

# CHROMOSOME NUMBERS OF FLOWERING PLANTS IN THE NETHERLANDS II.\*)

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## INTRODUCTION

Many plant species were formerly considered to be characterized by one chromosome number only. This, however, proved to be incorrect when, after continued cytogeographic studies, more data became available. Therefore, a number of species occurring in the Netherlands was studied from the cytological point of view in order to obtain documented data of this part of their distribution area.

The chromosome number of 157 species turned out to be the same as that reported in the lists by LÖVE and LÖVE (1961); CAVE (1961, 1962, 1963, 1964) and GADELLA and KLIPHUIS (1963), while 46 species showed cytological differentiation.

In this article only the first mentioned species will be listed. The results of our studies on the second group of species as well as a comparison with the data obtained outside the Netherlands will be treated later.

## MATERIAL AND METHODS

The plants studied were partly transferred from their natural habitat to the experimental plot, partly grown from seeds collected in the Netherlands. (The species *Betula verrucosa* and *Chrysosplenium oppositifolium* were collected in Belgium).

The determination of the chromosome numbers was based on the study of roottip mitoses. The roottips were fixed in Karpechenko's fixative, embedded in paraffin, sectioned at 15 micron and stained according to Heidenhain's haematoxylin method.

Voucher specimens as well as the microscopical preparations have been deposited in the Botanical Museum and Herbarium of Utrecht.

## RESULTS

The species studied are listed in the table. The order of listing is alphabetical according to the families and within them according to the genera.

\*) Continued from *Acta Bot. Neerl.* 12, 195-230 (1963).

TABLE 1

**Alismataceae**

- Echinodorus ranunculoides* (L.) Engelm. ex Aschrs.  
 coll. no.: G. et K. 3006 . . . . . 2n=14  
 origin: Dune valley near Oost-Voorne (prov. of Zuid-Holland).

**Apocynaceae**

- Vinca minor* L.  
 coll. no.: G. et K. 1620 . . . . . 2n=46  
 origin: Small wood near Bunnik (prov. of Utrecht).

**Balsaminaceae**

- Impatiens noli-tangere* L.  
 coll. no.: G. et K. 2637 . . . . . 2n=20  
 origin: Wood near Bunde (prov. of Limburg).

**Betulaceae**

- Betula pubescens* Ehrh.  
 coll. no.: G. et K. 1865 . . . . . 2n=56  
 origin: National Park "de Boschplaat", Isle of Terschelling.  
 coll. no.: G. et K. 2148 . . . . . 2n=56  
 origin: Dunes near Bergen (prov. of Noord-Holland).  
*Betula verrucosa* Ehrh.  
 coll. no.: G. et K. 1896 . . . . . 2n=28  
 origin: Hautes-Vagnes, Belgium.

**Boraginaceae**

- Cynoglossum officinale* L.  
 coll. no.: G. et K. 1963 . . . . . 2n=24  
 origin: Dunes near Oost-Voorne (prov. of Zuid-Holland).  
*Echium vulgare* L.  
 coll. no.: G. et K. 1398, 1412 . . . . . 2n=32  
 origin: Grebbeberg, near Rhenen (prov. of Utrecht).  
*Lithospermum officinale* L.  
 coll. no.: G. et K. 1910, 1911 . . . . . 2n=28  
 origin: Quakjeswater, Rockanje (prov. of Zuid-Holland).

**Campanulaceae**

- Jasione montana* L.  
 coll. no.: G. et K. 2465, 2466, 2467 . . . . . 2n=12  
 origin: N.E. of Oosterend, Isle of Terschelling.

**Caryophyllaceae**

- Arenaria serpyllifolia* L.  
 coll. no.: G. et K. 1375, 1770 . . . . . 2n=40  
 origin: Slope of the Grebbeberg, Rhenen (prov. of Utrecht).  
*Cerastium glomeratum* Thuill.  
 coll. no.: G. et K. 1750 . . . . . 2n=72  
 origin: Near Vinkeveen (prov. of Utrecht).  
*Cerastium holosteoides* Fr.  
 coll. no.: G. et K. 2057 . . . . . 2n=144  
 origin: Along a road near Ellecom (prov. of Gelderland).

