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WERNER GREUTER & THOMAS RAUS (ed.)

Med-Checklist Notulae, 21

Abstract

Greuter, W. & Raus, Th. (ed.): Med-Checklist Notulae, 21. – Willdenowia 32: 195-208. 2002. – ISSN 0511-9618.

Continuing a series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to the Med-Checklist project are presented, this instalment deals with the families *Amaranthaceae, Basellaceae, Campanulaceae, Caryophyllaceae, Compositae, Labiatae, Leguminosae, Lythraceae, Ranunculaceae, Rubiaceae, Scrophulariaceae, Umbelliferae; Cyperaceae, Gramineae, Liliaceae,* and *Pontederiaceae.* It includes new country and area records, taxonomic and distributional considerations. A new species of *Scorzonera* is described and illustrated. New combinations are validated in *Cladanthus*.

Notice

For explanation see the introduction and list of geographical symbols in Willdenowia 10: 13-15. 1980, and the definition of the status symbols in Willdenowia 11: 23. 1981. The previous instalment was published in Willdenowia 31: 319-328. 2001.

Amaranthaceae

Amaranthus quitensis Kunth

A **AE:** Greece, East Aegean Islands, Nomos of Samos: Island of Ikaria, Livadi (E of Armenistis), moist river banks, mixed with *Amaranthus hypochondriacus* and clearly different from it, alt. c. 5 m, 21.9.2002, *Raus & al.* (B); ibid.: Island of Samos, Potami (E of Karlovasi), abandoned flower beds and ruderal places along the coastal road, alt. 5 m, 12.10.2002, *Raus* (B); id., Nomos of Dodekanisos: Island of Patmos, Skala, ruderal places in the village, alt. c. 5 m, 16.10.2002, *Raus* (B). – Not previously recorded from the East Aegean Islands (see Phitos & al., Fl. Hellen. 1: map 257. 1997).

Th. Raus

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Basellaceae

Anredera cordifolia (Ten.) Steenis

N **Bl, Cr:** Spain, Balearic Islands: Island of Mallorca, hills above Cala Fornells, SW of Paguera, alt. 50-80 m, 19.10.1997, *Royl 892* (B; det. Raus). – Greece, Nomos of Dodekanisos: Island of Karpathos, ravine below (i.e. NE of) the village of Olimbos, naturalized on rocky slopes, alt. c. 100 m, 1.10.2002, *Kalheber* (B; det. Raus); ibid.: near Volada, in rocks, alt. c. 400 m, 1.10.2002, *Kalheber obs.;* ibid.: near Piles, in rocks, alt. c. 300 m, 1.10.2002, *Kalheber obs.;* ibid.: near Menetes, in rocks, alt. c. 350 m, 1.10.2002, *Kalheber obs*. – A slightly succulent climber native to Paraguay, S Brazil and N Argentina, sometimes referred to as *Boussingaultia cordifolia* Ten. (but see Steenis in Fl. Males., ser. 2, 5: 302-304. 1957), widely cultivated in subtropical areas as an ornamental and vegetable, locally naturalized on coastal cliffs, landslides and in waste places in Atlantic and Mediterranean Europe, from the Azores (Schäfer, Fl. Azores: 66. 2002) to Malta (Greuter & al., Med-Checklist 1: 62. 1984). Not previously recorded from the Balearic Islands (see Castroviejo, Fl. Iber. 8: 474. 1990) or Greece and the Cretan area (Tutin & al., Fl. Eur., ed. 2, 1: 139. 1993). On Karpathos it is fully naturalized, often hanging from nearly inaccessible cliffs (H. Kalheber in litt.).
Th. Raus

Campanulaceae

Campanula tymphaea Hausskn.

+ **Ju:** FYR Makedonija: Podgorica lake, 16.7.1948, *Kitanov* (SO). – A Balkan endemic so far known from Albania and NW Greece (Fedorov in Tutin & al., Fl. Eur. 4: 85. 1976; Hartvig in Strid & Tan, Mount. Fl. Greece 2: 381. 1991) but not previously recorded from former Jugoslavia. D. Dimitrov

Caryophyllaceae

Dianthus campestris subsp. ***pallidiflorus*** (Ser.) Schmalh. (incl. *D. aridus* Janka)

+ **Tu:** Turkey, A1 Kırklareli: In vinetis prope urbem Lozengrad [Kırklareli], solo sabuloso, 4.8.1899, *Mateev* (SO). – In the Balkan countries hitherto known with certainty only from Bulgaria but not Turkey-in-Europe (Tutin & al., Fl. Eur., ed. 2, 1: 244. 1993, under *Dianthus pallidiflorus* Ser.); the record belongs to *D. aridus* when it is treated as a distinct species (as by Andreev & al., Opred. Visš. Rast. Bălg.: 300. 1992).
D. Dimitrov

Silene fabaria Sm.

+ **Tu:** Turkey, A1 Tekirdağ: Tekirdağ (Kumbaga, Rodosto), 5.1916, *Nikolov* (SO). – Not previously recorded for Turkey-in-Europe (see Tutin & al., Fl. Eur., ed. 2, 1: 205. 1993; Davis, Fl. Turkey 2: 215, 10, 11. 1967-2001). D. Dimitrov

Compositae

Centaurea cyanus L.

P **Cr:** Greece, Crete, Nomos of Chania, Eparchia of Kidonia: 1 km NNE of Deres (35°26' 32"N, 23°50'41"E), near the track to Skonizo, bulldozed area of c. 50 × 50 m surrounded by dense *Erica manipuliflora* scrub, phyllitic schist, alt. 230 m, 23.5.1993, 16.5.1994 & 8.4.1995, Jahn (B, REG, UPA, herb. Jahn, herb. Wagenitz; confirm. Wagenitz 1996). – A constant population consisting of 10-15 individuals (some perennial), strictly localized on a patch of c. 2 m^2, which caused the inclusion of the spe-

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cies in Jahn & Schönfelder (Exkursionsfl. Kreta: 327. 1995). Two more records have meanwhile been published, without data on population size or spatial pattern (Chilton & Turland, Fl. Crete Suppl.: 28. 1997, as a possible escape from cultivation – status "A"; and Böhling in Willdenowia 31: 321. 2001, as fully established and naturalized – status "N"). *Centaurea cyanus* is cultivated as an ornamental and bee plant (see, e.g., Oberdorfer, Pflanzensoziol. Exkursionsfl. Deutschl., ed. 8: 972. 2001). It cannot be excluded that it was planted in Crete by bee keepers or in gardens. Even though it persisted over several generations, the population mentioned above cannot be regarded as fully established since no increase or dispersion was observed. Native status in Crete is improbable, as historical records are lacking and its known habitats are unstabile; but since at least two of the Cretan localities are at a considerable distance from human settlements, *C. cyanus* may well getting naturalised in the area. Status "P" (doubtfully naturalised: see Greuter & al., Med-Checklist 1: xiii. 1984) seems to be appropriate. R. Jahn

Cladanthus eriolepis (Maire) Oberprieler & Vogt, **comb. nova** ≡ *Ormenis eriolepis* Coss. ex Maire in Bull. Soc. Hist. Nat. Afrique N. 17: 118. 1926.

