



Original Scientific Paper

New combination and typification of *Tanacetum parthenium* var. *flosculosum* (Asteraceae) and its first record from Turkey

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ABSTRACT:

In this study, a discoid capitulate variety of *Tanacetum parthenium* was recorded for the first time in Turkey. Additionally, the new combination of the name is given as *Tanacetum parthenium* var. *flosculosum*. Moreover, the varietal name was neotypified with material from Vaillants' collection at P.

Keywords:

Asia, feverfew, neotype, new record, nomenclatural change

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INTRODUCTION

The genus *Tanacetum* L. (Anthemideae, Asteraceae) is composed of approximately 160 species, ranking as the third-largest genus within the tribe, after *Artemisia* L. and *Anthemis* L. (OBERPRIELER *et al.* 2006). These species are characterised as perennial herbs and subshrubs with a wide distribution across various regions, including the Mediterranean area, central, southwestern, and eastern Asia, as well as certain parts of North America (OBERPRIELER *et al.* 2009). In Turkey, the genus is represented by 47 species, of which 27 are endemics, resulting in a total of 62 taxa at the specific and infraspecific level (GRIERSON 1975; KANDEMİR 2012).

Among the Turkish members of the genus, *Tanacetum parthenium* L. was first validly published as *Matricaria parthenium* L. in the Species Plantarum (LINNAEUS 1753: 890). After Linnaeus' publication of the basionym, this species has been recognised within different genera by several authors, such as *Pyrethrum* Zinn (SMITH 1800; CANDOLLE 1805, 1837; RUPRECHT 1860; SCHUR 1885), *Chrysanthemum* L. (BERNHARDI 1800; BECK 1893), and *Leucanthemum* Miller (GRENIER & GORDON 1850). However, more recent studies have accepted the species under the genus *Tanacetum* (GRI-

ERSON 1975; HEYWOOD 1976; PODLECH 1986; BREMER & HUMPHRIES 1993; SELL & MURRELL 2006; SONBOLI *et al.* 2012; EURO+MED 2006).

Although the species is naturally distributed in Southeast Europe, Anatolia, Caucasia, the Middle East, and the Himalayas, it has been cultivated for hundreds of years, particularly in Europe and the Americas, due to its beneficial health effects (PAREEK *et al.* 2011). These effects include traditionally being used as an antipyretic and for the treatment of arthritis, asthma, constipation, dermatitis, headaches, and more (PAREEK *et al.* 2011). As a direct consequence of this human use, plants have escaped from gardens, thus becoming aliens, and, in some cases, populations have been described as separate infraspecific taxa, especially in the past (see e.g. CANDOLLE 1805, 1837; SCHULTZ-BIPONTINUS 1844; SCHUR 1885; BECK 1893; TZVELEV 1961; SELL & MURRELL 2006; BOCK 2011) (Tables 1 & 2).

Among the described infraspecific taxa of *Tanacetum parthenium*, one first appeared in PARKINSON (1640) as a species belonging to the genus *Matricaria* L. ("*Matricaria bullatis floribus, aureus* – Naked Featherfew"; Table 3). Later, CANDOLLE (1805: 183) published this taxon as a variety of *Pyrethrum parthenium* as var. *flosculosum* DC. In Table 3, the taxonomic history of this taxon can

Table 1. The historical background of the names linked to the current species *Tanacetum parthenium* (references in chronological order).

