Bulbs of *S. indica* were obtained from the Botanical Survey of India, Pune, and were collected from Bombay and Mahabaleswar. Out of the four populations collected, three were diploid ($2n=30$) and one was tetraploid ($4n=60$). The bulbs were grown in the experimental plot and harvested during active period of growth.

The bulbs were sliced, dried and powdered. The method of extraction of sterol and bufadienolides was the same as of earlier authors[7,8]. The glycoside extracted was examined for the presence of scillaren A and proscillaridin A by thin-layer chromatography using methylene dichloride: methanol: formamide (87 : 12 : 1) as solvent system[9]. The detection was done by spraying with a mixture of 10 ml of aqueous solution of chloramine T and 40 ml of 25% ethanolic solution of trichloroacetic acid[10]. The plates were heated at 110° C for 10 min whereby the glycosides gave yellow fluorescence under long wave UV light. The detection reagent was sensitive for < 5 μg/spot.

The TLC of petroleum-ether extract in solvent system chloroform : benzene (1 : 1) gave negative response to Liebermann–Burchard reagent[10]. β-sitosterol reported to be present[7] was not detected in any of the four populations studied.

The two reference bufadienolides, scillaren A and proscillaridin A could not be detected in any of the four populations. These data are not in conformity with reports of Rangaswami and Krishna Rao[6] and Krishna Rao and Rangaswami[8] who based investigations on commercial samples of South Indian squill. It is likely that the biological potency of *S. indica*[2] is attributable to some other constituents as reported by Rangaswami and Subramaniam[5] and not to scillaren A which is the principal bufadienolide of *U. maritima* (European squill) and *U. indica* (Indian squill).

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EMBRYOLOGICAL STUDIES IN LAMIACEAE

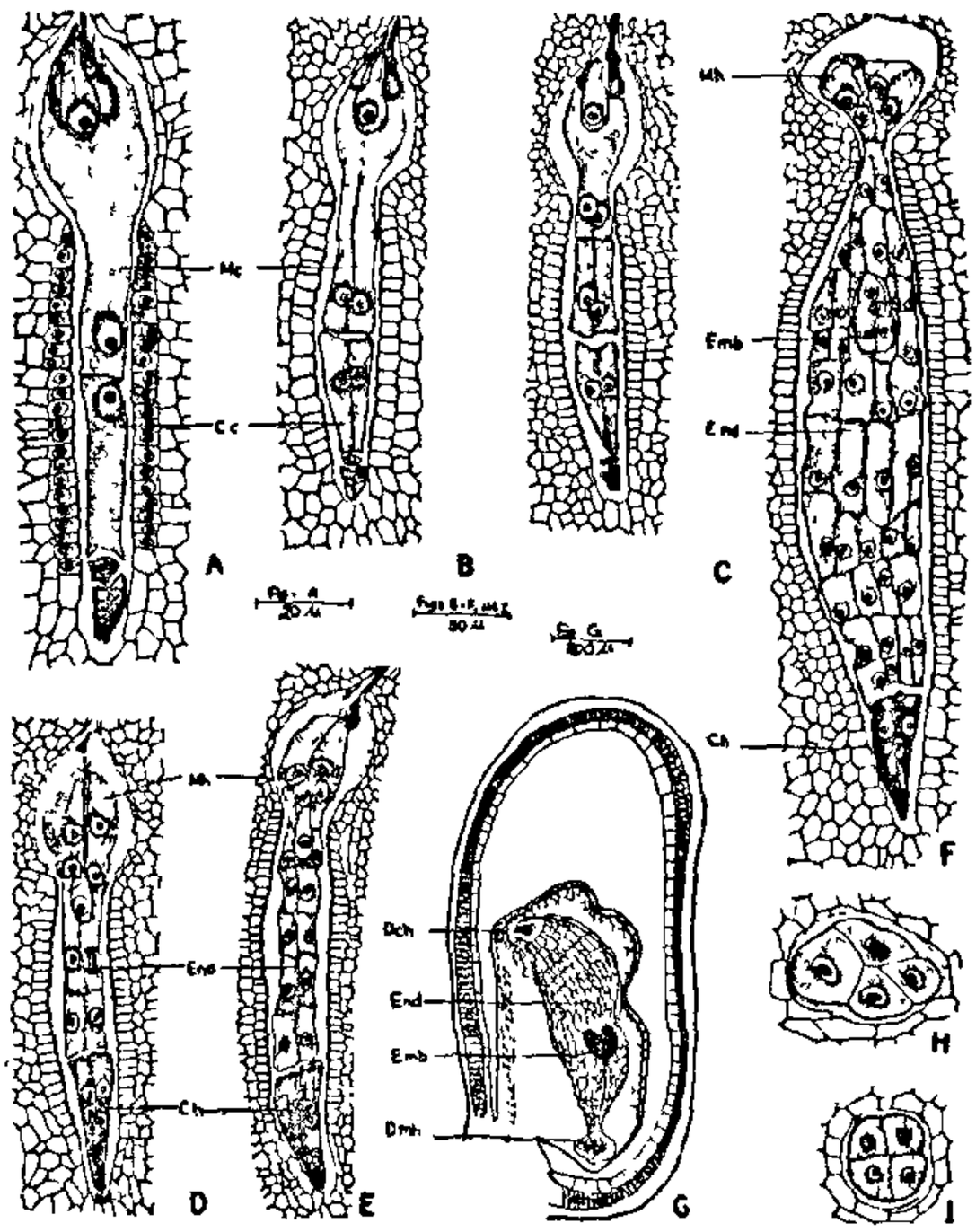
VII. Development of Endosperm in *Craniotome versicolor* Reichb. Iconogr.

