may contract and bring in more stomata within the same unit. *C. ovalis* plants were collected from Shillong by Singh and Singh[7] and also by the Botanical Survey of India, cultivated at Meerut and at National Orchidarium, Howrah. The variation of climatic factors of the above three places may also influence this aspect. However, this needs further experimental trial.

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BASIDIOCARP FORMATION BY *VOLVARIELLA DIPLASIA* IN CULTURE MEDIUM

PRODUCTION of basidiocarps in agar medium by Basidiomycetous fungi is considered to be a significant contribution towards the study of nutritional requirement, morphogenesis and genetics of such fungi[3]. But it is rather a rare phenomenon among the Basidiomycetes to produce fruiting bodies in culture. It has been recorded for a few members of the family Agaricaceae[2,4] and some Polyporaceae[1,2].

In this laboratory, the culture of *Volvariella diplasia* (Berk. and Br.) Singer, is regularly maintained in oats agar medium (50 g oats, 1000 ml distilled water solidified with 2 % agar) as stock culture required for the production and distribution of spawns to mushroom growers. During November 1977, a lot of culture grown in 250 ml Erlenmeyer flasks on 50 ml of oats agar medium produced basidiocarps spontaneously. The basidiocarps were formed in abundance and the button stages could be observed sprouting out on the third day of subculturing. The basidiocarps expanded complerely on the fifth day (Fig. 1). The flasks were

FIG. 1. Stages in the development of basidiocarp of *Volvariella diplasia* on oats agar medium.

incubated at room temperature (22° to 32° C). The pileus formed on the culture medium measured on an average 5 cm in diameter which was smaller in size than those formed under natural habitat. In all other details they compared well.

A perusal of the literature revealed that this is the first record of basidiocarp formation by *Volvariella diplasia* on artificial culture medium. Further studies on the nutritional and environmental aspects which induced basidiocarp formation are under way.

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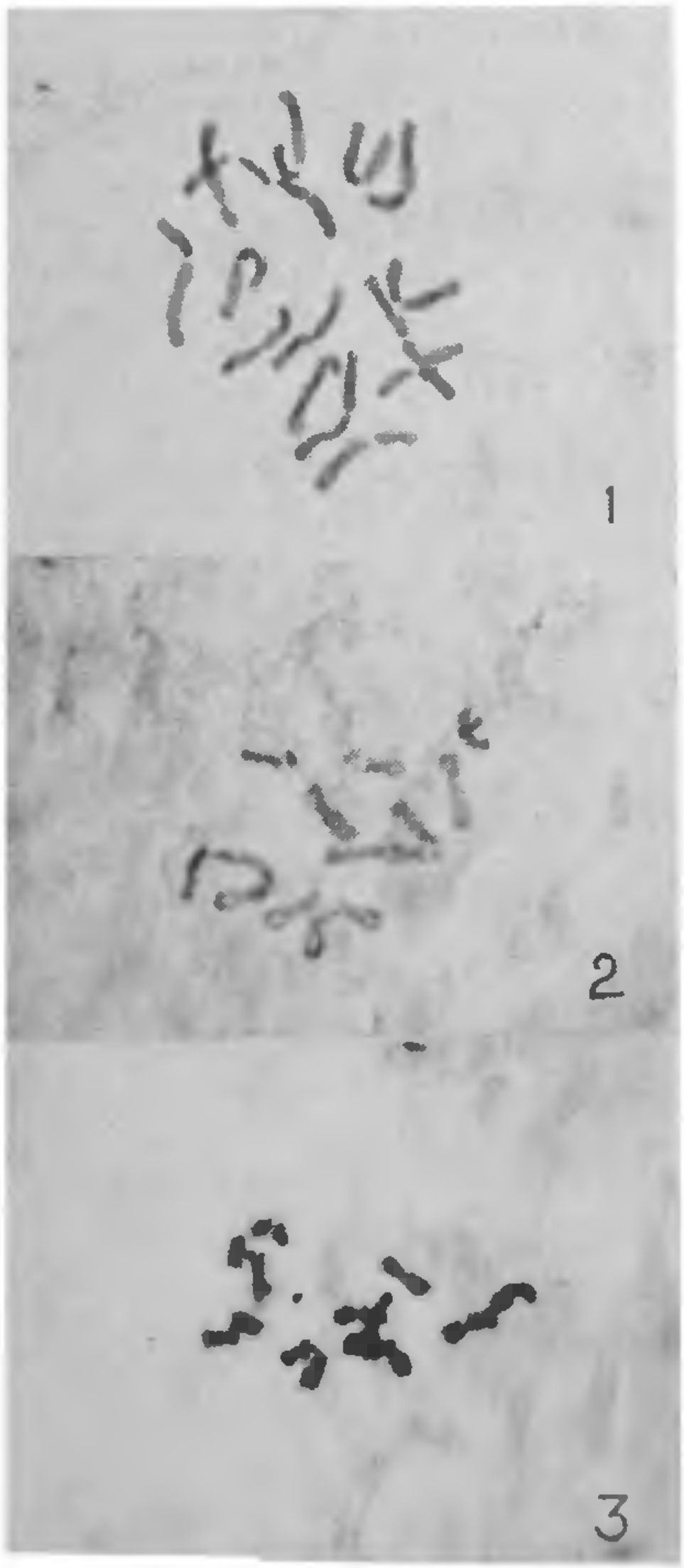
CHLORFLURENOL—A NEW PRETREATING AGENT FOR CHROMOSOME WORK

