

ropyle. They have been reported in several angiosperm families and take their origin from parts like placenta, funiculus, base of the style and integument¹. So far obturators developing from ovary wall have been recorded only in *Rivina humilis* of Phytolaccaceae². In the present paper it is recorded in *Ottelia alismoides* of Hydrocharitaceae.

Obturator in *O. alismoides* is composed of a group of gland cells situated above the placenta. The cells are positioned in such a way that the micropyle of the ovule comes closer to the obturator. The cells of the obturator are invariably uninucleate. The number of cells constituting a single obturator varies from ten to seventy³.

The pollen tubes after traversing the ovary wall, grow ectotropically on the outer wall of the obturator cells and then directly enter into the micropyle. Normally obturators lose their function after directing the pollen tubes, but in *Ottelia alismoides*, they persist till fruit maturity³.

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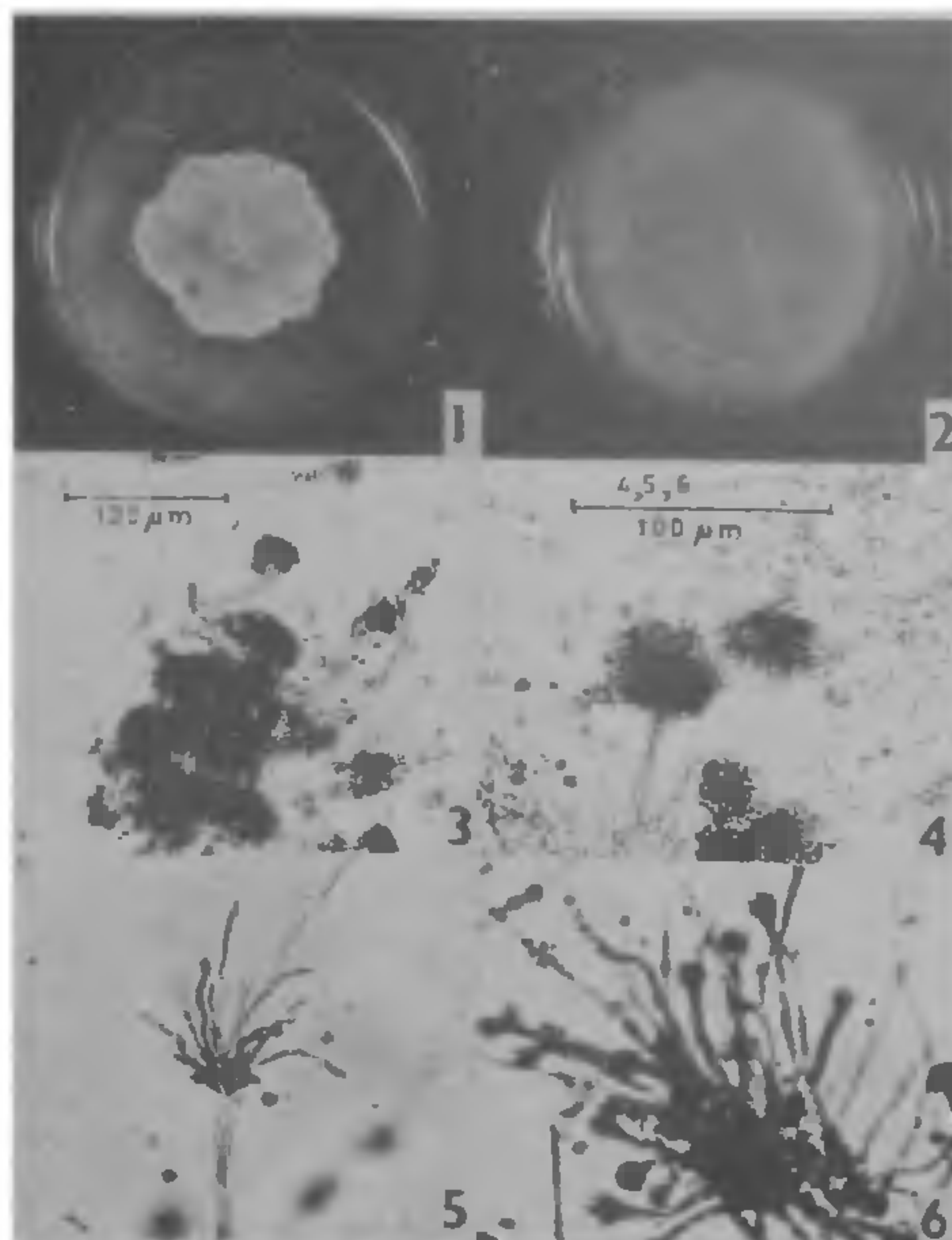
ASPERGILLUS SUB-UNGUIS SPEC. NOV: A NEW MEMBER OF A. NIDULANS GROUP

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THE new osmophilic, non-ascocarpic *Aspergillus*, belonging to *A. nidulans* group, was isolated from germinating, surface-sterilized seeds of *Helianthus annuus* L. (cv. EC 15), later from the air of Sunflower fields.

