

Two new species of *Cotoneaster*

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ABSTRACT

Two new species of *Cotoneaster* are described: *C. atropurpureus* Flinck & Hylmö, *sp. nov.* and *C. hjelmqvistii* Flinck & Hylmö, *sp. nov.* Both are common in cultivation and are sometimes found naturalised in the British Isles.

C. ATROPURPUREUS FLINCK & HYLMÖ

C. atropurpureus is a native of western China, but it is frequently planted elsewhere. In private gardens in the U.S.A. shrubs cultivated as *C. horizontalis* are mainly *C. atropurpureus*. In Europe *C. atropurpureus* is common in cultivation as *C. horizontalis* var. *prostratus* Hort. or as *Cotoneaster* cv. *Prostratus* Vilmorin (non Baker) (Grootendorst 1946). It occasionally naturalises in the British Isles (e.g. at Cambuslang, Lanarks., v.c. 77).

The holotype of *C. atropurpureus* was identified by Rehder & Wilson (1912) as *C. horizontalis* var. *perpusillus* Schneider (= *C. perpusillus* (Schneider) Flinck & Hylmö). In the Botanic Gardens of Edinburgh and Glasnevin, Dublin, there are still shrubs of *C. atropurpureus* labelled "*C. horizontalis* var. *perpusillus*, Wilson 496" – the name and number having been carefully kept for 80 years. In AAH there are several sheets of *C. atropurpureus* cultivated in the Arnold Arboretum as *Wilson 496* (the earliest from 1911).

Cotoneaster atropurpureus Flinck & Hylmö, *sp. nov.*

HOLOTYPE: China, western Hupeh (=Hubei), Ichang, altitude 1300–2000 m, bare rocky ground, prostrate, fruits red, October 1907, *Wilson 496* (A). **PARATYPE:** Cultus Bjuv, Scania, Sweden, 5 June 1967, *Hylmö 9703* (LD).

Ex affinitate *C. horizontalis* Decne., a quo differt altitudine majore, habitu erectiore, foliis obovatis, tenuibus, undulatis, petalis basi atropurpureis. Frutex 0.5–1 m altus, ascendens ad decumbens. Ramis primariis arcuatis; ramuli juniores distichi, initio dense luteo/flavo-villosi; ramuli annotini cinereo-fulvi, persistenter flavo-villosi. Folia praecociter decidua, 9–14 × 8–12 mm, tenuia, undulata, obovata-orbicularia, obtusa vel truncata, mucronulata, basi obtusa ad acuta; supra, clare ad obscure viridia, in gemma sparse pilosa, explicata glabra, levia; subtus pallide viridia, pilis sparsis luteis nitidis, nervis 2–3 utrinque; petioli 1–2 mm, luteo/flavo-villosi. Cymae (1–)3 florum. Pedicelli 0.2(–1) mm, pilosi. Bracteeae 2 mm, subulatae, glabrae, margine villosa, rubro-violaceae. Flores erecti, 6 × 3–4 mm. Receptaculum sparse flavopilosum. Lobi calycis erecti, 1.5–2 × 1–1.5 mm, deltoidei, acuminati, sparsi pilosi, virides vel rubropurpurei, margine luteo/flavo-villoso. Petala erecta, 3.5 × 2.5 mm, inflexa, pandurata, ungui extracto, apice sub-erosa, basi atropurpurea, margine obscure rubro. Stamina 10, erecta vel incurvata, 2–3 mm; antherae albae, margine rosaceis; filamentis late subulatis, obscure rubris. Styli 2–3. Fructus 8 × 5–6 mm, obovatus,

ruber-vermicularis hollandicus, apicem versus sparse pilosus; lobis calycis oblique erectis; pyrenae 2-3.

C. atropurpureus belongs to section *Cotoneaster*, subsection *Adpressi* Hurusawa, series *Adpressi* Flinck & Hylmö. It is related to *C. horizontalis* Decne, but the leaves are larger, thinner, obovate, undulate, and fall earlier; and the petals are darker and have a purplish-black base. *C. atropurpureus* is tetraploid, with 68 chromosomes (as determined by Zeilinga (1964) as *C. horizontalis* var. *perpusilla* 13077 (LD), and by Hensen (1966) as *C. atropurpureus*). Its characteristics are as follows.

Shrub; decumbent to ascending, 0.5-1 m (or, if supported, to 3 m). Branches arched; young branches irregularly distichous, initially densely yellow-villous; 1-year-old branches greyish-brown, persistently yellow-villous. Leaves deciduous; lamina 9-14 × 8-12 mm, papery, slightly undulate, obovate-orbicular, apex obtuse to truncate, mucronulate, base obtuse to acute; upper surface mid-dark-green, sparsely pilose initially but becoming glabrous, veins 2-3 pairs & not impressed; lower surface pale-green, subglabrous (the hairs shining golden-yellow); petiole 1-2 mm, yellow-villous. Inflorescence a (1-)3-flowered cyme. Pedicels 0.2(-1) mm, pilose. Flowers erect, 6 × 3-4 mm. Receptacle sparsely yellow-pilose. Calyx-lobes erect, 1.5-2 × 1-1.5 mm, deltoid, acuminate, sparsely pilose, green or reddish-purple, margin yellow-villous. Petals erect & incurved (leaving no, or only a small, opening), 3.5 × 2.5 mm, fiddle-shaped, small drawn-out claw at base, apex irregularly denticulate, dark-red with purplish-black base and very narrow white marginal band. Stamens 10, erect or incurved, 2-3 mm; anthers white with margins tinged pale pink; filaments broadly subulate, dark purplish-red but white at apex (below anther). Styles 2-3. Fruits 8 × 5-6 mm, obovoid, orange-red (RHS 40A), glabrous except for sparsely pilose apex; calyx-lobes obliquely erect; nutlets 2-3.

