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TWO NEW *CHAMAECYTISUS* SPECIES (LEGUMINOSAE-PAPILIONOIDEAE) FROM ALBANIA, WITH AN OVERVIEW ON THE *CH. RATISBONENSIS* AND *CH. ERIOCARPUS* SPECIES GROUPS

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Abstract: Two new species, *Chamaecytisus korabensis* and *Ch. pseudojankae*, both from Albania, are described and illustrated here. The relationship of the new taxa to *Ch. ratisbonensis* and *Ch. eriocarpus* agg. is discussed. *Ch. korabensis* is an endemic species of eastern Albania and related to the Eastern European *Ch. ratisbonensis* agg. *Ch. pseudojankae* is an endemic species of the Thatë and Galičica Mountain ranges, and morphologically it is between *Ch. austriacus* and *Ch. eriocarpus* agg. Additionally, the names *Cytisus absinthioides* and *C. pygmaeus* are lectotypified.

Key words: Fabaceae, endemic species, lectotype, taxonomy

INTRODUCTION

The genus *Chamaecytisus* is distributed from the Canary Islands to Anatolia, occurring throughout the entire Mediterranean region and Europe except for the western and northern parts. Up to now, approximately 350 taxa have been described in the genus *Chamaecytisus* Link (incl. *ca* 120 species). Due to taxonomic and nomenclatural reasons more than 750 related names are present in the literature (Pifkó 2015).

The treatment of *Chamaecytisus* taxa is highly variable in monographs, thus the clear elucidation of the known taxa, based on type material, is necessary when describing new species. Most of the *Chamaecytisus* taxa have a continuous distribution, and isolated occurrences far from this area are usually the result of identification errors, misapplications of names or use of atypical and fragmented specimens of populations. Similar taxa, belonging to the same species groups are more or less vicariant. Occasionally hybrid zones are known, where transitional forms can be observed. Some of these populations are so diverse in some characters (colour of flowers, hair types of leaves) that the populations are published (or

described) under 4–5 different taxon names based on single collected specimens, thus describing new taxa from these populations is not recommended (Pifkó 2009, 2010, Pifkó and Papp 2006).

Two new species belonging to none of the species groups (*Ch. albus* (Hacq.) Rothm., *Ch. austriacus* (L.) Link, *Ch. eriocarpus* (Boiss.) Rothm., *Ch. ratisbonensis* (Schaeff.) Rothm., *Ch. rochelii* (Wierzb.) Rothm., *Ch. triflorus* (Lam.) Skalická, etc.) are described here from Albania. They clearly differ from the Balkan endemic *Chamaecytisus* taxa (*Ch. tommasinii* (Vis.) Rothm., *Ch. leiocarpus* (A. Kern.) Rothm., *Ch. frivaldszkyanus* (Degen) Kuzmanov, etc.). Both are morphologically uniform in their populations and markedly differ from the sympatric *Chamaecytisus* taxa, thus their primary hybrid origin can be excluded. The present description of the new species forms part of our work on the revision of the genus *Chamaecytisus* in the Balkans.

MATERIAL AND METHODS

Chamaecytisus Link is regarded here as a monophyletic, morphologically uniform, separate genus, contrary to Cristofolini's treatment of *Chamaecytisus* as the section *Tubocytisus* of *Cytisus* (Cristofolini 1991, Cristofolini and Troia 2006).

Between 2004 and 2013 *ca* 100 populations of the genus were studied in Albania (Barina and Pifkó 2011, Barina *et al.* 2009, 2013, Pifkó and Barina 2011); their vouchers are deposited in BP. Revisions of the *Chamaecytisus* material, including type specimens, have been made using specimens from the following herbaria (abbreviations follow Thiers 2008+): BP, BEO, BEOU, KRA, KRAM, KW, PR, PRC, SO, SOM, W, WU and the collection of University of Tirana (Tirana, Albania; abbreviated here as TIR); additionally, we consulted with the digital collections of the following herbaria: B-W, FR, GOET, HAL, P.

RESULTS

Chamaecytisus korabensis Pifkó et Barina, *sp. nov.*
(Fig. 1)

Holotype: Albania, County of Dibër (Rrethi i Dibrës), Mali i Bardhë Mts, near peak Maja e Pelpenikut, above village Sllatinë; on evaporites, N 41.78419°, E 20.45978°, 1,928 m; leg. Z. Barina and D. Pifkó, 17.06.2013; coll. nr. 22354, BP 759110.

Isotypes: BP 759111.

Description – Low shrub or subshrub, 10–20 cm tall. Young branches and petioles with appressed or erect hairs. Leaves trifoliate, green; leaflets ovate or obovate, more or less mucronate, small, 0.2–0.3 cm wide and 0.7–1 cm long. Lower surface more or less densely hairy, upper surface sparsely hairy, with short appressed hairs. Plant without sericeous hairs. Flowers in leafy racemes, racemes arranged in fascicles of 1–3, yellow, standard glabrous or hairy only on the middle vein. Calyx 1–1.3 cm long, with short erect or patent hairs. Legume 1.5–2 cm long and 0.5–0.8 cm wide, more or less tomentose, some legumes sparsely hairy or glabrescent.

