

A Note on *Stemonitis fusca* Roth

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The phenomenon of fairy-ring formation by certain fungi has long been known to mycologists, and numerous workers have reported and figured this type of sporophore arrangement among various agarics. Among the Myxomycetes, however, there have been few reports of fairy-ring formation. Macbride (1899, p. 35) reports such formations as being common to *Physarum cinereum* (Batsch) Pers., stating that the rings are small, measuring but a few inches in diameter. More recently, Poteat (1937) reports the finding of quite large fairy-rings of *P. cinereum*. This author states that he has found rings as large as fifteen feet in diameter. As far as can be determined from available literature, these are the only records of the production of fairy-ring formations by the fruiting bodies of Myxomycetes.

Of the several species of *Stemonitis* which occur in Indiana, perhaps the two most frequently encountered are *Stemonitis fusca* Roth and *Stemonitis axifera* (Bull.) Macbr. During the spring and summer months, except in exceptionally dry weather, sporangia of one or both of these species may be found in almost any shaded woodlot where moist, decaying twigs and logs occur. In the course of collecting trips throughout the southern part of the state, both species have been observed many times. Fairy-rings, formed by sporangia of *S. fusca*, have been noted



Fig. 1. Sporangia of *Stemonitis fusca* Roth showing two incomplete fairy-rings. Magnification $\times 2/3$.

numerous times, but in no instance were sporangia of *S. axifera* nor any other species of *Stemonitis* found to be arranged in ring fashion. Such rings are quite small, never approaching the large size reported by Poteat for *P. cinereum*; the largest ring did not exceed three inches,

and the majority were about two inches in diameter. The explanation of such a ring formation is simply that the plasmodium arises at a certain point on the substratum, grows evenly, and creeps at an even rate from the point of origin. When the vegetative phase of the plasmodium is terminated and it enters into the fruiting phase (Seifrizz and Russell, 1936), the plasmodium is in the form of a circle; naturally when sporangia are formed, they are arranged thus. In the case of *S. fusca*, fairy-rings were found only on uniformly decayed wood which possessed a fairly even surface. This is prerequisite for ring formation because any obstacle in the path of the advancing plasmodium, such as an uneven place in the surface of the substratum or an area where the texture of the substratum is different, leads to a change in growth rate of the plasmodium at that particular point and hence disrupts the circular arrangement; such rings are shown in Fig. 1.

The fact that *S. fusca* forms rings, whereas no other species of this genus has been observed to do so, leads to the conclusion that such a characteristic is probably a specific one.

Literature Cited

1. Macbride, Thomas H., 1899. The North American species of slime-moulds. Macmillan, New York.
2. Poteat, William L., 1937. A lawn marvel. Science 86:155-156.
3. Seifrizz, William and Russell, Mary, 1936. The fruiting of myxomycetes. New Phyt. 35:472-478.