- Cerastium semidecandrum* L.  
 coll. no.: G. et K. 1120 . . . . . 2n=36  
 origin: Strandhaak, Oost-Voorne (prov. of Zuid-Holland).  
 coll. no.: G. et K. 1121 . . . . . 2n=36  
 origin: West point of the Isle of Voorne (prov. of Zuid-Holland).
- Cucubalus baccifer* L.  
 coll. no.: G. et K. 1455 . . . . . 2n=24  
 origin: Warnsveld (prov. of Gelderland).
- Lychnis flos-cuculi* L.  
 coll. no.: G. et K. 1517 . . . . . 2n=24  
 origin: Along a road near Utrecht.  
 coll. no.: G. et K. 1645 . . . . . 2n=24  
 origin: Along a road near Bunnik (prov. of Utrecht).
- Moehringia trinervia* (L.) Clairv.  
 coll. no.: G. et K. 1426 . . . . . 2n=24  
 origin: Klein Wasmeer, south of Hilversum (prov. of Noord-Holland).
- Sagina procumbens* L.  
 coll. no.: G. et K. 1706 . . . . . 2n=22  
 origin: Dunes near Schoorl (prov. of Noord-Holland).  
 coll. no.: G. et K. 2038 . . . . . 2n=22  
 origin: Slope of the Grebbeberg, Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 2078 . . . . . 2n=22  
 origin: On the bank of a brooklet near Ellecom (prov. of Gelderland).  
 coll. no.: G. et K. 2142, 2143 . . . . . 2n=22  
 origin: In a garden, Emmen (prov. of Drente).  
 coll. no.: G. et K. 2448, 2513 . . . . . 2n=22  
 origin: National Park "de Boschplaat", Isle of Terschelling.  
 coll. no.: G. et K. 2542, 2543, 2544, 2545, 2546, 2547 . . . . . 2n=22  
 origin: "Hondsbosche Zeewering", Camperduin (prov. of Noord-Holland).  
 coll. no.: G. et K. 3038, 3048 . . . . . 2n=22  
 origin: Dunes of Oost-Voorne (prov. of Zuid-Holland).
- Saponaria officinalis* L.  
 coll. no.: G. et K. 2806 . . . . . 2n=28  
 origin: Dunes of Westenschouwen (prov. of Zeeland).
- Chenopodiaceae**
- Atriplex hastata* L.  
 coll. no.: G. et K. 1499 . . . . . 2n=18  
 origin: Roadside near Utrecht.
- Chenopodium hybridum* L.  
 coll. no.: G. et K. 1498 . . . . . 2n=18  
 origin: Roadside near Utrecht.
- Chenopodium polyspermum* L.  
 coll. no.: G. et K. 1448 . . . . . 2n=18  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).
- Halimione portulacoides* (L.) Aellen  
 coll. no.: G. et K. 2498 . . . . . 2n=36  
 origin: National Park "de Boschplaat", Isle of Terschelling.
- Salsola kali* L.  
 coll. no.: G. et K. 1610 . . . . . 2n=36  
 origin: Strandhaak, Oost-Voorne (prov. of Zuid-Holland).

## Compositae

- Achillea millefolium* L.  
 coll. no.: G. et K. 1431 . . . . . 2n=54  
 origin: Along a road near Hilversum (prov. of Noord-Holland).  
 coll. no.: G. et K. 1465 . . . . . 2n=54  
 origin: Near Houten (prov. of Utrecht).
- Aster tripolium* L.  
 coll. no.: G. et K. 1593 . . . . . 2n=18  
 origin: Along the Haringvliet, Hellevoetsluis (prov. of Zuid-Holland).  
 coll. no.: G. et K. 2495 . . . . . 2n=18  
 origin: National Park "de Boschplaat", Isle of Terschelling.
- Bidens cernuus* L.  
 coll. no.: G. et K. 1506 . . . . . 2n=24  
 origin: On a bank of a ditch near Hoorn (prov. of Noord-Holland).
- Centaurea pratensis* Thuill.  
 coll. no.: G. et K. 1365 . . . . . 2n=44  
 origin: Along the Quakjeswater, near Rockanje (prov. of Zuid-Holland).
- Chrysanthemum leucanthemum* L.  
 coll. no.: G. et K. 1481 . . . . . 2n=18  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 2040, 2071 . . . . . 2n=18  
 origin: Near Angerlo (prov. of Gelderland).  
 coll. no.: G. et K. 1649 . . . . . 2n=36  
 origin: Roadside near Fort Hoofddijk, de Bilt (Prov. of Utrecht).
- Cirsium palustre* (L.) Scop.  
 coll. no.: G. et K. 1782 . . . . . 2n=34  
 origin: Wet meadow near the Grebbeberg, Rhenen (prov. of Utrecht).
- Cirsium vulgare* (Savi) Ten.  
 coll. no.: G. et K. 1474 . . . . . 2n=68  
 origin: Near Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1463 . . . . . 2n=68  
 origin: Near Schalkwijk (prov. of Utrecht).
- Crepis capillaris* (L.) Wallr.  
 coll. no.: G. et K. 1381 . . . . . 2n= 6  
 origin: Along the river the Rhine near Rhenen (prov. of Utrecht).
- Erigeron acer* L.  
 coll. no.: G. et K. 2003, 2004 . . . . . 2n=18  
 origin: Along a small wood near Oost-Voorne (prov. of Zuid-Holland).
- Erigeron canadensis* L.  
 coll. no.: G. et K. 1363 . . . . . 2n=18  
 origin: Grebbeberg, Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 2059, 2060 . . . . . 2n=18  
 origin: Near Ellecom (prov. of Gelderland).
- Eupatorium cannabinum* L.  
 coll. no.: G. et K. 1525 . . . . . 2n=20  
 origin: Bank of the IJsselmeer, between Huizen and Spakenburg (prov. of Utrecht).  
 coll. no.: G. et K. 1604 . . . . . 2n=20  
 origin: Dunes of Oost-Voorne (prov. of Zuid-Holland).

