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CHRISTIAN BRÄUCHLER, OLOF RYDING & GÜNTHER HEUBL

The genus *Micromeria (Lamiaceae),* a synoptical update

Abstract

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No comprehensive revision of *Micromeria* is available and uncertainties about the taxonomy of the genus have lasted for a long time. Since the last synopsis many new data from both morphological and molecular genetic studies have been accumulated and, consequently, the number of accepted taxa and the delimitation of the genus have changed considerably. The authors provide a review of recent and unpublished research on the genus, a new circumscription and description of the genus and an updated distribution map. All published *Micromeria* names are listed with a reference to their current taxonomic position. Names of taxa currently placed in *Micromeria* are provided with type citations. A new combination, *M. cristata* subsp. *kosaninii,* is validated, along with the new name *M. longipedunculata* for the illegitimate *M. parviflora* of Reichenbach. The author standard abbreviation E. F. Chapm. is proposed for one of the authors of *M. graeca* subsp. *cypria* and 24 names are typified. Taxonomic problems needing special attention in future research are identified.

Additional key words: generic circumscription, taxonomy, nomenclature, typification, checklist

Introduction

The genus *Micromeria,* distributed from the Macaronesian-Mediterranean region to southern Africa, India and China, was described by Bentham (1829). It belongs to *Lamiaceae* subfam. *Nepetoideae* tribe *Mentheae* subtribe *Menthinae* and is considered as part of the vaguely defined "*Satureja* complex". To accommodate the apparent morphological diversity many taxonomists have split this complex into several genera, mainly *Satureja* L., *Clinopodium* L., *Calamintha* Mill., *Acinos* Mill. and *Micromeria* Benth. (Bentham 1848; Boissier 1879; Ball & Getliffe 1972; Davis 1982; Doroszenko, unpubl. Ph.D. thesis Edinburgh Univ. 1986). Others lumped the group to a single genus *Satureja* s.l. (Briquet 1896; Brenan 1954; Greuter & al. 1986; Seybold 1988) or *Clinopodium* (Kuntze 1891: 513-516). These different views on the generic limits of the "*Satureja* complex" resulted in considerable taxonomic confusion.

Recent studies of the phylogeny and generic status of *Satureja* s.l. using cladistic analyses of molecular data have contributed a lot to a better understanding of the group. Of particular relevance are papers by Wagstaff & al. (1995), Prather & al. (2002), Trusty & al. (2004) and Bräuchler

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& al. (2005). The new data clearly show that *Satureja* s.l. is not monophyletic. Division of the complex into smaller genera (such as *Micromeria*) is obviously a more feasible solution than the alternative approach, to achieve monophyly by even further expanding the group to include a number of distinct genera such as *Thymus* L., *Origanum* L., *Mentha* L. and *Monarda* L.

Since the last comprehensive synopsis of *Micromeria* by Morales (1993), the genus has undergone considerable changes in circumscription and number of accepted taxa. Cantino & Wagstaff (1998), Govaerts (1999) and Harley & Granda (2000) transferred the American species of *Micromeria* (sect. *Xenopoma* and sect. *Hesperothymus* p.p.) to *Clinopodium,* and their treatments resulted in an updated generic circumscription in Harley & al. (2004). However, recent phylogenetic analyses based on both molecular and morphological/anatomical data (Bräuchler & al. 2005; Bräuchler, unpubl. data) give evidence that *Micromeria* remains polyphyletic also after the exclusion of the American taxa. Consequently the species of *M.* sect. *Pseudomelissa* had to be transferred to *Clinopodium* (Bräuchler & al. 2006; Ryding 2006). The results of the analyses also favour the exclusion of the Old World species of the *M.* sect. *Hesperothymus* (from South Africa) and the Malagasy *Micromeria* species that were omitted by Morales (1993) and placed provisionally in a section "Madagascarenses" by Doroszenko (unpubl. Ph.D. thesis, Univ. Edinburgh 1986). The latter two groups represent two new genera, one recently described (Bräuchler & al. 2008), the other in preparation (Bräuchler & al. unpubl.). Another still unpublished study by Bräuchler & al., which considers all genera of *Menthinae,* also shows that *M.* sect. *Cymularia* is extraneous in *Micromeria* (see species enumeration for further details).