Cladanthus flahaultii (Emb.) Oberprieler & Vogt, **comb. nova** ≡ *Ormenis flahaultii* Emb. in Bull. Soc. Sci. Nat. Maroc 15: 15. 1935.

Cladanthus mixtus (L.) Oberprieler & Vogt, **comb. nova** ≡ *Anthemis mixta* L., Sp. Pl.: 894. 1753.

Cladanthus scariosus (Ball) Oberprieler & Vogt, **comb. nova** ≡ *Santolina scariosa* Ball in J. Bot. 11: 365. 1873.

A molecular study of *Chamaemelum* Mill. and related genera based upon nrDNA ITS and cpDNA *trn*L/*trn*F IGS sequence variation (Oberprieler in Bot. J. Linn. Soc. 138: 255-273. 2002) shows that *Chamaemelum* as traditionally circumscribed is at best paraphyletic. *Cladanthus arabicus* (L.) Cass., which provides the type of *Cladanthus,* is consistently nested within *Chamaemelum* sect. *Santolinopsis* Benedí. This section comprises *Ch. eriolepis* (Maire) Benedí, *Ch. flahaultii* (Emb.) Benedí, *Ch. mixtum* (L.) All., and *Ch. scariosum* (Ball) Benedí, all of which agree with *Cladanthus arabicus* in floret and achene morphology (Oberprieler, l.c.). No close phylogenetic relationship with *Ch.* sect. *Chamaemelum* (consisting of *Ch. fuscatum* (Brot.) Vasc. and *Ch. nobile* (L.) All., the latter providing the type of the generic name) is evidenced by molecular studies. We therefore consider *Cladanthus* (a name that has priority over *Ormenis* Cass., based on *Anthemis mixta* L.) as generically distinct from *Chamaemelum.* This entails the above new combinations. Ch. Oberprieler & R. Vogt

Hieracium scardicum Bornm. & Zahn *(H. naegelianum/pannosum)*

+ **Al:** Albania, District of Librashd: Polis, Gur i Lekes, alt. 1600 m, on limestone, 20.8.1956, *Kitanov* (SO). – A Balkan endemic, known only from former Jugoslavia (FYR Makedonija: Mt Kobilica; see Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(2): 983. 1931) but not previously recorded from Albania. D. Dimitrov

Inula spiraeifolia L.

+ **Tu:** Turkey, A1 Kırklareli: In vineis ad urbem Lozengrad (Kirk-Kilise) [Kırklareli], solo arenoso, 14.7.1899, *Mateev* (SO). – This hitherto neglected collection corroborates the occurrence of *Inula spiraeifolia* in European Turkey, which was queried by Ball & Tutin (in Tutin & al., Fl. Eur. 4: 134. 1976). D. Dimitrov

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Jurinea cypria Boiss.

+ An: Turkey, G4 Mersin: Mut, high plateau of Kozlar, valley of Ayı river, in limestone cliff, alt. 1380 m, 20.7.1999, *Everest 882* (herb. Univ. Mersin; det. Raus). – This suffruticose species was found in the Taurus range opposite the island of Cyprus, where it was hitherto thought to be endemic and restricted to the Troodos range (Meikle, Fl. Cyprus: 958. 1985; Tsintidis, Endêm. Fita Kiprou: 70. 1995). It is new to Anatolia. Th. Raus & A. Everest

Scorzonera ulrichii Parolly & N. Kilian, **sp. nova** (Fig. 1). – Holotype: Turkey, C4 Antalya, Distr. Alanya, Mahmutlar-Hadim road, c. 35 km NE Mahmutlar and 15 km S Çayarasi, 1 km N Elmalisu, alt. 1250 m, gravelly, rocky slope with an open *Pinus nigra* var. *caramanica* forest, W-exposed, limestone, 11.6.2002, *Ulrich 2/12* (B; isotypes: E, ISTE, herb. Parolly).

+ An: *Scorzonera* (sect. *Nervosae*) *ulrichii* a speciebus similibus *S. xylobasi* et *S. pisidica* differt habitu subscapigero, indumento foliorum, caulium et involucrorum densissimo albo-lanato pilis c. 2 mm longis, caulibus floriferis arcuato-ascendentibus capitula pauca ferentibus et achaeniis dense albo-lanatis. – Named in honour of its discoverer, the pharmacist Mr Robert Ulrich (Tübingen, Germany), who kindly put his material and field notes at our disposal.

Subscapigerous, densely lanate (hairs c. 2 mm long), white to greyish perennial, 5-12 cm high. *Rootstock* cylindrical, branched or simple, with one or a few crowded leaf rosettes, almost without remains of leaf bases. *Flowering stems* usually several per rosette, weak, densely lanate, arcuate-ascending, hardly exceeding c. 10 cm, with a few leaves in the basal half only, simple and terminated by a single flower head or with 1-2(-3) short flowering branches in the basal third. *Leaves* all entire, soft, with flat margins, densely and uniformly lanate on both sides down to the very base, with 3-5 prominent parallel veins; rosette leaves 5-14 × 0.6-2.6 cm, (linear-)oblanceolate, often slightly falcate, with acute tip and gradually attenuate towards the base; cauline leaves similar to the rosette leaves but smaller. *Capitula* 1-2(-4) per stem, with 15-18(?) flowers, 18-20 mm long when flowering and fruiting. *Involucre* entirely lanate outside, its adaxial face being the only green and (sub)glabrous aerial part of the plant; outer involucral bracts 6-8, linear-lanceolate to subulate, acute, about a third to half as long as the inner bracts; inner involucral bracts 6-8, linear-lanceolate, acute, subequal, 15-18 × 2-4 mm, adaxially green with a scarious margin. *Flowers* bright yellow, corolla c. 14-15 mm long, including the 3-4 mm long tube, the limb 3.8-4.5 mm wide; anther tube (including basal and apical appendages) 4-4.5 mm long. *Achenes* slender, prismatic, 6-9 × 1-1.5 mm, smooth, densely lanate with 1.5-2 mm long white hairs. *Pappus* 8-12 mm long; bristles straw-coloured to brownish or sometimes rusty-reddish, plumose with white fimbriae in the basal portion, barbellate above. Flowering June-August(-October).

Additional specimens. – Type locality, 14.6.2000, *Ulrich* (GOET; Fig. 1a); ibid., 8.10. 2000, *Ulrich 0/81* (herb. Parolly [with a single mature achene]); ibid., 19.6.2001, *Ulrich 1/40* (herb. Parolly); ibid., 18.10.2002, *Ulrich 2/53* (B, herb. Parolly [with mature achenes]).