- Gnaphalium luteo-album* L.  
coll. no.: G. et K. 1589 . . . . . 2n=14  
origin: Dunes of Oost-Voorne (prov. of Zuid-Holland).
- Gnaphalium uliginosum* L.  
coll. no.: G. et K. 1445 . . . . . 2n=14  
origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).
- Hieracium laevigatum* Willd.  
coll. no.: G. et K. 1428 . . . . . 2n=27  
origin: Near Hilversum (prov. of Noord-Holland).
- Hieracium pilosella* L.  
coll. no.: G. et K. 1765 . . . . . 2n=36  
origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).
- Hypochaeris radicata* L.  
coll. no.: G. et K. 1454 . . . . . 2n= 8  
origin: Klein Waschmeer, near Hilversum (prov. of Noord-Holland).  
coll. no.: G. et K. 1655 . . . . . 2n= 8  
origin: Near Baarn (prov. of Utrecht).  
coll. no.: G. et K. 1974, 1975 . . . . . 2n= 8  
origin: Dunes near Oost-Voorne (prov. of Zuid-Holland).  
coll. no.: G. et K. 2452 . . . . . 2n= 8  
origin: National Park "de Boschplaat", Isle of Terschelling.
- Lactuca serriola* L.  
coll. no.: G. et K. 1404 . . . . . 2n=18  
origin: Grebbeberg, Rhenen (prov. of Utrecht).
- Lapsana communis* L.  
coll. no.: G. et K. 1402 . . . . . 2n=14  
origin: Along the river the Rhine near Rhenen (prov. of Utrecht).  
coll. no.: G. et K. 1473 . . . . . 2n=14  
origin: Near Fort Hoofddijk, de Bilt (prov. of Utrecht).
- Leontodon autumnalis* L.  
coll. no.: G. et K. 1492 . . . . . 2n=12  
origin: Near Diphooorn (prov. of Drente).  
coll. no.: G. et K. 1594 . . . . . 2n=12  
origin: Dunes near Oost-Voorne (prov. of Zuid-Holland).
- Leontodon nudicaulis* L.  
coll. no.: G. et K. 1995 . . . . . 2n= 8  
origin: Strandhaak, near Oost-Voorne (prov. of Zuid-Holland).  
coll. no.: G. et K. 2449, 2463 . . . . . 2n= 8  
origin: National Park "de Boschplaat", Isle of Terschelling.  
coll. no.: G. et K. 2460, 2523 . . . . . 2n= 8  
origin: Between Groede and Oosterend, Isle of Terschelling.
- Matricaria chamomilla* L.  
coll. no.: G. et K. 1641 . . . . . 2n=18  
origin: Between Bunnik and de Bilt (prov. of Utrecht).
- Matricaria inodora* L.  
coll. no.: G. et K. 1392 . . . . . 2n= 36  
origin: Along the river the Rhine near Rhenen (prov. of Utrecht).
- Petasites hybridus* (L.) G., M. et Sch.  
coll. no.: G. et K. 1128, 1129 . . . . . 2n=60  
origin: Between Bunnik and de Bilt (prov. of Utrecht).

- Senecio jacobaea* L.  
 coll. no.: G. et K. 1764 . . . . . 2n=40  
 origin: Along the river the Rhine, near Rhenen (prov. of Utrecht).
- Senecio viscosus* L.  
 coll. no.: G. et K. 1354 . . . . . 2n=40  
 origin: Along the river the Rhine near Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 1503 . . . . . 2n=40  
 origin: Roadside near Utrecht.
- Senecio vulgaris* L.  
 coll. no.: G. et K. 1615 . . . . . 2n=40  
 origin: Near Brielle (prov. of Zuid-Holland).
- Sonchus asper* (L.) Hill.  
 coll. no.: G. et K. 1447 . . . . . 2n=18  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1560 . . . . . 2n=18  
 origin: In a holm near IJsselstein (prov. of Utrecht).  
 coll. no.: G. et K. 1763 . . . . . 2n=18  
 origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).
- Tanacetum vulgare* L.  
 coll. no.: G. et K. 1407 . . . . . 2n=18  
 origin: Along the river the Rhine near Rhenen (prov. of Utrecht).
- Tussilago farfara* L.  
 coll. no.: G. et K. 1514 . . . . . 2n=60  
 origin: Along a road near Utrecht.
- Cruciferae**
- Alliaria petiolata* (Bieb.) Cavara et Grande  
 coll. no.: G. et K. 1635, 1636 . . . . . 2n=42  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1686, 1687 . . . . . 2n=36  
 origin: Inner dune ridge near Schoorl (prov. of Noord-Holland).  
 coll. no.: G. et K. 1698 . . . . . 2n=42  
 origin: In a wood near Schoorl (prov. of Noord-Holland).  
 coll. no.: G. et K. 1786 . . . . . 2n=42  
 origin: In a wood near Hemmen, Betuwe (prov. of Gelderland).  
 coll. no.: G. et K. 2050 . . . . . 2n=42  
 origin: Between Ellecom and Doesburg (prov. of Gelderland).  
 coll. no.: G. et K. 2052, 2053 . . . . . 2n=43  
 origin: Between Ellecom and Doesburg (prov. of Gelderland).
- Cardamine flexuosa* With.  
 coll. no.: G. et K. 1622, 1623, 1624, 1625, 1626, 1627, 1629, 1630,  
 1668, 1670, 1677, 1680 . . . . . 2n=32  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1689, 1690, 1692 . . . . . 2n=32  
 origin: Along a ditch near Schoorl (prov. of Noord-Holland).
- Cardamine hirsuta* L.  
 coll. no.: G. et K. 1628, 1631, 1665, 1671, 1672, 1673, 1674, 1675, 1677 2n=16  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1748 . . . . . 2n=16  
 origin: Near Vinkeveen (prov. of Utrecht).  
 coll. no.: G. et K. 1849, 1851, 1891 . . . . . 2n=16  
 origin: In a garden, Baarn (prov. of Utrecht).