Exclusion of the above-mentioned groups not only renders *Micromeria* monophyletic, it also makes the genus more homogeneous, better defined and distinct. Characteristic are leaves with a thickened, almost entire margin. The thickening is caused by a continuous sclerenchymatous "ring"-vein, and not by a revolute leaf margin as in the Madagascan species hitherto included in *Micromeria* or in some *Clinopodium* taxa. This feature is otherwise only shared by very few species of *Clinopodium* s.l. (e.g., *C. nanum, C. corsicum*), which, however, differ in calyx characteristics to such an extent that confusion is not likely. The leaves are never conduplicate as in *Satureja* s.str. or *Thymbra*. Perfoliate inflorescences, found in, e.g., *Mentha, Clinopodium* and *"Micromeria" cymuligera,* are not found in *Micromeria* as circumscribed here. Bracteoles are always present. The calyx tube is neither sigmoid nor gibbous at the base (as common in *Clinopodium* s.l.) and not strongly widening at throat (as in *Satureja* s.str.). The calyx lobes are usually straight or spreading and not curved. The posterior lip of the corolla is emarginate, curved upwards, not straight; the stamens are not exceeding the corolla lips.

As outlined above, four of the six sections recognized by Morales (1993) should be excluded from *Micromeria*. The remaining two, *M.* sect. *Micromeria* and sect. *Pineolentia,* should be fused. Phylogenetic reconstructions based on molecular data have shown that *M.* sect. *Pineolentia* is embedded in a clade of Canarian species of *M.* sect. *Micromeria* (Bräuchler & al. 2005; Meimberg & al. 2006). The abandonment of *M.* sect. *Pineolentia* is also supported by the fact that the most important diagnostic features (large leaves and large flowers) are shared by some species of *M.* sect. *Micromeria,* particularly by the Ethiopian *M. unguentaria*. These peculiarities could readily be explained by adaptation to the special growth conditions on Gran Canaria. Regarding all available information summarized in the synopsis presented here, it seems not possible to delimit subgroups within *Micromeria* that are sufficiently divergent to merit recognition at infrageneric level.

Due to the great changes in the circumscription of *Micromeria,* there is a need for a survey on the progress that has been made towards clarifying the species-level taxonomy. A further aim of the synopsis is to provide an updated description of the genus, to give information on typification, accepted names, taxonomically difficult species groups and distribution of the genus. Problems that need to be clarified by more thorough revisional work are additionally emphasized. For taxa that are not part of *Micromeria* as circumscribed here, but cannot be appropriately accommodated elsewhere, provisional names are indicated. One new name is established, one new combination is made, 24 names are typified.

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Material and methods

The studies conducted by the authors were based on extensive herbarium work, including material of the herbaria B, BM, BOL, BOLO, BP, BR, C, DBN, E, EA, FR, FT, G, GOET, HAL, HBG, HEID, HOH, JE, K, LISC, LZ, M, MA, MO, MPU, MSB, NBG, NU, P, S, SAM, SRGH, STU, TCD, TO, TUB, UPS, W, WAG, WU, Z and ZT (herbarium abbreviations according to Holmgren & Holmgren 1998+) and literature research accompanied by observations of plants both in the wild and in cultivation.

Digital images of type specimens cited are found in ALUKA (2008), the Zürcher Herbarien Database (2008), the Virtual Herbaria (2008) and the Virtual Herbarium Berlin (Röpert 2008). Standard abbreviations of authors, periodicals and exsiccata conform to IPNI (2008), BPH online (2008) and IndExs (Triebel & Scholz 2008), respectively. Of great help were also the following digital resources: for literature Bibliotheca Digital CSIC (2008), Botanicus Digital Library (2008), BHL (2008) and Gallica (2008); for collector and author details TL-2 Online (2008); for completion of the names list IPNI (2008) and the World Checklist of *Lamiaceae* (Govaerts & al. 2008). The work presented here will in turn serve as a revision of *Micromeria* names in the latter two databases.