At its only known locality, *Scorzonera ulrichii* grows on limestone slopes rising from a narrow valley bottom to an altitude of 1200-1250 m. It colonises rocky and gravelly slopes of varying exposure, small depressions, uneven flats, on soil covered with a thick needle litter under a very open canopy of *Pinus nigra* var. *caramanica* (Loudon) Rehder. A pronounced xerophyte, *S. ulrichii* does not tolerate the shade of interspersed rocks – which are the habitat of, e.g., *Arabis alanyensis* H. Duman, one of the endemics of the upper Göksu catchment area – but where it occurs it is the dominant plant in the herb layer of this pure pine forest, which has no shrub layer and a low

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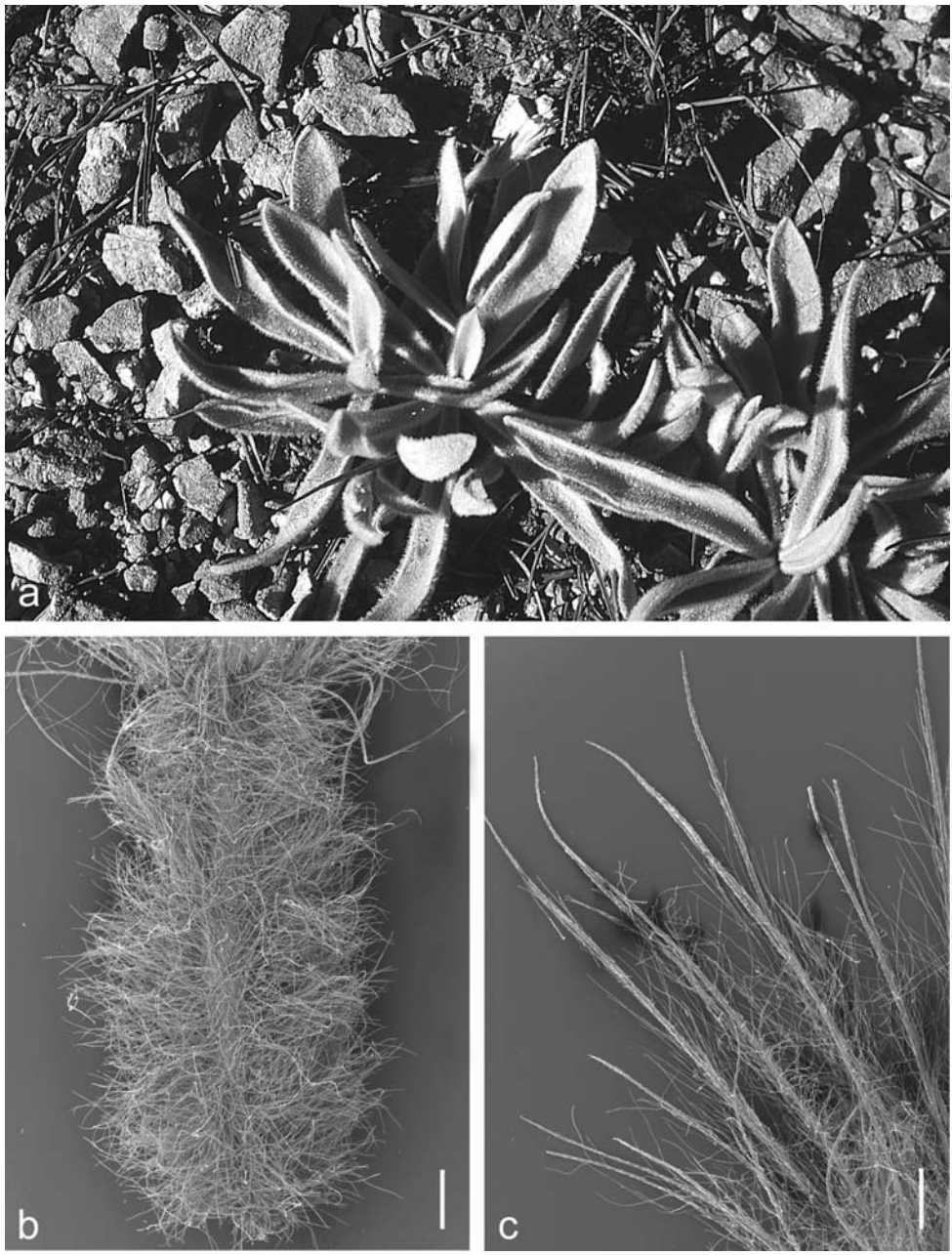


Fig. 1. *Scorzonera ulrichii* – a: habit (photograph, from the type locality, by R. Ulrich, 14.6.2000; specimen in GOET); b: achene (scanning electron micrograph, *Ulrich 2/53,* B); c: portion of the pappus, with bristles plumose in lower half and barbellate above (scanning electron micrograph, *Ulrich 2/53,* B). – Scale bars: b + c = 1 mm.

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resprouting rate. Its large, shiny clumps cover the forest floor completely. The plants are showy when flowering in summertime, but rather inconspicuous and easily overlooked after the autumn rains. Associated species include *Arnebia densiflora* (Nordm.) Ledeb., *Cephalanthera kurdica* Kränzlin, *C. rubra* (L.) Rich., *Colchicum variegatum* L., *Hypericum avicularifolium* var. *leprosum* (Boiss.) Robson, *Leontodon* cf. *oxylepis* Boiss. & Heldr., *Leucocyclus formosus* subsp. *amanicus* (Rech. fil.) Hub.-Mor. & Grierson, *Salvia candidissima* subsp. *occidentalis* Hedge and *Thymbra sintenisii* subsp. *isaurica* P. H. Davis, partly as scattered individuals. Another remarkable local endemic, *Origanum husnucanbaseri* H. Duman & al., is frequent in similar habitats on neighbouring rocky slopes but has not hitherto been found together with *S. ulrichii*. Although forming a strong, healthy population with hundreds of mature individuals and copious fruit setting, in view of its very restricted distribution area *S. ulrichii* should be classified as "Vulnerable (VU)" under criterium D of the IUCN Red List categories, Version 3.1. 2001.

The subacaulescent habit has evolved several times in *Scorzonera*. *S. ulrichii* fits in *S.* sect. *Nervosae* Lipsch. (Fragm. Monogr. Scorzonera 1: 126. 1935, comprising c. 15 caulescent and, more rarely, subacaulescent, mainly SW Asian perennials (Lipšic in Komarov, Fl. SSSR 29: 97-102. 1964; Rechinger, Fl. Iran. 122: 66-70. 1977). The only other subacaulescent species of this section to share the dense, lanate indumentum with *S. ulrichii* is *S. xylobasis* Rech. f., a local endemic of central Iran. It is distinct from *S. ulrichii* on account of its strongly developed woody caudex (3 cm in diam.), broad elliptic-lanceolate leaves (with laminas up to 5 × 2.5 cm and petiole ≤ 1 cm), smaller involucrum (15 mm at anthesis) and glabrous achenes. Of the Turkish members of the section, only *S. cinerea* Boiss. and *S. pisidica* Hub.-Mor. may show subacaulescent habit and have a rather dense indumentum, but they both have glabrous achenes. N. Kilian & G. Parolly

Labiatae

Salvia sylvestris L.

