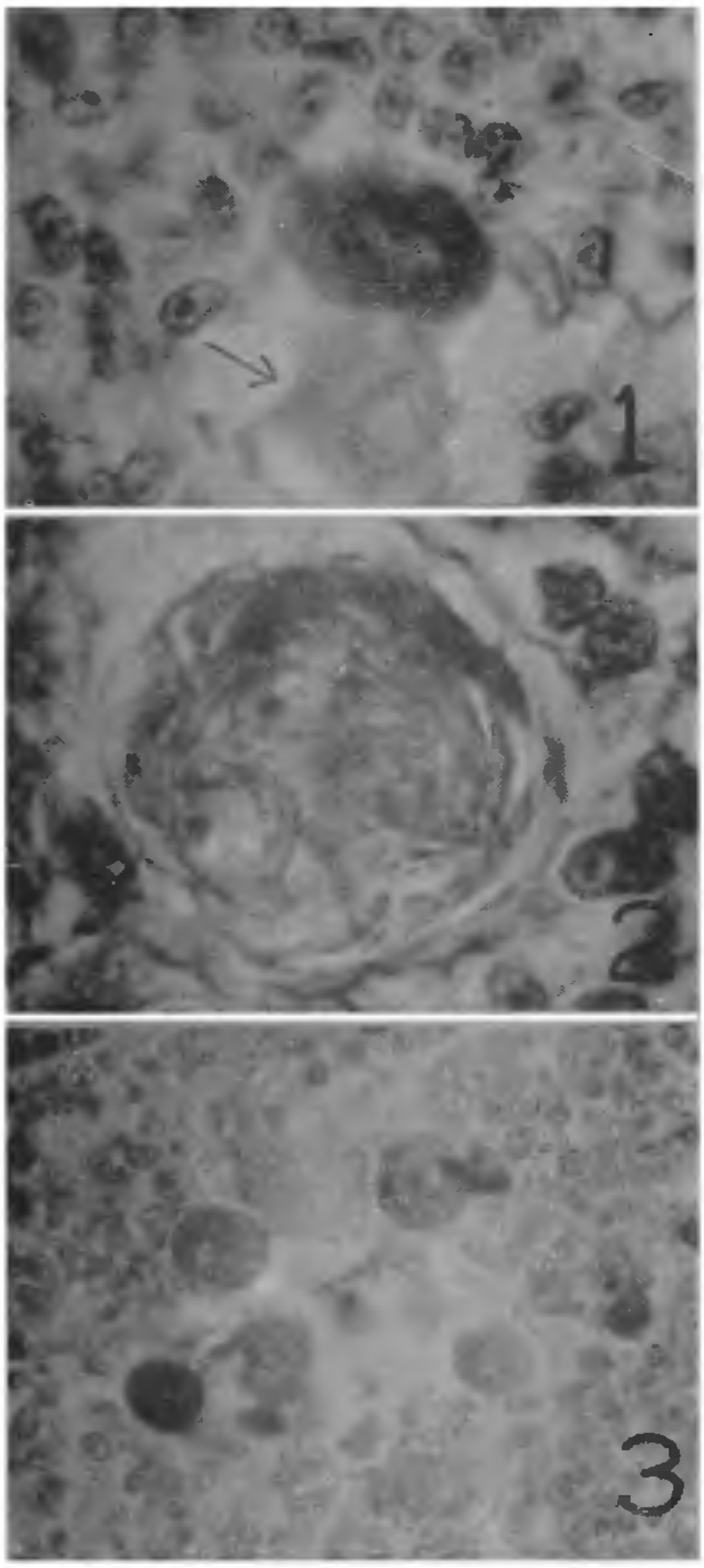
corpuscles may occur in groups (Fig. 3) of varying number (2–9 Corpuscles in each group), but more generally are scattered singly.



FIGS. 1–3. Fig. 1. (10 × oil) T.S. of a lobe of thymus of *K. smithi* ; note a unicellular Hassall corpuscle of light staining (arrow). Lying close by is the darkly staining unicellular H. corpuscle. Fig. 2. (10 × oil) T.S. of a lobe of *K. smithi* showing a bicellular H. capsule. The nucleoli of the two nuclei in the corpuscle are distinct. Fig. 3. (10 × 40 X). T.S. of a lobe of *K. smithi*, showing grouped arrangement of the corpuscles. Both types of corpuscles lightly staining and darkly staining are observed in the group.

In their stainability, far more Corpuscles (57·9%; N = 200) stained light blue and fewer taking a darker hue with the stain. The lightly staining Corpuscles were apparently mostly larger version of the corpuscles and varied in size from 8 × (22–28) μ. The darkly staining corpuscles, however, varied in size from 8 × (20–22) μ. This strain-linked size differential among the corpuscles was not found to be statistically significant. The nuclear sizes in darkly staining corpuscles (although not clearly identifiable in many) vary from 4 × (4–6) μ, as against comparatively larger nuclei (4 × 6–8 μ) in the other type of the corpuscle. Moreover, location of nuclei in the lightly staining corpuscles also vary from more frequent central position (68·7%, N = 200) to a sub-peripheral one.

The profiles of Hassall's Corpuscles cannot be mistaken for any structure other than a regular cell type, which has adaptively acquired intracytoplasmically a myofibrillar nature. In absence of any positive evidence to implicate these corpuscles with any precise function, the biological significance of these histological element in vertebrate thymus cannot be even well speculated[7].