Taxonomy – Ch. korabensis clearly differs from *Ch. albus*, *Ch. austriacus*, *Ch. tommasinii*, *Ch. rochelii*, and related taxa by its glabrous standard and its flowers in leaf-axils, not in terminal heads. It differs from members of the *Ch. eriocarpus* agg. by the hair types of the leaf. Morphologically it is related to the *Ch. ratisbonensis* and *Ch. triflorus* agg. (Table 1).

Species of the *Ch. ratisbonensis* agg. (*Ch. ratisbonensis*, *Ch. ruthenicus* (Fisch. ex Wołosz.) Klásk., *Ch. pineticola* I. S. Ivchenko, etc.) are distributed in Eastern and Central Europe (Fig. 2) (Cristofolini 1991, Zieliński 1975). Only a single occurrence of the group has been reported from the Balkans (Pirin Mts, Bulgaria; Assyov and Petrova 2012, Kuzmanov 1976) under the name *Ch. ratisbonensis*; however, the only voucher (Bulgaria, Znepole Region, Dragomanski Chepan, 29.05.2006, D. Dimitrov, SOM163768) is a fragmented specimen, insufficient for identification; consequently, the occurrence of *Ch. ratisbonensis* in Bulgaria (and in the Balkans) needs confirmation.

Ch. korabensis resembles *Ch. ratisbonensis*; since, the standard of *Ch. korabensis* is glabrous, stem and petiole are appressed hairy, and flowers are in the leaf axils. Contrarily, upper surface of leaflets in *Ch. korabensis* is hairy, while glabrous in *Ch. ratisbonensis*, or rarely sparsely hairy.

From the same group, the upper surface of *Ch. pineticola*, described from the surroundings of Kiev, Ukraine (Ivchenko and Shevera 1992), is also hairy, but the leaflets are markedly larger, 1.5–3 cm long and 0.7–1.1 cm wide.

Species of the *Ch. triflorus* agg. are widely distributed in the Balkans (Pifkó 2005*b*, Skalická 1986). *Ch. korabensis* can be distinguished from the taxa of this group by the appressed or erect hairs of stem and petioles (contrary to the patent hairs of the *Ch. triflorus* agg.). Leaves of *Ch. korabensis* are small and ovate, while leaves are orbicular and larger (1–2 cm long) in the *Ch. triflorus* agg.; however, taxa with smaller leaves are also known ("*C. demissus* Boiss.", "*C. pumilus* De Not."). As the older stems may be often glabrescent or very shortly hairy in the *Ch. triflorus* agg., the indumentum of young stems should be used for identification to avoid the misidentification of *Ch. triflorus* specimens as *Ch. korabensis*.