Micromeria Benth. in Bot. Reg. 15: sub t. 1282. 1829, nom. cons.
Type: *Micromeria juliana* (L.) Benth. ex Rchb., Fl. Germ. Excurs.: 311. 1831 ≡ *Satureja juliana* L., Sp. Pl. 2: 567. 1753.

Perennial herbs, subshrubs or shrubs, rarely annual herbs (only a few specimens of *M. imbricata* from NE tropical Africa), ± aromatic, 2-130 cm tall, with simple hairs and glands. *Leaves* opposite, petioles usually distinct but short or minute; blade ± leathery, up to 2-30 × 1-11 mm, often revolute, margin thickened, entire or with a few obscure teeth. *Inflorescence* thyrsoid or sometimes raceme-like, lax or dense and spike-like; bracts usually similar to the ordinary leaves (sometimes much narrower) but mostly gradually smaller upwards in the inflorescence; cymes 1-many-flowered, often 2 or rarely 3 in the axils of the same node; peduncles minute to 12 mm long, sometimes flat; bracteoles present (also in 1-flowered cymes), small, rather narrow. *Calyx* 5-lobed, scarcely accrescent, almost actinomorphic to distinctly 2-lipped, 2-11 mm long; tube (12-)13-15-veined with prominent veins, hairy or sometimes glabrous inside near the throat; posterior lip 3-lobed; anterior lip 2-lobed, divided to the base, with the lobes mostly longer and narrower than those of the posterior lip. *Corolla* strongly 2-lipped, purple, pink violet or white, 3-20 mm long, sometimes shorter and cleistogamous, rarely female; posterior lip emarginate; anterior lip almost flat, 3-lobed with the mid-lobe broader. *Stamens* 4, ascending under the posterior corolla lip, thecae divaricate, apparently separated on a short connective. *Style* lobes equal, subequal or sometimes with lower branch slightly longer. *Disc* rather small, hardly lobed. *Nutlets* brown or brownish, matt, glabrous or rarely with a single eglandular hair at apex (in *M. imbricata*), 0.6-1.5 × 0.3-0.8 mm, 1.15-4 times longer than broad, apex acuminate, acute, subacute or rounded to obtuse, with a ± distinct areole at the scar, producing mucilage when wet. $2n$ = 20(?), 26, 30, 48, 60.

No sections accepted within the genus. As circumscribed here, *Micromeria* includes about 54 accepted species with 32 subspecies and 13 varieties. The number will probably change in the near future since on the one hand some new species are to be described while on the other hand at least 15 of the species are doubtful concerning their distinctness from closely related taxa and might prove conspecific. The infraspecific classification in many parts is in need of a thorough revision.

The name *Micromeria* has been conserved against *Xenopoma* Willd. in Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 5: 399. 1811 and *Zygis* Desv. in W. Hamilton, Prodr. Pl. Ind. Occid.: 46. 1825 (Babu 1969), both then monotypic New World genera. The corresponding types represent one and the same species, today included in *Clinopodium* (*C.*

