

SMUT ON THE MAT-SEDGE, *CYPERUS PANGOREI*, ROTTB.

*Cyperus pangorei*, Rottb.\* (syn. *C. corymbosus*, Rottb.) is a smooth rush-like sedge growing in marshy places to a height of two to three feet, and used in South India and Ceylon for mat making. Smut appeared in a plot of this sedge in the laboratory garden in Bangalore towards the end of October 1948. The infection was at the bases of the peduncles and in the spikelets (Figs. 1 and 2). A reference to the literature showed a record of

identification of the species of the host. The same fungus is recorded by Petch<sup>4</sup> as occurring on *Cyperus distans* L. f. collected by C. Driberg in September 1903 in Ceylon. The fungus was originally described by De-Toni<sup>5</sup>, as *Ustilago peribebuyensis* Speg. in peduncles of *Cyperus* sp. from Paraguay. *Cintractia* differs from *Ustilago* in the spores remaining firmly agglutinated and compact for a long time, the central columella of plant tissue, and the development of the spores from inside outwards.

Microscopic examination confirmed that it was a *Cintractia*. A transverse section through the base of the affected spikelet showed a central core of plant tissue consisting of fibrovascular and parenchymatous tissue. The younger spores were at the base passing out into mature spores which constitute a dense dark agglutinated layer. The stroma gives rise to dark brown strands of hyphæ, with the fertile hyphæ in between forming small pockets or clear compartments of spores which are at first pale, and later become dark and mature. The sori are present at the base of the peduncles forming swellings first covered by a whitish false membrane (Fig. 2), which soon ruptures exposing the dark-coloured spore masses. The sori occur on the spikelets also involving the rachilla and all portions of the flowers except the glumes, anthers, and styles (Fig. 2). The sori in the spikelets are also covered by a whitish false membrane which ruptures to expose the dark spores. The ovaries are transformed into smut sori, but the styles are unaffected, and may be seen sticking out from the tip of the sorus (Fig. 3). The spores are oblong to roundish and agree in measurements with those given by De-Toni for *Ustilago peribebuyensis*, Speg., viz., 12-13 x 8-9 $\mu$ .

Several species of *Cintractia* are known to produce their sori in the ovaries of their hosts, but species affecting both peduncles and spikelets are few. According to Mc Alpine<sup>6</sup> *C. densa* on *Rottboellia compressa* infects both the rachis and florets, while *C. exserta* on *Anthistiria ciliata*, and *C. spinificis* on *Spinifex hirsutus* infect the spikelets, the latter destroying the ovaries also. In the absence of information on the exact species on which *C. peribebuyensis*, Speg. has been recorded in India, this is the first record of the fungus on *Cyperus pangorei*, Rottb. on the peduncles and spikelets.

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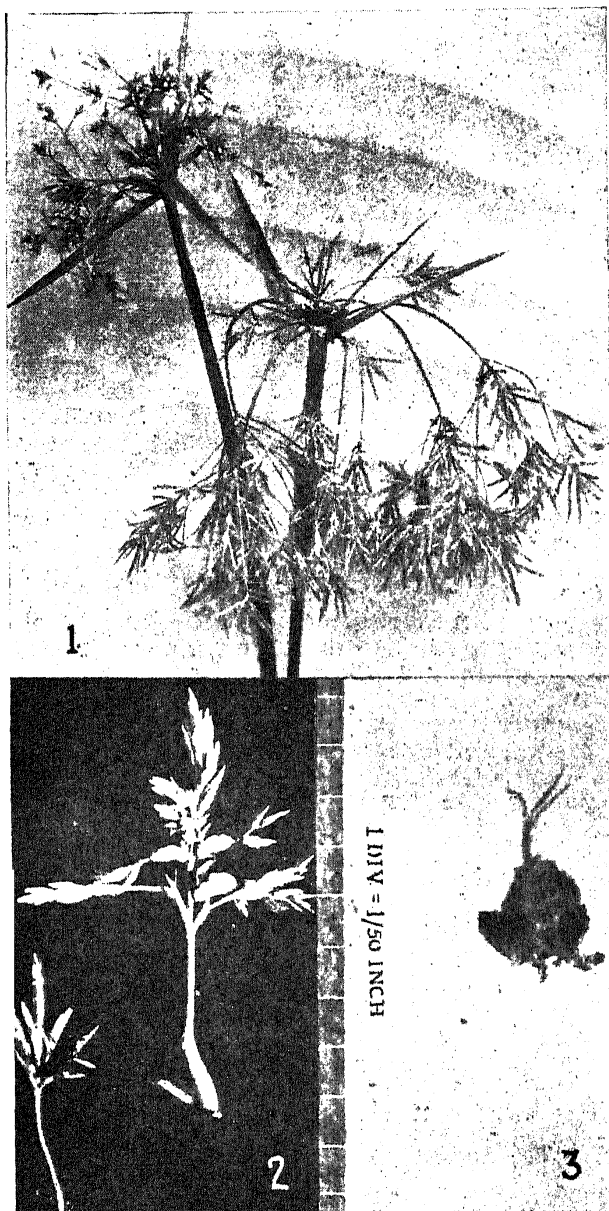


FIG. 1. Two inflorescences of *Cyperus pangorei* showing typical smut infection.

FIG. 2. Sori at the base of peduncles, and left-hand figure showing infection of the spikelets.

FIG. 3. Infection of the ovary. Divisions of scale - 1/50 inch.

*Cintractia peribebuyensis* Speg. in the peduncles only of *Cyperus* sp. from several localities in India. Sydow, H. and P., and E. J. Butler<sup>1</sup> recorded it first from specimens of *Cyperus* sp. collected by Butler at Bilikere, Mysore on 19th September 1903. Butler and Bisby,<sup>2</sup> and Uppal, Patel and Kamat<sup>3</sup> repeat the mention of this fungus without any additions or an

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3. Uppal, B. N., M. K. Patel, and M. N. Kamat, *The Fungi of Bombay*, *Bull.* 176 of 1934, *Dep. Agr. Bombay*, 1935.  
4. Petch, T., "Ustilagineae and Uredineae of Ceylon," *Ann. Roy. Bot. Gard. Perad.*, 1912, 5, Pt. 4, 226.  
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