References	Name of species	Name of infraspecific taxa
LINNAEUS (1753)	<i>Matricaria parthenium</i> L. Sp. Pl., 2: 890 (1753).	
LAMARCK (1778)	<i>Matricaria odorata</i> Lam. Fl. Franç., 2: 136 (1778).	
SMITH (1800)	<i>Pyrethrum parthenium</i> (L.) Sm. Fl. Brit., 2: 900 (1800).	
BERNHARDI (1800)	<i>Chrysanthemum parthenium</i> (L.) Bernh., Syst. Verz.: 145 (1800).	
CANDOLLE (1805)	<i>Pyrethrum parthenium</i> (L.) Sm.	var. <i>flosculosum</i> DC., Fl. Franç. 4: 183.
PERSOON (1807)	<i>Chrysanthemum parthenium</i> (L.) Pers., Synopsis Plantarum (1807).	var. <i>folia crispus</i> var. <i>florus plenis</i>
CANDOLLE (1837)	<i>Pyrethrum parthenium</i> (L.) Sm.	var. <i>flosculosum</i> DC.
SCHULTZ-BIPONTINUS (1844)	<i>Tanacetum parthenium</i> (L.) Schultz Bip., Tanaceteen 55 (1844).	var. <i>longiradiatum</i> Schultz Bip. (op.cit. 56). var. <i>breviradiatum</i> Schultz Bip. (op.cit. 56). var. <i>discoideum</i> Schultz Bip. (op.cit. 56). var. <i>floribus plenis</i> var. <i>foliis crispis</i>
GRENIER & GORDON (1850)	<i>Leucanthemum parthenium</i> (L.) Gren. & Godr., Fl. France [Grenier] 2: 145 (1850).	
DES MOULINS (1855)	<i>Dendranthema parthenium</i> (L.) Des Moul., Actes Soc. Linn. Bordeaux 20: 561 (1855).	
SCHUR (1885)	<i>Pyrethrum parthenium</i> (L.) Sm.	var. <i>latilobum</i> Schur, Enum. Pl. Transsilv. 337 (1885). var. <i>hortense</i> Schur, Enum. Pl. Transsilv. 337 (1885).
SAINT-LAGER (1889)	<i>Leucanthemum parthenium</i> Gren. & Godr.	var. <i>flosculosum</i> St.-Lag. in A. Cariot, Étude Fl., éd. 8, 2: 483 (1889).
BECK (1893)	<i>Chrysanthemum parthenium</i> (L.) Bernh.	var. <i>flosculosum</i> (DC.) Beck, Flora uon Nieder–Österreich. Wien: 1204 (1893). var. <i>hortensis</i> (Schur) Beck, Flora uon Nieder–Österreich. Wien: 1204 (1893).
KRAUSE (1905)	<i>Chamaemelum parthenium</i> (L.) E.H.L.Krause, Deutschl. Fl. (Sturm), ed. 2. 13: 205 (1905).	
TZVELEV (1961)	<i>Pyrethrum partehnum</i> (L.) Sm.	var. <i>aureum</i> Tzvelev, Fl. URSS 26: 197 (1961). var. <i>laciniatum</i> Tzvelev, Fl. URSS 26: 197 (1961). var. <i>selaginoides</i> Tzvelev, Fl. URSS 26: 197 (1961). var. <i>longiradiatum</i> (Sch. Bip.) Tzvelev var. <i>breviradiatum</i> (Sch.Bip.) Tzvelev var. <i>flosculosum</i> DC.
SELL & MURRELL (2006)	<i>Tanacetum parthenium</i> (L.) Schultz Bip.	f. <i>parthenium</i> f. <i>breviradiatum</i> Schultz Bip. f. <i>hortense</i> (Schur) Beck f. <i>flosculosum</i> (DC.) Beck * <i>T.parthenium</i> f. <i>discoideum</i> Schultz Bip.
BOCK (2011)	<i>Tanacetum parthenium</i> (L.) Schultz Bip.	var. <i>praealtum</i> praealtum (Vent.) B.Bock, Bull. Soc. Bot. Centre–Ouest 42: 274 (2011). Basionym: <i>Chrysanthemum praealtum</i> Vent., Descr. Pl. Nouv. t. 43. (1801).

be traced, starting from its initial publication by PARKINSON (1640) to CANDOLLE (1805), by following the references of researchers who have included this taxon in their works. Currently, this taxon is accepted as a form by SELL & MURRELL (2006) which is the latest taxonomic study addressing the infraspecific classification of *T. parthenium*.

In the present study, we propose a new rank for the taxon *flosculosum* (from form to variety) under *T. parthenium*. In addition, the name *Tanacetum partheni-*

um var. *flosculosum* was typified. Finally, the discovery of this variety in Eastern Anatolia represents the first record for the Turkish flora.

MATERIALS AND METHODS

The research was carried out by an examination of the specimens preserved in the herbaria E, GAZI, GB, G-DC, GOET, K, MPU, OHN, P, S, UMH, UPS, VHLV [acronyms follow THIERS (2023)].