+ **Tu:** Turkey, A1 Kırklareli: In vinetis ad urbem Lozengrad (Kirk-Kilise) [Kırklareli], solo calcareo, 14.7.1899, *Mateev* (SO, as *Salvia nemorosa* L.). – This hitherto neglected collection corroborates the occurrence of *S. sylvestris* in European Turkey, which was queried by Hedge (in Tutin & al., Fl. Eur. 3: 191. 1972). D. Dimitrov

Stachys obliqua Waldst. & Kit.

+ **Gr:** Greece, Thrace, Nomos of Evros, Eparchia of Orestiada: Pentalofos (41°39'N, 26°11'E), fallow fields and *Quercus frainetto* scrub over calcareous substrate, alt. 280 m, 3.8.1994, *Raus & al. 21807* (B); ibid.: 4 km from Komara along road to Pendalofos (41°38'N, 26°12'E), road embankment in agricultural area, alt. 200 m, 25.7.2002, *Strid & al. 53980* (G, GB, herb. Kit Tan); id., Eparchia of Soufli: just W of the village of Tavri (40°59'N, 26°15'E), road verges and dry meadows in agricultural area with remains of deciduous oak scrub, alt. 60 m, 23.7.2002, *Strid & al. 53855* (ATH, B, G, GB, LD). – Halácsy (Consp. Fl. Graec. 2: 517. 1902) reported "*Stachys orientalis* L.?" from Greece, based on two unconfirmed records ("non vidi") from Mesinia [SW Peloponnese] by Sibthorp and from the Ionian island of Levkas by Baldacci. Ball (in Tutin & al., Fl. Eur. 3: 154. 1972) and Greuter & al. (Med-Checklist 3: 361. 1986) interpreted these records to represent *S. obliqua* Waldst. & Kit., but this is very unlikely. Genuine *S. obliqua* is scattered in the central Balkan Peninsula and W Anatolia, and ours are the first reliable records from Greece. Progeny of Raus & al. 21807 is cultivated in the Botanic Garden Berlin-Dahlem (seed offered since 1996; see Ind. Sem. Hort. Bot. Berol. 1996: 63). Th. Raus, A. Strid & Kit Tan

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Leguminosae

Ononis adenotricha Boiss.

+ Gr: Greece, Peloponnese, Nomos of Arkadia, Eparchia of Kinouria: the promontory N of Paralia Tirou (37°16'N, 22°51'E), hard limestone, phrygana, alt. 100 m, 11.5.1982, *Runemark & Svensson 48564* (LD; confirm. Lassen); id., Makedonia, Nomos and Eparchia of Serres: 6 km from Ano Vrondou along road to Serres (41°15'N, 23°41'E), meadow in opening of deciduous forest and moist ground by a spring, alt. 1050-1100 m, 4.6.2001, *Strid & al. 52882* (GB; confirm. Lassen); id., Nomos of Serres, Eparchia of Fillis: Mt Pangeo, S of the monastery of Ikosifinisis c. 4.5 km ESE of Kormista (40°57'N, 24°06'E), alt. 600-700 m, 10.7.1971, Snogerup & al. 447 (LD; confirm. Lassen); id., Nomos and Eparchia of Drama: Mt Menikion, SW of Anthochori (41°07'30"N, 23°54'30"E), slopes with grazed meadows and *Juniperus* scrub, alt. 570 m, 18.6.1992, *Willing 19040a* (B; confirm. Raus); ibid.: Mt Orvilos, place called Vathirema (41°21'53"N, 23°38'24"E), in open *Juniperus oxycedrus* subsp. *oxycedrus* scrub on limestone, alt. 1340 m, 5.6.1999, *Theodoropoulos & Eleftheriadou* (B; confirm. Raus); ibid.: Mt Orvilos, place called Vathilakkos (41°23'48"N, 23°42'02"E), calcareous alluvium with open *Juniperus oxycedrus* subsp. *oxycedrus* scrub, alt. 900 m, 14.6.1999, *Theodoropoulos & Eleftheriadou* (B; confirm. Raus); ibid.: Mt Orvilos, place called Vathirema (41°21'48"N, 23°38'26"E), in open *Juniperus oxycedrus* subsp. *oxycedrus* scrub on limestone, alt. 1310, 4.7.1999, *Theodoropoulos & Eleftheriadou* (B; confirm. Raus). – Not previously recorded from Greece. The only other European localities of this species, which is widespread and variable in Anatolia, Lebanon and Syria (see Huber-Morath in Davis, Fl. Turkey 3: 375-376. 1970), are in former Jugoslavia (near Prilep; see Širjaev in Beih. Bot. Centralbl. 49: 452. 1932) and in Bulgaria (Andreev & al., Opred. Višš. Rast. Bălg.: 420. 1992). Greek populations belong to *O. adenotricha* var. *adenotricha*.

K. Theodoropoulos, A. Strid, Th. Raus, Kit Tan & E. Eleftheriadou

Trifolium retusum L.

+ Gr: Greece, Makedonia, Nomos and Eparchia of Florina: 3 km SSW of Antartiko (40°44'N, 21°12'E), dry grassy meadows and open deciduous scrub over granite, alt. 950 m, 15.6.1998, *Strid & al. 46625* (G, GB, herb. Kit Tan); id., Nomos and Eparchia of Serres: E of the village of Orini along road from Serres to Ano Vrondou (41°11'N, 23°37'E), grazed hillslope in opening of mixed deciduous and evergreen woodland, schist, alt. 1000 m, 4.6.2001, *Strid & al. 52825* (B, G); ibid.: 6 km from Ano Vrondou along road to Serres (41°15'N, 23°41'E), meadow in opening of deciduous forest and moist ground by a spring, alt. 1050-1100 m, 4.6.2001, *Strid & al. 53868* (LD, GB); id., Nomos of Serres, Eparchia of Sintiki: N of the village of Fea Petra NE of Sidirokastro (41°17'N, 23°27'E), sandy roadsides, alt. 350 m, 3.6.2001, *Strid & al. 52799* (G, LD).; id., Thrace, Nomos of Rhodopi, Eparchia of Komotini: 1 km NW of Fanari (40°58'N, 25°07'30"E), somewhat nitrified sandy beach with small dunes, alt. 1-3 m, 2.5.1991, *Raus & Schiers 16724* (B; det. Raus); id., Nomos of Evros, Eparchia of Didimotichon: Mt Silo, summit area (41°10'N, 25°57'E), dry meadow in opening of *Fagus* forest, schist, alt. 1000-1060 m, 8.6.2001, *Strid & al. 53263* (G, herb. Kit Tan); ibid., Eparchia of Soufli: 27 km from Loutros along road to Dadia, by river crossing (41°03'N, 26°05'E), mixed deciduous woodland and open rocky places, alt. 150 m, 6.6.2001, *Strid & al. 53056* (GB); ibid.: between area of Pessani and Tris Vrises, SE of Mt Silo (Sapka) (41°06'N, 21°04'E), meadow in opening of deciduous oak woodland, schist, alt. 550 m, 8.6.2001, *Strid & al. 53207* (B, GB, LD). – Unless otherwise stated, all collections identified by P. Lassen, Lund. This rather inconspicuous annual is widespread in C and S Europe and extends through Anatolia to the Crimea and

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Caucasia. It is apparently not uncommon in northernmost Greece. The species is not mentioned for Greece and the Aegean by Greuter & al. (Med-Checklist 4: 191. 1989, following Coombe in Tutin & al., Fl. Eur. 2: 163-164. 1968), although Zohary (Gen. Trifolium: 123. 1984) mentions Greece as a part of its range. Zohary's unsubstantiated record is corroborated by the collections above cited.