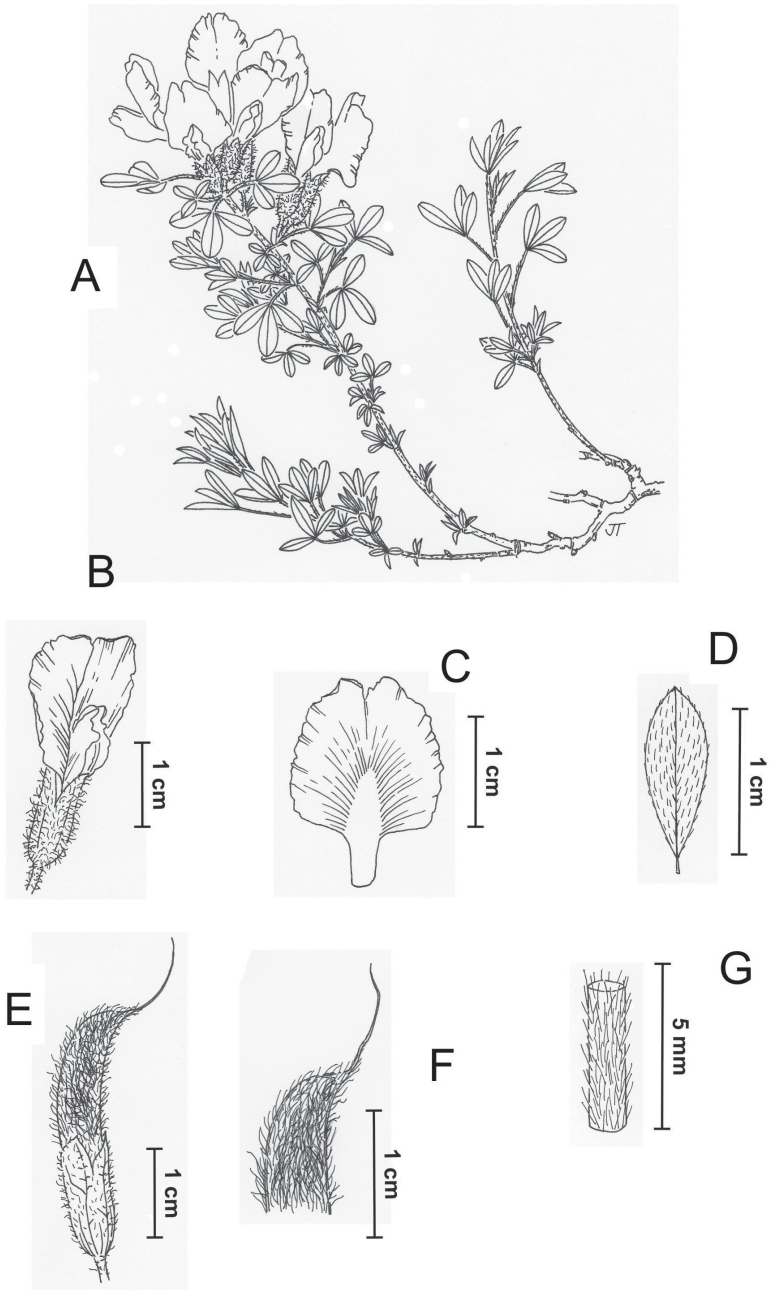

Fig. 1. *Chamaecytisus korabensis* – A: habit, flowering branch; B: calyx with flower; C: standard petal, adaxial surface; D leaflet upper surface; E–F: legume, G: young part of a branch with hairs (Drawing: Jana Táborská).

Fig. 2. Distribution of *Chamaecytisus ratisbonensis* agg. (incl. *Ch. ruthenicus*, *Ch. pineticola*, *Ch. kreczetovici*) follow Zieliński (1975); black star: locality of *Ch. korabensis*.

Table 1. Diagnostic characters of species of *Ch. ratisbonensis* agg. and similar taxa

	Ch. korabensis	*Ch. pineticola*	*Ch. ratisbonensis*	*Ch. elongatus*	*Ch. leiocarpus*	*Ch. polytrichus-wulffii*
leaf upper surface	hairy	hairy	glabrous	hairy or glabrous	hairy or glabrous	hairy
hairs on petioles	appressed or erect	appressed	appressed	patent	appressed	appressed or erect
legume surface	hairy	hairy	hairy	hairy	glabrous	hairy
leaflets	small, ovate, obovate	larger, rounded	small, ovate	larger, rounded	larger, rounded	small, ovate
hairs on the plants	not sericeous	sericeous	sericeous	not sericeous	not sericeous	sericeous
distribution	Balkan	Eastern Europe	Eastern and Central Europe	Carpathian Basin	Balkan	Crimea

Further, apparently intermediate taxa between *Ch. triflorus* agg. and *Ch. ratisbonensis* agg. have been described from Eastern Europe (*Ch. elongatus* (Waldst. and Kit.) Link, *Ch. leiocarpus* (A. Kern.) Rothm., and *Ch. wulffii* (V. I. Krecz.) Klásk.).

Ch. leiocarpus is a NW Balkan species with occurrences also in SW Transylvania. It can be clearly distinguished from the *Ch. triflorus* agg. by its appressed hairs on the stem, similar to *Ch. korabensis*; however, the surface of legume is glabrous in *Ch. leiocarpus* and hairy in *Ch. korabensis*, and similarly to the *Ch. triflorus* group, *Ch. leiocarpus* has large and orbicular, glabrous or shortly hairy leaves (Pifkó and Barina 2011).

Ch. elongatus has been described from two distant parts of the Carpathian Basin (Waldstein and Kitaibel 1805): a southern locality from region Banat at the border of Romania and Serbia and a northern one from Bereg County at the border of Hungary and Ukraine. The taxon was emended by Jávorka (1925) and its lectotype was designated by Chrtek and Skočdopolová (1982) from the Waldstein's collection ("Hungarica" PR: 155757d). A number of original specimens can be found in BP, PRC and PR ("Banatus" BP Kitaibel XXIV. 160; Romania, Caraş-Severin, Oravița, BP Kitaibel XXIV 161; "Comit. Bereghen", P. Kitaibel, PRC and "Hungaria", A. Waldstein PRC). The designated lectotype, other original material and material from the southern locus classicus (Banat) are morphologically heterogeneous. The designated lectotype was presumably collected in the Bereg locality and it is identical with the glabrescent form of *Ch. triflorus*. According to Jávorka (1925), presumably based on specimens BP Kitaibel XXIV/160 and 161 (cf. Jávorka 1929, Pifkó 2005*a*, 2007), *Ch. elongatus* in region Banat is appressed hairy with patent hairs on petiole. This region (Anina Mts, Romania; Deliblato sands, Serbia), is extremely rich in *Chamaecytisus* taxa, including *Ch. ratisbonensis* and *Ch. triflorus*; and specimens from the locus classicus of *Ch. elongatus* (Romania, Caraş-Severin, Ciclova Montană, N 45.029010° E 21.752540°, 339 m s.m., D. Pifkó, 17.07.2008, BP 702190) can be both appressed and patent hairy. Consequently, the separation of *Ch. elongatus* from *Ch. triflorus* is doubtful even following the emendation of Jávorka. Other authors (Kuzmanov 1976, Tzvelev 1987, 2002) treat *Ch. elongatus* as conspecific with *Ch. glaber* (L. f.) Rothm., which was described from Austria. Consequently, *Ch. elongatus* is a taxon with dubious status, possibly conspecific with *Ch. triflorus*, or is a local hybrid form of *C. triflorus*. According to our present knowledge, *Ch. korabensis* clearly differs from *Ch. elongatus* by the patent hairs on petioles and larger leaves of the latter.

