

In cleistogamic heads the relatively poorer seed setting is evident. The accentuated vivipary is noteworthy. Above all the remarkable activation under this abnormality of as many as 17 per cent. of the usually abortive pedicelled spikelets into antheriferous ones,⁴ throws interesting evidence on the probability of these pedicelled spikelets having once had perfect flowers.

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¹ *Jour. Indian Bot. Soc.*, 1936, 15, 139-142.

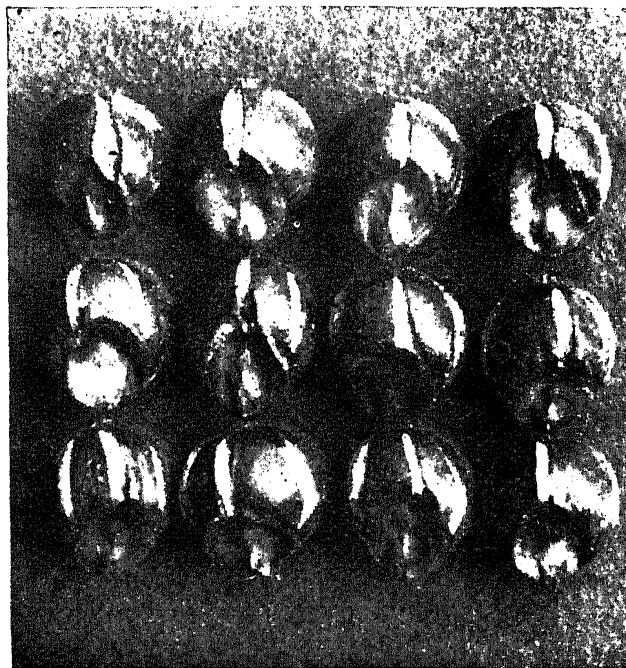
² *Curr. Sci.*, 1935, 3, 617.

³ *Indian Jour. Agr. Sci.*, 1932, 2, 266.

⁴ *Indian Jour. Agr. Sci.*, 1931, 1, 452.

Cracked Grains in Sorghum.

IN Gramineæ, the rôle of the pericarp in the protection of the endosperm and the embryo is obvious. Any disturbance to this pericarp is deleterious to the seed. In Maize, Zapparoli¹ records the occurrence and inheritance of broken grains. In the grain sorghum which develops its naked grains outside the glumes, the importance of a sound and whole pericarp is obvious. At the Millets Breeding Station, Coimbatore, cracked grains in sorghum have been met with in half a dozen African races. They occurred in *Sorghum caffrorum*, Beauv., *S. caudatum*, Stapf., *S. rotundulum*, Stapf., and *S. guineense*, Stapf. In two races the cracking occurred in practically every grain of the earhead and in the others was found to be anything from 20 per cent. upward. Seasonal variations affected the degrees of expression. The cracked grains show best in the dough stage. Cracking commences with a longitudinal slit in the pericarp which deepens into a regular cleft with the rapid development of the grain, exposing the markedly noticeable white starch in the cleft. In purple pigmented varieties, these rents in the pericarp stimulate the usual run of pigment which gets deposited at the edges of the cleft and colours up the cracked areas. Cracking commences in the grains at the top of the panicle and covers the whole of it, in about a week's time. The cracks are very noticeable in round plumpy grains. They may be one, two, or three in number (see photo). They are disposed



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towards the embryo side of the grain and run roughly along the watermark lines clearly observable in some varieties. Cracking has so far been noted only in chalky grains² with a comparatively soft endosperm. In the flattish grains of *S. guineense* capped as they are with a partly corneous endosperm, the cracking is very irregular and erratic in disposition. In every one of these races, the markedly bold grain (big relatively to the grain size usually associated with the respective varieties), was a noticeable feature. In the earheads in which there were both cracked and uncracked grains, the average weight of cracked grains was about 6 to 7 per cent. more than the uncracked ones. Selections taken for cracking have bred true. The behaviour of this character in inheritance in crosses with normal grains is under study.

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¹ *Jour. Herd.*, 1925, 16, 259-262.

² *Indian Jour. Agr. Sci.*, 1934, 4, 96-99.

Chromosome Numbers in Cymbopogon Species (continued).

IN a previous communication,¹ the chromosome numbers of five species were recorded. The numbers of the remaining South Indian

species and the numbers previously omitted are given in the present note.