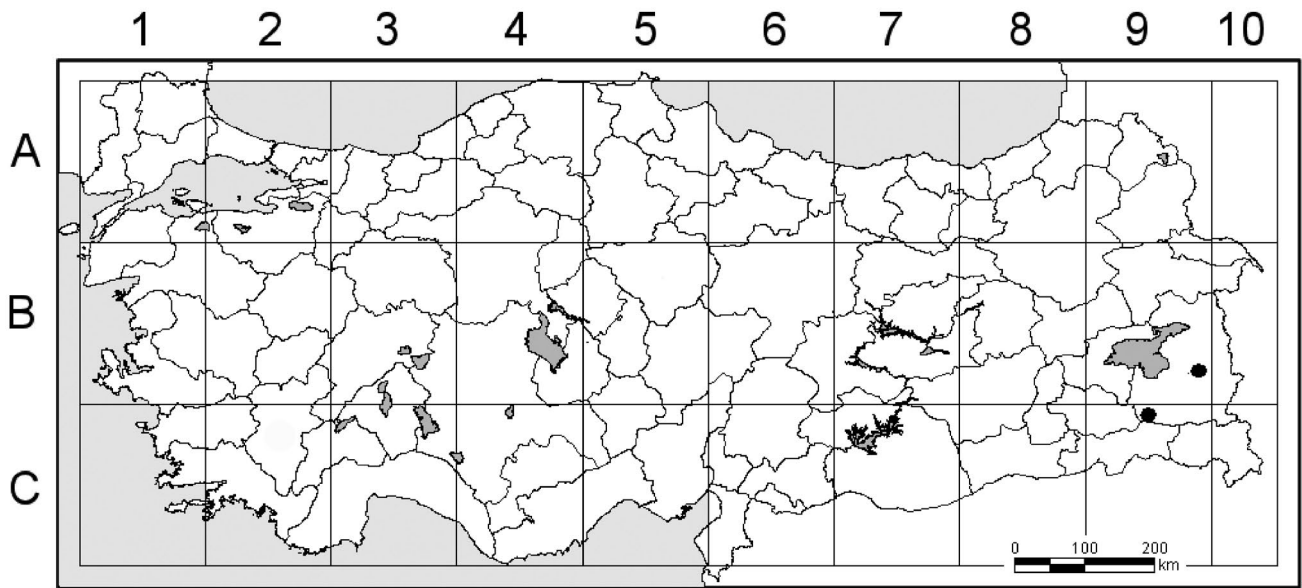


Fig. 1. The distribution of *T. parthenium* var. *flosculosum* in Turkey

Nomenclatural articles refer to the *International Code of Nomenclature for algae, fungi, and plants* by TURLAND *et al.* (2018).

RESULTS AND DISCUSSION

We have summarised all the taxonomic changes of *T. parthenium* (incl. varieties and forms) from its first description to date (Table 1). The diagnostic characters of the binomial variants and forms are shown in Table 2.

SCHULTZ-BIPONTINUS (1844) was the first to study populations of *Tanacetum parthenium* in detail, recognising five varieties mostly according to the morphological characteristics of the capitula, florets, and leaves (var. *longiradiatum* Schultz Bip., var. *breviradiatum* Schultz Bip., var. *discoideum* Schultz Bip., var. *floribus plenis*, var. *foliis crispis*). As also seen in Table 1, SCHULTZ-BIPONTINUS (1844) described eligulate populations as var. *discoideum* which were previously published as var. *flosculosum* by CANDOLLE (1805). Later, some researchers such as SCHUR (1885), SAINT-LAGER (1889), and BECK (1893) documented various varieties of *T. parthenium* in their studies. One particularly noteworthy mention is Saint-Lager's publication in 1889, where he described discoid populations as "*Leucanthemum parthenium* var. *flosculosum*" without providing any reference to CANDOLLE (1805) or any other previously published works or herbarium specimens (SAINT-LAGER 1889). Although the name is considered valid according to the rules of the Code, as it was accompanied by a diagnosis (Art. 38 of the *Shenzhen Code*, TURLAND *et al.* 2018), the principle of priority (Arts 11.1 and 11.4 of the *Shenzhen Code*, TURLAND *et al.* 2018) indicates that *Pyrethrum parthe-*

Table 2. The varieties and forms of *Tanacetum parthenium* and their diagnostic characteristics.

Name of variants	Diagnostic characteristics
<i>flosculosum</i> (<i>discoideum</i> Schultz Bip.)	entirely without ligulate florets
<i>longiradiatum</i> Schultz Bip.	ligulate florets oblong and longer than the involucre
<i>breviradiatum</i> Schultz Bip.	with strongly reduced ligulate florets (ovate and shorter than involucre)
<i>latilobum</i> Schur	leaves less dissected, with ovate-oblong and incised or doubly serrated lobes
<i>hortense</i> (Schur) Beck	flowers all ligulate
<i>aureum</i> Tzvelev	with yellowish-green leaves
<i>laciniatum</i> Tzvelev	with very finely divided leaves
<i>selaginoides</i> Tzvelev	with very finely divided leaves
<i>prealtum</i> (Vent.) B.Bock	mainly a hairy variant

nium var. *flosculosum* should take precedence over *Leucanthemum parthenium* var. *flosculosum*. Consequently, the subsequent name should be regarded as a heterotypic synonym of the earlier name (Art 14.4 of the *Shenzhen Code*, TURLAND *et al.* 2018). The details pertaining to the infraspecific variability of this species were provided by TZVELEV (1961) in *Flora of Russia* and SELL & MURRELL (2006) in *Flora of Great Britain and Ireland*. TZVELEV (1961) mentioned six varieties of *Pyrethrum parthenium* (see Table 1) and discussed the discoid populations of both *P. parthenium* and *P. grosheimii* Sosnowsky (these two species are currently recognised as synonyms of *Tanacetum parthenium*; see e.g. EURO+MED 2006). The

Table 3. Earlier polynomials of *Pyrethum parthenium* var. *flosculosum*.