Two endemic taxa from S Crimea, which seem to be intermediate between *Ch. triflorus* agg. and *Ch. ratisbonensis* agg. (*Ch. polytrichus* (M. Bieb.) Rothm. and *Ch. wulffii* (V. I. Krecz.) Klásk.), have been described from the same locality near the city of Yalta: "Habitat in Taurae maxime meridionalis montium altio-

rum pinaetis." for *Ch. polytrichus* (Marschall von Bieberstein 1819); and "Tauria, supra Jalta, in pineto supra Utschan" for *Ch. wulffii* (Kreczetowicz 1940). The two taxa have mostly the same morphological characters, but the stem and petiole of *Ch. wulffii* have appressed hairs, whilst *Ch. polytrichus* has patent hairs. According to our recent observations above Yalta (Ukraine: Crimea, Yalta, Ai-Petri plateau above Yalta on the cliff, N 44.501900°, E 34.084620°, 1,244 m s. m., Z. Barina, D. Pifkó and E. Andrik, 19.06.2010, nr. 17647, BP 758998, 759001, 759010–759013), specimens with patent and appressed hairs occur together without any other morphological differences.

Russian and Ukrainian texts (Mosyakin and Fedoronchuk 1999, Tzvelev 1987, 2002, Yakovlev *et al.* 1996) treat *Ch. wulffii* and *Ch. polytrichus* as independent species; however, their relationship requires further studies. According to our taxonomic concept (Pifkó 2005*b*) any scattered records of *Ch. polytrichus* throughout Europe (Cristofolini 1991) need confirmation, all of them presumably refer to *Ch. triflorus* or vernal forms of *Ch. supinus*.

Ch. korabensis can be clearly distinguished from specimens discussed under the name *Ch. polytrichus* by the appressed hairs, smaller legumes, and greyish opaque indumentum of the former.

Distribution and habitat –Mali i Bardhe, where evaporite domes of more than 1000 m thickness are outcropped and constitute a peculiar landscape with a number of karst forms (Parise *et al.* 2008, Velaj 2001).

Etymology – The plant is endemic to the western foothills of the Korab Mts.

Chamaecytisus pseudojankae Pifkó et Barina, *sp. nov.*
(Fig. 3)

Holotype: Albania, District of Korçë (Rrethi i Korçës), Thatë Mountains (Mali i Thatë), *ca* 1.7 km north of village "Zvezdë", on the southeastern ridge of Mount "Zvezdë" (1,833 m); in rocky grassland, on limestone, N 40.74774°, E 20.86148°, 1,477 m; leg. Z. Barina, D. Pifkó and Cs. Németh, 25.05.2007, nr. 11736, BP 750418.

Isotype: W 2010-03241 (as *Ch. jankae*).

Paratypes: 1) Albania, District of Korçë (Rrethi i Korçës), Thatë Mountains (Mali i Thatë), *ca* 2.55 km west-northwest of village "Liqenas", *ca* 2.2 km east of the peak of Mount "Buz e Korutes" (2,028 m), on the southern ridge of the Mount at 2,034.7 m height; in karstic shrubland, N 40.79887°, E 20.87588°, 1,539 m; leg. Z. Barina and D. Pifkó, 22.05.2007, nr. 11593, BP 748705. – 2) Albania, District of Korçë (Rrethi i Korçës), Thatë Mountains (Mali i Thatë), *ca* 2.6 km east-northeast of village Podgorije, *ca* 700 m southwest of Mount "maja e Stanit" (1,911.6 m); in grassland, on limestone, N 40.82281°, E 20.83194°, 1,802 m; leg. Z. Barina, D.