Th. Raus, A. Strid & Kit Tan

Lythraceae

Ammannia baccifera L.

P **Gr:** Greece, Peloponnese, Nomos of Messinia, Eparchia of Kalamata: Between Kalamata and Messini, southeast of the airport, weed in rice fields, associated with *Ammannia coccinea, Bergia capensis, Cyperus difformis, Lindernia dubia* and others, alt. c. 5 m, 23.9.2002, *Raabe* (B, MSTR, herb. Raabe; det. Raus); id., Sterea Ellas, Nomos and Eparchia of Fthiotis: SE of Lamia, E of Anthili, weed in a rice field, associated with *Ammannia coccinea, Cyperus difformis, Lindernia dubia* and others, alt. c. 5 m, 28.9.2002, *Raabe* (herb. Raabe; det. Raus). – An annual wetland species native to tropical and subtropical Africa and Asia, spread beyond its primary habitats as a weed in rice fields. In southern Europe it was known only from Spain so far (Greuter & al., Med-Checklist 4: 228.1986; Velayos in Castroviejo & al., Fl. Iber. 8: 26-27. 1997); the degree of naturalisation in Greece is uncertain. The plant is easily overlooked, growing among populations of the very similar *Ammannia coccinea,* which is much more common in Greece (Raus in Lagascalia 19: 851-856. 1997; Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002). Plants with shortly pedicellate flowers (*A. baccifera* s.str.) are sometimes treated as distinct on specific or subspecific levels from those with sessile flowers (*A. aegyptiaca* Willd., *A. baccifera* subsp. *aegyptiaca* (Willd.) Koehne; see, e.g., Boulos, Fl. Egypt 2: 148. 2000; Carretero in Anales Jard. Bot. Madrid 39: 274. 1983; Zohary, Fl. Palaest. 2: 367. 1972), but intermediate forms exist and the distinction is highly artificial (Graham in J. Arnold Arbor. 66: 407. 1985; Velayos in Castroviejo & al., Fl. Iber. 8: 27. 1997). Treating *A. aegyptiaca* as a plain synonym is appropriate (see Greuter & al., Med-Checklist 4: 228.1986). Pedicel length in the Kalamata population varies between 0 and 1 mm. Th. Raus & U. Raabe

Ammannia senegalensis Lam.

P **Gr:** Greece, Peloponnese, Nomos of Messinia, Eparchia of Kalamata: Between Kalamata and Messini, SE of the airport, weed in rice fields, associated with *Ammannia coccinea, Bergia capensis, Cyperus difformis, Lindernia dubia* and others, alt. c. 5 m, 23.9.2002, *Raabe* (B, MSTR, herb. Raabe; det. Raus). – Not previously reported from Greek rice fields (see Raus in Lagascalia 19: 851-856. 1997; Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002). Obviously the cited collection represents the only known occurrence of this paddy weed in Europe, the species being excluded from the flora of Spain by Velayos (in Castroviejo & al., Fl. Iber. 8: 27.1997). The degree of naturalisation of *Ammannia senegalensis* in Greece is still uncertain. The species differs from both *A. baccifera* and *A. coccinea* chiefly by its effuse, clearly pedunculate inflorescences. Th. Raus & U. Raabe

Rotala ramosior (L.) Koehne

P **Gr:** Greece, Peloponnese, Nomos and Eparchia of Ilia: Between Areti and Lechena, E of the national road from Patras to Pirgos, weed in rice fields, few very small plants associated with *Ammannia coccinea, Cyperus difformis* and others, alt. c. 5 m, 22.9. 2002, *Raabe* (B, herb. Raabe; confirm. Raus); ibid.: Lechena, N of the town, W of the

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national road from Patras to Pirgos, weed in rice fields, numerous, associated with *Ammannia coccinea, Cyperus difformis, Lindernia dubia* and others, alt. c. 5 m, 23.9. 2002, *Raabe* (B, MSTR, herb. Raabe; confirm. Raus). – An annual wetland plant, widespread in America between c. 50 °N and 30 °S, usually found in intermittently inundated areas. According to Cook (in Boissiera 29: 74-80. 1979), the seeds germinate when submerged; flowering and fruiting takes place as the habitat dries out. A Mexican race of *Rotala ramosior* has become naturalised in rice fields in the USA, the Philippines and northern Italy around Vercelli (see Cook in Ber. Schweiz. Bot. Ges. 83: 61. 1973; Pignatti, Fl. Ital.: 2: 147. 1982). The species, not previously known to occur in Greek rice fields (see Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002), is easily overlooked, growing among the superficially similar *Ammannia coccinea*. The degree of naturalisation of *Rotala ramosior* in Greece remains uncertain. U. Raabe & Th. Raus

Ranunculaceae

Consolida arenaria Carlström

+ Gr: Greece, North Aegean Islands, Nomos of Lesvos: Island of Limnos, Peninsula of Ayios Sozos, near the village of Fissini, sandy beach, alt. 0-5 m, 15.5.2002, *Manoussogiannaki* (herb. Kit Tan, herb. Sfikas no. 13465). – A Greek endemic, previously known only from a few localities on the eastern side of Rodos (AE) where it is potentially threatened by development of tourist facilities. The species is related to *Consolida hellespontica* (Boiss.) Chater and *C. samia* P. H. Davis, differing from the former in its dwarf stature with much reduced inflorescence, and usually smaller, concolorous flowers with a relatively longer spur, from the latter in its ± appressed indumentum, deep bluish-violet flowers and very short upper lobe of the nectary. Kit Tan, G. Sfikas & G. Vold

Rubiaceae

Galium paschale Forssk.

+ Gr: Greece, Makedonia, Nomos of Pella, Eparchia of Almopia: Loutra Arideas (40°58'N, 21°54'E), mixed forest, alt. 400-500 m, 16.6.1998, *Snogerup 15075* (LD); id., Thrace, Nomos of Evros, Eparchia of Didimotichon: c. 4 km W of the village of Kourimbos (41°21'N, 26°10'E), road verges in open deciduous oak woodland, alt. 320 m, 9.6. 2001, *Strid & al. 53291* (G, GB, herb. Kit Tan). – The name *Galium paschale* replaces the more familiar *G. longifolium* (Sm.) Griseb. (see Ehrendorfer & Schönbeck-Temesy in Davis, Fl. Turkey 7: 800. 1982). *G. paschale* was described from the vicinity of Istanbul; it occurs from Turkey-in-Europe eastwards to Trabzon and is scattered elsewhere in Anatolia. The species probably occurs also in Bulgaria and the FYR Makedonija. A. Strid & Kit Tan

Scrophulariaceae

Lindernia procumbens (Krock.) Borbás (*Lindernia pyxidaria* auct.)

