A NOTE ON THE CYTOLOGY OF SOME WEST-HIMALAYAN SPECIES OF THE GENUS *NEPETA*

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Chromosome counts of 13 species of *Nepeta* from the West-Himalayas are determined for the first time. The species reported are: *N. linearis* (n = 9), *N. elliptica* (n = 9), *N. eriostachya* (n = 9), *N. spicata* (n = 9), *N. raphanorhiza* (n = 9), *N. govaniana* (n = 9), *N. erecta* (n = 18), *N. mollis* (n = 18), *N. leucocephylla* (n = 18), *N. hindostana* (18), *N. graciflora* (n = 9), *N. gracilis* (n = 18), and *N. rudelaris* (n = 18).
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INTRODUCTION

The present contribution is essentially a part of the project entitled "Cytotaxonomic Studies on the West-Himalayan Labiateae" undertaken by the author in 1963. The genus *Nepeta* is comprised of 160 species (Cove, 1955), of annual or perennial herbs or undershrubs, chiefly distributed in temperate Europe, North Africa and Asia. Mukerjee (1940) has reported 41 species from the Indian sub-continent, of which 28 species are distributed in the Western-Himalayas. The present paper deals with 14 species.

MATERIAL AND METHODS

The materials for study were collected by the author during many botanical excursions in the Western Himalayas from the specific localities mentioned in Table I. Chromosome counts were made from the meiotic studies in the pollen mother cells, using Carnoy's fluid. Voucher specimens are deposited in the Herbarium of the Panjab University, Chandigarh, India.
<table>
<thead>
<tr>
<th>Taxon</th>
<th>Voucher</th>
<th>Origin</th>
<th>n Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Nepeta linearis</em> Royle ex Bth.</td>
<td>Gill 7501</td>
<td>Tangmarg, 2100 m.</td>
<td>9</td>
</tr>
<tr>
<td><em>N. elliptica</em> Royle ex Bth.</td>
<td>Gill 7427</td>
<td>Subash Peak, Naintal, 2400 m.</td>
<td>9</td>
</tr>
<tr>
<td><em>N. eriostachya</em> Bth.</td>
<td>Gill 7487</td>
<td>Gulmarg, 2500 m.</td>
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<tr>
<td><em>N. spicata</em> Bth.</td>
<td>Gill 7486</td>
<td>Gulmarg, 2500</td>
<td>9</td>
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<tr>
<td><em>N. raphanorhiza</em> Bth.</td>
<td>Gill 7503</td>
<td>Tangmarg, 2100 m.</td>
<td>9</td>
</tr>
<tr>
<td><em>N. govaniana</em> Bth.</td>
<td>Gill 7374</td>
<td>Khilanmarg, 2850 m.</td>
<td>9</td>
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<tr>
<td><em>N. erecta</em> Bth.</td>
<td>Gill 7479</td>
<td>Gulmarg, 2600 m.</td>
<td>18</td>
</tr>
<tr>
<td><em>N. mollis</em> Bth.</td>
<td>Gill 7420</td>
<td>Nainital, 1900 m.</td>
<td>18</td>
</tr>
<tr>
<td><em>N. distans</em> Royle ex Bth.</td>
<td>Gill 7432</td>
<td>Nainital, 2000 m.</td>
<td>18</td>
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<tr>
<td><em>N. leucophylla</em> Bth.</td>
<td>Gill 3177</td>
<td>Mussoorie, 2100 m.</td>
<td>18</td>
</tr>
<tr>
<td><em>N. hindostana</em> Hains</td>
<td>Gill 7389</td>
<td>Nainital, 1800 m.</td>
<td>18</td>
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<tr>
<td><em>N. graciflora</em> Bth.</td>
<td>Gill 7403</td>
<td>Nainital, 2000 m.</td>
<td>18</td>
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<tr>
<td><em>N. gracilis</em> Bth.</td>
<td>Gill 7443</td>
<td>Jeolikot, 1300 m.</td>
<td>9</td>
</tr>
<tr>
<td><em>N. rudelaris</em> Buch-Ham.</td>
<td>Gill 7416</td>
<td>Nainital Hills, 1380 m.</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Gill 7407</td>
<td>Nainital, 1900 m.</td>
<td>18</td>
</tr>
</tbody>
</table>
DISCUSSION

Chromosome numbers with the exception of *Nepeta distans* (n = 18) are new counts. Zhukova (1967b) reported 2n=26 for *N. distans*, which is not in line with the base numbers of 9 and 17 (Darlington & Wylie, 1955). All the presently worked out taxa are based on x=9. More counts are needed to clarify the position of base number in *N. distans*. Larsen (1960a) determined 2n=16 in *N. teydea*, which is indicative of a new base number of 8. The high base number of 17 appears to be secondary in origin and might have arisen by amphiploidy. The well-known case of secondary origin is of Pomoideae (x=17) from Spiraeoideae (x=9) and Prunoideae (x=8) (Stebbins, 1950). Thus the base number in this genus are 8, 9, 13 and 17. Intraspecific races have been reported in *N. cataria* with 2n=34 (Mulligan, 1959) and 2n=36 (Sugiura, 1940).

ACKNOWLEDGEMENT

The author is grateful to Professor P. N. Mehra, D. Sc. for providing the laboratory facilities.
REFERENCES


EXPLANATION TO FIGURES

1. **Nepeta linearis**
   n = 9 First anaphase.

2. **N. elliptica**
   n = 9 first metaphase.

3. **N. eriostachya**
   n = 9 first metaphase.

4. **N. spicata**
   n = 9 first metaphase.

5. **N. raphnorhiza**
   n = 9 first metaphase.

6. **N. govaniana**
   n = 9 Diakinesis.

7. **N. erecta**
   n = 18 first anaphase.

8. **N. mollis**
   n = 18 second metaphase.

9. **N. distans**
   n = 18 Diak.

10. **N. leucophylle**
    n = 18 first metaphase.

11. **N. hindostana**
    n = 18 first anaphase.

12. **N. graciflora**
    n = 9 first metaphase.

13. **N. gracilis**
    n = 18 Diak.

14. **N. rudelaris**
    n = 18 first metaphase.

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