Pifkó and Cs. Németh, 20.05.2007, nr. 11455, BP 748704. – 3) Albania, District of Korçë (Rrethi i Korçës), Thatë Mountains (Mali i Thatë), *ca* 1.6 km east-northeast of village Podgorije, *ca* 1.5 km west-southwest of Mount "maja e Stanit" (1,911.6 m); in rocky grassland, on limestone, N 40.82039°, E 20.82228°, 1,594 m; leg. Z. Barina, D. Pifkó and Cs. Németh, 20.05.2007, nr. 11459, BP 748703.

Previous records – A number of specimens collected previously can be found in the TIR herbarium, identified as *Ch. austriacus* (Albania, County of Korçë, Mali i Thatë, kalkar, 1,700 m, 06.06.1973, K. Paparisto and Qosja Xh., TIR), as *Ch. hirsutus* (Albania, County of Korçë, Mali i Thatë, kalkar, 1,700 m, 06.06.1973, K. Paparisto and Qosja Xh., TIR; – Albania, County of Korçë, Mali Thatë, 2,134–2,284 m, 10.07.1974, V. Tartari, TIR; – Albania, County of Korçë, Mali Thatë, 1,884 m, 10.07.1974, V. Tartari, TIR), or as *Ch. heuffelii* (Wierzb.) Rothm. (Albania, County of Korçë, Mali Thatë: Maja e Ballamaqit kalkar, 1,600 m, 24.06.1971, J. Vangjeli and V. Tartari, TIR), from the same locality. Records from the Macedonian part of the mountains (Galičica Planina), have been reported under the name *Cytisus austriacus* var. *calcareus* (Velen.) Hayek (Černjavski 1943, Rechinger 1939, and vouchers – Republic of Macedonia, Southwestern, Ochrida, mt. Galičica (...), 10.07.1939, P. Černjavski, BEO 4451; – Republic of Macedonia, Southwestern, Ochrida: m. Galičica, Ason Dura, 05.08.1940, A. Pichler BEO 4452; – Republic of Macedonia, Southwestern Ochrida: m. Galičica: ad Ramne do, 1,500 m, 04.08.1940, A. Pichler BEO 4453; – Republic of Macedonia, Southwestern, Ochrida: m. Galičica Velestovski Trap, 07.08.1940, A. Pichler BEO 4450), and *Ch. absinthioides* subsp. *rhodopeus* (Teofilovski and Mandzukovski in Teofilovski 2001); all refer to this new taxon.

Description – Low subshrub, 20–50(–70) cm tall. Young branches and petioles with appressed or erect hairs. Leaves trifoliolate; leaflets ovate or elliptic-obovate, more or less mucronate, 0.3–0.5 cm wide and 1–1.5 cm long. Lower surface of leaves densely hairy, surface colour grey or yellowish-brown when dry (as characteristic for the *Ch. eriocarpus* agg.). Flowers yellow, in leafy racemes, arranged in fascicles of 1–5 racemes, in leaf axils. Standard glabrous or hairy along the central vein. Calyx 1.3–1.6 cm long, with short erect or patent hairs. Legume 1.5–2 cm long, 0.4–0.6 cm wide with appressed hairs.

Taxonomy – *Ch. pseudojankae* is easily distinguishable from the *Ch. supinus* and *Ch. triflorus* groups by its appressed hairs on the stem and petioles, scattered hairs on leaves, and its glabrous standard.

Ch. pseudojankae is apparently an intermediate species between the *Ch. austriacus* agg. and *Ch. eriocarpus* agg. The variously treated *Ch. austriacus* agg. is closely related to the *Ch. albus* group (Pifkó 2010). According to our species concept, taxa with yellow flowers, hairy standard, lanceolate leaves with sericeous, long hairs on upper surface belong to here. They flower during summer with a terminal capitate inflorescence, as "*Cytisus arenarius* Simonk.", "*C. jankae*