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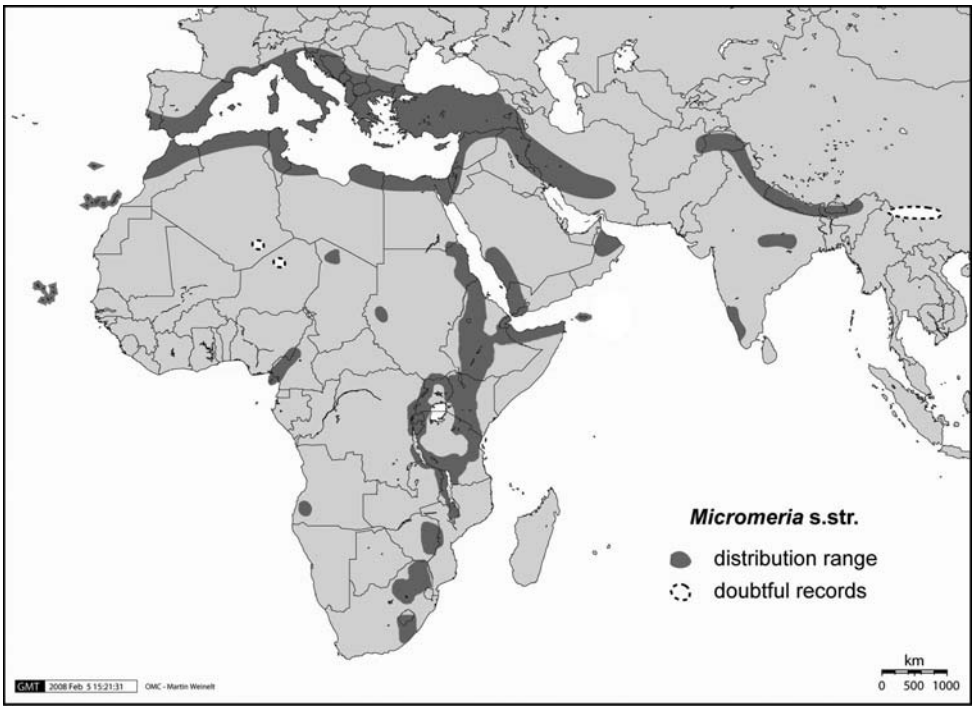


Fig. 1. Distribution map of *Micromeria* s.str.

vimineum (L.) Kuntze) and thus are no longer regarded as congeneric with the species here included in *Micromeria*.

Distribution

Mediterranean area, Portugal, Madeira, Canary Islands, Cape Verde Islands, E Nigeria, Equatorial Guinea (Bioco), Cameroon, Tschad (Tibesti), Sudan, Ethiopia, Eritrea, Djibouti, Somalia, D. R. Congo, Rwanda, Burundi, Uganda, Kenya, Tanzania, Angola (Huila Plateau), E Zambia, Malawi, Mozambique (Manica Prov.), South Africa, Lesotho, SW Saudi Arabia, Yemen, Oman, Iraq (Kurdistan), Iran, Afghanistan, N Pakistan, Nepal, Bhutan, India, Myanmar, China (Yunnan and Guizhou) (Fig.1). Reports from S Algeria and N Niger are doubtful and need confirmation by recollecting. There are uncertainties about the distribution area in Myanmar and China.

Rearching from sea level to more than 2000 m in the Mediterranean and Macaronesia; 400-4500(?-4800 m) in tropical to subtropical Africa and Asia; mostly occurring in moderately dry areas with a rather long dry season.

List of published names

All names published in *Micromeria* at the rank of species or below are recorded in alphabetical order. Currently accepted names are marked in bold, invalidly published names are put in square brackets. The records of synonyms contain a cross reference to the currently accepted name. The basionyms are given. Infraspecific taxa are listed alphabetically under the species entry irrespective of rank; combinations of the same basionym at different ranks are united under one entry. Autonyms are only included where infraspecific taxa are accepted. Types belonging to *Micromeria* names are listed, but types of names that are referred to other genera have been omitted.

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The type citation is given under the basionyms, or if the basionym was not described in *Micromeria,* under the currently accepted *Micromeria* name. Type citations are made to the best of our knowledge, and where information was lacking this is explicitly stated. Herbarium barcode numbers (where present) are cited for type specimens that we have only seen as digital images, those from ALUKA (2008) are additionally marked with an asterisk (*). In some cases digital images have been provided directly by the curators of the corresponding herbaria (BOLO, G, STU, TO). A regularly updated version of this list will be made available at the homepage of the first author's institution.

Micromeria abyssinica Hochst. [in Flora 24, Intell. 2: 23. 1841, nom. nud.] ex Benth. in Candolle, Prodr. 12: 224. 1848 ≡ ***Clinopodium abyssinicum*** (Hochst. ex Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. acropolitana Halácsy ex Maire & Petitmengin in Bull. Soc. Sci. Nancy, ser. 3, 9: 421. May 1908 & Halácsy, Consp. Fl. Graec., Suppl. 1: 87. Jun 1908. – Lectotype (designated here by Bräuchler): [Greece] "In Acropoli Athenarum", 30.8.1906, *Maire & Petitmengin, Mission Botanique en Orient no. 1073* (WU [herb. Halácsy]!). =? ***M. microphylla*** (d'Urv.) Benth.