- coll. no.: G. et K. 1882, 1883, 1884, 1887 . . . . . 2n=16  
 origin: Eem near Spakenburg (prov. of Utrecht).
- coll. no.: G. et K. 2015, 2016, 2018, 2019, 2020 . . . . . 2n=16  
 origin: Strandhaak, Oost-Voorne (prov. of Zuid-Holland).
- coll. no.: G. et K. 3007 . . . . . 2n=16  
 origin: Dunes of Schouwen (prov. of Zeeland).
- Cochlearia danica* L.  
 coll. no.: G. et K. 1351 . . . . . 2n=42  
 origin: In the dunes near de Koog, Isle of Texel.
- coll. no.: G. et K. 1719, 1720, 1722, 1724, 1725, 1726 . . . . . 2n=42  
 origin: Hondsbossche Zeewering, Camperduin (prov. of Noord-Holland).
- Cochlearia officinalis* L.  
 coll. no.: G. et K. 1732, 1733, 1734, 1736, 1737, 1753 . . . . . 2n=36  
 origin: Along the Hollandsch Diep, near Dintelsas (Prov. of Noord-Brabant).
- Rorippa islandica* (Oeder) Borbas  
 coll. no.: G. et K. 1443 . . . . . 2n=32  
 origin: Near Fort Hoofddijk, de Bilt (prov. of Utrecht).
- coll. no.: G. et K. 1742 . . . . . 2n=32  
 origin: Churchyard Emmen (prov. of Drente).
- Sinapis arvensis* L.  
 coll. no.: G. et K. 1564 . . . . . 2n=18  
 origin: Along a road near Utrecht.
- Sisymbrium officinale* (L.) Scop.  
 coll. no.: G. et K. 1452 . . . . . 2n=14  
 origin: Between Utrecht and Bunnik (prov. of Utrecht).
- Thlaspi arvense* L.  
 coll. no.: G. et K. 1389 . . . . . 2n=14  
 origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).
- Thlaspi alpestre* L.  
 coll. no.: G. et K. 1127 . . . . . 2n=14  
 origin: In a meadow, containing Zn, along the river the Geul, near Cotessen (prov. of Limburg).
- Teesdalia nudicaulis* (L.) R.Br.  
 coll. no.: G. et K. 1714, 1715, 1717 . . . . . 2n=36  
 origin: West of Schoorl, in the dunes (prov. of Noord-Holland).
- Cucurbitaceae**
- Bryonia dioica* Jacq.  
 coll. no.: G. et K. 1417 . . . . . 2n=20  
 origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).
- Cyperaceae**
- Eriophorum angustifolium* Honckeny  
 coll. no.: G. et K. 1298 . . . . . 2n=58  
 origin: Between Ermelo and Nieuw-Milligen, Veluwe (prov. of Gelderland).
- Dipsacaceae**
- Succisa pratensis* Moench  
 coll. no.: G. et K. 1326 . . . . . 2n=20  
 origin: Between Ermelo and Nieuw-Milligen (prov. of Gelderland).

**Droseraceae***Drosera intermedia* Hayne

- coll. no.: G. et K. 1292, 1293, 1295 . . . . . 2n=20  
 origin: Between Ermelo and Nieuw-Milligen (prov. of Gelderland).

*Drosera rotundifolia* L.

- coll. no.: G. et K. 1296, 1297 . . . . . 2n=20  
 origin: Between Ermelo and Nieuw-Milligen (prov. of Gelderland).

**Empetraceae***Empetrum nigrum* L.

- coll. no.: G. et K. 1700 . . . . . 2n=26  
 origin: West of Schoorl (prov. of Noord-Holland).

**Euphorbiaceae***Euphorbia esula* L.

- coll. no.: G. et K. 1758, 1777 . . . . . 2n=60  
 origin: Along the slope of the Grebbeberg, Rhenen (prov. of Utrecht).

**Fagaceae***Quercus robur* L.

- coll. no.: G. et K. 1633 . . . . . 2n=24  
 origin: Rhijnauwen near Utrecht.