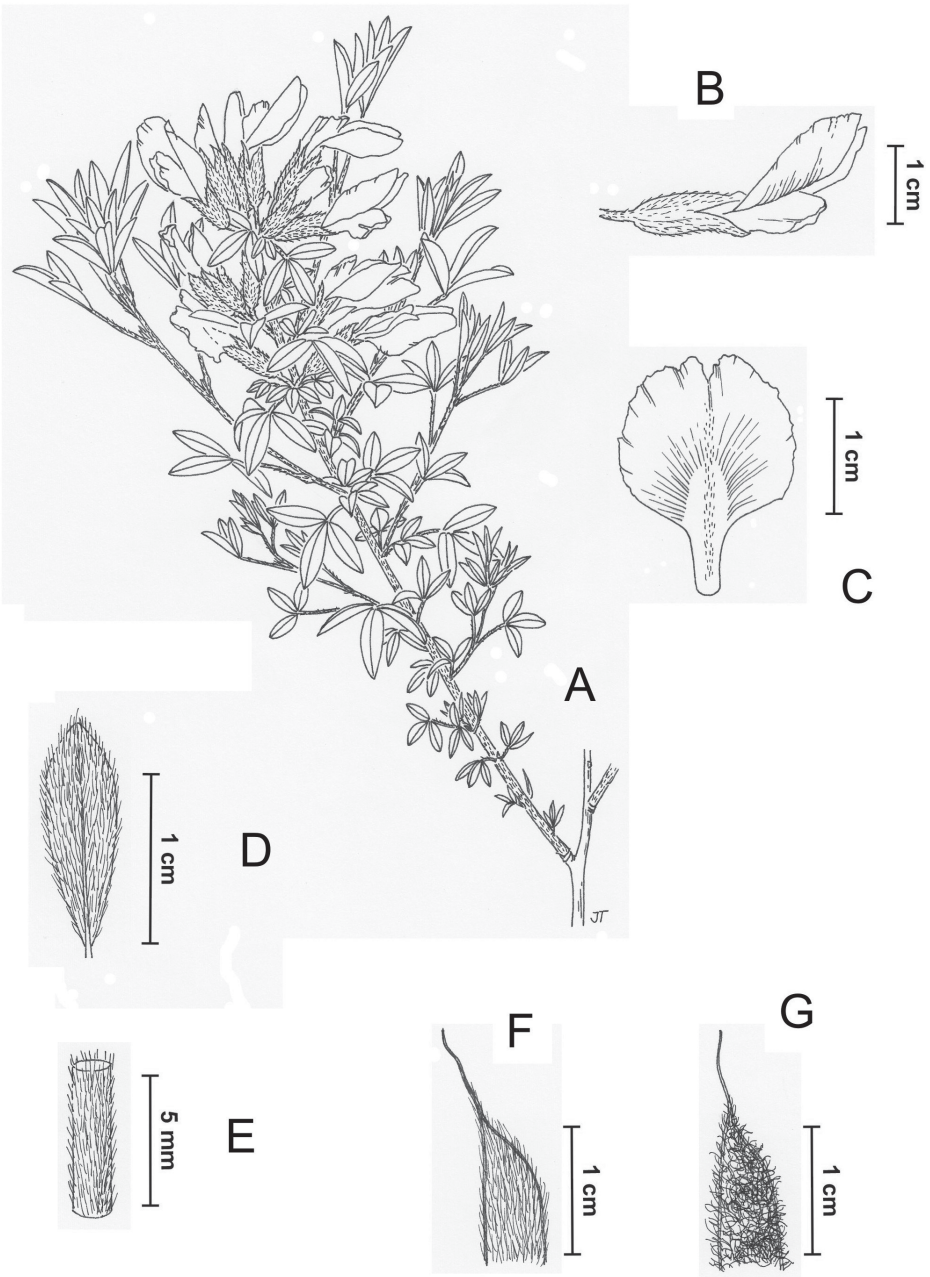

Fig. 3. *Chamaecytisus pseudojankae* – A: habit, flowering branch; B: calyx with flower; C: standard petal, adaxial surface; D leaflet upper surface; E: young part of a branch with hairs; F: part of legume of *Ch. pseudojankae*; G: part of legume of *Ch. eriocarpus* agg. (Drawing: Jana Táborská).

Vel.", "*C. georgievii* Davidov", "*C. pseudopygmaeus* Davidov", "*C. noeanus* Rchb. in Noe", and "*C. hirtellus* Rchb.".

The *Ch. austriacus* agg. has a wide distribution from W Russia to Austria, with most of the Balkan reports being erroneous or in need of confirmation. From Albania, the only verified occurrence is on Mt Pashtrik (near the Albanian–Kosovan border).

Ch. pseudojankae differs from the members of the *Ch. austriacus* agg. by its flowering heads in the leaf axils (not terminal), by short ovate leaves (not oblong-lanceolate), and by the sericeous indumentum of the lower surface of leaves (Table 2).

Table 2. Diagnostic characters of species *Ch. austriacus* agg. and *Ch. eriocarpus* agg.

	Ch. austriacus agg.	*Ch. eriocarpus* agg.
inflorescence	flowers in heads	flowers in leafy racemes mainly on the upper third of stem
hairs of stem	appressed or erect	mainly patent or appressed
leaflets	lanceolate (rarely ovate)	ovate (rarely lanceolate)
standard	densely hairy, with glabrous edge	only the midvein hairy
leaf upper surface	densely hairy with long and thin hairs, but not completely hairy, dried grey	densely hairy with shorter hairs, almost completely hairy, dried yellowish-brown or grey

Due to the indumentum of the standard petal, we treat *Ch. pseudojankae* as related to the *Ch. pygmaeus – eriocarpus – absinthioides* group (shortly *Ch. eriocarpus* agg.) and not a member of the *Ch. austriacus* agg.

The *Ch. eriocarpus* agg. includes six species, with the following types, examined for this treatment (Table 3).