+ Gr Greece, Makedonia, Nomos and Eparchia of Florina: Southern shore of the Great Prespa lake, alt. 860 m, 31.7.1990, *Baumann* (B, photo; det. Raus); ibid.: near the village of Kotas (40°52'N, 21°11'E), hay meadow and damp shady place by the river, alt. 850 m, 8.8.1998, *Strid & Kit Tan 47621* (G, GB, herb. Kit Tan); id., Nomos of Serres, Eparchia of Sintiki: NW part of Lake Kerkini near Limnochori (41°14'N, 23°11'E), in a Nanocyperion community on dried mud, alt. c. 40 m, 19.9.1997, *Raus*

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(B). – A Eurasian species of suboceanic-sub-Mediterranean distribution, characteristic of communities of short-lived dwarf rushes in wet, muddy or sandy places in much of Central and SE Europe, but not previously recorded from Greece (for correct authorship and nomenclature see, e.g., Soó, Magyar Fl. Veg. Rends.-Növ. Kéz. 3: 183. 1968 and Wisskirchen & Haeupler, Standardliste Farn- Blütenpfl. Deutschl.: 294. 1998). The related *Lindernia dubia* (L.) Pennell, a xenophyte of N American origin, is a widespread weed in Greek rice fields (see Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002), also locally naturalised, e.g., on the sandy banks of the Nestos river (Raus in Bot. Chron. 10: 568. 1991). *L. procumbens* is a more slender plant with smaller leaves, longer pedicels and 4 instead of 2 fertile stamens. A photograph of a plant from the Prespa locality was inadvertently published in a coloured field guide devoted to threatened plants of Germany (Baumann & Müller, Farbatl. Gesch. Gefährd. Pfl.: 154, 298. Stuttgart 2001). An old record from the Prespa area (leg. Formánek; see Vandas, Reliq. Formán.: 424. 1909, as *L. pyxidaria*) refers to a locality N of the Greek border, as evidenced by the collector's itinerary (Formánek in Verh. Naturf. Vereins Brünn 37: 124. 1899). Th. Raus, A. Strid & Kit Tan

Umbelliferae

Peucedanum minutifolium (Janka) Velen.

+ Gr: Greece, Thrace, Nomos of Evros, Eparchia of Soufli: SW of Dadia (41°05'N, 26°09'E), along road between Lefkimi and hill "552" (with broadcasting station), road verges in tall macchie and mixed woodland, alt. 350 m, 27.7.2002, *Strid & al. 54106* (B, G, GB, LD, herb. Kit Tan). – Not previously recorded from Greece. Tutin (in Tutin & al., Fl. Eur. 2: 362. 1968) regarded *Peucedanum minutifolium* as "probably conspecific with *P. vittijugum* Boiss.", and Kuzmanov & Andreev (in Jordanov, Fl. Nar. Rep. Bălgarija 8: 228. 1982) reduced it to a subspecies of the latter. However, it appears sufficiently distinct to merit specific rank. *P. vittijugum* is scattered from Peloponnisos to NW Greece, Albania and the western parts of former Jugoslavia, whereas *P. minutifolium* is probably restricted to Bulgaria and the northeastern corner of Greece. A. Strid & Kit Tan

Cyperaceae

Eleocharis parvula (Roem. & Schult.) Bluff & al.

D **Gr:** Greece, Sterea Ellas, Nomos and Eparchia of Fthiotis: SE of Lamia, N of the Thermopiles, in rice fields S of the Sperchios river, associated with *Ammannia coccinea, Cyperus difformis, Scirpus mucronatus* and other paddy weeds, alt. c. 5 m, 26.9.2002, *Raabe* (B, MSTR, herb. Raabe; det. Raus). – First Greek record of this tiny, low-growing wetland species occurring in large parts of Europe, N America and locally in E Asia, mostly along the sea shores (for total range, see Hultén & Fries, Atl. N. Eur. Vasc. Pl. 1: 202, map 403. 1986). In the Nile Delta of Egypt it is also known to occur as a weed in rice fields (Taeckholm, Stud. Fl. Egypt, ed. 2: 780. 1974). In the Sperchios Delta, *Eleocharis parvula* was found to form large, dense populations superficially resembling colonies of *Isoetes* spp. or *Littorella uniflora* (L.) Asch., especially in places where rice germination failed. *E. parvula* is readily distinguished from other species of the genus by its stolons carrying comma-like tubers. Until such time as it is found in a primary habitat in Greece, the status "doubtfully native" is appropriate. Th. Raus & U. Raabe

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Gramineae

Agropyron cristatum (L.) Gaertn.

+ Gr: Greece, Thrace, Nomos of Evros, Eparchia of Soufli: 6.5 km from Dadia along road to Giannouli (41°10'N, 26°13'E), locally abundant on a serpentine outcrop with open pine woodland, alt. 250 m, 7.6.2001, *Strid & al. 53091* (ATH, B, G, GB, LD, herb. Kit Tan). – A widespread and polymorphic species occurring from C and S Europe to C Asia. Its occurrence in Greece was queried by Melderis (in Tutin & al., Fl. Eur. 5: 199. 1980), probably due to lack of precision of the records "Macedonia" and "Thrace" by Hayek (in Repert. Spec. Nov. Regni Veg. Beih. 30(3): 223. 1932).
A. Strid & Kit Tan

Bromus optimae H. Scholz

+ AE: Greece, East Aegean Islands, Nomos of Lesvos, Eparchia of Mithimni: N of Kallonis, grazed slope, alt. c. 50 m, 2.5.2002, *Lang* (B; det. Scholz); ibid.: W part, between Sigri and Andissa, road verge, alt. c. 100 m, 5.5.2002, *Lang* (B; det. Scholz). – An annual brome grass recently described from Cyprus (Scholz in Bocconea 11: 85 -87. 1999) but obviously distributed well beyond that island. H. Scholz

Diplachne fusca (L.) P. Beauv.