Department of Biosciences, P. L. DUDA.
University of Jammu, (J and K), ADARSH GUPTA.
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RELATIONSHIPS OF SEED NUMBER WITH FOLLICLE LENGTH AND POLLEN STERILITY IN *CATHARANTHUS ROSEUS* (L.) G. DON

THE physiological relationship between seed development and fruit growth has been well studied in a number of horticultural crops and established to be of essentially hormonal in nature[1]. In such studies, fleshy fruits have received considerable attention[2] but there are fewer reports on dry dehiscent fruits. In the dry dehiscent fruits of *Cheiranthus cheiri*, a linear relationship between the number of developed ovules and fruit length was reported[3]. A similar relationship was discerned in the dry dehiscent follicles of *Catharanthus roseus* (L.) G. Don., (Apocynaceae), a medicinal plant, which is credited[4] as a single species with the largest number of 74 named alkaloids. This report presents evidences for the above relationship secured from

natural and experimental plants exhibiting a wide variation for follicle length, seed number and pollen sterility.

Follicles (fruits) for this study were drawn from a total of 27 plants/sectors consisting of: nine plants selected from natural population based on the differences in flower colour (pink, light pink, white, white with pink orifice) and pubescence; six F_1 hybrids; seven M_1 plants raised from seeds treated with γ-ray (20 and 30 Kr) or ethyl methane sulphonate (0·6 and 1·0%), and five sectors varying in pollen fertility from a plant raised from single node following 2 Kr, γ-ray treatment.

Observations on follicle length and seed number were taken in matured follicles collected before dehiscence and dried in storage. Shrivelled seeds when found were not taken into account. In the total of 1513 follicles sampled, a wide variation (Fig. 1) was observed for follicle length (6 mm to 53 mm) and seed number (one to 44). Intra-plant variation was present for both characters in all the 27 plants/sectors. The mean values for follicle length and seed number of individual plants/sectors which were found to be significantly different ranged from $9{\cdot}8 \pm 1{\cdot}75$ mm to $38{\cdot}6 \pm 10{\cdot}79$ mm and $2{\cdot}9 \pm 1{\cdot}47$ to $28{\cdot}0 \pm 8{\cdot}36$, respectively.

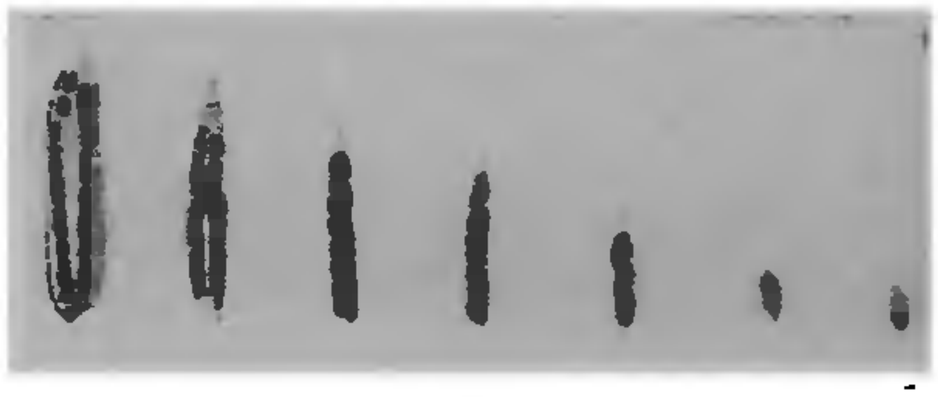

FIG. 1

The association of follicle length and seed number was tested for linear relationship using data from individual follicles of plants. The coefficient of determination of 88·2% obtained for the pooled data was indicative of an intimate linear relationship. A highly significant positive linear relationship between these characters was evident in each of the plants/sectors studied. The regression of follicle length (y) on seed number (x) was worked out using pooled data and was determined as $b_{yx} = 0{\cdot}8693$. Thus the data provide indirect but compelling evidences for a linear relationship as verified over a wide range of expression of both characters within and across genotypes.

Pollen sterility in the 27 plants/sectors ranged from 1·28% to 92·33%. The correlation of pollen sterility with follicle length and seed number were computed using respective plant means. A highly significant but negative correlation was detected in respect of mean follicle length and pollen sterility ($r = -0{\cdot}8408$) on the one hand and mean seed number and pollen sterility ($r = -0{\cdot}9040$) on the other.

The high negative correlation between seed number and pollen sterility may be considered to reflect a close correspondence in the fertility of the male and female gametes in the materials studied. This relationship may be profitably employed in screening plants for fertility in mutation experiments. But, in view of the wide intra-plant variation for both follicle length and seed number, the conclusions need to be based on adequate samples.

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Indian Institute of Horticultural Research, 255, Upper Palace Orchards, Bangalore 560 006,
September 5, 1979.

R. KRISHNAN.
V. R. NARGUND.
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TWO NEW SPECIES OF *MYXOBOLUS* (MYXOSPORIDEA: PROTOZOA) PARASITIC ON *CIRRHINA MRIGALA* (HAMILTON) AND *PUNTIUS CURMUCA* (HAMILTON)

THE importance of myxosporidian parasitism of fish stocks had come to light in recent years and the reports on the pathological symptoms, the mortalities caused by them as well as their biology had been reviewed by Mitchell[1] and Seenappa[2]. In India, more than forty species have been described by several workers from both marine and freshwater fishes[3–8]. In the present report two new species of *Myxobolus* are described.

During the course of investigation under a fish disease scheme, fishes were collected from the irrigation canal at Tungabhadra Dam and the river Netravathi at Bantwal. One (17 cm) of the four mrigal (*Cirrhina mrigala*) yearlings caught in the T.B. Dam canal had two white cysts at the inner base of the hemibranchs. In the Netravathi sample a *Puntius curmuca* (19·0 cm) had several white cysts below the scales. The cysts were either circular, subspherical or irregular in shape. They were punctured and the spore smears were prepared. The smears were stained with methylene blue (1·0%) and Lugol's iodine. The spore characters were recorded and camera lucida sketches were drawn.