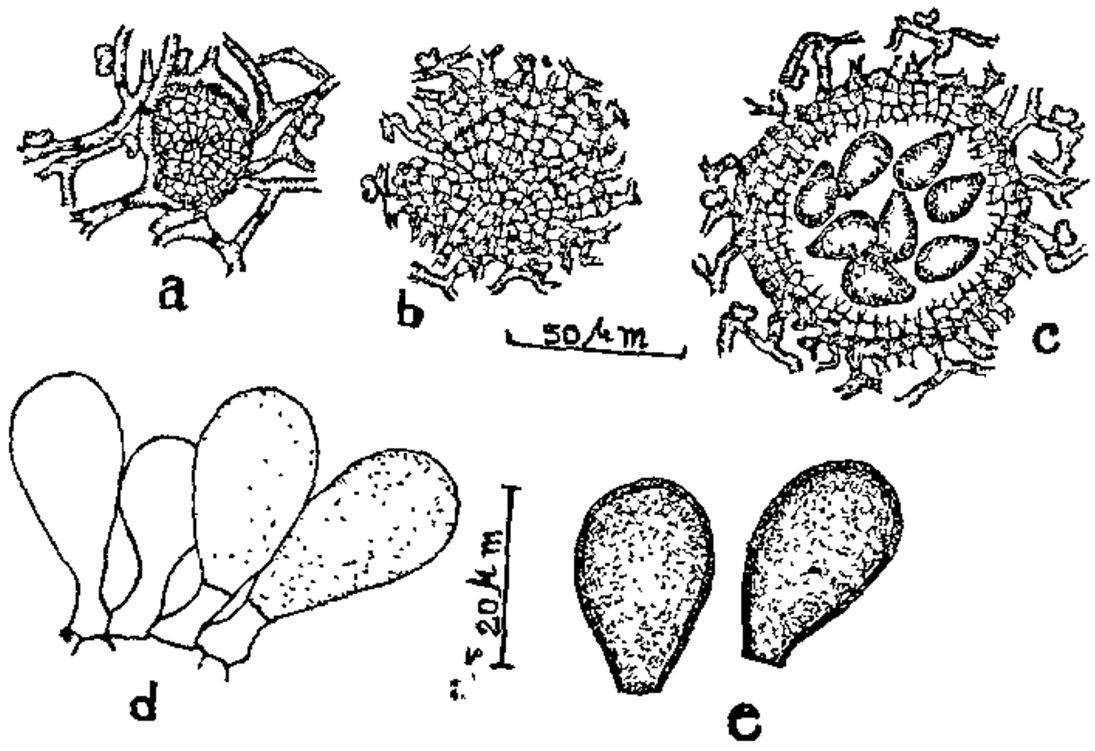
branched, hyphopodiate, 2.2–2.8 μm thick; hyphopodia capitate, mostly two lobed, sessile, measuring 6.4–8.2 × 4.5–5.5 μm; pycnidia superficial, gregarious, olivaceous brown, globose to subglobose, unilocular, radiate, without ostiole, 58–120 μm in diam.; conidiophores invisible; conidiogenous cells holoblastic, determinate, hyaline, smooth, formed from the inner cells of the pycnidial wall; conidia dry, simple, unicellular, obovoid or pyriform, reddish brown, smooth and thick walled with truncate base, measuring 18–25 × 11–13 μm (figures 1a–e).



Figures 1a–e. a&b. Developing pycnidia, **c.** Dehisced pycnidium, **d.** conidia with conidiogenous cells, **e.** Mature conidia.

On living leaves of *Miliusa tomentosa* (Roxb.) Sinclair (Annonaeeae), Gorakhpur, Dec., 1979, leg. A. K. Singh, KA-55, IMI 244909.

Literature survey showed that no species was found hitherto described on the host species, the host genus or on any member of the host family. It was, therefore, considered worthwhile to compare the present collection with a few species described on the plants of the families close to the host family in question to justify its distinct identity (table 1).

From table 1, it is obvious that the shape and size of hyphopodia and conidia; and the nature of the conidial wall are significantly different in the present collection as opposed to those in *Asterostomella caricae*[1], *A. diplocarpa*[2], *A. pelladensis*[3] and *A. tremae*[4]. The pycnidia, on the other hand, have been found to be larger in present species than thoe in *A. caricae*, *A. diplocarpa*, *A. pelladensis* and *A. tremae*. The shape of pycnidia also differs, significantly. Thus the present collection is not conspecific with any previously described species of *Asterostomella* and therefore, deserves description as a new taxon of species rank.