P **Gr:** Greece, Peloponnese, Nomos and Eparchia of Ilia: Lechena, N of the town, W of the national road from Patras to Pirgos (37°56'48"N, 21°16'25"E), weed in a rice field, scattered, associated with *Ammannia coccinea, Cyperus difformis, Lindernia dubia* and others, alt. c. 5 m, 22.7.2002, *Raus* (B; det. Scholz); id., Makedonia, Nomos of Kavala, Eparchia of Nestos: Agiasma (40°54'30"N, 24°39'E), weed in a rice field, with *Heteranthera limosa, H. rotundifolia, Echinochloa crus-galli* subsp. *hispidula, E. oryzoides* and others, alt. c. 2 m, 16.7.2002, *Raus* (B; det. Scholz). – First European records of this tufted perennial grass that is widely distributed in tropical and warm-temperate regions from Africa to India and through SE Asia to Australia. It occurs principally on coastal mud flats and in lagoons, but also as a weed in rice fields (Lazarides in Dassanayake & al., Rev. Handb. Fl. Ceylon 8: 178-179. 1994). According to Häfliger & Scholz (Grass Weeds 2: 62. 1981) it was introduced to Argentina. In Egypt it is known not only in rice fields (see, e.g., Turki & Sheded in Feddes Repert. 113: 398. 2002, as *Leptochloa fusca* (L.) Kunth) but generally as a "a bad weed in irrigation channels" (Taeckholm, Stud. Fl. Egypt, ed. 2: 730. 1974). The degree of naturalisation in Greece remains uncertain. The species is sometimes referred to as *Diplachne malabarica* (L.) Merr. or *Leptochloa malabarica* (L.) Veldkamp (for nomenclatural issues, see Snow & Davidse in Taxon 47: 157-159. 1998, and Brummitt in Taxon 49: 266. 2000). Th. Raus & H. Scholz

Echinochloa crus-galli subsp. ***hispidula*** (Retz.) Honda

P **Gr:** Greece, Makedonia, Nomos and Eparchia of Serres: Between Ano Kamila and Provatas (41°04'N, 25°26'E), weed in a rice field, with *Butomus umbellatus, Bacopa rotundifolia, Lindernia dubia* and others, alt. c. 20 m, 16.7.2002, *Raus* (B; det. Scholz); id., Nomos of Kavala, Eparchia of Nestos: Agiasma (40°54'30"N, 24°39'E), weed in a rice field, with *Heteranthera limosa, H. rotundifolia, Echinochloa oryzoides, Diplachne fusca* and others, alt. c. 2 m, 16.7.2002, *Raus* (B; det. Scholz). – Not previously recorded from Greek rice fields (see Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002). The degree of naturalisation in Greece is uncertain so far. The taxon has been treated at species rank by many authors (e.g., Carretero in Anales Jard. Bot. Madrid 38: 99. 1981, as *Echinochloa hispidula* (Retz.) Nees; Pignatti, Fl. Ital. 3: 608. 1982, as *E. erecta* (Pollacci) Pignatti), but ac-

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cording to recent taxonomic work (Michael in Proc. Asian-Pacific Weed Sci. Soc. Conf. Beijing: 57-66. 2002), subspecific rank under *E. crus-galli* (L.) P. Beauv. is more appropriate. Th. Raus & H. Scholz

Paspalum notatum Flüggé

P **Gr:** Greece, Ionian Islands, Nomos of Kerkira: Island of Korfu (Kerkira), the north coast, Acharavi, Gelika village, ruderal grassy place behind a coastal dune, near a large stand of *Phragmites australis,* dense population covering c. 10 m^2 surrounded by scattered single individuals, 21.8.2002, *Scholz* (B). – First European record of this xenophyte native to Mexico, the West Indies and S America, cultivated for forage in subtropical N America (Hitchcock, Man. Grasses U.S., ed. 2: 2, 203.1957). It is also introduced to Africa, Japan, SE Asia and Australia (Häfliger & Scholz, Grass Weeds 1: 102. 1980). Chase (in Contr. U.S. Natl. Herb. 28(1): 64. 1929) describes it as "an ascending perennial with short, stout, woody, horizontal rhizomes forming tough but not extensive sods, the rhizome clothed with the firm, persistent bases of old sheaths". The degree of naturalisation in Greece is uncertain so far. H. Scholz

Piptatherum virescens (Trin.) Boiss.

+ **Gr:** Greece, Thrace, Nomos of Evros, Eparchia of Didimotichon: Place called Agios Konstantinos c. 2 km SSW of Metaxades (41°24'N, 26°13'E), deciduous oak woodland, schist, alt. 220 m, 9.6.2001, *Strid & al. 53299* (ATH, G, GB, LD, herb. Kit Tan); id., Eparchia of Orestiada: SW of the village of Petrota (41°42'N, 24°05'E), mixed deciduous forest and road verges, schist, alt. 420 m, 9.6.2001, *Strid & al. 53350* (ATH, B, G, GB). – A tall perennial grass of open woodland, widespread in SE Europe and through Anatolia to the Caucasus and N Iran, not given for Greece by Tutin (in Tutin & al., Fl. Eur. 5: 246. 1980). It is characterised by a very open panicle and shiny black caryopses. The similar *Piptatherum holciforme* (M. Bieb.) Roem. & Schult., which has longer ligules, much larger caryopses, etc., has scattered localities in N Greece and was also collected in the same area (9.6.2001, *Strid & al. 53351*).
A. Strid & Kit Tan

Poa densa Troitsky

+ **An:** Turkey, C2 Denizli: Honaz Dağı, summit region (main ridge and saddle between the two major peaks; 37°03'18"N, 30°09'45"E), rocky slopes, wind-swept cushion communities (Drabo-Androsacetalia), limestone and dolomite, alt. 2520 m, 19.6.2000, *Eren & Parolly 7481* (B, ISTE, herb. Parolly); ibid., steep, open, scree-rich limestone swards on raw soil (Astragalo-Brometalia), alt. 2550 m, 20.6.2000, *Eren & Parolly 7514* (B, herb. Parolly); ibid., ascent from Honaz to the summit region (37°41'20"N, 29°16'27"E), rocky slopes; thorny cushion and dwarf shrub communities with *Marrubium* spp. and, partly, *Onobrychis cornuta,* limestone and dolomite, alt. 2000-2250 m, 23.6.2000, *Eren 3048 & Parolly* (AKDU, GAZI); id., C3 Antalya: Bakırlı Dağı above Saklıkent, rocky slopes, thorny cushion and dwarf shrub communities, alt 2200-2550 m, 24.7.1998, *Eren 6507* (AKDU, B, herb. Parolly); id., C3 Isparta: Eğirdir, Barla Dağı, lateral summit above Çamdağı (38°04'95"N, 30°45'66"E), rocky slopes, thorny cushion and dwarf shrub communities, alt. c. 1900-2050 m, 30.6.2000, *Eren 3342 & Parolly* (AKDU, B). – *Poa densa* is an infrequently recorded Irano-Anatolian (Caucasian-Turkmenian) species with scattered occurrences in the mountain steppes of Georgia, the Caucasus (E and S Transcaucasia, Talysh; see Komarov, Fl. Azerbaid. 1: 252. 1950; Roševic & Šiškin in Komarov, Fl. SSSR 2: 378. 1934; Cvelev, Slaki SSSR: 451. 1976), the Kopetdagh in Turkmenistan (Cvelev, l.c.) and N Iran (Akhani in Stapfia 53: 226. 1998; Akhani & Scholz in Edinburgh J. Bot. 56: 449. 1998); for diagnostic figures see Troitsky (in Trudy Glavn. Bot. Sada 27: 619. 1928)

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and Roševic & Šiškin (l.c.: 381, t. 28). The first records of *P. densa* for Turkey extend the range considerably towards the west. All localities are situated in the W part of the Taurus Mts, at chiefly subalpine elevations on Honaz Dağı and Bakırlı Dağı and in the mountain forest belt on Barla Dağı. In Turkey, the species seems to be centred in wind-swept cushion communities (Paronychion lycicae Quézel 1973, Drabo-Androsacetalia Quézel 1973) and open thorny cushion communities and limestone swards (Tanacetion praeteriti Quézel 1973, Astragalo-Brometalia Quézel 1973). This matches to a large extent the situation in the Golestan National Park of Iran.

