

## Supplementary material for:

### Effect of meiotic polyplidization on some morphological and anatomical traits in interspecific hybrids of *B. oleracea* × *B. napus*

Agnieszka Marasek-Ciolakowska<sup>1\*</sup>, Piotr Kamiński<sup>2\*</sup>, Małgorzata Podwyszyńska<sup>1</sup>, Urszula Kowalska<sup>1</sup>, Michał Starzycki<sup>3</sup>, Elżbieta Starzycka-Korbas<sup>3</sup>

<sup>1</sup> Department of Applied Biology, The National Institute of Horticultural Research, Konstytucji 3 Maja 1/3 Str., 96-100 Skierniewice, Poland; [agnieszka.marasek@inhort.pl](mailto:agnieszka.marasek@inhort.pl) (A.M-C); [malgorzata.podwyszynska@inhort.pl](mailto:malgorzata.podwyszynska@inhort.pl) (M.P.); [urszula.kowalska@inhort.pl](mailto:urszula.kowalska@inhort.pl) (U.K.)

<sup>2</sup> Department of Genetics and Breeding, The National Institute of Horticultural Research, Konstytucji 3 Maja 1/3 Str., 96-100 Skierniewice, Poland; [piotr.kaminski@inhort.pl](mailto:piotr.kaminski@inhort.pl) (P.K)

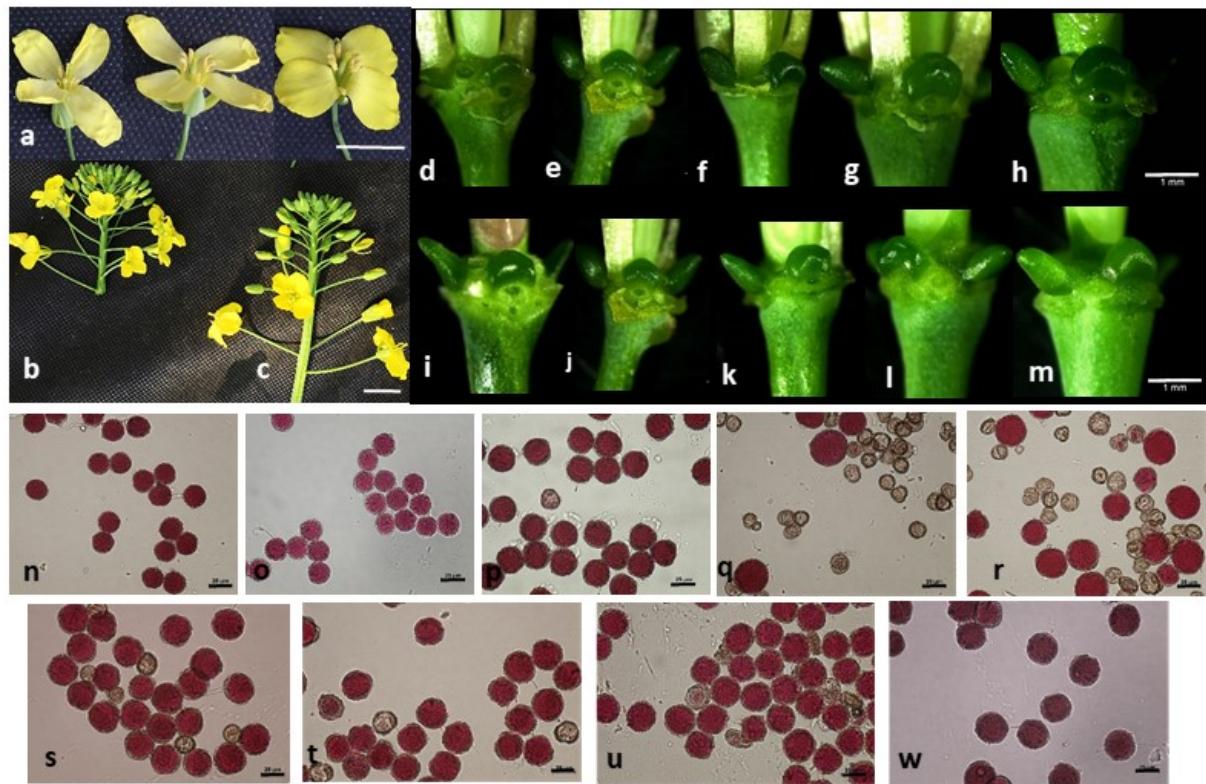
<sup>3</sup> Plant Breeding and Acclimatization Institute, National Research Institute, Strzeszyńska 36 Str., 60-479 Poznań, Poland; [e.starzycka-korbas@ihar.edu.pl](mailto:e.starzycka-korbas@ihar.edu.pl) (E.S-K.); [m.starzycki@ihar.edu.pl](mailto:m.starzycki@ihar.edu.pl) (M.S.)