PRETREATMENT for the study of chromosomes is generally given for several reasons and the most important being to bring about scattering of chromosomes with clarification of constriction regions. Several pretreatment chemicals have been applied, for the purpose[1]. While working with chlorflurenol (2-chloro-9-car-

boxylic acid)—the most active morphactin tested so far[2], it was found that the compound showed C-mitotic effects when applied to fast growing roots[3]. It was therefore desired to test this morphactin as a pretreating agent for chromosome analysis.



Figs. 1–3. Somatic metaphase spreads of Fig. 1. *Allium cepa*, Fig. 2. *Lathyrus sativus*, Fig. 3. *Lens culinaris*.

Using a wide variety of plants, belonging to different families having small to large sized chromosomes with low to high number of chromosomes, it has been observed that the chemical can successfully be used for cytological purpose as a pretreating agent. It brings about metaphase arrest by destruction of spindle with the chromosomes remaining free, clearing of cytoplasm and causes differential hydration of chromosome segments. Pressure applied during smearing of root tips, results in well scattered metaphase plates with constriction regions in chromosomes well clarified. The pretreatment schedule is performed as follows :

Fast growing root tips are transferred to an aqueous solution of *Chlorfluerenol* (0·03%) and then given a short (5 minutes) chilling treatment in ice chamber. The material is then kept for about 3–3½ hrs at 12–16° C. Root tips are thoroughly washed in water and fixed in suitable fixative. Fixed roots are processed as usual for cytological preparations.

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ESTIMATION AND IDENTIFICATION OF ALKALOIDS PRODUCED BY *CLAVICEPS FUSIFORMIS* LOVELESS ON SOME VARIETIES OF PEARL MILLET

BAJRA, the pearl millet (*Pennisetum typhoides* S and H) is one of the most important rainy season crops of the arid and semi-arid areas of India. This also provides a staple cereal diet to the people residing in the rural parts of the country. Last few years it was observed that pearl millet was heavily infected with the ergot disease, caused by *Claviceps fusiformis* Loveless all over India[1]. The ergot menace is particularly more pronounced on the improved and high yielding hybrid varieties of bajra. In severe form it has been estimated to cause grain losses of about 58 to 75% with 62% disease incidence[2].

Various reports are on record concerning with the poisoning in humans and animals due to the consumption of ergot contaminated bajra from Rajasthan and Maharashtra States[3,4]. The common symptoms of ergot poisoning include giddiness, diarrhoea, nausea and vomiting followed by dehydration. An agalactia disease in sows due to ergoty bajra has also been reported from Rhodesia. The cause seems to be the fungal alkaloids[5]. The alkaloids are suspected to belong to clavine group instead of ergotoxine ergotamine and ergometrine groups, characteristic of *Claviceps purpurea* (Fr.) Tul., the causal agent of ergot of wheat and rye[4],