**Geraniaceae***Erodium cicutarium* L.

- coll. no.: G. et K. 1701, 1702, 1703, 1704 . . . . . 2n=40  
 origin: Dunes west of Schoorl (prov. of Noord-Holland).  
 coll. no.: G. et K. 1910, 1911, 1917 . . . . . 2n=40  
 origin: Quakjeswater near Rockanje (prov. of Zuid-Holland).  
 coll. no.: G. et K. 1772 . . . . . 2n=40  
 origin: Along the river the Rhine near Rhenen (prov. of Utrecht).

*Geranium dissectum* L.

- coll. no.: G. et K. 1807 . . . . . 2n=22  
 origin: Along the river Eem near Baarn (prov. of Utrecht).

*Geranium molle* L.

- coll. no.: G. et K. 1639 . . . . . 2n=26  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1920 . . . . . 2n=26  
 origin: Dunes, south of Voorne (prov. of Zuid-Holland).

*Geranium pusillum* L.

- coll. no.: G. et K. 1372 . . . . . 2n=26  
 origin: Grebbeberg near Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 2001 . . . . . 2n=26  
 origin: Oost-Voorne, near Tenellaplas (prov. of Zuid-Holland).

**Gramineae***Agropyron repens* P.B.

- coll. no.: G. et K. 1386 . . . . . 2n=42  
 origin: Grebbeberg near Rhenen (prov. of Utrecht).

*Aira praecoax* L.

- coll. no.: G. et K. 2166 . . . . . 2n=14  
 origin: In the dunes near Camperduin (prov. of Noord-Holland).



- Alopecurus bulbosus* Gouan  
coll. no.: G. et K. 1291 . . . . . 2n=14  
origin: Along the banks of the Haringvliet near Hellevoetsluis  
(prov. of Zuid-Holland).
- Bromus mollis* L.  
coll. no.: G. et K. 1421 . . . . . 2n=28  
origin: Near Klein Waschmeer, south of Hilversum (prov. of Noord-  
Holland).
- Corynephorus canescens* (L.) P.B.  
coll. no.: G. et K. 1931 . . . . . 2n=14  
origin: Dunes, south of Oost-Voorne (prov. of Zuid-Holland).
- Cynosurus cristatus* L.  
coll. no.: G. et K. 1435 . . . . . 2n=14  
origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).
- Festulolium loliaceum* (Huds.) P.Fourn.  
coll. no.: G. et K. 2611 . . . . . 2n=14  
origin: Near St. Geertruid (prov. of Limburg).
- Parapholis strigosa* (Dum.) Hubbard  
coll. no.: G. et K. 1597 . . . . . 2n=14  
origin: National Park "de Boschplaat", Isle of Terschelling.
- Hippuridaceae**
- Hippuris vulgaris* L.  
coll. no.: G. et K. 2476 . . . . . 2n=32  
origin: In a ditch near Oosterend, Isle of Terschelling.
- Hypericaceae**
- Hypericum perforatum* L.  
coll. no.: G. et K. 1755 . . . . . 2n=32  
origin: Grebbeberg near Rhenen (prov. of Utrecht).
- Hypericum tetrapterum* Fr.  
coll. no.: G. et K. 1779 . . . . . 2n=16  
origin: Grebbeberg near Rhenen (prov. of Utrecht).
- Juncaceae**
- Luzula campestris* (L.) DC.  
coll. no.: G. et K. 1983 . . . . . 2n=12  
origin: In the dunes south of Oost-Voorne (prov. of Zuid-Holland).
- Labiatae**
- Ballota nigra* L.  
coll. no.: G. et K. 1388 . . . . . 2n=22  
origin: Grebbeberg, near Rhenen (prov. of Utrecht).
- Lamium amplexicaule* L.  
coll. no.: G. et K. 1387 . . . . . 2n=18  
origin: Grebbeberg, near Rhenen (prov. of Utrecht).
- Lamium galeobdolon* (L.) L.  
coll. no.: G. et K. 2258 . . . . . 2n=36  
origin: In a wood near Hemmen, Betuwe (prov. of Gelderland).
- Lycopus europaeus* L.  
coll. no.: G. et K. 1530 . . . . . 2n=22  
origin: Along the banks of the IJsselmeer, between Huizen and  
Spakenburg (prov. of Utrecht).

*Prunella vulgaris* L.

- coll. no.: G. et K. 1382 . . . . . 2n=28  
 origin: Along the river the Rhine, Grebbeberg (prov. of Utrecht).  
 coll. no.: G. et K. 1469 . . . . . 2n=28  
 origin: Between Utrecht and Bunnik (prov. of Utrecht).  
 coll. no.: G. et K. 1480, 1660 . . . . . 2n=28  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).

*Satureja acinos* (L.) Scheele

- coll. no.: G. et K. 2167 . . . . . 2n=18  
 origin: Verbrande Pan near Bergen (prov. of Noord-Holland).

*Thymus pulegioides* L.

- coll. no.: G. et K. 1377 . . . . . 2n=28  
 origin: Grebbeberg, Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 2002 . . . . . 2n=28  
 origin: In the dunes south of Oost-Voorne (prov. of Zuid-Holland).