\* Correspondence: [agnieszka.marasek@inhort.pl](mailto:agnieszka.marasek@inhort.pl) (A.M-C); [piotr.kaminski@inhort.pl](mailto:piotr.kaminski@inhort.pl) (P.K)

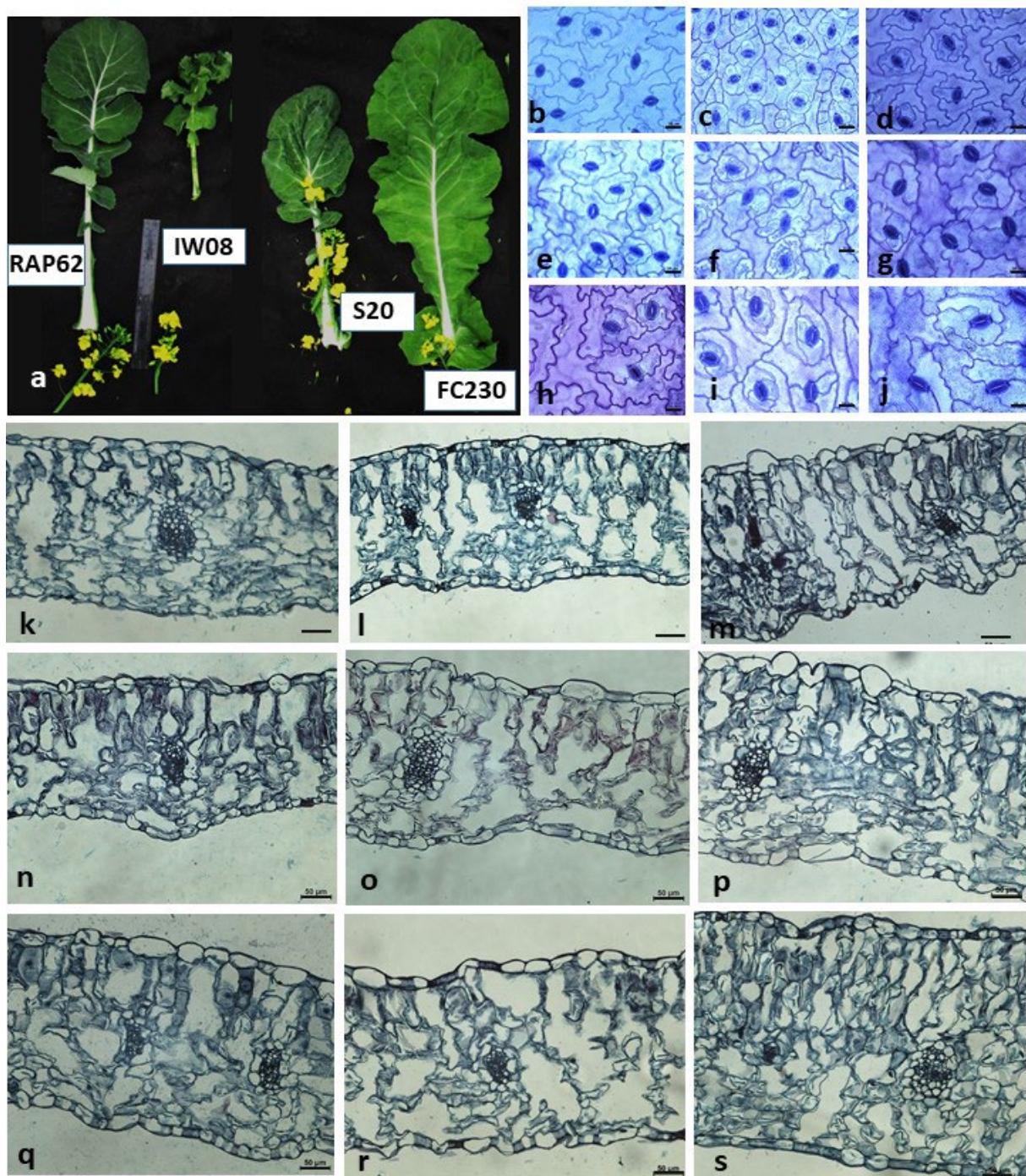
## Contents

**Figure S1.** Phenotypic characteristic of flowers and pollen viability of parental genotypes and the interspecific hybrids of *B. oleracea* × *B. napus* of the F<sub>1</sub> and F<sub>2</sub> generations. (a) Flower of IW1234 *B. oleracea* L. var. *capitata* (head cabbage) (left); flower of IW08 *B. oleracea* L. var. *acephala* (kale) (middle); flower of RAP62 *B. napus* (rapeseed) (right); (b) flower stack of S3 F<sub>1</sub> (head cabbage × rapeseed) (left); (c) flower stack of FC320 F<sub>2</sub> (S3 × mixture of pollen) (right); (d-m) Receptacles with lateral and median nectaries; (n-w) pollen staining with Alexander's solution; (d, n) IW1234 *B. oleracea* L. var. *capitata* (head cabbage); (e,j,p) *B. napus* (RAP62); (i,o) IW08 *B. oleracea* L. var. *acephala* (kale); (f,q) S3 F<sub>1</sub> (head cabbage × rapeseed); (g, s) FS3 F<sub>2</sub> (S3 × S3); (h,u) FC320 F<sub>2</sub> (S3 × mixture of pollen); (k,r) S20 F<sub>1</sub> (kale × rapeseed); (l,t) FS20 F<sub>2</sub> (S20 × S20); (m,w) FC230 F<sub>2</sub> (S20 × mixture of pollen). Bars represent: 1cm (a-c); 1mm (d-m) and 25 µm (n-w).

**Figure S2.** Morphological and anatomical characteristics of leaves and flower stacks: (a) leaf and flower stack of parental forms and F<sub>1</sub> and F<sub>2</sub> hybrids; (b-j) stomata on abaxial leaf surface; (k-s) The cross-section through the leaves; (b,k) IW1234 *B. oleracea* L. var. *capitata* (head cabbage); (c,l) IW08 *B. oleracea* L var. *acephala* (kale); (d,m) RAP62 *B. napus* (rapeseed); (e, n) S3 F<sub>1</sub> (head cabbage × rapeseed); (f,o) S20 F<sub>1</sub> (kale × rapeseed); (g,p) FS3 F<sub>2</sub> (S3 × S3); (h,q) FS20 F<sub>2</sub> (S20 × S20); (i,r) FC320 F<sub>2</sub> (S3 × mixture of pollen); (j,s) FC230 F<sub>2</sub> (S20 × mixture of pollen). Bars represent: 25 µm (e-j) and 50 µm (k-s).