THE Lamiaceae are unique in showing characteristic micropylar and chalazal endosperm haustoria. The first authentic work in the family is that of Schnarf[1] who has studied the development of endosperm in several genera. A survey of the literature indicates that very little work has been done so far on development of the endosperm. The investigations on endosperm development in this family include those of Ruttle[2] on *Mentha*, Carlson and Stuart[3] on species of *Salvia*, Ganguly[4] on *Anisomeles* and *Leonurus*, Murthy[5–8] on species of *Ocimum*, *Leucas*, *Anisomeles* and *Orthosiphon*. Junell[9] and Santha[10] have studied the embryology of a large number of representatives of the Lamiaceae. The present study deals with the development of endosperm in *Craniotome versicolor*. The detailed study on the embryology of this taxon will be published elsewhere.

The endosperm formation is of cellular type. The first division of the endosperm primordium is accompanied by the formation of a transverse wall resulting in the formation of a smaller chalazal chamber and a large micropylar chamber (Fig. A). The next division in both the chambers is longitudinal and is followed by the cell plate formation. Thus two tiers of each of the two cells are formed (Fig. B). The cells of the lower tier further undergo vertical division at right angle to the previous one to organise the four celled chalazal haustorium (Figs. D–F, I). The cells of chalazal haustorium generally acquire dense cytoplasm and show hypertrophied nuclei. The chalazal haustorium bends slightly towards funicular vascular supply (Fig. G). It degenerates by the time the proembryo reaches the heart-shaped stage.

The two juxtaposed cells of the micropylar chamber divide transversely forming two superposed tiers for the two cells each (Fig. C). The upper cells undergo vertical division to organise the 4-celled micropylar haustorium (Figs. D–F, H). The cells of the micropylar haustorium elongate irregularly and extend into the broad micropylar cavity. The micropylar haustorium persists upto the late heart-shaped stage of the proembryo (Fig. G).

The lower two cells of the micropylar chamber undergo a series of transverse and vertical divisions to form the endosperm proper which nourishes the developing embryo (Figs. F, G). Thus the gamut of endosperm formation conforms to the "Scutellaria-type".



FIGS. A–I. Development of endosperm in *Craniotome versicolor* Reichb. Iconogr. Stages in the development of the Endosperm. Figs. D–F. Note the four celled micropylar and chalazal haustoria; Fig. G. L.S. of pericarp, note the heart-shaped proembryo and the degenerating endosperm haustoria. Figs. H–I. T.S. of micropylar and chalazal haustoria respectively. (Cc—Chalazal chamber; Ch—Chalazal haustorium; Dch—degenerating chalazal haustorium; Dmh—degenerating micropylar haustorium; Emb—Embryo; End—endosperm; Mh—Micropylar haustorium).

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NELLIECARTERIA RAMOSA (CARTER) DE TONI. A NEW RECORD FOR INDIA

As part of a Khosla Research Foundation Project of this University, an intensive survey of algae in the aeroflora of the Pune area has been undertaken for the last 5 years[1,2]. As an ancillary project, a study of subaerial and epiphytic algae of the region, which would be obviously implicated as one of the sources of algae in the aerofloras, was also undertaken. This study proved quite rewarding. One of the interesting organisms encountered was *Nelliecarteria ramosa* (Carter) De Toni (Cyanophyta, Stigonematales).

This organism came up in isolations made from the surface scrapings of mosses, collected in the departmental garden. It was rather rare and was met with only on two occasions in cultures. The organism came up as olivaceous to brown colonies, composed of irregularly branched and aggregated uniseriate filaments which were beaded in appearance due to the constriction at cross walls (Fig. 1). A sheath was occasionally present. The true branches had the same width as the main filaments and appeared more or less at right angles to them. This was due to the characteristic sympodial growth, the new laterals pushing the terminal portions of the trichomes to a side and continuing growth as an apparent continuation of the lower portion of the axis. The cells of the filaments were somewhat thick-walled and subspherical, 15–20 μ broad and usually somewhat longer than broad. The end cells were slightly tapered or at times flask-shaped. The alga is non-heterocystous.

Carter[3] first described this organism as a new genus of blue-green algae, *Rosaria*, including only the type species, *R. ramosa* Carter. De Toni[4] showed that *Rosaria* Carter was a later homonym of *Rosaria* Carmichael, 1833, and hence he created a new genus, *Nelliecarteria*, to accommodate Carter's organism, making a new combination—*N. ramosa* (Carter) De Toni, for the type species. A year later Skuja[5] described a second species, *R. clandestina*, which had calcium incrustation. Discussing the taxonomy of this second species, Bourrelly[6] expressed the opinion that *R. clandestina* Skuja should be considered a species of *Geuleria* Friedmann. He accordingly made a new combi-