Studies	Names	Cited references
CANDOLLE (1805)	<i>Pyrethum parthenium</i> var. <i>flosculosum</i>	(VON HALLER 1768)
VON HALLER (1768)	<i>Disco nudo absque semiflosculosis</i>	(PONTEDERA 1719)
LINNAEUS (1738)	<i>Matricaria foliis compositis planis, foliolis ovatis incisiss, pedunculis ramosis</i> (under this polynomial species)	
	syn: <i>Matricaria flore aphylo</i>	(TOURNEFORD 1700)
	syn: <i>Matricaria vulgaris vel sativa, floribus nudis bullatis</i>	(BOERHAAVE 1720)
VON HALLER (1745)	<i>Matricaria flore aphylo</i> f. <i>bullatis floribus aureis</i>	(PARKINSON 1640)
	syn: <i>Matricaria floribus nudis bullatis</i>	(HERMANNO 1687)
	syn: <i>Matricaria cule aphylo</i>	(VALLOT 1665)
PONTEDERA (1719)	<i>Matricaria flore aphylo</i>	(VALLOT 1665; TOURNEFORD 1700)
	syn: <i>Matricaria bullatis floribus aureis</i>	(PARKINSON 1640)
	<i>Matricaria; vulgaris; vel sativa; floribus nudis bullatis</i>	(HERMANNO 1687)
BOERHAAVE (1720)	syn: <i>Matricaria, nuda</i>	(MORISON 1669)
	syn: <i>Matricaria flore aphylo</i>	(VALLOT 1665)
	syn: <i>Matricaria, bullatis floribus, aureis</i>	(PARKINSON 1640)
SALMON (1710)	<i>Parthenium vel Matricaria bullatis floribus aureus</i> , naked featherfew	
TOURNEFORD (1700)	<i>Matricaria flore aphylo</i>	(VALLOT 1665)
	syn: <i>Matricaria bullatis floribus, aureus</i>	(PARKINSON 1640)
HERMANNO (1687)	<i>Matricaria nudis bullatis</i>	(MORIS 1669)
	syn: <i>Matricaria aphylo</i>	(VALLOT 1665)
MORISON (1669)	<i>Matricaria nuda nobis, bullatis foliis</i>	(PARKINSON 1640)
VALLOT (1665)	<i>Matricaria flore aphylo, bullatis floribus, aureus</i>	(PARKINSON 1640)
PARKINSON (1640)	<i>Matricaria bullatis floribus, aureus</i> -naked featherfew	first description

Russian author indicated that the discoid wild populations occur in Nakhichevan, Turkmenistan, and North Iran, where the ligulate flowers in the wild populations of *P. grosheimii* tend to disappear. SELL & MURRELL (2006) divided *Tanacetum parthenium* into four forms, recognising the discoid forms as f. *flosculosum* as cited by CANDOLLE (1805). SELL & MURRELL (2006) accepted all those taxa in the category of form rather than that of variety since they believed that none of them formed wild populations anywhere in the world.

We discovered a wild discoid population of *Tanacetum parthenium* (taxon *flosculosum*) in the town of Çatak (Van province, E-Anatolia). Additionally, a wild discoid population was also discovered in Başkale town (Van province). Nevertheless, the specimen collected from Başkale (which may belong to the taxon *flosculosum*, but more material is required for proper identification) was identified as *Tanacetum tomentellum*, because of the inadequacy of the identification key in the *Tanacetum* account in Flora of Turkey (herbarium VHLV; available from <http://www.vanherbarium.yyu.edu.tr/flora/famgenustur/ast/tan/tom/index.htm>) (Fig. 1). Hence, *Tanacetum parthenium* has wild discoid populations in E-Anatolia and Nakhichevan, Turkmenistan, and North Iran, as previously indicated by TZVELEV (1961).

