sativa (L/R—0·814) and also by Bahadur *et al.*[1] in *Bambusa arundinacea* (L/R—0·933), however, Rao *et al.*[8] observed equality of L and R seedlings in *Phaseolus vulgaris*. The χ^2-value on the total for I d.f. is high and the P value is highly significant. However, some cultivars showed an excess of left-handed seedlings, although the L/R ratio was not different from equality.

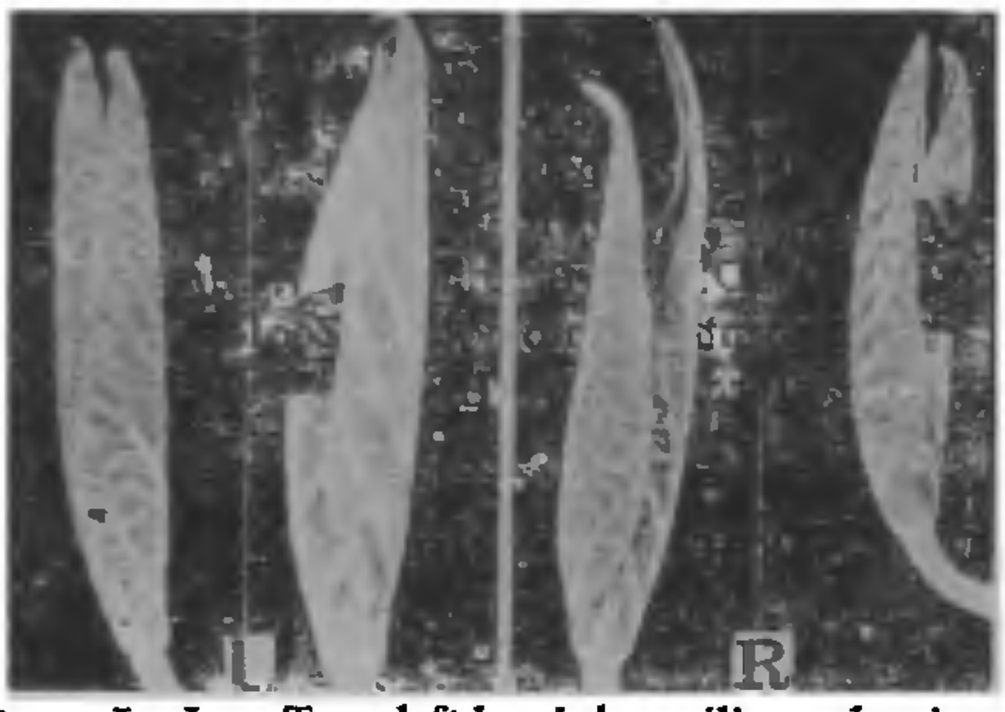


PLATE I. L : Two left-handed seedlings showing overlapping of first pair of leaves towards the left-hand side. R : Two right-handed seedlings showing overlapping of first pair of leaves towards the right hand side. Note the overlapping of leaves as indicated by a black paper strip.

The presence of seedling handedness in *Cajanus*, forming mirror image pattern constitutes yet another clear case of bio-isomerism, so far not described in the literature. This however, can be compared to bio-isomerism in number of other plant organs particularly the one described by Bahadur and Reddy[2] in cyathia of *Euphorbia milli*, where the two bracts overlap variously as observed in the present study.

Although preliminary work showed that the seedling handedness does not follow Mendelian inheritance, it has been suggested that handedness in plant organs may be either due to stereoisomerism of the hormone molecules that are active in the primordia of the concerned plant part[2] or that levo and dextro compounds in the primordial metabolism determined isomerism[3]. Thus Bahadur *et al.*[2,3] opined that molecular chirality is expressed in biological chirality. Further work on various aspects of seedling handedness in *Cajanus cajan* are in progress.

We are grateful to the authorities of ICRISAT Hyderabad, for kindly sparing *Cajanus* material, investigated in the present work. We are thankful to Prof. U. B. S. Swami, for facilities. One of us (KLR) is grateful to U.G.C. for granting him fellowship under the Faculty Improvement Programme and to Government of Andhra Pradesh for deputing him to work for his Ph.D.

Department of Botany,
Kakatiya University,
Warangal 506 009, A.P.,
May 21, 1979.

