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## Chromosome numbers of Polish brambles (*Rubus* L., *Rosaceae*). IV<sup>1</sup>

### Abstract

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The chromosome numbers for eight *Rubus* species from Poland are reported. In *Rubus bifrons*, *R. circipanicus*, *R. camptostachys* and *R. sprengelii* the tetraploid number for  $2n = 28$ , in *R. grabowskii* and *R. montanus* the triploid number for  $2n = 21$ , in *R. capitulatus* the hexaploid number  $2n = 42$  and in *R. guentheri* two numbers  $2n = 28$  and  $2n = 42$  have been found. Data for *R. capitulatus*, *R. circipanicus* and *R. guentheri* are published for the first time.

**Key words:** Chromosome numbers, *Rubus* L., brambles, Poland.

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### INTRODUCTION

This work is the fourth in the series concerning karyology of Polish brambles (Boratyńska 1994, 1995a, 1995b).

### MATERIAL AND METHODS

The chromosome numbers have been established in root-tip cells. The roots were fixed in Carnoy's solution (3 : 1), hydrolyzed in 1N HCL, stained in aceto-carmine and squashed (for details see Boratyńska 1995a).

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## RESULTS

*R. bifrons* Vest

2n = 28

The tetraploid number of  $2n = 4x = 28$  has been found in both studied plants. The same number was mentioned by Christen in 1950 (after Bolkhovskikh et al. 1969).

Material studied: 1. Prov. Zamość: Łasochy, 30.08.1993, K. Boratyńska, A. Boratyński, A. Dolatowska, P. Kosiński, J. Zieliński; 2. Prov. Krosno: Klucze, 15 km NNE of Sanok, 17. 08.1988, J. Zieliński.

*R. camptostachys* G. Braun (= *R. ciliatus* Lindeb.)

2n = 28

The tetraploid number of  $2n = 4x = 28$  counted in all samples investigated has previously been reported only by Gustafsson (1943). In addition, for the variety *R. ciliatus* var. *tiliaceus* (Aresch.) C. E. Gust. the same author gave the number  $2n = 42$ , but this data probably concerned another species.

Material studied: 1. Prov. Kalisz: S of Kępno, between Roszkowiec and Żurawieniec, 30.07. 1992, J. Zieliński; 2. Prov. Kalisz: ibid.; 3. Prov. Wałbrzych: Jarząbek between Jugowice and Olszyniec, 400 m alt., 10.09.1987, J. Zieliński; 4. Prov. Katowice: Trachy between Sośnicowice and Rudy, 24.08.1994, J. Zieliński.

*R. capitulatus* Utsch.

2n = 42

The chromosome number of this species has not been studied hitherto. All plants proved to be hexaploids with  $2n=6x=42$ .

Material studied: 1. Prov. Wrocław: Borowina near Milicz, 6.08.1992, J. Zieliński; 2. Prov. Wrocław: between Gliniarz and Domaszków, 9.08.1991, J. Zieliński; 3. Prov. Poznań: W of railway station Gądki near Kórnik, 29.06.1992, K. Boratyńska, J. Zieliński; 4. Prov. Poznań: between Gądki and Borówiec, 23.07.1993, J. Zieliński.

*R. circipanicus* E. H. Krause

2n=28

The tetraploid number of  $2n = 4x = 28$  found in both studied plants has not been published before.

Material studied: 1. Prov. Słupsk: Karlino between Naćmierz and Królewó, SW of Jarosławiec, 4.07.1992, K. Boratyńska, A. Dolatowska, J. Zieliński; 2. Prov. Słupsk: Jarosławiec, 3.07.1992, K. Boratyńska, A. Dolatowska, J. Zieliński.

*R. grabowskii* Weihe ex Guenther et al. (= *R. thyrantus* Focke)  
 $2n=21$

The triploid number  $2n = 3x = 21$  has been found in the studied plants from all 10 localities. The same result has been reported earlier by Longley (1924) and Gustafsson (1939, 1943). Also the tetraploid number of  $2n = 28$  has been published by Heslop-Harrison (1953) and the pentaploid number of  $2n = 35$  by Marks (1952), both from England. The tetraploid and the pentaploid specimens belonged probably to other taxons closely related to *R. grabowskii*.

