

Dr. M.S. Swaminathan,
Director.

PA/5266

26th November, 7

Shri Virendra Kumar,
Department of Biology,
Delhi College, Ajmeri Gate, DELHI-6.

Dear Shri Virendra Kumar:

Thank you very much for your kind letter dated the 20th November, 1967. I have forwarded a copy of your report to Shri Har Gopal with a copy of the report of Prof. Johri. It would be better to arrange chromosomes according to length since the numbering has to be done only according to length and not the position of the centromere. I am returning the drawings herewith.

With kind regards,

Yours sincerely,

Encl: Drawings

M 26/11
M.S. (M.S. Swaminathan)

Miss Rama

*Please don't fold
the letter as drawings
are attached*

T.S.
4/11



DEPARTMENT OF BIOLOGY

November 20, 1967.

DELHI COLLEGE
(UNIVERSITY OF DELHI)
AJMERI GATE, DELHI-6.

Respected Dr. Swaminathan,

The annual progress report for the year 1966-67, is enclosed for your kind approval and submission to the Arch. Registrar (Sci), University of Delhi.

I am also enclosing two specimen idiograms, one (A) with the centromeres in a line and (B) with chromosomes arranged according to the length irrespective of the centromere position. Which one would you approve?

I am much grateful for the very pleasant evening I had with you and Mrs. Swaminathan yesterday.

With regards:

Yours truly
Virendra Kumar

Dr. M.S. Swaminathan,
Director.

D.O.No. PA/5267-~~88~~.

November 26, 1967
27

Shri Har Gopal,
Deputy Registrar (Sci.),
University of Delhi,
Old Viceregal Lodge,
Delhi - 7.

Dear Shri Har Gopal:

I enclose herewith the annual report of Shri Virendra Kumar of the Delhi College who is registered for the Ph.D. degree of the Delhi University.

With kind regards,

Yours sincerely,

Sd/-

(M.S. Swaminathan)

No. PA/5268

Dated: November 26, 1967.
27

Copy together with the report of Shri Virendra Kumar forwarded to Prof. B.M. Johri, Head of the Department of Botany, Delhi University, Delhi.

M.S.
Sd/- (M.S. Swaminathan)

To: Shri Gunglani

Copy II

ANNUAL PROGRESS REPORT

1966-67.

Name of the research student: Virendra Kumar

Department: Botany

Date of registration: January 8, 1964.

Title of the research project: Cytogenetical studies on the Trans-Himalayan genera of the tribe Polygonatae of liliaceae.

A. FIELD WORK TOURS: Two field work tours were undertaken (August and November, 1966) for experimental purpose, on the plants under propagation at the Potato Research Institute, sub-station Kufri, Simla hills.

B. CYTOLOGY:

I. Disporum: The karyotype analysis work was extended to plants obtained from the following new geographical areas in East Asia.

1. Ceylon: D. leschenaultianum ^{Don} 2n = 16; karyotype pattern similar to the Himalayan and Western ghat taxa.

2. Korea: Live rhizomes of three species (sent by Dr. Il Koo Lee, Director, Korean Institute of plant resources, Seoul) were propagated in Delhi.

(i) D. sessile Don: 2n = 16, karyotype, similar to the Himalayan taxa.

(ii) D. smilacinum Gray; 2n = 16.

(iii) D. viridescens Nakai; 2n = 16.

The karyotype pattern of the above two taxa similar to Himalayan forms, in addition to the presence of a new type of SAT Chromosome (a pair of short chromosomes with interstitial satellites).

2. Taiwan: Two species (sent by Dr. Gideon T. Lew Chief, Plant Industry Division, Taipei) were grown in Delhi for karyotype analysis.

(i) D. shimadae Hay: 2n = 14, karyotype pattern similar to 'Assam - Burma' group.

(ii) D. kawakamii Hay: 2n = 16, karyotype pattern similar to the 'Himalayan group' of taxa.

4. Philippines: One endemic species under propagation in Delhi (sent by Dr. Galo B. Ocampo, National Museum, Manila).

D. Luzoniense Merr: $2n = 40$, with an entirely new karyotype pattern. The cytological findings, in addition to certain distinct morphological characteristics observed in the specimens suggest the necessity of a closer scrutiny in regard to its taxonomic status at the genus level.

5. Completion of cytological investigations on plants collected earlier from Pindari Glacier, Assam and Orissa.

II. Polygonatum: Completion of work on clones from Pindari Glacier, Sikkim and Bhutan.

III. Smilacina: Completion of work on clones from Simla.

C. Cytogeography: Preparation of geographical distribution maps, for the genus Disporum - where a distinct cytogeographic distribution pattern has been noticed.

D. CYTOTAXIDNOMY: Work on improved taxonomic grouping in the genus Disporum & Polygonatum, in the light of the cytological data in progress.

E. Cytoecology: Morphological analysis of the specimens in the genus Polygonatum with regard to the establishment of different biotypes forming an smooth ecological gradient, in populations at 'Valley of Flowers' and 'Pindar Valley' in the Kumaon Himalayas.

F. Evolution: The occurrence of natural hybridization and polyploidy has been referred in earlier reports - Work extended to extrapolate the cyto-morphological features in the natural populations at Bhutan and 'Valley of Flowers.'

6. Compilation work for the preparation of the thesis.

M. S. Swaminathan
Supervisor.

Virendra Kumar
Research Scholar

20.11.67.