**Figure S1.** Phenotypic characteristic of flowers and pollen viability of parental genotypes and the interspecific hybrids of *B. oleracea* × *B. napus* of the F<sub>1</sub> and F<sub>2</sub> generations. (a) Flower of IW1234 *B. oleracea* L. var. *capitata* (head cabbage) (left); flower of IW08 *B. oleracea* L. var. *acephala* (kale) (middle); flower of RAP62 *B. napus* (rapeseed) (right); (b) flower stack of S3 F<sub>1</sub> (head cabbage × rapeseed) (left); (c) flower stack of FC320 F<sub>2</sub> (S3 × mixture of pollen) (right); (d-m) Receptacles with lateral and median nectaries; (n-w) pollen staining with Alexander's solution; (d, n) IW1234 *B. oleracea* L. var. *capitata* (head cabbage); (e,j,p) *B. napus* (RAP62); (i,o) IW08 *B. oleracea* L. var. *acephala* (kale); (f,q) S3 F<sub>1</sub> (head cabbage × rapeseed); (g, s) FS3 F<sub>2</sub> (S3 × S3); (h,u) FC320 F<sub>2</sub> (S3 × mixture of pollen); (k,r) S20 F<sub>1</sub> (kale × rapeseed); (l,t) FS20 F<sub>2</sub> (S20 × S20); (m,w) FC230 F<sub>2</sub> (S20 × mixture of pollen). Bars represent: 1cm (a-c); 1mm (d-m) and 25 µm (n-w).



**Figure S2.** Morphological and anatomical characteristics of leaves and flower stacks: (a) leaf and flower stack of parental forms and F1 and F2 hybrids; (b-j) stomata on abaxial leaf surface; (k-s) The cross-section through the leaves; (b,k) IW1234 *B. oleracea* L. var. *capitata* (head cabbage); (c,l) IW08 *B. oleracea* L var. *acephala* (kale); (d,m) RAP62 *B. napus* (rapeseed); (e, n) S3 F<sub>1</sub> (head cabbage x rapeseed); (f,o) S20 F<sub>1</sub> (kale x rapeseed); (g,p) FS3 F<sub>2</sub> (S3 x S3); (h,q) FS20 F<sub>2</sub> (S20 x S20); (i,r) FC320 F<sub>2</sub> (S3 x mixture of pollen); (j,s) FC230 F<sub>2</sub> (S20 x mixture of pollen). Bars represent: 25 µm (e-j) and 50 µm (k-s).