Note. – The NCY syntype could not be traced so far (C. Drechsler, pers. comm.), the WU syntype after several fruitless efforts, however, was found by H. Rainer and W. Till stored under the unpublished name *Micromeria athenae*. This specimen contains a handwritten diagnosis by Halácsy and is here designated as lectotype. Nowhere in the treatment containing the protologue or one of its prior parts published in earlier volumes of the same journal it is stated that Halácsy contributed to the descriptions in any way. The authorship therefore has to be attributed to Maire & Petitmengin, and this publications predates Halácsy's own publication of the species by one month. The status of this taxon is not settled, it seems very similar to the type of *M. sphaciotica* Boiss. & Heldr. ex Benth. and thus might not be specifically distinct from *M. microphylla* (d'Urv.) Benth. (see under the respective name entries below).

[*M. aetnensis* Lacaita in Lojacono-Pojero, Fl. Sicul. 2(2): 211. 1907, pro syn.] – ***M. graeca*** (L.) Benth. ex Rchb.

[*M. aetnensis* var. *elata* Lacaita in Lojacono-Pojero, Fl. Sicul. 2(2): 211. 1907, pro syn.] – ***M. graeca*** (L.) Benth. ex Rchb.

[*M. aetnensis* var. *humilis* Lacaita in Lojacono-Pojero, Fl. Sicul. 2(2): 211. 1907, pro syn.] – ***M. graeca*** (L.) Benth. ex Rchb.

M. affinis Hook. f. in J. Bot. 6: 274. 1847 = ***Mentha diemenica*** Spreng., Syst. Veg. 2: 724. 1825.

M. afghanica Freitag in Notes Roy. Bot. Gard. Edinburgh 31: 353. 1972 = ***Gontscharovia popovii*** (B. Fedtsch. & Gontsch.) Boriss. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 15: 321. 1953.

M. albanica (Griseb. ex K. Malý) Šilić, Monogr. Satureja Fl. Jugosl.: 202. 1979 ≡ *Satureja albanica* Griseb. ex K. Malý in Bull. Inst. Jard. Bot. Univ. Belgrade 1-3: 229-230. 1930 = ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. alpestris Urb. in Repert. Spec. Nov. Regni Veg. 16: 143. 1919 ≡ ***Clinopodium alpestre*** (Urb.) Harley in Kew Bull. 55: 919. 2000.

M. alternipilosa K. Koch in Linnaea 19: 25. 1846 = ***Satureja spicigera*** (K. Koch) Boiss., Fl. Orient. 4: 566. 1879.

M. amana Rech. f. in Svensk. Bot. Tidsskr. 43: 42. Mar 1949. – Holotype: [Turkey] "Syria borealis: Mons Amanus, mont. de Düldül, 1500-2000 m", 8.1911, *Haradjan 3887* (G; isotypes: E!, W!). ≡ ***M. cremnophila*** subsp. ***amana*** (Rech. f.) P. H. Davis.

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Note. – The W isotype has no original label and the collection date apparently was retyped erroneously as "avril" instead of "août" as is mentioned in the protologue and written on the label of the E isotype.

M. approximata (Biv.) Rchb., Fl. Germ. Excurs.: 859. 1832, nom. illeg. ≡ *Satureja approximata* Biv., Stirp. Rar. Sicilia 4: 13. 1818, nom. illeg. ≡ *Satureja fasciculata* Raf., Précis Découv. Somiol.: 39. 1814 = ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

Note. – Both Bivona-Bernardi and Reichenbach included the older valid name *Satureja fasciculata* Raf. in the synonymy rendering their names illegitimate.

M. approximata subsp. *barceloi* (Willk.) Nyman, Consp. Fl. Eur.: 590. 1881, nom. illeg. ≡ *M. approximata* [unranked] *barceloi* (Willk.) Gand., Nov. Consp. Fl. Eur.: 397. 1910, nom. illeg. ≡ *M. barceloi* Willk. = ***M. inodora*** (Desf.) Benth.