## Liliaceae

*Convallaria majalis* L.

- coll. no.: G. et K. 656 . . . . . 2n=38  
 origin: Dolsberg near Wijre (prov. of Limburg).

*Maianthemum bifolium* (L.) F. W. Schmidt

- coll. no.: G. et K. 2236 . . . . . 2n=36  
 origin: Between Emmen and Sleen (prov. of Drente).

*Polygonatum multiflorum* (L.) All.

- coll. no.: G. et K. 2237 . . . . . 2n=18  
 origin: Between Emmen and Sleen (prov. of Drente).

## Lythraceae

*Lythrum salicaria* L.

- coll. no.: G. et K. 1523 . . . . . 2n=60  
 origin: Between Utrecht and Bunnik (prov. of Utrecht).

## Oenotheraceae

*Epilobium hirsutum* L.

- coll. no.: G. et K. 1556 . . . . . 2n=36  
 origin: Near IJsselstein (prov. of Utrecht).  
 coll. no.: G. et K. 1745 . . . . . 2n=36  
 origin: Near Vinkeveen (prov. of Utrecht).

*Epilobium montanum* L.

- coll. no.: G. et K. 1536 . . . . . 2n=36  
 origin: Oud-Amelisweerd, Utrecht.

*Oenothera erythrosepala* Borbás

- coll. no.: G. et K. 1598 . . . . . 2n=14  
 origin: In the dunes near Oost-Voorne (prov. of Zuid-Holland).  
 coll. no.: G. et K. 2461, 2462 . . . . . 2n=14  
 origin: National Park "de Boschplaat", Isle of Terschelling.

## Oleaceae

*Ligustrum vulgare* L.

- coll. no.: G. et K. 1591 . . . . . 2n=46  
 origin: Near Brede Water, Oost-Voorne (prov. of Zuid-Holland).

## Oxalidaceae

*Oxalis europaea* Jord.

- coll. no.: G. et K. 1444 . . . . . 2n=24  
 origin: Near Fort Hoofddijk, de Bilt (prov. of Utrecht).

## Papaveraceae

*Corydalis claviculata* (L.) DC.

- coll. no.: G. et K. 2234 . . . . . 2n=32  
 origin: Tweedijk, between Emmen and Sleen (prov. of Drente).

*Papaver dubium* L.

- coll. no.: G. et K. 1391 . . . . . 2n=42  
 origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).

## Papilionaceae

*Anthyllis vulneraria* L.

- coll. no.: G. et K. 2481, 2482 . . . . . 2n=12  
 origin: North of Oosterend, Isle of Terschelling.

*Genista anglica* L.

- coll. no.: G. et K. 1300 . . . . . 2n=42  
 origin: Between Ermelo and Nieuw-Milligen, Veluwe (prov. of Gelderland).

*Genista tinctoria* L.

- coll. no.: G. et K. 2480 . . . . . 2n=48  
 origin: Near Biol. Station: "Schellingerland", Oosterend, Isle of Terschelling.

*Lotus uliginosus* Schkuhr

- coll. no.: G. et K. 1466 . . . . . 2n=12  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 2072 . . . . . 2n=12  
 origin: Near Ellecom (prov. of Gelderland).

*Lathyrus latifolius* L.

- coll. no.: G. et K. 1393 . . . . . 2n=14  
 origin: Grebbeberg near Rhenen (prov. of Utrecht).

*Lathyrus tuberosus* L.

- coll. no.: G. et K. 1458, 1459 . . . . . 2n=14  
 origin: Between Houten and Schalkwijk (prov. of Utrecht).

*Medicago lupulina* L.

- coll. no.: G. et K. 1409 . . . . . 2n=16  
 origin: Grebbeberg, Rhenen (prov. of Utrecht).

*Ononis spinosa* L.

- coll. no.: G. et K. 1407 . . . . . 2n=32  
 origin: Grebbeberg, Rhenen (prov. of Utrecht).

*Trifolium dubium* Sibth.

- coll. no.: G. et K. 2046 . . . . . 2n=32  
 origin: Grebbeberg, Rhenen (prov. of Utrecht).

*Trifolium hybridum* L.

- coll. no.: G. et K. 1440 . . . . . 2n=16  
 origin: Near Fort Hoofddijk, de Bilt (prov. of Utrecht).

*Trifolium pratense* L.

- coll. no.: G. et K. 1565 . . . . . 2n=14  
 origin: Near IJsselstein (prov. of Utrecht).

