Juniperus oxycedrus L. subsp. oxycedrus var. spilinanus Yalt., Eliçin & Terzioğlu: A New Variety from Turkey

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Abstract: A new variety from Turkey is described and illustrated: Juniperus oxycedrus L. subsp. oxycedrus var. spilinanus Yalt., Eliçin & Terzioğlu. This variety grows in forest clearings of Pinus brutia Ten. and P. nigra J.F.Arnold subsp. nigra var. caramanica (Loudon) Rehder, and on stony slopes (800-1400 m) in Spildağ National Park, Manisa (B1) in West Anatolia. Its diagnostic morphological characters are discussed.

Key Words: Cupressaceae, Juniperus, new variety, taxonomy, Turkey

Juniperus oxycedrus L. subsp. oxycedrus var. spilinanus Yalt., Eliçin & Terzioğlu: Türkiye'den Yeni Bir Varyete


Anahtar Sözcüklер: Cupressaceae, Juniperus, yeni varyete, taksonomi, Türkiye

Introduction

Juniperus L. (Cupressaceae) contains c. 60 species and hundreds of cultivars (Galderen & Smith, 1989). Junipers are widely distributed throughout the northern hemisphere, from the Arctic zone to the mountains of the tropics (Rehder, 1974; Farjon, 2005). The genus has been subdivided into 2 sections based on flower and leaf characteristics (Coode & Cullen, 1965); sects Oxycedrus Spach and Sabina Spach. Juniperus are 2 of the richest and most widely distributed woody genera in Turkey. Although some species are important for timber production worldwide, c. 55 Asian species are used for the production of hand-made tools and some small objects (Galderen & Smith, 1989). In Turkey, only 2 species (J. excelsa Bieb. and J. foetidissima Willd.) are used for timber production, but most taxa are important for erosion control, especially in poor, dry habitats.

J. oxycedrus L. is a dioecious shrub or tree, which grows up to 14 m and is distributed in S. Europe, W. Syria, N. Iran, and Caucasus (Coode & Cullen, 1965). The oil known as cade is obtained as a distillate from its wood (Polunin & Huxley, 1972). The Turkish name of the species, Katran Ardıcı, comes from this oil. Different approaches have been followed in the taxonomy of Juniperus. Farjon (2005) considered that J. oxycedrus has 4 subspecies: subsp. oxycedrus, subsp. macrocarpa (Sibth. & Sm.) Ball, subsp. badia (H.Gay) Debeaux, and subsp. transtagana Franco. The Flora of Turkey includes only the first 2 in sect. Oxycedrus (Coode & Cullen, 1965). Although J. macrocarpa Sibth. & Sm. was treated as a subspecies of J. oxycedrus by Franco (1993), Coode & Cullen (1965), Zohary (1973), and Farjon (2005), it was recorded by Browicz (1996) as a rare species in Turkey. Farjon (2000) indicated that J. oblonga M.Bieb.

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is a variable taxon of *J. communis* L. no longer recognised as a species in most modern Floras, contrary to Coode & Cullen (1965).

While attending the 4th Plant Life of South West Asia Symposium in 1995, during an excursion to Spilda¤ı National Park, the authors came across some specimens of *J. oxycedrus* that were morphologically different. After careful field observations and a more thorough examination in the herbarium, we decided that these specimens were distinctly different and represented a new variety.

*Juniperus oxycedrus* L. subsp. *oxycedrus* var. *spilinanus* Yalt., Eliçin & Terziö¤lu, var. nova (Figures 1 and 2).

*Frutex decumbens ramis saepe prostratis 0.5-0.6 m; ramuli juveniles triquetri. Folia terna verticillata acicularia, acutissime pungentia usque ad 10 mm longa, ad 1.5 mm lata, supra plana vel concava, striis 2 albis stomatis. Flores dioici. Strobili feminei subglobosi, usque ad 10 mm in diametro, purpurescentes vel brunnei. Semina plerumque 3. Hab. in regione montana sylvatica.*

Holotype: Turkey B1. Manisa: Spilda¤ı National Park, in forest clearings of *Pinus brutia* and *P. nigra* subsp. *nigra* var. *caramanica*, and on stony slopes, 800-1400 m, 28.v.1995, KATO 13371 (isotype KTUB, 533).