Cytisus absinthioides Janka, Oesterr. Bot. Z. 22: 175–176. 1872 – **Lectotype (designated here)**: Bulgaria, Pirin, Gotse Delchev, 21.08.1871, V. Janka WU-Kerner 0033170. Text of label: "In collibus ad radices m. Perim. Dagh prope Nevrekop [...] orientalis." K. I. Christensen designated as lectotype in 2004 on the sheets. Isolectotypes: BEOU (s. n.), BP 296809, GOET 005095, W Collectio Reichenbach fil. 44808, WU-Halácsy.

Cytisus eriocarpus Boiss., Diagn. Pl. Orient. ser. 1, 2: 11. 1843 – Syntypes: İzmir Province, Bozdağ, Mount Bozdağ ["Tmolus"], 00.06.1842, P. Boissier, GOET 005097, KW (Turchaninow Herbarium), KW (in world material, Ex Herbario Scegleewi), P 02952858.

Cytisus pygmaeus Willd., Sp. Pl., ed. 4 [Willdenow] 3(2): 1127. 1802 [1–10 Nov 1802] – **Lectotype (designated here)**: Turkey, "Galatia", D. Sestini, B-W13632-010; the label of lectotype is on the other sheet: B-W 13632-000, isotype: HAL 0100154 (U. Braun assigned as authentic specimen in the sheet).

Cytisus rhodopeus J. Wagner ex Degen, Oesterr. Bot. Z. 43: 423. 1893; nom. inval. – Original material: Bulgaria, Rila ["Rhodopes centr."] Musala, alt. *ca* 1,500–2,000 m, 30.07.1892, J. Wagner (exsicc. 1892 No. 40), WU-Halácsy.

Cytisus smyrnaeus Boiss., Diagn. Pl. Orient. ser. 1, 2: 10. 1843 [Mar 1843] – Syntypes: Turkey, "montis Smyrneae" 00.06.1842., P. Boissier, BP 208133, FR 003144, GOET005096, KW (Turchaninow Herbarium), KW (in world material 2 sheets), P 02952937, 02952942, 02952944, 02952950, 02952951, 02952952, JE 00014575, 00014576, 00014577 designated by J. Müller (JE) on the sheet, W 9918, 0031010.

Cytisus tmoleus Boiss., Diagn. Pl. Orient. ser. 1, 2: 11. 1843 – Syntypes: Turkey, "Asia Minor", E. Aucher (No. 1101), P 02952916, 02952919.

Table 3. Diagnostic characters of species of *Ch. eriocarpus* agg. based on type specimens

	Ch. pseudo-jankae	*Ch. absin-thioides*	*Ch. erio-carpus*	*Ch. pyg-maeus*	*Ch. rho-dopeus*	*Ch. smyr-naeus*	*Ch. tmo-leus*
hairs of stem and petioles	appressed	patent	patent	ap-pressed	patent	ap-pressed	ap-pressed
hairs of calyx	appressed or erect	patent or erect	patent	erect	erect	patent	ap-pressed
leaflets	ovate,	ovate	ovate	ovate	lanceolate	rounded	rounded
legume	appressed	lanate	lanate	lanate	lanate	lanate?	lanate?
locus classicus	Balkan: Albania	Balkan: Bulgaria	Asia Minor	Asia Minor	Balkan: Bulgaria	Asia Minor	Asia Minor

A detailed evaluation of the *Ch. eriocarpus* group has not yet been conducted. We studied the type material of *Ch. tmoleus* and *Ch. smyrnaeus*, two members of the *Ch. eriocarpus* group, but none of the original specimens of these taxa bear ripe fruits suitable for taxonomic investigation.

Ch. eriocarpus is distributed in Asia Minor and scattered in the mountains of the Balkans (Fig. 4) (Cristofolini 1991, Heywood and Frodin 1968). Most of the literature (Cristofolini 1991, Cristofolini and Troia 2006, Diklić 1972, Gibbs 1969, Heywood and Frodin 1968) treat the whole group under the name *Ch. eriocarpus*, while other authors treat it under the name *Ch. absinthioides* in Bulgaria and Macedonia (Assyov and Petrova 2012, Kuzmanov 1976, Micevski 2001). Based on the studies of the type material, the usually separated *Ch. pygmaeus* (Willd.) Rothm. (Gibbs 1969, Heywood and Frodin 1968, Rothmaler 1944) also belongs to this group, contrary to the earlier concept as being a member of the *Ch. austriacus* group (Cristofolini 1991, Ponert 1973).