It should be noted that the characteristic of “discoid capitulum (absence of ligulate florets)” has been identi-

fied as a diagnostic feature for other *Tanacetum* species, such as *T. depauperatum* (Post) Grierson, *T. haradjanii* (Rech.fil.) Grierson, *T. tomentellum* (Boiss.) Grierson, and *T. argenteum* (Lam.) Willdenow, and even for a subspecies of *T. balsamita* (capitula discoid in subsp. *balsamita* and radiate in subsp. *balsamitoides* (Sch.Bip.) Grierson) (GRIERSON 1975). All things considered, the populations we found should be accepted as a separate taxon (at least at variety rank) under *T. parthenium*, rather than in the form rank, which is no longer used by the international community. This finding is also the first evidence that *Tanacetum parthenium* var. *flosculosum* occurs naturally in Turkey.

Typification

Tanacetum parthenium var. *flosculosum* was described by CANDOLLE (1805: 183), who provided a short diagnosis: “La variété β ne diffère de la précédente que par l'avortement des demi-fleurons” (= The variety β differs from the former only by the lack of ligulate florets); the citation “Hal. Helv. n. 100” was also given and refers to VON HALLER (1768: 42). VON HALLER (1768: 42) recognised this variety (as δ-variety), assigning the polynomial “*Disco nudo absque semiflosculosus*”, which, in turn, was taken from PONTEDERA (1719: 285). Both VON HALLER (1768) and PONTEDERA (1719) did not attribute any specimen or illustration to the taxon. We searched



Fig. 2. The original materials of *Tanacetum parthenium* var. *flosculosum*; A. the voucher housed at P (P03762158), B. the label on P03762158, C. the barcode of P03762158, D. the voucher housed at G-DC (G00450716 and G00450716), E. the barcodes and labels of G00450716 and G00450716, F. the voucher housed in G-DC (G00450648, G00450723 and the specimen without a barcode labelled as *C. prealtum*), G. the barcodes and labels of G00450648, G00450723.

for specimens in von Haller's collection (TROPICOS 2023) at E, GB, G-DC, GOET, K, MPU, OHN, P, S, UMH and UPS, but no specimen corresponding to the var. *flosculosum* was traced. Since this variety was first published in Candolle's *Flore Française*, we focused the verification on the P and G-DC specimens. It should be noted that CANDOLLE (1805) donated the specimens used for his *Flore Française* in 1822 to the Muséum National d'Histoire Naturelle (Paris Herbarium) (see LE BRAS *et al.* 2017). Additionally, many of the type materials of the taxa described by Candolle can be found at G-DC (CHG 2003).

A total of 309 specimens of *Tanacetum parthenium* are housed at P and, one of them holds particular significance. This specimen corresponds to the var. *flosculosum*, and is attributed to the Sébastien Vaillant collection (P03762158) because it was an important part of the P herbarium between 1793 and 1802 (LE BRAS *et al.* 2017). The sheet includes the annotations "*Matricaria flore aphylo* Hort. Reg. Par." and "*Matricaria bullatis floribus aureis* Park. Theat. 83" (Fig. 2A-C). At this point, when Table 3 is examined, the taxonomic history of var. *flosculosum* can be traced from its first publica-

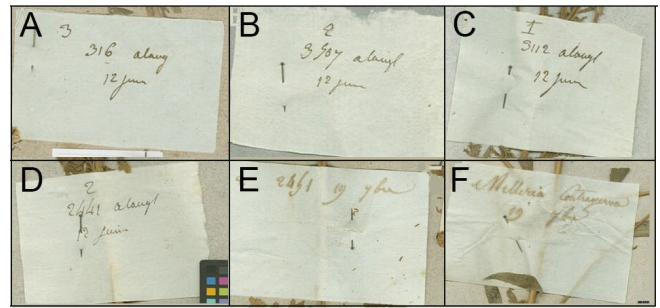


Fig. 3. The annotation labels of the specimens housed at G-DC added by the same person afterwards A. *Arabis auriculata* Lam. (G00204459), B. *Pyrethrum carneum* M. Bieb. (G00450820), C. *Anthemis rigescens* Willd. (G00453284), D. *Tanacetum parthenium* var. *flosculosum* (G00450719), E. *Tanacetum parthenium* var. *flosculosum* (G00450723), F. *Flaveria angustifolia* (Cav.) Pers. (G00457195).

tion by PARKINSON (1640) to VON HALLER (1768) and CANDOLLE (1805). All the names assigned to this taxon by different researchers, along with their references, are provided chronologically in Table 3. Thus, there is no doubt that these two polynomials are two of the earliest pre-Linnean names given to the variety by VALLOT (1665) and PARKINSON (1640), respectively (see Table 3). However, the label does not have any other collection detail (excl. "herbico de Vaillant").

