasionally 4-spored. Ascospores $15-27(-30) \times 8-12 \mu\text{m}$. Pycnidia 0.1-0.25 mm diam., frequent but rarely numerous. Conidia $3-5 \times 0.8-1 \mu\text{m}$.

In woodlands or open situations on rough bark of mature trees, especially *Fraxinus*, *Quercus* and *Ulmus*, more rarely on smooth bark of *Corylus*; widespread and locally common but absent from many areas due to air pollution. Throughout the British Isles but absent from much of C. & E. Britain. Europe, Macaronesia, N. America, Asia, New Zealand.

Distinguished from the rare *A. cavata* by the larger perithecia and ascospores. The distinctive ascus and ascospore morphology of the genus distinguish *A. gemmata* from other superficially similar, bark-inhabiting taxa, e.g. *Anisomeridium* spp., *Lithothelium phaeosporum*, *Pyrenula* spp. and the non-lichenized *Navicella pileata* (Tode) Fabre (1879). Occasionally found with pycnidia only.

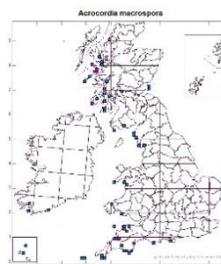


Acrocordia macrospora A. Massal. (1855)

Thallus superficial, grey to grey-brown, smooth or rimose. Perithecia 0.8-1 mm diam., rather prominent, ostiole not papilla-like; involucrellum \pm spreading laterally, never continuous below the exciple. Ascospores $19-26(-28) \times 9.5-12 \mu\text{m}$. Pycnidia 0.2-0.3 mm diam., usually few.

On sheltered, often shaded siliceous or weakly calcareous rocks in coastal areas. W. British Isles & E. Scotland (Fife). Europe, Macaronesia, N. America, Asia, New Zealand.

Resembles *A. conoidea* but the perithecia are not flattened, lack papillate ostioles and the ascospores are larger. *A. salweyi* is distinguished in section by the tightly incurved involucrellum which is often continuous below the true exciple; it occurs on strongly calcareous substrata.

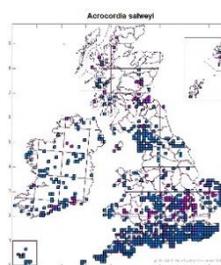


Acrocordia salweyi (Leight. ex Nyl.) A.L. Sm. (1911)

Thallus \pm immersed, whitish to pale brownish grey, thin, granular or smooth to rimose. Perithecia 0.7-1.5 mm diam., one quarter to half immersed; involucrellum usually tightly incurved around the exciple and often continuous below, appearing black-globose. Ascospores $20-35 \times 10-15 \mu\text{m}$. Pycnidia 0.2-0.3 mm diam., usually few.

On soft, \pm sheltered, often damp, highly calcareous rocks and especially old mortar, rarely terricolous. Throughout the British Isles, common in S. & W. England. Widespread in Europe.

See *A. macrospora* if on acid or only weakly calcareous substrata. Some specimens may resemble *A. conoidea* but the perithecia are not flattened, lack papilla-like ostioles and the ascospores are smaller.



Acrocordia subglobosa (Vězda) Vězda & Poelt (1977)

Thallus \pm immersed, whitish. Perithecia 0.4-0.7 mm diam., one quarter to half immersed; involucrellum usually tightly incurved around the exciple and often continuous below, appearing black, globose. Ascospores $13-14 \times 5-7 \mu\text{m}$. Pycnidia not seen.

On calcareous seam in N.E.-facing schistose cliff at 500 m altitude; very rare. Scotland (S. Aberdeenshire). Central Europe (Sudeten & Carpathian mountains) and Finland.

Very similar to *A. salweyi*, differing mainly in the smaller dimensions of its perithecia and ascospores.