K. LOKENDER RAO.
BIR BAHADUR.

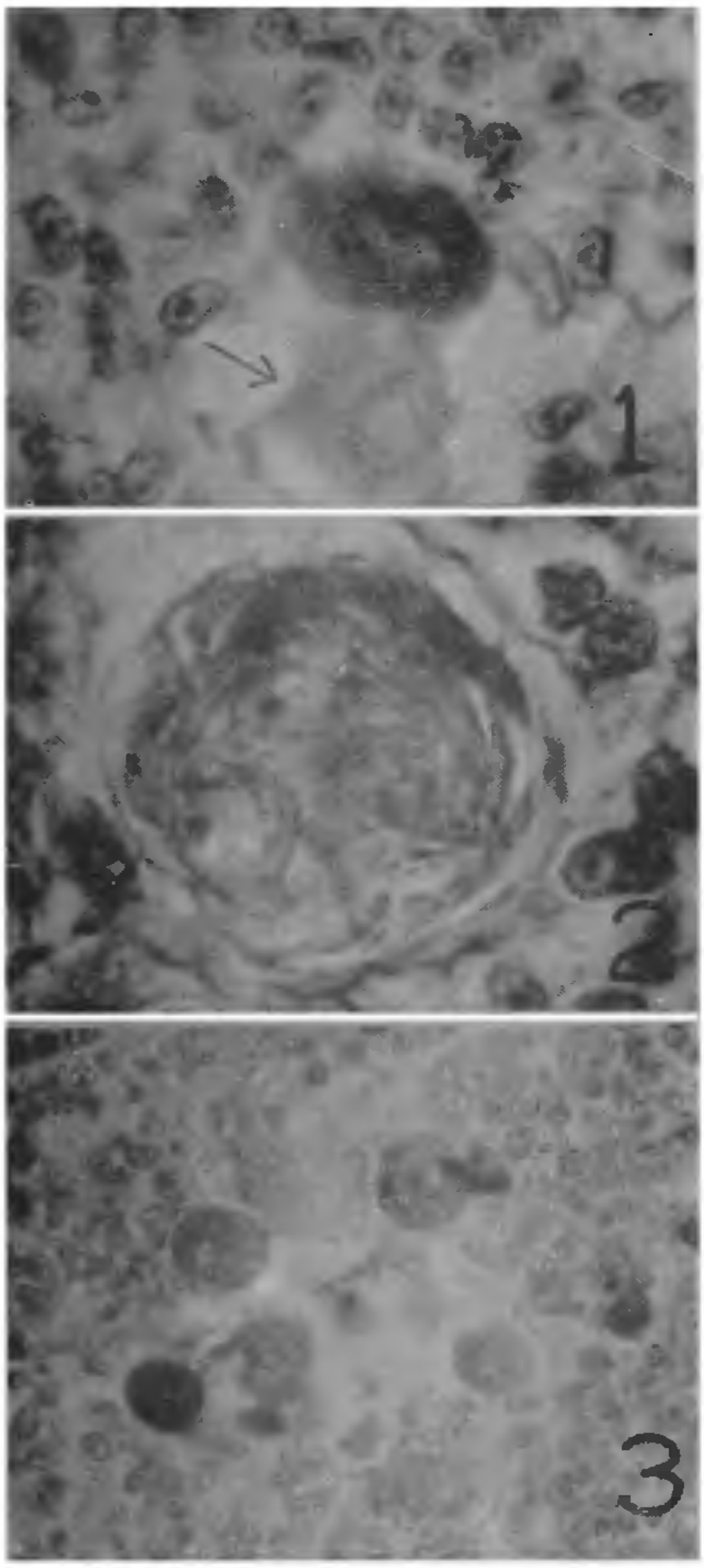
1. Bahadur, B., Rao, K. L. and Rao, M. M., *Curr Sci.*, 1978, 47, 584.
2. — and Reddy, N. P., *New Phytol.*, 1975, 75, 131.
3. — and Venkateshwarlu, T., *J. Indian Bot. Soc.*, 1976, 55, 30.
4. Burger, H. D., *Seedlings of Some Tropical Trees and Shrubs Mainly South East Asia*, Translated by Burger, E. and Festing, B. Wagengin, 1972
5. Compton, R. H., *J. Genet.*, 1912, 2, 53.
6. Crowe, L. K., "Seedling characters in teaching genetics," in : *Teaching Genetics in Schools and Colleges*, Eds. Darlington and A. D. Bradshaw, Oliver and Boyd, London.
7. Ono, H. and Suemoto, H., *Seiken Ziho.*, 1967, 8, 60.
8. Rao, M. M., Reddy, N. P. and Bahadur, B., *Curr. Sci.*, 1980, 49, 61.

HASSALL'S CORPUSCLES IN CHELONIAN THYMUS

DIVERSE views[1–3] on origin, morphology and function of Hassall's Corpuscles in thymus have imparted them considerable importance even in sub-mammalian vertebrate groups. The few studies[2,4,5] available on reptilian thymus do not provide substantial information on these structures. This note is intended to provide information on the morphology of Hassall's Corpuscles in an Indian Fresh-water turtle, *Kachuga smithi*, which abounds almost all types of waterbodies in North India. The study is based on sectioned thymic gland obtained from mature specimens of *Kachuga smithi* (carapace length 207 mm) collected in November 1978 from Jammu (India). The material was fixed in Bouin's Picro-Formol and stained in Mallory's Acid Fuchsin, Aniline Blue-Orange G mixture[6].

Thymus is a paired gland in *K. smithi*. It is lobulated and is situated in the angle between trachea and the Common Carotid Artery. Histologically, it is differentiated into an outer denser cortex and an inner comparatively thinner medulla. In both these zones, among other cell types are to be found Hassall's Corpuscles. Each Hassall's Corpuscle (Fig. 1) is a spherical or oval cell profile bearing a centrally located one (in unicellular type, Fig. 1), occasionally two (in bicellular type, Fig. 2) light staining nuclei. The Corpuscles are large, often 8 × (20–28) μ in diameter and the nucleus in each measures 4 × (6–8) μ. Each nucleus has a prominent nucleolus. The cytoplasm is strongly acidophilic and shows circumferentially disposed concentric striae, all running around the nucleus. These

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.
September 5, 1979.

1. Jordan, Y. E. and Horsley, G. W., *Anat. Rec.*, 1927, **35**, 279.
2. — and Looper, J. B., *Ibid.*, 1928, **40**, 309.
3. Kingsbury, B. F., *Ibid.*, 1928, **38**, 141.
4. Rao, M. A., *Proc. Nat. Inst. Sci.*, India, 1955, **21**, 10.
5. Sarkar, H. B. D. and Rao, M. A., *J. Mysore University*, 1965, **18**, 25.
6. Gurr, E., *Staining Animal Tissues*; *Practical and Theoretical*, 1962, 1.
7. Strauss, A. J. L., Kemp, P. G. and Douglas, S. D., *Lancet*, 1966, **1**, 180.

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