Dioecious, prostrate shrub up to 0.5-0.6 m. Leaves lanceolate, patent, green, with 2 glaucous bands above, 6-10 x 1-1.5 mm, acuminate-mucronate. Cone ripening in the second year, up to 10 mm in diameter, reddish brown, globose. Seeds free, usually 3.

*Etymology:* The new varietal name combines Spilda¤ı and dwarf.

**Discussion**

Two subspecies of *J. oxycedrus* (subsp. *oxycedrus* and subsp. *macrocarpa*) are widely distributed throughout most of Turkey. The first subspecies is a widespread taxon (from sea level to 1800 m, in squares A1, A2, A3, A4, A5, A6, A7, B1, B2, B4, B5, B6, B9, C3, C4, C5, C6, and C7, Figure 2 (Coode & Cullen, 1965)), but the second is a Mediterranean element that occurs only in a very restricted coastal area in Turkey (e.g., coastal areas of B1, C1, and C2, Figure 2 (Browicz, 1996)). Subsp. *transtagana* (syn.: *J. oxycedrus* subsp. *rufescens* (Link ex Endl.) Holmboe) grows in S.W. Portugal (Franco, 1993; Farjon 2005) and subsp. *badia* grows in N. Algeria, E. Portugal, and C. Spain (Farjon, 2005). No records of these 2 subspecies exist for Turkey (Coode & Cullen, 1965; Davis et al., 1988; Farjon, 2000).

This new variety resembles subsp. *transtagana*, but clearly differs from it by having a prostrate habit (subsp. *transtagana* is fastigiate) and not growing in maritime sands. The new variety is a montane taxon (800-1500 m). Likewise, the variety can be distinguished from subsp. *macrocarpa* by the traits of habitat and the dimensions of leaves and cones (subsp. *macrocarpa*’s are clearly bigger than the new variety’s). The new variety also resembles *J. communis* L. var. *saxatilis* Pall. because of its habit, but clearly differs from it by having 2 stomatal bands on the upper surface of the leaves (Figure 1), which *J. communis* does not. Furthermore, the reddish brown cones are clearly different from the blackish cones of *J. communis*. Adams (2004) recently described a new species, *Juniperus deltoides* R.P. Adams, from Greece that is related to *J. oxycedrus*, but clearly distinguished from it by the traits of its leaves.

Figure 1. *Juniperus oxycedrus* subsp. *oxycedrus* var. *spilinanus* (drawn from holotype).
A new identification key for all *J. oxycedrus* taxa is based on Coode & Cullen (1965) and Farjon (2005):

1. Spreading shrub or tree
   2. Leaves 1.1-2 mm wide; cones 6-13 mm diameter
   3. Cones orange- or reddish-brown, 6-13 mm diameter; ultimate branchlets not sub-pendulous .......... subsp. *oxycedrus*
   4. Erect shrub or small tree to 8 m; leaves 6-13 x 1.1-2 mm .......... var. *oxycedrus*
   4. Prostrate shrub to 0.5-0.6 m; leaves 6-10 x 1-1.5 mm ............ var. *spilinanus*
   3. Cones purplish-brown, 10-13 mm diameter; ultimate branchlets sub-pendulous ........................................ subsp. *badia*
   2. Leaves 2-3 mm wide; cones (12-)15-23 mm diameter .................. subsp. *macrocarpa*
1. Fastigiate shrub up to 2 m .... subsp. *transtagana*

The following woody and herbaceous taxa grow with *J. oxycedrus* subsp. *oxycedrus* var. *spilinanus* at its sites in Spildağı National Park:


References