Based on the type material of the *Ch. eriocarpus* group, all members have densely hairy leaves on both sides, grey or yellowish brown when dry, with also

Fig. 4. Distribution of *Chamaecytisus eriocarpus* agg. in the Balkan Peninsula (follow Assyov and Petrova 2012, Teofilovski 2011 and Strid 1986).

patent hairs on the stem and petiole (except for *Ch. tmoleus* and *Ch. smyrnaeus*), flowers are in heads on the sides of the stem, standard hairy only along the midvein, the whole flower is yellow; the legume is tomentose. Contrarily, the legume of *Ch. pseudojankae* is elongated and with appressed hairs on stem, calyx and legume.

Ch. tmoleus, treated usually as a species (Ascherson and Graebner 1910, Rothmaler 1944), as a subspecies (Briquet 1894, Cristofolini 1991) or as a synonym of *Ch. eriocarpus* (Gibbs 1969), seems apparently the most similar taxon to *Ch. pseudojankae*; however, this taxon has been described on the basis of insufficient specimens ("specimen pessimum", Boissier 1843), which seem to be damaged or diseased specimens of *Ch. eriocarpus*. Specimens beyond the type material in the studied herbaria, identified as *Ch. tmoleus*, are not clearly identical with the type material; thus we have no information on the legume of *Ch. tmoleus*; the taxon needs further clarification and cannot be conspecific with *Ch. pseudojankae*, given the long distance separating their ranges.

Consequently, *Ch. pseudojankae* can be clearly distinguished from other species of the *Ch. eriocarpus* group by its hairy legumes, its appressed or erect

hairs on stem and petioles. *Ch. pseudojankae* is not sympatric or connected with any other *Chamaecytisus* taxa with appressed hairs. The specimens of *Ch. pseudojankae* populations are uniform in appearance according to present studies of both living and herbarium specimens collected since 1939.

Distribution and habitat – Distributed in the range between Lake Prespa and Lake Ohrid, which is called as Thatë Mts in Albania and Galičica Mts in F.Y.R. of Macedonia. It occurs in dry, rocky grasslands on Mesozoic limestone.

Etymology – Previously, this population was thought to represent *Ch. jankae*.

DISCUSSION

Two new species of genus *Chamaecytisus*, i.e. *Ch. korabensis* and *Ch. pseudojankae* are described here. Both taxa are known from one isolated population, and morphologically are clearly distinct from any *Chamaecytisus* taxa in the Balkans. Due to the unique nature of the localities, a number of isolated occurrences of vascular plants are known from both localities. The population of *Ch. korabensis* was discovered recently on the foothills of the Korab Mts, while that of *Ch. pseudojankae* is a well-known population on the Thatë Mts, with a number of gatherings from 1939.

Apparently similar specimens may occur extremely far from the locus classicus of the newly described taxa in morphologically diverse, often transitional populations, or even described as independent taxa. However, their relationship can be excluded as in the species groups vicariant taxa contacted with transitional zones are present and isolated forms with apparently geographically distant relatives can be originated by local speciation processes rather than survived relict populations.

Neither of the two recognised and described species can be clearly related to the known and more or less sympatric species groups and both taxa show the combination of relevant morphological characters of different groups within the genus.

The possibility of the new taxa being hybrids can also be excluded because of the lack of potential parent populations in the neighbouring areas and uniform appearance of plants in the populations.

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Összefoglaló: A cikk tartalmazza két új *Chamaecytisus* faj leírását Albánia területéről, ezek: *Chamaecytisus korabensis* és *Chamaecytisus pseudojankae*. A *Ch. korabensis* a Korab hegység evaporit előhegyein került először megfigyelésre, mely Albánia középső keleti részén található. A faj morfológiai alapon hasonlóságot mutat a *Ch. ratisbonensis* fajcsoporttal, mivel tavasszal a hajtás oldalán virágzik, emellett kopasz vitorlája, rásimuló szőrű szára van. Elkülöníti ugyanakkor a *Ch. ratisbonensis* Kelet- és Közép-Európában honos taxonjaitól (*Ch. ratisbonensis*, *Ch. ruthenicus*), hogy a levél felszíne nem kopasz, hanem szőrös.

A *Ch. pseudojankae* Albánia délkeleti részén, illetve Macedónia nyugati részén, a Prespa és az Ochridi tó között húzódó Thatë, illetve Galičica hegység területén fordul elő. Ezt a populációt korábban számos egyéb más taxonnal azonosították. Morfológiai alapon a *Ch. austriacus* és a *Ch. eriocarpus* fajcsoport között áll. A *Ch. pseudojankae* a Kis-Ázsiában és a Balkánon honos *Ch. eriocarpus* fajcsoport délkeleti tagja. A fajcsoport más taxonjaitól megkülönbözteti, hogy szára és termése rásimuló szőrű, míg a fajcsoport többi taxonjának termése gyapjasodó szőrű, a szár szőrzete pedig többnyire elálló.

A cikk a *Ch. eriocarpus* fajcsoport elemzése kapcsán két taxon tipizálását is tartalmazza, ezek a *Cytisus absinthioides* és a *Cytisus pygmaeus*.

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