

spores will drift into places where conditions are favorable for their germination and growth; and of the chance that the infection will be able to establish itself in any susceptible tree.

But spore discharge over such a long stretch of time as six months, characterized by neither diurnal nor seasonal periodicity, means more than an enormous crop of spores; it also implies a pronounced tolerance of the sporophore to changes within wide limits in such environmental factors as light, temperature and humidity. That the sporophores of *E. applanatus* develop normally in total darkness we know from Spankling's observations on mine fungi (46). That spore discharge is immaterially affected by weather conditions in general is borne out by our own observations on identical fruiting bodies during the season of 1915 and 1916, which were markedly different climatically in this region. The year 1916 began with a rather backward spring and continued cold and wet until the end of June, but was followed by an unusually hot and dry summer; while in 1915 there was an average spring followed by a summer of average temperature but high precipitation. Yet from day to day throughout both seasons, even on successive days of contrasting weather, the density of the daily brown deposit on the glass slides set as spore traps essentially remained the same, so far as could be judged without actually counting the spores.

Also, temperature changes, except within very wide ranges, did not appear to affect spore discharge. For instance, collections made half-hourly one night in late August from 9.10 p.m. to 9.30 the next morning, with temperature changes from 9° C. down to 3° and up again to 15° showed a uniform copious deposit. The discharge however is stopped by a freezing temperature; and this appears to be an unusual phenomenon among polypores. I have not been able to find any previous record where spore fall in a polypore is abruptly terminated by frost. In this connection it may be noted that Buller (11) found that some *Hymenomyces* continued to shed their spores at the freezing point of water, though at a very diminished rate, while Overholts (33) as well as Buller states that the fruiting bodies of many *Polyporaceae* gathered in midwinter (January and February) throw an abundance of spores when brought into the laboratory. It is true that throughout the depths of winter a very few spores were invariably found on my slides left for a week under a fruiting body of *E. applanatus*, but there was good reason to believe that these were spores that had lodged and had mechanically fallen out after their exterior surfaces had lost their natural adhesiveness. This loss of adhesive power is exhibited in the case of spore deposits on slides kept in the laboratory, and lodged spores are to be seen at any time