- Vicia cracca* L.  
coll. no.: G. et K. 1358 . . . . . 2n=28  
origin: Grebbeberg, Rhenen (prov. of Utrecht).
- Vicia hirsuta* (L.) S. F. Gray  
coll. no.: G. et K. 1642 . . . . . 2n=14  
origin: Between Utrecht and Bunnik (prov. of Utrecht).
- Vicia lathyroides* L.  
coll. no.: G. et K. 1774 . . . . . 2n=12  
origin: On the slope of the Grebbeberg, Rhenen (prov. of Utrecht).  
coll. no.: G. et K. 1871, 1872 . . . . . 2n=12  
origin: In the dunes north of Oosterend, Isle of Terschelling.
- Vicia sativa* L.  
coll. no.: G. et K. 1420 . . . . . 2n=12  
origin: Near Klein Waschmeer, south of Hilversum (prov. of Noord-Holland).
- Vicia sepium* L.  
coll. no.: G. et K. 2061 . . . . . 2n=14  
origin: Between Ellecom and Doesburg (prov. of Gelderland).
- Vicia tetrasperma* (L.) Schreb.  
coll. no.: G. et K. 1466 . . . . . 2n=14  
origin: Between Houten and Schalkwijk (prov. of Utrecht).
- Plantaginaceae**
- Plantago lanceolata* L.  
coll. no.: G. et K. 1360 . . . . . 2n=12  
origin: Grebbeberg, Rhenen (prov. of Utrecht).  
coll. no.: G. et K. 2066 . . . . . 2n=12  
origin: Along a road near Ellecom (prov. of Gelderland).
- Plantago major* L.  
coll. no.: G. et K. 1403, 1411 . . . . . 2n=12  
origin: Grebbeberg, Rhenen (prov. of Utrecht).  
coll. no.: G. et K. 1561 . . . . . 2n=12  
origin: In a holm near IJsselstein (prov. of Utrecht).  
coll. no.: G. et K. 1599 . . . . . 2n=12  
origin: In the dunes near Oost-Voorne (prov. of Zuid-Holland).  
coll. no.: G. et K. 1948 . . . . . 2n=12  
origin: Quakjeswater, Rockanje (prov. of Zuid-Holland).
- Polygonaceae**
- Polygonum persicaria* L.  
coll. no.: G. et K. 1450 . . . . . 2n=22  
origin: Roadside near Utrecht.
- Rumex acetosella* L.  
coll. no.: G. et K. 1657 . . . . . 2n=42  
origin: Roadside near Baarn (prov. of Utrecht).  
coll. no.: G. et K. 1739 . . . . . 2n=42  
origin: Lauswolt, near Beetsterzwaag (prov. of Friesland).  
coll. no.: G. et K. 1572 . . . . . 2n=42  
origin: In a garden at Emmen (prov. of Drente).  
coll. no.: G. et K. 1759, 1760 . . . . . 2n=42  
origin: Grebbeberg, Rhenen (prov. of Utrecht).  
coll. no.: G. et K. 2033 . . . . . 2n=42  
origin: Posbank, near Velp (prov. of Gelderland).

- coll. no.: G. et K. 2457, 2458 . . . . . 2n=42  
 origin: Near National Park "de Boschplaat", Isle of Terschelling.

*Rumex obtusifolius* L.

- coll. no.: G. et K. 1740 . . . . . 2n=40  
 origin: In a garden at Emmen (prov. of Drente).

**Portulacaceae**

*Claytonia perfoliata* Donn ex Willd.

- coll. no.: G. et K. 2010, 2011 . . . . . 2n=36  
 origin: Roadside near Utrecht.

**Primulaceae**

*Anagallis arvensis* L.

- coll. no.: G. et K. 1418 . . . . . 2n=40  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).

*Lysimachia vulgaris* L.

- coll. no.: G. et K. 2423, 2424 . . . . . 2n=56  
 origin: Herdrijdersplak, Hoorn, Isle of Terschelling.

*Primula veris* L.

- coll. no.: G. et K. 2238 . . . . . 2n=22  
 origin: Near Voorst (prov. of Gelderland).

**Ranunculaceae**

*Ranunculus bulbosus* L.

- coll. no.: G. et K. 1945 . . . . . 2n=16  
 origin: South of the Quakjeswater, Rockanje (prov. of Zuid-Holland).

*Ranunculus flammula* L.

- coll. no.: G. et K. 1340 . . . . . 2n=32  
 origin: Near Odoorn (prov. of Drente).  
 coll. no.: G. et K. 1958 . . . . . 2n=32  
 origin: In a moist dune valley near Oost-Voorne (prov. of Zuid-Holland).

*Ranunculus repens* L.

- coll. no.: G. et K. 1749 . . . . . 2n=32  
 origin: Near Vinkeveen (prov. of Utrecht).

**Rosaceae**

*Comarum palustre* L.

- coll. no.: G. et K. 2421, 2422 . . . . . 2n=42  
 origin: Herdrijdersplak, Hoorn, Isle of Terschelling.

*Filipendula ulmaria* (L.) Maxim.

- coll. no.: G. et K. 1137 . . . . . 2n=16  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).

*Geum urbanum* L.

- coll. no.: G. et K. 1472 . . . . . 2n=42  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).  
 coll. no.: G. et K. 1695, 1699 . . . . . 2n=42  
 origin: Inner dune ridge near Schoorl (prov. of Noord-Holland).

*Potentilla anserina* L.

- coll. no.: G. et K. 1258, 1260 . . . . . 2n=28  
 origin: In the east part of the isle of Schiermonnikoog.

## Saxifragaceae

*Chrysosplenium oppositifolium* L.