Note. – Gandoger (1910) listed several names as infraspecific taxa without indication of rank ("sous-espèces, races ou formes"). His names therefore are validly published but inoperative in questions of priority except for homonymy (see McNeill & al. 2006: Art. 35.3 & 53.4). This combination, however, is illegitimate, because it includes the legitimate name "*barceloi*" under the illegitimate "*approximata*".

[*M. approximata* var. *cymulosa* Lojac., Fl. Sicul. 2(2): t. XVIII. 1907, nom. inval.] – ***M. graeca*** (L.) Benth. ex Rchb.

Note. – This name applies to an illustration not accompanied by an analysis (McNeill & al. 2006: Art. 42.4) and therefore is not validly published.

M. arganietorum (Emb.) R. Morales in Anales Jard. Bot. Madrid 48: 153. 1991 ≡ *Satureja arganietorum* Emb. in Bull. Soc. Sci. Nat. Maroc 15: 182. 1936. – Holotype: [Morocco] "Anti Atlas occidental: Falaises siliceuses dominant le gué de Taderrast sur l'oued Massa, 200 m", 30.4. 1934, *Emberger s.n.* (MPU-006094*!).

M. arkansana (Nutt.) Benth., Labiat. Gen. Spec.: 730. 1835 ≡ *Hedeoma arkansana* Nutt. in Trans. Amer. Philos. Soc., ser. 2, 5: 186. 1834 = ***Clinopodium glabrum*** (Nutt.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. australis (R. Br.) Benth., Labiat. Gen. Spec.: 380. 1834 ≡ ***Mentha australis*** R. Br., Prodr. Fl. Nov. Holland.: 505. 1810.

*M. bahamensi*s Shinners in Sida 1: 96. 1962 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. balcanica Velen., Fl. Bulg. Suppl. I: 235. 1898 = ***Clinopodium frivaldszkyanum*** (Degen) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – Doroszenko (unpubl. Ph.D. thesis, Univ. Edinburgh 1986) includes this name in the synonymy of *M. frivaldszkyana,* which is followed here. A final decision on the synonymy of *Clinopodium dalmaticum* (Benth.) Bräuchler & Heubl, *C. frivaldszkyanum* (Degen) Bräuchler & Heubl and *C. pulegium* (Rochel) Bräuchler cannot be made without a thorough revision of the group, which is in progress but beyond the scope of this manuscript.

M. balcanica var. *moesica* Urumoff in Oesterr. Bot. Z. 49: 203. Jun 1899 = ***Clinopodium frivaldszkyanum*** (Deg.) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – See note under *M. balcanica.*

M. barbata C. A. Mey. in Fischer & Meyer, Index Seminum (St. Petersburg) 8: 67. 1842 = ***Clinopodium douglasii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. barbata Boiss. & Kotschy in Boissier, Diagn. Pl. Orient., ser. 2, 4: 14. 1859, non C. A. Mey. 1842 ≡ ***Clinopodium serpyllifolium*** subsp. ***barbatum*** (P. H. Davis) Bräuchler in Taxon 55: 980. 2006.

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M. barceloi Willk. in Oesterr. Bot. Z. 25: 111. 1875. – Lectotype (designated here by Bräuchler): [Spain] "Baleares, Mallorca colina calcarea al O. de Palma", 14.11.1873, *Willkomm s.n.* (MA!). = ***M. inodora*** (Desf.) Benth.

[*M. barceloi* var. *africana* Batt. in Bull. Soc. Bot. France 44: 323. 1897, nom. inval.] – ***M. inodora*** (Desf.) Benth.

Note. – This variety was described from Algeria as being simply more robust than the typical variety. Given this apparent lack of a diagnosis, we consider this name not validly published.

M. barosma (W. W. Sm.) Hand.-Mazz., Symb. Sin. 7: 932. 1936 ≡ *Calamintha barosma* W. W. Sm. in Notes Roy. Bot. Gard. Edinburgh 9: 88. 1916 ≡ ***Clinopodium barosmum*** (W.W. Sm.) Bräuchler & Heubl in Taxon 55: 978. 2006.

