mantle and the liver are deep green. A few irregularly placed dark green spots are present on the liver. The valves of the shell are equal in size, light green in colour, and extremely thin and fragile, with a smooth surface which is marked by fine growth lines. The helicoid protoconch is translucent and of one and half whorls, attached to the posterior extremity of the left valve as in *Berthelinia limax*. The protoconch is directed backwards extending horizontally over the right valve. The position of the yellowish white circular attachment of the adductor muscle is as in *B. limax*.

One of the specimens laid an egg string which was kept under observation. The early development agreed in all essential respects with the observations of Kawaguti and Baba[1] and Kawaguti and Yamasu[11,12] on *B. limax*.

With the record of the genus *Berthelinia* from the Indian coast it could be presumed that the species of the genus are distributed throughout the coastal waters of all the warmer seas. A careful search might prove that it is widely distributed in the Indo-Pacific waters.

I thank Dr. Umamaheswara Rao for identifying the alga, Dr. P. S. B. R. James for advice, and Mr. K. G. Nambiar for the photograph.

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Spore Discharge in *Lepiota konradii*

Recent investigations[1] based on laboratory experiments have shown that ballistospore discharge is much affected by the humidity and temperature of the ambient air. The observations reported here are based on field studies during which an effort was made to determine the effect of temperature and humidity on ballistospore discharge under natural conditions.

On the morning of January 15, 1965, three fruiting-bodies of *Lepiota konradii* Huijsman ex P.D. Orton[2] were found growing in the Biological Garden, University of Ife, Ibadan, Nigeria; by noon, their pilei were beginning to expand.

An electric-driven Hirst spore trap was set up near these fruiting-bodies. The trap was placed so that the orifice was at a height of 27 cm above ground-level. The horizontal distance of the orifice from the pileus of the nearest fruiting-body was 56 cm.

Sampling at the rate of 0·6 m³/h was continued until the fruiting-bodies were found to be withering, drying, and tottering as if they were about to fall. The sampling period was January 15–18, 1965.

The ballistospores being sticky themselves, clean slides were used without any adhesive. These were changed daily at 1300 h Nigerian Standard Time. After exposure, slides were mounted for examination in glycerol and scanned under low magnification. Counts were made on cross traverses 34μ wide and 4 mm apart, representing 2-h intervals. The numbers of spores counted were then converted into an estimated number per cubic metre of air.

Records of temperature and humidity were obtained by means of a Casella thermo-hygrograph situated under the roof of the spore trap.

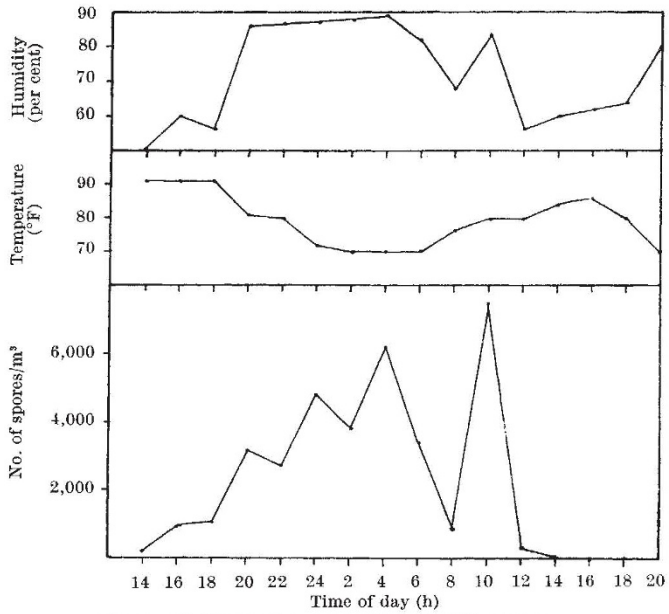

Fig. 1. Hourly mean concentration of ballistospores

The results shown in Fig. 1 clearly indicate a correlation between spore discharge and relative humidity. The increased rate of spore discharge at 1800 h and reaching a maximum (6,200 spores/m³ air) at 0400 h—a period of rapid liberation of ballistospores—corresponds quite closely with that of decreasing temperature and increasing relative humidity of the surrounding atmosphere.

Counts at 2200 h and 0200 h show, however, that the concentration of spores in the 2-h periods preceding these times had been slightly reduced. This needs further investigation, which is being planned. It was probably due to a change in the direction or the velocity of the wind, or possibly to the fact that nearly all mature spores were liberated during the early part of the period of high humidity, so that there were not many spores left for liberation during the later part. On the other hand, the maximum discharge recorded at 0400 h might have been due to a recovery in the number of mature spores.

Shortly after 0400 h the rate of spore discharge decreased gradually and reached a minimum (1,000 spores/m³ air) at 0800 h. The relative humidity then recorded was fairly low (68 per cent).

Again there was a further large increase (to 7,700/m³) in concentration of these ballistospores in the air at 1000 h. Such abundant liberation was correlated with a sudden increase in humidity caused by a slight trace of rain. Thereafter the spore liberation decreased very rapidly, so that by 1200 h the spore concentration in the atmosphere was only 300/m³ and by 1400 h liberation had apparently fallen to zero. For, although subsequent observations indicated numerous dust and smoke particles in the air, no *Lepiota* ballistospores were found impacted on the slides.

These observations also show that the spore discharge period for the fruiting-bodies investigated began at 1400 h in the afternoon and ended about 1200 h the next morning, being accordingly of about 22 h duration.

The observations reported here indicate that temperature and humidity control ballistospore discharge in the field—as in the laboratory. It would be interesting to know to what extent, if any, temperature and humidity control the development of the ballistospores.

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