Material studied: 1. Prov. Częstochowa: between Bystrzonowice and Apolonka, 24.07.1991, J. Zieliński; 2. Prov. Radom: Chynów between Grójec and Góra Kalwaria, 16.07.1990, J. Zieliński; 3. Prov. Poznań: Zwierzyniec near Kórnik, 29.06.1992, K. Boratyńska, J. Zieliński; 4. Prov. Poznań: Ostrowieczno, 8.09.1994, K. Boratyńska, A. Dolatowska, J. Zieliński; 5. Prov. Poznań: between Dolsk and Mełpin, 8.09.1994, K. Boratyńska, A. Dolatowska, J. Zieliński; 6. Prov. Poznań: Wagowo koło Śródki, 8.07.1994, K. Boratyńska, A. Dolatowska, J. Zieliński; 7. Prov. Legnica: Michałów near Chocianów, 18.07.1994, K. Boratyńska, A. Dolatowska, A. Tomlik, J. Zieliński; 8. Prov. Katowice: Trachy near Sońnicowice, 24.08.1994, J. Zieliński; 9. Prov. Katowice: NNE of Bargłówka, 18.07.1988, A. Tomlik, J. Zieliński; 10. Prov. Kalisz: Opatowiec, between Kępno and Łęka Opatowska, 29.07.1992, J. Zieliński.

*R. guentheri* Weihe  
 $2n = 28, 42$

The studied plants of *R. guentheri* are tetraploids with  $2n = 4x = 28$ ; only one specimen from Witków Śląski (W slope of Mt. Trójgarb) appeared hexaploid with  $2n = 6x = 42$ . Both, hexaploid and tetraploid plants are morphologically similar.

Material studied: 1. Prov. Jelenia Góra: Dłużycza between Dynowice and Świerzawa, 20.07.1994, K. Boratyńska, A. Dolatowska, A. Tomlik, J. Zieliński; 2. Prov. Legnica: reservation Wilcza Góra of Mt. Wilkołak near Złotoryja; 3. Prov. Wałbrzych: Witków Śląski, W slope of Mt. Trójgarb, 550-600 m alt., 8.09.1987, A. Boratyński, J. Zieliński; 4. Prov. Wałbrzych: between Kochanów and Grzędy Górne, 590 m alt., 30.07.1987, A. Boratyński, J. Zieliński.

*R. montanus* Lib. ex Lej.  
 $2n = 21$

The triploid number of  $2n = 3x = 21$  has been found in all samples studied. The same chromosome number has been reported earlier by Gustafsson (1939, 1943). Also the pentaploid number of  $2n = 35$  was given from England by Marks (1952), however the latter data concerns probably cultivated specimens of *R. linkianus* Ser. (Gilli 1969).

Material studied: 1. Prov. Jelenia Góra: Skorczynice near Lwówek Śl., 20.08.1994, K. Boratyńska, A. Dolatowska, A. Tomlik, J. Zieliński; 2. Prov. Wałbrzych: Strzegom, 11.09.1987, A. Boratyński, K. Boratyńska, J. Zieliński; 3. Prov. Katowice: Jastrzębie Zdrój (Moszczenica), 26.08.1994, J. Zieliński.

*R. sprengelii* Weihe

$2n = 28$

The tetraploid number of  $2n = 4x = 28$ , found in the investigated specimens, agrees with an earlier report from Scandinavia (Gustafsson 1933, 1943).

Material studied: 1. Prov. Poznań: Wierzyce, 8.07.1994, K. Boratyńska, A. Dolatowska, J. Zieliński; 2. Prov. Katowice: between Babice and Szymocice, 18.07.1988, J. Zieliński.

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### Liczby chromosomowe polskich gatunków jeżyn. IV

#### Streszczenie

Autorka podaje liczby chromosomów 8 gatunków z rodzaju *Rubus* L. występujących w Polsce. Liczby te ustaliła obserwując mitotyczne podziały w stożkach wzrostu korzeni. Połowa badanych gatunków okazała się tetraploidami z  $2n = 28$ , dwa triploidami z  $2n = 21$  i jeden hexaploidem z  $2n = 42$ . Ponadto w korzonkach *R. guentheri* znaleziono dwie liczby chromosomowe  $2n = 28$  i  $2n = 42$ . Trzy z badanych gatunków badane były poraz pierwszy, są to: *Rubus capitulatus*, *R. circipanicus* i *R. guentheri*.