Candolle's herbarium at G includes two remarkable vouchers corresponding to the var. *flosculosum* (Fig. 2D & F).

The first sheet bears two gatherings (G00450719 and G00450716 with corresponding images available at <https://www.ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=317823&base=img&lang=en>; Fig. 2D & E). G00450719 is annotated with "2 2441, 12 juin"; G00450716, belonging to G.B. Balbis' collection (the year 1808), is annotated with "*Matricaria apetal*" (Fig. 2D & E). Candolle often received herbarium specimens from G.B. Balbis and many of them are currently housed at G-DC (see BECHI & FORNERIS 1998; DELPRETE *et al.* 2002; BERGER 2018). However, G00450716 was collected after the publication date of var. *flosculosum* in 1805. Furthermore, there is a third label at the bottom right of the G-DC sheet (referring to both specimens): "*Pyrethrum parthenium* β *flosculosum*" (Candolle's handwriting; Fig. 2E).

The second herbarium sheet at G-DC includes three specimens and three labels (with three different scripts); there are two barcodes, i.e. G00450648 and G00450723 (images available at <http://www.ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=317826&lang=en>; Fig. 2F). None of these three specimens include any data about the collection date, habitat, or collector. G00450648 is annotated with "*Matricaria parthenium* var. *flosculosum* Hort. Par." and labelled as "type" (Fig. 2F & G). Based on our literature check, no typification was published. The sec-

