



JAPANESE BARBERRY
(Berberis thunbergii)

Proposed denomination: 'NCBT1'
Trade name: Sunjoy Mini Maroon
Application number: 17-9156
Application date: 2017/04/03
Applicant: North Carolina State University, Raleigh, North Carolina, United States of America
Agent in Canada: BioFlora Inc., St. Thomas, Ontario
Breeder: Thomas Green Ranney, Arden, North Carolina, United States of America

Variety used for comparison: 'Atropurpurea Nana' (Crimson Pygmy)

Summary: *The plants of 'NCBT1' are larger than those of 'Atropurpurea Nana'. The young shoot of 'NCBT1' is dark brown purple with dark brown purple leaves while that of 'Atropurpurea Nana' is dark purple red to dark red with dark red leaves. The leaf of 'NCBT1' is wider than that of 'Atropurpurea Nana'. The leaf of 'NCBT1' is circular to obovate while that of 'Atropurpurea Nana' is broad elliptic. The upper side of the leaf of 'NCBT1' is black while that of 'Atropurpurea Nana' is dark brown.*

Description:

PLANT: deciduous, compact rounded and spreading growth habit, very dense foliage, broader than tall

BRANCH: semi-erect to horizontal attitude

YOUNG SHOOT: dark brown purple (RHS 183B), leaf dark brown purple (RHS 178A)

STEM: simple spines, ranging between one to three and four to six leaves per node

LEAF: circular to obovate, spines only on apex, obtuse apex, black (RHS N186A) on upper side, no secondary colour, absent or weak glossiness, flat profile in cross-section, absent or very weak undulation of margin

FLOWER: single or raceme type

FLOWER BUD: red

PETAL: medium yellow (RHS 12A), rounded apex

FRUIT: absent

Origin and Breeding: 'NCBT1' originated from an induced mutation of the parent plant *Berberis thunbergii* var. *atropurpurea* conducted in the spring of 2005 in Mills River, North Carolina, USA. The mutation was induced by treating seed of *Berberis thunbergii* var. *atropurpurea* with the mutagen ethyl methanesulfonate. The new barberry variety 'NCBT1' was selected in the summer of 2006 based on its compact plant growth habit, purple foliage colour and very low flower fertility. Asexual reproduction of 'NCBT1' was first conducted by stem cuttings in 2007 in Mills River, North Carolina, USA.

Tests and Trials: The comparative trial for 'NCBT1' was conducted in a greenhouse at Spring Meadow Nursery in Grand Haven, Michigan, USA from 2022 to 2023. The trial included a total of 10 plants each of the candidate and reference variety. All plants were grown from rooted cuttings and transplanted in 11 litre pots in 2022. Observations and measurements were taken from 10 plants, or parts of plants, of each variety on July 31, 2023. All colour determinations were made using the 2015 Royal Horticultural Society (RHS) Colour Chart. Mean differences were significant at the 5% confidence probability level based on a paired Student's t-test.

Comparison table for 'NCBT1'

	'NCBT1'	'Atropurpurea Nana'*
<i>Plant height (cm)</i>		
mean	51.6	41.8
std. deviation	5.04	4.38
<i>Plant width (cm)</i>		
mean	84.9	68.6
std. deviation	10.25	9.31
<i>Colour of young shoot (RHS)</i>		
stem	183B	46A-B
leaf	178A	N34A
<i>Leaf blade width (cm)</i>		
mean	1.5	1.0
std. deviation	0.14	0.10
<i>Colour of leaf blade (RHS)</i>		
upper side	N186A	more red than 200A-B

*reference variety



Japanese Barberry: 'NCBT1' (left) with reference variety 'Atropurpurea Nana' (right)



Japanese Barberry: 'NCBT1' (left) with reference variety 'Atropurpurea Nana' (right)

JAPANESE BARBERRY*(Berberis ×media)*

Proposed denomination: ‘NCBX1’
Trade name: Sunjoy Todo
Application number: 17-9157
Application date: 2017/04/03
Applicant: North Carolina State University, Raleigh, North Carolina, United States of America
Agent in Canada: BioFlora Inc., St. Thomas, Ontario
Breeder: Thomas Green Ranney, Arden, North Carolina, United States of America

Variety used for comparison: ‘Concorde’

Summary: *The plants of ‘NCBX1’ are larger than those of ‘Concorde’. The young shoot of ‘NCBX1’ is dark brown purple with dark brown purple leaves while that of ‘Concorde’ is dark purple red to dark red with dark red leaves. The spines on the stem of ‘NCBX1’ are shorter than those of ‘Concorde’. The leaf of ‘NCBX1’ is wider than that of ‘Concorde’. The upper side of the leaf of ‘NCBX1’ is black while that of ‘Concorde’ is dark brown.*

Description:

PLANT: deciduous, compact rounded, very dense foliage, broader than tall

BRANCH: semi-erect attitude

YOUNG SHOOT: dark brown purple (RHS 183B), leaf dark brown purple (RHS 178A)

STEM: simple spines, ranging between four to six to more than six leaves per node

LEAF: broad elliptic to obovate, spines only on apex, obtuse apex, black (duller than RHS N186A) on upper side when mature, no secondary colour, absent or weak glossiness, flat or weakly convex profile in cross-section, absent or very weak undulation of margin

FLOWER: single or raceme type

FLOWER BUD: red

PETAL: medium yellow (RHS 12A), rounded apex

FRUIT: absent

Origin and Breeding: ‘NCBX1’ originated from a hybrid cross conducted in the spring of 2004 in Mills River, North Carolina, USA. The cross was made between the female parent variety *Berberis x media* ‘Red Jewel’ and the male parent variety *Berberis thunbergii* ‘Concorde’. From the resulting progeny, a single unique seedling was selected in the summer of 2005 based on its compact plant growth habit, purple foliage colour and very low flower fertility. Asexual reproduction of ‘NCBX1’ was first conducted by stem cuttings in 2006 in Mills River, North Carolina, USA.

Tests and Trials: The comparative trial for ‘NCBX1’ was conducted in a greenhouse at Spring Meadow Nursery in Grand Haven, Michigan, USA from 2022 to 2023. The trial included a total of 10 plants each of the candidate and reference variety. All plants were grown from rooted cuttings and transplanted in 11 litre pots in 2022. Observations and measurements were taken from 10 plants, or parts of plants, of each variety on July 31, 2023. All colour determinations were made using the 2015 Royal Horticultural Society (RHS) Colour Chart. Mean differences were significant at the 5% confidence probability level based on a paired Student’s t-test.

Comparison table for ‘NCBX1’

	‘NCBX1’	‘Concorde’*
<i>Plant height (cm)</i>		
mean	41.9	25.0
std. deviation	3.75	2.56

<i>Plant width (cm)</i>		
mean	60.8	46.6
std. deviation	3.82	5.80
<i>Colour of young shoot (RHS)</i>		
stem	183B	46A-B
leaf	178A	N34A
<i>Spine length on stem (mm)</i>		
mean	5.5	8.0
std. deviation	0.94	0.78
<i>Leaf blade width (cm)</i>		
mean	1.2	0.9
std. deviation	0.11	0.07
<i>Colour of mature leaf blade (RHS)</i>		
upper side	duller than N186A	more red than 200A-B
*reference variety		



Japanese Barberry: 'NCBX1' (left) with reference variety 'Concorde' (right)

NCBX1

Concorde



Japanese Barberry: 'NCBX1' (left) with reference variety 'Concorde' (right)