Authors are grateful to the Director, C.M.I., Kew, England for confirming the identity of the fungus,and to Prof. S. N. Mathur for facilities, and to CSIR, New Delhi, for financial assistance.

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A PECULIAR MODE OF INSERTION OF GLANDULAR HAIR IN *SAPINDUS LAURIFOLIA* VAHL.

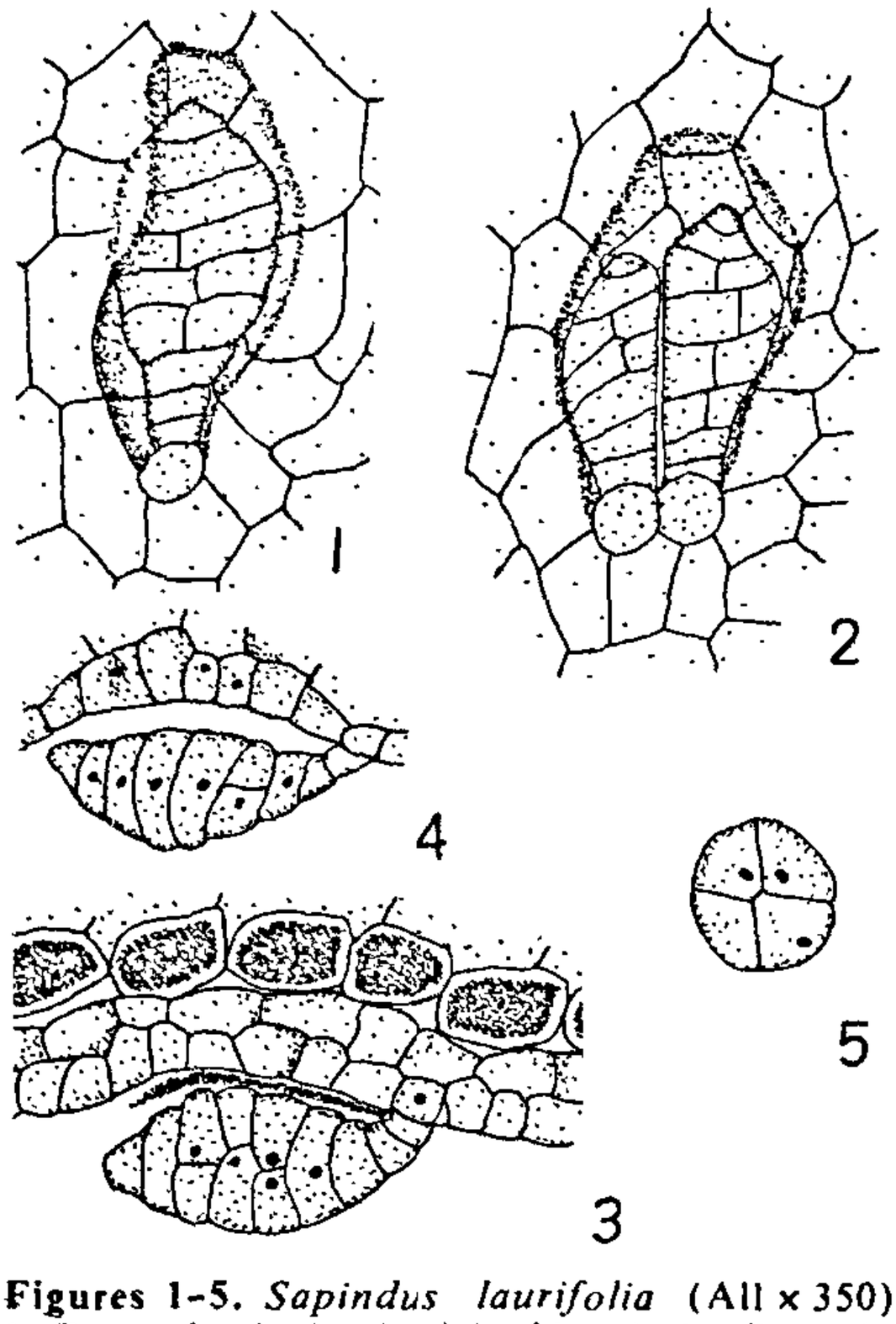
PARVEEN FAROOQUI (NEE KIDWAI)*
Department of Botany, Allahabad University, Allahabad 211 002, India.
* Present Address: Regional Forest Research Centre, P.O. Bilhari, Jabalpur 482 020, India.

DURING a survey of epidermal characters of some members of Sapindaceae, a peculiar mode of attachment of glandular hair was noticed in *Sapindus laurifolia* Vahl. In earlier literature no details are available. In the present note their structure is being described in detail and illustrated for the first time.