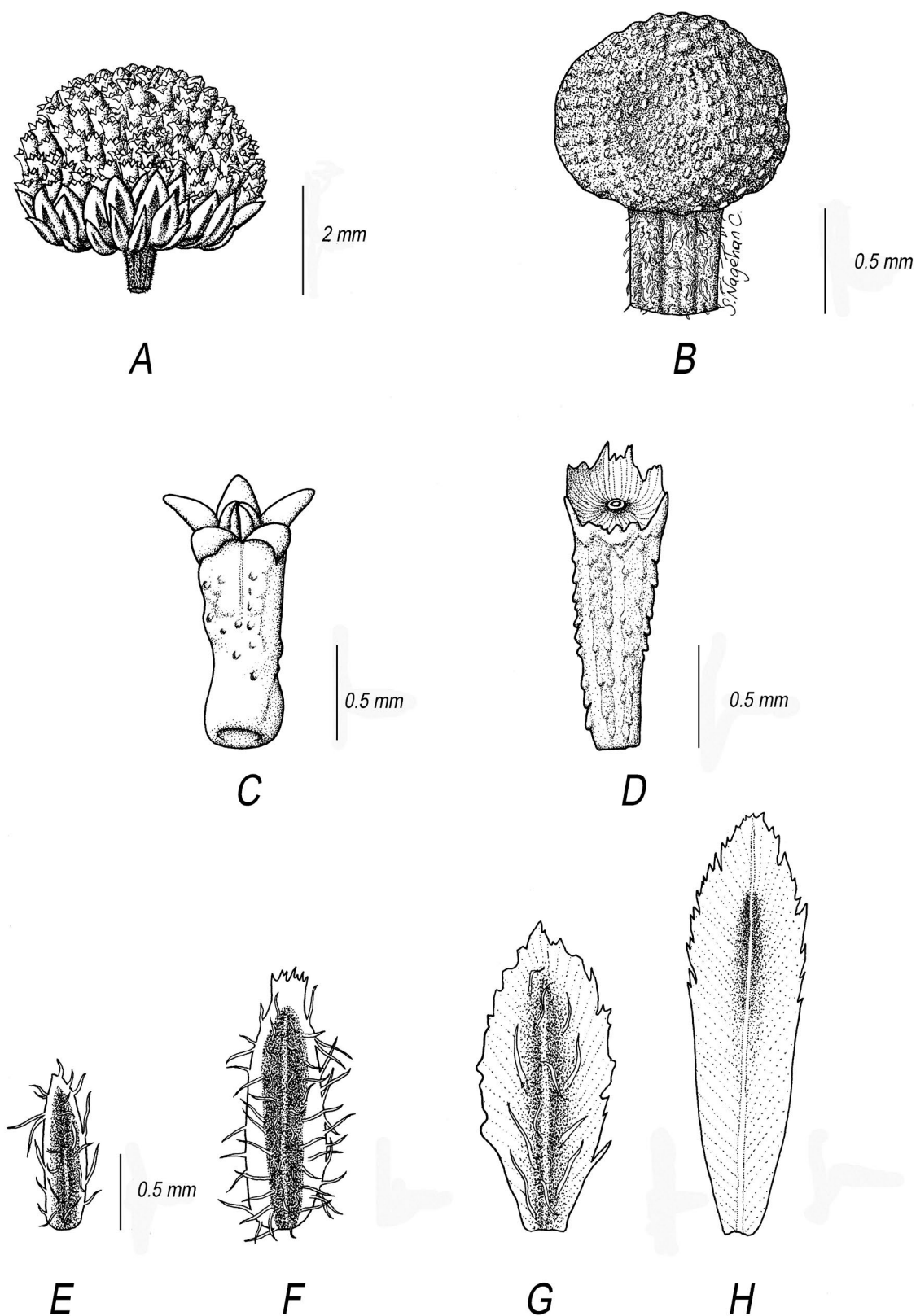


Fig. 4. The floral parts of *Tanacetum parthenium* var. *flosculosum*. A. capitulum, B. receptacle, C. tubular flower, D. achene, E. outer phyllary, F. median phyllary, G & H. inner phyllaries



Fig. 5. *Tanacetum parthenium* var. *flosculosum*. A. habit, B. cauline leaves, C. capitulum

ond specimen (G00450723) is annotated with “2 2451 19 7bre” (Fig. 2F) and includes a label with identical handwriting to G00450719. G00450719 and G00450723 were, therefore, probably collected by the same person, and/or the annotations were added by a herbarium staff member afterwards (Fig. 3D & E). We also traced numerous further vouchers at G-DC bearing similar labels with the same characteristic handwriting (selected examples can be seen in Fig. 3). These unidentified numbers may belong to a collector or may be the volume and page number of a book, etc. It is not clear why the numbers written on the labels collected on the same date are not consecutive (Fig. 3E). We failed to find any further information about the collector’s name or the collection sites of those specimens. The third one without a barcode was just labelled as “*C. prealtum*” (probably *Chrysanthemum prealtum*).

All the specimens cited above have display morphologies of var. *flosculosum* as reported both in the protologue (CANDOLLE 1805) and in the later work (e.g. CANDOLLE 1837; TZVELEV 1961; GRIERSON 1975), i.e.: capitula discoid (ray flowers absent), ± straight erect peduncles, ± dense corymbs (mostly more than 10), involucre less than 1 cm wide, leaves less than 10 cm long

and always pinnately divided. However, after thorough examinations, we were unable to find any clear information about when or by whom those specimens were collected (except G00450716). Furthermore, there is no strong evidence to indicate that Candolle ever saw or studied all these specimens. Therefore, we cannot confirm the existence of any type or original material for var. *flosculosum*. At this point, a decision needs to be made regarding the selection of a type for var. *flosculosum*. Considering all the evaluations made above, it has been concluded that, a neotype for var. *flosculosum* should be designated in accordance with Arts.9.8, 9.13, and recommendation 9B.1 (TURLAND *et al.* 2018). P03762158 is the best candidate for the neotype designation of the name *Tanacetum parthenium* var. *flosculosum*, because the voucher contains a single specimen and includes plant parts with high taxonomic value. We hereby designate the specimen P03762158 as the neotype of *Tanacetum parthenium* var. *flosculosum* (Arts. Arts.9.8, 9.13 and recommendation 9B.1 of the Shenzhen Code) (TURLAND *et al.* 2018).

***Tanacetum parthenium* var. *flosculosum* (DC.) B. Bani** (Figs. 4 & 5) comb. nov. ≡ *Pyrethum parthenium* var. *flosculosum* DC. in Fl. Franc. [de Candolle & Lamarck], ed. 3. vol. 4: 183 (CANDOLLE 1805) ≡ *Tanacetum parthenium* (L.) Sch. Bip. forma *flosculosum* (DC.) Beck in Flora of Great Britain and Ireland. Campanulaceae – Asteraceae. 4:464 (SELL & MURRELL 2006) ≡ *Chrysanthemum parthenium* (L.) Sch. Bip. var. *flosculosum* (DC.) Beck in Flora von Nieder-Österreich, 1204 (BECK 1893) = *Tanacetum parthenium* var. *discoideum* Sch. Bip. in Tanacetum 54 (SCHULTZ-BIPONTINUS 1844) nom. nud. = *Leucanthemum parthenium* var. *flosculosum* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 481 (SAINT-LAGER 1889).

Neotype (designated here): “*Matricaria flore aphylllo* Hort. Reg. Par.” [handwritten], “*Matricaria bullatis floribus aureis* Park. Theat. 83” [handwritten], “herbico de Vaillant” [handwritten] (P03762158!, image available at <http://www.ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=317826&lang=en>).