- coll. no.: G. et K. 1653 . . . . . 2n=42  
 origin: Near Robertville, Ardennes, Belgium.

## Scrophulariaceae

*Linaria vulgaris* Mill.

- coll. no.: G. et K. 1430 . . . . . 2n=12  
 origin: South of Hilversum (prov. of Noord-Holland).  
 coll. no.: G. et K. 1518 . . . . . 2n=12  
 origin: Between Erm and Diphoom (prov. of Drente).  
 coll. no.: G. et K. 2056, 2058 . . . . . 2n=12  
 origin: Between Ellecom and Doesburg (prov. of Gelderland).

*Scrophularia balbisii* Hornem.

- coll. no.: G. et K. 2151, 2392 . . . . . 2n=78  
 origin: Along the Geul near Terziet (prov. of Limburg).

*Scrophularia neesii* Wirtg.

- coll. no.: G. et K. 1271 . . . . . 2n=52  
 origin: Quakjeswater, Rockanje (prov. of Zuid-Holland).  
 coll. no.: G. et K. 2055 . . . . . 2n=52  
 origin: Between Ellecom and Doesburg (prov. of Gelderland).

*Verbascum thapsus* L.

- coll. no.: G. et K. 1941 . . . . . 2n=36  
 origin: West of Quakjeswater, Oost-Voorne (prov. of Zuid-Holland).

*Veronica catenata* Penell

- coll. no.: G. et K. 2417 . . . . . 2n=36  
 origin: Hoornerkooi near Hoorn, Isle of Terschelling.

*Veronica chamaedrys* L.

- coll. no.: G. et K. 1819 . . . . . 2n=32  
 origin: Grebbeberg near Rhenen (prov. of Utrecht).

*Veronica hederifolia* L.

- coll. no.: G. et K. 1847 . . . . . 2n=28  
 origin: Grebbeberg near Rhenen (prov. of Utrecht).

*Veronica officinalis* L.

- coll. no.: G. et K. 2464 . . . . . 2n=34  
 origin: Near Oosterend, Isle of Terschelling.  
 coll. no.: G. et K. 1906 . . . . . 2n=36  
 origin: North of Quakjeswater, Rockanje (prov. of Zuid-Holland).  
 coll. no.: G. et K. 2450 . . . . . 2n=36  
 origin: Near Oosterend, Isle of Terschelling.

*Veronica scutellata* L.

- coll. no.: G. et K. 1485 . . . . . 2n=18  
 origin: Near Odoorn (prov. of Drente).

*Veronica serpyllifolia* L.

- coll. no.: G. et K. 2062 . . . . . 2n=14  
 origin: Along a ditch near Ellecom (prov. of Gelderland).

## Solanaceae

*Solanum dulcamara* L.

- coll. no.: G. et K. 1416 . . . . . 2n=24  
 origin: Along the river the Rhine, Rhenen (prov. of Utrecht).  
 coll. no.: G. et K. 1510 . . . . . 2n=24  
 origin: South of Hoorn (prov. of Noord-Holland).

- coll. no.: G. et K. 1567 . . . . . 2n=24  
 origin: Near IJsselstein (prov. of Utrecht).

### Umbelliferae

*Angelica sylvestris* L.

- coll. no.: G. et K. 1495 . . . . . 2n=22  
 origin: Fort Hoofddijk, de Bilt (prov. of Utrecht).

*Anthriscus silvestris* (L.) Hoffm.

- coll. no.: G. et K. 1662, 1664 . . . . . 2n=16  
 origin: Near Bunnik (prov. of Utrecht).

*Apium inundatum* (L.) Rchb.

- coll. no.: G. et K. 2524 . . . . . 2n=22  
 origin: Herdrijdersplak, Hoorn, Isle of Terschelling.

*Daucus carota* L.

- coll. no.: G. et K. 1618 . . . . . 2n=18  
 origin: Kwade Hoek, Isle of Goeree (prov. of Zuid-Holland).  
 coll. no.: G. et K. 1566 . . . . . 2n=18  
 origin: In a holm near IJsselstein (prov. of Utrecht).

*Hydrocotyle vulgaris* L.

- coll. no.: G. et K. 1949 . . . . . 2n=96  
 origin: Near Quakjeswater, Rockanje (prov. of Zuid-Holland).  
 coll. no.: G. et K. 1960 . . . . . 2n=96  
 origin: West of Oost-Voorne (prov. of Zuid-Holland).

*Oenanthe aquatica* (L.) Poir.

- coll. no.: G. et K. 1468 . . . . . 2n=22  
 origin: Between Utrecht and Bunnik (prov. of Utrecht).  
 coll. no.: G. et K. 1529 . . . . . 2n=22  
 origin: Along the IJsselmeer between Huizen and Spakenburg,  
 (prov. of Utrecht).

*Sium latifolium* L.

- coll. no.: G. et K. 1531 . . . . . 2n=20  
 origin: Between Huizen and Spakenburg (prov. of Utrecht).

### SUMMARY

The chromosome number of 157 species of *Angiospermae* occurring in the Netherlands is dealt with.

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