C. HJELMQVISTII FLINCK & HYLMÖ

The taxon described in this section has been common in cultivation for more than 50 years, but various names have been used for it. An early record is a sheet in AAH of material cultivated in the Arnold Arboretum in 1940 as *C. racemiflorus* (Desf.) K. Koch cv. *Fontanesii* (*Vilmorin 353-1936*). It was initially distributed by nurseries under that appellation, and then under the wrong name *C. horizontalis* Decne. var. *wilsonii* Havemeyer ex Wilson (= *C. ascendens* Flinck & Hylmö). Subsequently it has also been sold as *C. horizontalis* cv. *Coralle* and cv. *Robusta*.

This taxon has frequently been planted in Europe, and is also cultivated in, for example, Argentina, Chile, China, and the U.S.A. It is not uncommon in cultivation in the British Isles, where it may naturalise. Its wild origin is unknown, but it is likely to be a plant of western China (where related species are native). It appears to be a wholly apomictic species, and breeds true from seed.

Cotoneaster hjelmqvistii Flinck & Hylmö, sp. nov.

HOLOTYPE: Cultus Hortus Botanicus Alnarp, Sweden, 4 June 1959, *Hylmö 9300* (LD). PARATYPE: Cultus Hortus Botanicus Alnarp, Sweden, 14 October 1958, *Hylmö 9300* (LD).

Ex affinitate *C. horizontalis* Decne, a quo distat habitu erectiore, altitudine majore, omnibus partibus majoribus, foliis majoribus orbicularibus tenuioribus praecociter deciduis, calyce glabro. Frutex 1-1.5 m altus, ascendens ad decumbens. Rami primarii arcuati; ramuli juniores stricte distichi, initio dense luteo- ad flavo-strigillosi; ramuli annotini badii, persistenter flavo-villosi. Folia decidua, 13-20(-25) × 10-18(-25) mm, tenuia, plana, orbicularia ad rotunde obovata (in ramulis floriferis obovata), obtusa ad apiculata mucrone pusillo, basi obtusa; supra nitentia, clare viridia (in autumno intense rubropurpurea), glabra, superficie levi, nervis 3-4(-5); subtus pallide viridia, sparse persistenter flavo-pilosa, ad nervos densius pilosa. Petioli 2-3 mm, pilosi. Cymae (1-)3(-4) florum. Pedicelli 0.5-2(-3) mm, glabri vel sparse pilosi. Bractae 2 mm, subulatae, glabrae, margine villosa, rubro-violaceae. Flores erecti, 5 × 3-4 mm. Receptaculo glabro. Lobi calycis erecti, 2 × 1.5 mm, deltoidei, acuminati, glabri, virides vel rubropurpurei, margine luteo-villosa. Petala erecta, 4

× 4 mm, leviter incurvata, orbicularia ad obovata, ungui parum conspicuo, apice sub-erosa, rubra ad obscure rosacea, margine rosaceo. Stamina 11–14(–16), erecta, 2–3 mm; antherae albae; filamentis late subulatis, rosaceis. Styli (1–)2(–3). Fructus 8 × 8 mm, orbicularis ad obovatus, luteus, glaber; lobis calycis oblique erectis; pyrenae 2–3.

C. hjelmqvistii belongs to section *Cotoneaster*, subsection *Adpressi* Hurusawa, series *Adpressi* Flinck & Hymö. It is related to *C. horizontalis*, but has a taller, more erect habit, is larger in all parts (the leaves considerably so), has leaves that are also thinner and fall earlier, and has a glabrous calyx. Its characteristics are as follows.

Shrub; decumbent or ascending, to 0.5–1 m (or, if supported, to 7 m). Branching distichous; branches curved at tips when young but becoming straight, persistently villous (initially dense, yellow to yellowish-white); 1-year-old branches brownish-red. Leaves deciduous; lamina 13–20(–25) × 10–18(–25) mm, thin, flat (or becoming concave), orbicular to broadly ovate (always ovate on fertile shoots), apex obtuse to mucronate, base obtuse; upper surface shining pure-green (becoming intense red-purple in autumn), glabrous, veins 3–4(–5) and not impressed; lower surface pale-green, persistently yellowish-white pilose; petiole 2–3 mm, pilose. Inflorescence a (1–)3(–4)-flowered cyme. Pedicels 0.5–2(–3) mm, glabrous or sparsely pilose. Flowers erect, 5 × 3–4 mm. Receptacle glabrous. Calyx-lobes erect, 2 × 1.5 mm, deltoid, acuminate, glabrous, green or reddish-purple, margin villose. Petals erect but slightly incurved (leaving centre open), c. 4 × 4 mm, orbicular to obovate with small claw at base, apex irregularly toothed, red to dark-rose with rose margin. Stamens 11–14(–16), erect, 2–3 mm; anthers white; filaments broadly subulate, rose. Styles (1–)2(–3). Fruits 8 × 8 mm, globose to obovoid, orange-red (RHS 40A), glabrous; calyx obliquely erect; nutlets 2–3.

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