Aspergillus sub-unguis spec. nov. (figures 1–6)



Figures 1–6. *Aspergillus sub-unguis* spec. nov. on Czapek Dox agar medium. 1 & 2 with 3 and 20% sucrose respectively. 3 & 4 Conidiophore heads. 5 & 6 Proliferating conidial heads.

Colonies on Czapek Dox agar (figure 1) restricted, attaining a diameter of 4 cm in 10 days at 30°C, with raised tough mycelial felt having irregular furrows, colour varying from cream-orange, with greyish brown tinge owing to the presence of limited number of conidial heads. Exudates lacking, reverse colourless, without hulle cells and cleistothecia.

Colonies on Czapek Dox- agar + 20% sucrose (figure 2) luxuriantly sporulating with very little aerial mycelium attaining a diameter of 8 cm, Spinach green Epinard 270/4–0960/3³. Conidial heads conical at maturity, conidiophores 37.4–73.1 μm × 3.4–5.1 μm, arise from funiculose, interlacing aerial mycelium, colourless, smooth and thin-walled, vesicles sub-conical 8.5 μm in diameter with upper 2/3 surface covered with biseriate crowded sterigmata, primaries 3.4–5.1 μm × 3.4 μm, secondaries 5.1–10 μm × 3.4 μm, conidia globose, slightly echinulate, in mass dark green 3.4–5.1 μm (figures 3–4). No hulle cells or cleistothecia observed.

A sub culture deposited at Commonwealth

Mycological Institute, Kew under the accession No. IMI 254637.

Colonies in agar Czapekii 4.0 cm in diameter decem diebus 30 C crescentes, leviter elevatae radiantibus vel inaequalibus, primo albo-brunneae deinde flavae usque, secundum culturam. Capitula conidica sicut breves seri rami emergentia, in mycelio intorta, in primo radiantia, deinde columaria plerumque conica. Conidiophorae plerumque $37.4 - 73.1 \mu \times 3.4 - 5.1 \mu$ brevis, enodes vesiculae ut lagenae formate in extreme partae, obconicus 8.5μ in summ parte sola fertiles. Sterigmata duo Seriata, primaria pauca $3.4 - 5.1 \mu \times 3.4 \mu$, secundaria $5.1 - 10 \mu \times 3.4 \mu$ saepe elongatis, septatis, parvis capitulis secundariis ferentibus. Conidia globose vel Subglobosa, inequaliter echinulata; comiciolorum massae obscura viridia, conidia $2.8 - 3.5 \mu$ in dia. Nulla hulle cellula.

On the basis of synoptic key to *Aspergillus nidulans* group^{1,2}, taking into account the conidiophore length with other culture characteristics, the new fungus shows affinities with *Aspergillus unguis* (E-W. S G.) Thom & Raper, but differs from it, in the absence of typical spicular hyphae that arise from foot-cell and in funiculose growth in early stages due to abundant proliferating structures, bearing secondary conidial heads (figures 5, 6). Because of its striking resemblance with *A. unguis* the new fungus has been named as *A. sub-unguis*.

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STUDIES ON THE DEVELOPING EMBRYONIC GONADS OF THE PIGEON, *COLUMBA LIVIA*

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STUDIES on the developing embryonic gonads in birds are restricted to that of chick, quail and duck. Gonadal tissue can be identified on the median surface of the Wolffian body as an elongation of the urogenital ridge in chick¹ by the fourth day of incubation. Earlier studies on the developing gonads of chick, quail and duck reveal that 6.5 day stage represents sex differentiation stage in chick, 5.5 day stage in the quail and 8-day stage in duck¹. *In vivo* investigation by sex-hormone administration, castration experiments, *in vitro* culture of avian gonads and measurement of plasma steroids have shown that differentiation of gonads is under the influence of hormonal secretions of the gonads²⁻⁸. Δ^5 - 3β -hydroxysteroid dehydrogenase (Δ^5 - 3β -HSDH) has been localised in the embryonic gonads of chick, quail and pigeon^{2,3,9-15}. In the present work, the development of the gonads in *Columba livia* has been studied from 3-day old embryo till 10 days to find out the age of the embryo at sex differentiation and to follow the various stages of the development of the testis or ovary. Further, an attempt is made to find out the relationship between ontogenetic steroidogenesis and sex differentiation in *C. livia* by histochemical localization of Δ^5 - 3β -HSDH and glucose-6-phosphate dehydrogenase (G-6-PDH) activity in undifferentiated gonads till their differentiation into the testis or the ovary.

Fertilized eggs (3-10 day old) of pigeon were obtained from the pigeon colony maintained by the Zoology Department. The embryos were decapitated and the torso containing the vertebral column, adrenals, gonads and the renal tissue were fixed in Bouin's fluid and processed for histological studies. Some of the embryos from day 3 to day 10 were quickly frozen over dry ice and processed for the histochemical assay of Δ^5 - 3β -HSDH and G-6-PDH enzymes as described earlier¹⁶.

The present study reveals that the gonadal component can be detected in 3-day old embryos in *C. livia* and it is composed of the genital ridge and a few primordial germ cells (PGCs) (figure 1). The presence of PGCs along the dorsal mesentery at this stage indicates the probable extragonadal origin of PGCs as suggested earlier^{4,17}. The structure of the gonads in *C. livia*