

MYXOBACTERIACEAE.

By A. Lorrain Smith, F.L.S.

The bacteria of this group have been fully described by Thaxter in the *Botanical Gazette*, June, 1897 and June, 1904; and more recently by Quehl in the *Centralbl. Bakt.* xvi. pp. 9-34 (1906). Thaxter gives as the characters of the order:—"Mobile rod-like organisms, multiplying by fission secreting a gelatinous base and forming pseudoplasmodium-like aggregations before passing into a more or less highly developed cyst-producing, resting state, in which the rods may become encysted in groups without modification or may be converted into spore masses." They live on decaying organic matter, and, in the cysted condition, are usually of a bright colour. The cysts are usually quite definite forms and are all of them minute objects, the largest being little over 1 mm. in height. Owing to their delicate and almost microscopic nature, they are rarely detected in the open and the large majority of the species observed have developed on laboratory cultures. The single British member of the group, *Myxococcus pyriformis* A.L.Sm., was found on rabbit dung brought from Llanymawddwy, North Wales, and cultivated in the laboratory of the British Museum. A description of the species was published by me in *Journ. Bot.* Feb., 1901, pp. 69-72. The cysts composed of minute cocci were thickly scattered over the substratum, as minute pear-shaped bodies of a reddish-orange colour, about $\frac{1}{4}$ mm. in height. No other record of any species has been made in this country since that date. I have, however, again obtained the same *Myxococcus* on some material—part dung, and part plant debris—that I collected in the woods at Beauly during the Autumn meeting of the Mycological Society. It is entirely similar in form and habit to the previous gathering. A. Quehl has expressed the opinion that the species is probably a form of *Myxococcus rubescens*, a common and somewhat variable species; but the pear-shaped form of the cysts, which is constant in the specimens from such distant localities as Wales and North Scotland, seems to be sufficient to establish the autonomy of *M. pyriformis*. The following is the diagnosis previously published: "Cysts scattered, pear-shaped, minute, varying in size, about $\frac{1}{4}$ mm. in height, bright pinkish orange-coloured (becoming brighter-coloured when dry), on a short, gelatinous stalk comprised of cocci, which are irregularly round or somewhat oval, 1-1.5 μ in diameter; colonies in the gelatine cultures, colourless or dirty-white, formed of motile rods varying in length up to about 3 \times .8 μ .