Diagnosis: *Tanacetum parthenium* var. *flosculosum* differs from *T. parthenium* var. *parthenium* by its discoid (eligulate) capitula (CANDOLLE 1805).

Description: Perennial herb with numerous stems, 17–35 cm tall, covered with spreading and simple hairs. Stem erect-ascending, leafy throughout, crowded with sterile shoots at the base. Young leaves of sterile shoots, amplexicaul, densely spreading villous and hairy throughout, glandular punctate, becoming glabrescent and longer petiolate with age; petioles 1–8 cm; lamina 3 -pinnatisect, primary segments to 1 cm. Mature leaves of sterile shoots amplexicaul, glabrescent, glandular punctate;

petioles 10–12 cm; lamina 7–7.5 × 4.5–5 cm, ovate-elliptic in outline, 3-pinnatisect, primary segments 2–3 cm, leaf lobes mucronate at apex. Basal leaves dried at anthesis. Median and upper leaves are well developed similar to mature leaves of sterile shoots, but shorter petiolate. Peduncle 1–11 cm with 0–3 reduced leaves. Capitula number per stem 2–5–13–14, in lax corymbose, homogenous, 3–6 × 5–9 mm, hemispherical, plate-shaped. Receptacle hemispherical and naked. Phyllaries 3–4-seriate, with pale scarious hyaline margin, membranaceous fimbriate apex; outer lanceolate, 1–1.7 × 0.2–0.5 mm; median lanceolate, 1.5–2.5 × 0.5–0.75 mm, inner lanceolate, 2–3 × 0.7–1 mm, most inner ones oblong or oblanceolate, obtuse, very sparsely hairy, with few glands, 2.5 × 0.75. All florets hermaphrodite, yellow or greenish-yellow, glandular at outside, swollen at base, 5 toothed at apex, 0.9–1.7 mm. Achenes obovate, 5–7 longitudinal ribbed, glabrous, glandular between the ribs, 0.9–1.5 mm (incl. corona). Corona ± slightly oblique (adaxial side slightly more developed), to 2 mm. Flowering: 5–6; Fruiting: 6–8.

Ecological notes: *Tanacetum parthenium* var. *flosculosum* grows on rocky slopes between altitudes of 1250–2600 m (Fig. 5) and shares the same habitat with *Dionysia bornmuelleri* Strauss ex Bornm., *Parietaria judaica* L., *Pimpinella tragi* Vill., *Delphinium macrostachyum* Boiss. ex Huth., *Ranunculus munzurenensis* S. Erik & Yild., *Smyrniun cordifolium* Boiss., *Cephalorhynchus rechingianus* Tuisl., *Onosma alborosea* Fisch. & C.A.Mey., *Iris aucheri* (Baker) Sealy, *Cyclotrichium glabrescens* (Boiss. & Kotschy ex Rech.f.) Leblebici, *Ficus carica* subsp. *rupestris* (Hausskn. ex Boiss.), *Celtis tournefortii* Lam., *Acer monspessulanum* L., *Tripleurospermum oreades* (Boiss.) Rech.f., *Scandix pecten-veneris* L., and *Vitis vinifera* L.

Examined specimens collected from Turkey

Turkey, Van: Çatak, Büyükağaç village on Kato Mountain, 2200 m, steppe, 7 June 2003, *B.Bani* 2771 (GAZI); *ibid.* Büyükağaç–Belenoluk villages, 1250 m, rocky slopes, 5 June 2011, *B.Bani* 6741 (GAZI); *ibid.*, 5 June 2012, *B.Bani* 6835 (GAZI); *ibid.*, Güzelsu (Hoşap) to Başkale, Güzeldere Pass, in the vicinity of Kızıldaş, stony slopes, 2600 m, 02 Sept. 2001, *M.Armağan* 2076 (VHLV: Digital material; available from <http://www.vanherbarium.yyu.edu.tr/flora/famgenustur/ast/tan/tom/index.htm>) (Distribution map in Fig. 1).

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REZIME



Botanica
SERBICA

Nova kombinacija i tipifikacija *Tanacetum parthenium* var. *flosculosum* (Asteraceae), uz prvi podatak iz Turske

Bariş BANI i Pelin ACAR

U ovoj studiji je predstavljen varijetet *Tanacetum parthenium*, zabeležen prvi put u Turskoj. Dodatno, predstavljena je nova kombinacija imena *Tanacetum parthenium* var. *flosculosum*. Ime varijeteta je neotipifikovano na osnovu materijala iz Vaillantove kolekcije iz herbarijuma u Parizu.

Ključne reči: Azija, hrizantema, neotip, novi nalaz, nomenklatura promena