Name of Species.	2n	n
<i>Cymbopogon polyneuros</i> , Stapf. . .	20	10 ²
<i>C. Casius</i> , Stapf. . .	22	11 ²
<i>C. flexuosus</i> , Wats. (Variety from Kallar) . .	20	10
<i>C. Nardus</i> , Tendler . .	20	..
<i>C. Martini</i> , Wats. . .	40	20
<i>C. coloratus</i> , Stapf. . .	40 ²	20
<i>C. citratus</i> , Stapf. . .	60	..

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¹ *Curr. Sci.*, 1936, 4, No. 10, 739-40.

² Already reported.

Some More Unrecorded Host-Plants of *Loranthus longiflorus*, Desr.

WITH reference to the articles published by Mr. G. D. Srivastava¹ and Messrs. Sayeed-uddin and Salam,² there may be added some more Host-Plants of *Loranthus longiflorus*, Desr. which have been found to occur in the neighbourhood of Patna. Fischer³ has given a fairly comprehensive list of the various species of *Loranthus* and their host-plants as he found them in Southern India. There is no such record for the Northern part of the country. Various authors have made casual reference and mention of *Loranthus* and its hosts. If the botanists in various parts of the country could report the hosts and the parasites after proper identification, it could be summarised and an All-India list could easily be prepared which will certainly throw more light to understand this baffling parasite and its mode of parasitism.

Haines⁴ has recorded four species of *Loranthus* in the province of Bihar and Orissa, viz., *L. longiflorus*, *L. globosus*, *L. scurrula* and *L. cordifolius*. In the month of February ripe berries of *L. longiflorus* were collected. The skin was removed and they were fixed by their viscin on the stem of various plants. The seeds germinated in about a month, sending out a pair of leaves

and fixing firmly to the host by the haustoria. Various plants were tried as hosts without any special discrimination. The dry wind which started and continued for a week during the beginning of March, did effect most seeds, but many seeds germinated and took hold of their hosts in the usual way. In case of *Ficus glomerata* and *Ficus carica*, all the seeds germinated successfully and seemed to flourish very well. It may be due to the juicy and milky nature of the bark which allowed enough facilities to effect the hold on the host (Fig. 1).

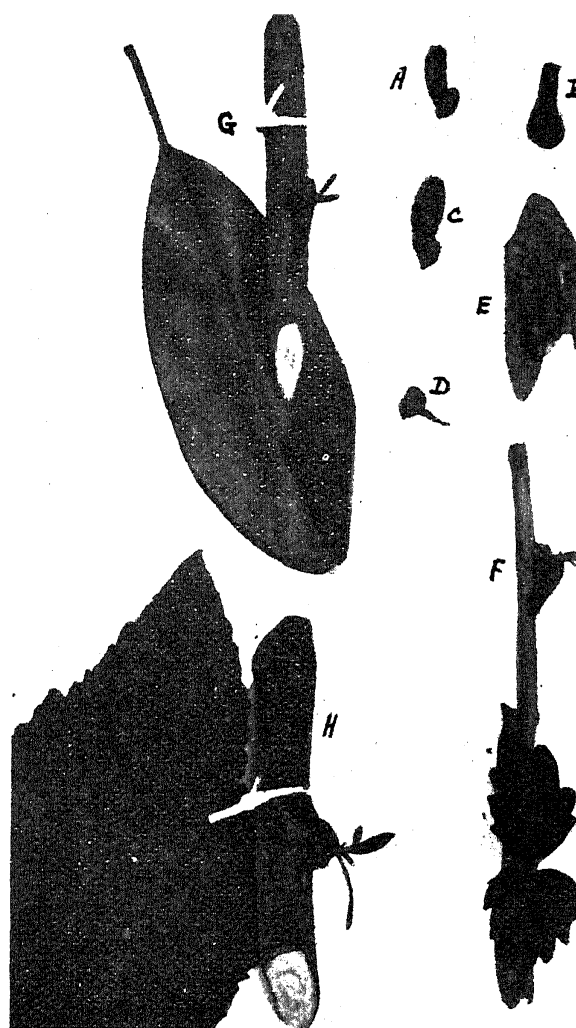


Fig. 1.

A—H.—Showing the various stages in the germination of the seeds of *L. longiflorus* on different hosts.

The hosts were recorded at various times of the year but the species of the parasite was ascertained during the flowering season. Round about Patna, only *L. longiflorus* abounds. Evidently there appear no specialisation of hosts with this parasite, it seems that there is more or less a chance of transfer of the seeds at the right place which is helped by climatic conditions. Of course the shedding of the bark plays an