Material of young as well as mature leaves was fixed in 1:3 mixture of acetic acid and absolute ethanol. Paradermal views of the epidermis were studied from epidermal and cuticular peels mounted in Safranin glycerine jelly. Microtome sections of about 10–15 μm thickness were prepared by the conventional methods, stained in safranin and mounted in Canada balsam.

The glandular hair are restricted to the lower or abaxial surface of the leaf and are confined to randomly distributed pits or depressions in the epidermis (figure 1). Usually only a single hair is found in each depression attached to one side of the pit. Rarely two hairs are found in a single pit, both attached to the same side (figure 2). The frequency of the hair is about 36/mm^2 in the middle region of the leaf. Towards the tip and base of the leaf, it is slightly higher.

The pits are made up of depressed epidermal cells. The epidermal cells are short and tabular. Inside the lower epidermis is a clearly differentiated hypodermis. Inside the hypodermis are large cells showing dark contents. The single-celled foot of the glandular hair is embedded in the epidermis. Above the foot is a short 2–3 celled uniseriate stalk. The cells of the stalk are broader on the side away from the pit and narrow towards it (figures 3 and 4). Due to the uneven height of the stalk cells on the two sides, the head of the glandular hair does not stand erect but is bent and its main body lies parallel to the pit and almost completely fills it, leaving only a small gap between the epidermis and the gland (figures 3 and 4). The gap is sometimes filled with a thick dark staining substance (figure 3). The size and shape of the gland closely



Figures 1–5. *Sapindus laurifolia* (All × 350). **1.** Depression in the abaxial epidermis showing a single glandular hair attached to one side. **2.** A single pit showing two hairs attached to the same side. **3.** Portion of T.S. of leaf showing peculiar insertion of glandular hair. Notice that the cells of the stalk are broader on the side away from the epidermis and narrower towards it. The subhypodermal cells show dark contents. A dark staining material is also present in the depression of the pit between the epidermis and the glandular hair. **4.** T.S. of abaxial epidermis showing attachment of hair on one side of the pit. No dark staining material is present between the epidermis and the glandular hair. **5.** T.S. of glandular region of hair showing four cells.

matches the contour of the pit in which it is placed. The main body of the gland is few celled, somewhat rounded or oval and upto four celled in cross section (figure 5). It normally ends in a single small somewhat pointed cell (figures 3 and 4). The overall length of the glandular hair is about 40 μm (range 35–50 μm). The nuclei in the glandular cells are large and clearly seen in safranin-stained preparations.

Similar hairs were noticed in *S. emarginata* Vahl also but here the pits were shallower than in *S. laurifolia*.

The peculiar type of hair noticed here have been mentioned only in passing by Soloreder[1] in species of *Sapindus* and *Hornea*. As their insertion is peculiar and the occurrence very restricted, their diagnostic value must be emphasized. Clearly there is need to survey not only the Sapindaceae but also other closely related families in order to establish the distribution of this type of glandular hair.

The placement of the glandular hair in depressions of the epidermis may indicate that their contents are discharged in these pits or cavities themselves. The presence of a dark staining material in some of the sections between the glands and the epidermis lends support to such an assumption.

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NATURAL OUTBREAK OF AN ENTOMOGENOUS FUNGUS, *ENTOMOPHTHORA* SP. NEAR *VIRULENTA* HALL AND DUNN, ON HAIRY CATERPILLAR, *DIACRISIA OBLIQUA* WLK. (NOCTUIDAE: ARCTIIDAE)

ASHOK VARMA, KRISHNA MITRA AND KISHAN SINGH
Indian Institute of Sugarcane Research, Lucknow, India.

DURING a survey for entomogenous fungi affecting sugar crop pests, *Diacrisia obliqua* Wlk. was found infected with *Entomophthora* sp. near *virulenta* Hall and Dunn infesting sugarbeet at the Institute farm. It was first noticed in March 1978, when the crop was nearing harvest. In 1979, there was a severe outbreak of the hairy caterpillar from the beginning of the crop season (December 1978). Prevalence of *Entomophthora* infection was widespread. Observations made on the fungus and the disease are presented in the paper.

Diagnostic features of the disease

Larvae dying of entomophthorasis have well-marked characteristics of decolouration of the body. Tufts of dorsal setae join together in the form of bristles. The surface of the body has a light grayish and velvety appearance. The larvae tend to shrivel and wrinkle. Gradually they lose the power of locomotion. Infected larvae were found dead on the edges of the upper surface of sugarbeet foliage with legs stiffened and head slightly raised upward (figure 1). Some cadavers which dropped on the ground and larvae dying