

SOME CYTOLOGICAL OBSERVATIONS IN THE LOGANIACEAE IV. *)

BY

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INTRODUCTION

This paper, the fourth in this series, presents some new data on chromosome numbers of the *Loganiaceae*. 6 species will be treated, of which five had not been investigated cytologically before.

MATERIAL AND METHODS

The materials, kindly supplied to me by Dr. A. J. M. Leeuwenberg, Ir. F. Breteler and Drs. W. Meyer, were collected in the Ivory Coast, Cameroun, Venezuela and N. Borneo. The methods of fixation, sectioning and staining have been described in my earlier papers.

RESULTS

The following results could be obtained:

1. *Anthocleista vogelii* Planch.: $2n=48$
Origin of the material: Cameroun, 3 km. East of Eséka.
Herbarium material of the mother-plant: Leeuwenberg 5017 (WAG).
Herbarium material of the seedling: Leeuwenberg 7812 (WAG).
Living material: in the greenhouse at Wageningen.
2. *Strychnos ignatii* Berg.: $2n=44$
Origin of the material: N. Borneo, near mile 15, Labuk road.
Herbarium material of the mother-plant: W. Meyer Sandakan 43422
(WAG, fruits and seeds).
Herbarium material of the seedling: Leeuwenberg 3562 (WAG).
Living material: in the greenhouse at Wageningen.
3. *Strychnos ngouniensis* Pellegr.: $2n=44$
Origin of the material: W. Cameroun, 16 km. W. of Bota, W. of
Victoria, on base of Cameroun Mt.
Herbarium material: Leeuwenberg 6921 (P, WAG, YA).

*) Continued from: *Acta Bot. Neerl.* 11: 51-55 1962; *Proc. Roy Neth. Acad. Sci. Ser. C66*: 265-269 1963; *Acta Bot. Neerl.* 15: 490-491 1966.

4. *Strychnos schultesiana* Krukoff: $2n=44$
 Origin of the material: Venezuela, near La Azulita, State Merida.
 Herbarium material of the mother-plant: Breteler 5193 (WAG).
 Herbarium material of the seedling: Leeuwenberg 3563 (WAG).
 Living material: in the greenhouse at Wageningen.
5. *Strychnos soubrensis* Hutch. et Dalz.: $2n=44$
 Origin of the material: Ivory coast, Guéyo.
 Herbarium material of the mother-plant: Leeuwenberg 3727 (WAG).
 Herbarium material of the seedling: Leeuwenberg 4571 (WAG).
 Living material: in the greenhouse at Wageningen.
6. *Strychnos staudtii* Gilg: $2n=44$
 Origin of the material: West Cameroun, left bank of Mungo River,
 near bridge in road Kumba - Loum.
 Herbarium material of the mother-plant: Breteler, de Wilde and
 Leeuwenberg 2575 (P, WAG, YA).
 Herbarium material of the seedling: Leeuwenberg 6849 (P, WAG, YA).

DISCUSSION

Up to the present only two species of the genus *Anthocleista* had been investigated cytologically: *Anthocleista djalonensis* Chev. and *Anthocleista liebrechtsiana* de Wild. et Dur. The chromosome number of both species turned out to be $2n=60$ (GADELLA, 1961, 1963). These facts, together with the observation of the chromosome number $2n=48$ in *Anthocleista vogelii*, lend support to the supposition that the basic number of the genus *Anthocleista* is $X=6$.

All species of the genus *Strychnos*, described in this paper, and originating from Venezuela, W. Africa and Borneo, are characterized by the chromosome number $2n=44$. In my paper of 1963 the chromosome number of *S. ngouniensis* Pellegr. has been published. Unfortunately, this material was misidentified and turned out to belong to the species *S. soubrensis*. For that reason the exact data of this species are given in this paper.

25 species of the genus *Strychnos* have been studied cytologically up to the present: $2n=44$ (20 species), $2n=88$ (2 species), GADELLA (1962, 1963, 1966); $2n=24$ (3 species), MOHRBUTTER (1936). These data suggest that two basic numbers occur in *Strychnos*: $X=11$ or $X=22$, and $X=12$. It seems, however, that some doubt is justified with regard to the chromosome numbers published by Mohrbutter.

The following arguments are in favour of this opinion:

- a. *Strychnos sansibariensis* Gilg $2n=24$ (MOHRBUTTER, 1936).
S. sansibariensis is a synonym of *S. spinosa* Lam. The chromosome number of *Strychnos spinosa* turned out to be $2n=44$ (MANGENOT and MANGENOT, 1958; GADELLA, 1962). Some other species of the

section *Spinosa* Duvign. are also characterized by the number $2n = 44$: *Strychnos congolana* Gilg (GADELLA, 1962) and *Strychnos ternata* Gilg ex Leeuwenberg (GADELLA, 1966). The section *Spinosa* is one of the most natural of the genus *Strychnos*.

- b. *Strychnos laurina* Wall. ex D.C. $2n = 24$ (MOHRBUTTER, 1936).
S. laurina is a synonym of *S. colubrina* L. This species belongs to the section *Lanigerae* A. W. Hill, of which the members are closely related. According to Leeuwenberg (personal communication) the following cytologically investigated African species belong to this section: *Strychnos dinklagei* Gilg and *Strychnos splendens* Gilg ($2n = 44$; GADELLA, 1963), *Strychnos soubrensis* Hutch. et Dalz. ($2n = 44$) and *Strychnos ngouniensis* Pellegr. ($2n = 44$).
- c. *Strychnos nux-vomica* L. $2n = 24$ (MOHRBUTTER, 1936).
This is the type species and belongs consequently to the type section of the genus. To this section also belongs *Strychnos ignatii* Berg ($2n = 44$), which is closely related to the type species.

For these reasons the present author is of the opinion that it is likely that only one basic number occurs in the genus *Strychnos*: $X = 11$ or $X = 22$. As hitherto no species with the number $2n = 22$ have been found, the basic number $X = 22$ is the more likely.

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