G. Parolly, Ö. Eren & H. Scholz

Secale segetale (Zhuk.) Roshev. subsp. ***segetale***

+ An: Turkey, A9 Erzurum: E of Horasan, road verge in abandoned agricultural area, 30.7.2001, *Raus* (B; det. Scholz). – The collection corroborates the occurrence in Turkey of this taxon, mentioned with doubt from near Kars (A9) by Kit Tan (in Davis, Fl. Turkey 9: 259. 1985, as *Secale cereale* subsp. *segetale* Zhuk.). It is a weed in wheat and other cereal fields, also found in ruderal places. A characteristic feature is the semi-fragile rachis of the spike, with only the upper spikelets falling off at maturity (see Hammer & al. in Kulturpflanze 35: 147. 1987). Th. Raus & H. Scholz

Liliaceae

Nectaroscordum siculum (Ucria) Lindl.

+ Gr: Greece, Thrace, Nomos of Evros, Eparchia of Soufli: Hill with broadcasting station SW of Dadia (41°05'N, 26°08'E), near summit, by road from Lefkimi, gravelly road embankment in deciduous scrub, alt. 500 m, 27.7.2002, *Strid & al. 53810* (living bulbs) & *54131* (seeds). – New to Greece. Bulbs and seeds were collected for the Copenhagen and Göteborg Botanical Gardens. Our specimens probably belong to *Nectaroscordum siculum* subsp. *bulgaricum* (Janka) Stearn, which is known from Turkey-in-Europe, Bulgaria, E Romania and the Crimea (Stearn in Ann. Mus. Goulandris 4: 105. 1978). A. Strid & Kit Tan

Pontederiaceae

Heteranthera reniformis Ruiz & Pav.

P Gr: Greece, Makedonia, Nomos and Eparchia of Pieria: 2 km N of Eginion just S of the river Aliakmon (40°32'54"N, 22°34'E), aquatic weed in rice fields, associated with *Heteranthera limosa* and *H. rotundifolia,* alt. c. 5 m, 18.7.2002, *Raus* (B); id., Nomos and Eparchia of Imathia: Aliakmon, Ktima Stergiou (40°30'54"N, 22°36'51"E), aquatic weed in rice fields, associated with *Heteranthera limosa* and *H. rotundifolia,* 12.7.2002, *Eleftheriadou & Theodoropoulos* (B). – Not previously reported from Greek rice fields (see Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002); the degree of naturalisation in Greece is uncertain so far. The species is easily distinguished from other *Heteranthera* species by its leaf blades, usually as wide as or even wider than long, its procumbent vegetative stems readily rooting at the nodes (nodes rootless in *H. rotundifolia;* vegetative stem lacking in *H. limosa*), and its 3-8-flowered inflorescences (one-flowered in *H. limosa* and *H. rotundifolia*). The inflorescence commonly does not elongate, and as a result, the flowers remain enfolded in the spathe and sometimes prevented from opening completely (see Horn in Harling & Andersson, Fl. Ecuador 29: 8-9. 1987). In Europe, this weed of American origin was hitherto only reported as naturalised in ricefields of Portugal (Franco & Rocha Alfonso, Nov. Fl. Portugal 3(1): 125-126. 1994) and of N Italy, near Pavia (Pirola in Riso (Milano) 17: 323-326. 1979; Pignatti, Fl. Ital. 3: 410. 1982).

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Heteranthera rotundifolia (Kunth) Griseb.

P **Gr:** Greece, Makedonia, Nomos and Eparchia of Pieria: 2 km N of Eginion just S of the river Aliakmon (40°32'54"N, 22°34'E), aquatic weed in rice fields, associated with *Heteranthera limosa* and *H. reniformis*, alt. c. 5 m, 18.7.2002, *Raus* (B); id.: Nomos and Eparchia of Imathia: Aliakmon, Ktima Stergiou (40°30'54"N, 22°36'51"E), aquatic weed in rice fields, associated with *Heteranthera limosa* and *H. reniformis*, 12.7.2002, *Eleftheriadou & Theodoropoulos* (B); id., Nomos and Eparchia of Thessaloniki: Agios Athanasios to Anatoliko (40°30'N, 22°52'E), aquatic weed in a rice field, with *Heteranthera limosa* and others, alt. c. 10 m, 16.7.2002, *Raus* (B); ibid.: Kalochori (40°38'N, 22°34'E), aquatic weed in a rice field, with *Bacopa rotundifolia, Heteranthera limosa* and others, alt. c. 2 m, 16.7.2002, *Raus* (B); id., Nomos and Eparchia of Serres: Between Ano Kamila and Provatas (41°04'N, 25°26'E), aquatic weed in a rice field, with *Bacopa rotundifolia, Heteranthera limosa, Lindernia dubia* and others, alt. c. 20 m, 16.7.2002, *Raus* (B); ibid.: between Vamvakia and Anagennisis, aquatic weed in a rice field, with *Bacopa rotundifolia, Heteranthera limosa, Lindernia dubia* and others, alt. c. 20 m, 16.7.2002, *Raus* (B); id., Nomos of Kavala, Eparchia of Nestos: Agiasma (40°54'30"N, 24°39'E), aquatic weed in a rice field, with *Heteranthera limosa* and others, alt. c. 2 m, 16.7.2002, *Raus* (B). – Not previously reported from Greek rice fields (see Raus & Raabe in Kamari & al., Prakt. Sinedr. Ellên. Bot. Etair. 9: 290-300. 2002). The degree of naturalisation in Greece is uncertain so far. The species is closely allied to and easily confused with *Heteranthera limosa* (see Raabe & Raus in Willdenowia 31: 327. 2001), but may be distinguished on both vegetative and reproductive characteristics. Typically, *H. rotundifolia* has an elongate vegetative stem, and the predominantly blue flowers are strongly zygomorphic because only one perianth lobe is oriented downward that is larger than the other five lobes. *H. limosa*, on the contrary, is a rosette plant which, in deep water, develops elongate petioles and flowering stems rather than elongate, leafy vegetative stems, as does *H. rotundifolia*. The predominantly white flowers of *H. limosa* are only slightly zygomorphic, with almost evenly radiating perianth lobes all of essentially uniform size (for a key and illustrations, see Horn in Harling & Andersson, Fl. Ecuador 29: 7-12. 1987). In Europe, this weed of American origin was hitherto only reported from Portugal (Desfayes in Anuário Soc. Brot. 62: 21. 1996) and Italy (Vasconcelos & al. in Hydrobiologia 415: 62. 1999).

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