M. benthamii Webb & Berthel., Hist. Nat. Iles Canaries 3: 77. 1845 [as *"benthami"*]. – Lectotype (designated by Pérez 1978: 122): [Spain, Canary Islands] "In rupestribus altioribus Magna Canariae prosertum in jugo Montium Saucillo", *Barker-Webb* (FI [lower individual]).

M. biflora (Buch.-Ham. ex D. Don) Benth., Labiat. Gen. Spec.: 378. 1834 ≡ *Thymus biflorus* Buch.-Ham. ex D. Don, Prodr. Fl. Nepal.: 112. 1825. – Type: [Nepal] "Ad Suembu Nepaliae superioris", *Hamilton s.n.* (not traced, probably lost).

Note. – Perhaps better included in *M. imbricata* or considered as a variety of this species. The type could not be traced at BM, E or K.

[*M. biflora* subsp. *arabica* K. H. Walther in Collenette, Illustr. Guide Wildfl. Saudi Arab.: 273. 1985 & in Collenette, Wildfl. Saudi Arab.: 452. 1999 & in Al-Rehaily in Pakistan J. Biol. Sci. 9: 2726-2728. 2006, nom. nud.] – ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. biflora var. *cinereotomentosa* (A. Rich.) Chiov. in Nuov. Giorn. Bot. Ital., ser. 2, 26: 163. 1919 ≡ *M. ovata* var. *cinereotomentosa* A. Rich. = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. biflora f. *filiformis* (Aiton) Knoche, Fl. Baléar. 2: 348. 1922, nom. illeg. ≡ ***M. filiformis*** (Aiton) Benth.

Note. – Knoche included the indirect reference "*M. filiformis* Benth." to the older name *Thymus filiformis* Aiton, when establishing *"filiformis"* as infraspecific taxon under *M. biflora* (Buch.-Ham. ex D. Don) Benth., making his new combination illegitimate.

M. biflora var. *hirsuta* Fiori in Nuov. Giorn. Bot. Ital., ser. 2, 20: 371. 1913. – Holotype: [Eritrea] "Acchelè-Guzai, tra Mai-Harazat ed Halai", *Fiori 1570* (not traced). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. biflora var. *indica* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 6. 1957. – Holotype: [India, Prov. Medes] "Cornon", *Coonoor* (HBG!). = ***M. biflora*** (Buch.-Ham. ex D. Don) Benth.

M. biflora var. *punctata* (Benth.) Fiori in Nuov. Giorn. Bot. Ital., ser. 2, 20: 371. 1913 ≡ *M. punctata* Benth. = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. biflora var. *rhodesiaca* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 7. 1957. – Holotype: [Malawi] "Mt Mlanje", *Adamson 368* (K!). ≡ ***M. imbricata*** var. ***rhodesiaca*** (Elly Walther & K. H. Walther) Ryding

M. biflora var. *rodriguezii* (Freyn & Janka) Knoche, Fl. Baléar. 2: 346. 1922 ≡ *M. rodriguezii* Freyn & Janka ≡ ***M. filiformis*** subsp. ***rodriguezii*** (Freyn & Janka) Bonafè

M. biflora var. *typica* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 6. 1957 [nom. inval.?]. – Holotype: [India] Kamoun, *Wallich* (K!). = ***M. biflora*** (Buch.-Ham. ex D. Don) Benth.

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Note. – Despite not explicitly including the type of *Micromeria biflora*, this variety name could be regarded as not validly published (McNeill & al. 2006: Art. 24.3). The protologue, however, includes a type citation (not the type of the species), a diagnosis and a status designation as "var. nov.".

M. biflora var. *villosa* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 7. 1957. – Holotype: [Kenya] "Klinangop", *Dale 2965* (K!). ≡ ***M. imbricata*** var. ***villosa*** (Elly Walther & K. H. Walther) Ryding

M. boliviana Benth., Labiat. Gen. Spec.: 731. 1835 ≡ ***Clinopodium bolivianum*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. boliviana var. *angustifolia* Wedd., Chlor. Andina 2: 150. 1860 = ***Clinopodium bolivianum*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. bonariensis (Ten.) C. A. Mey. in Fischer & Meyer, Index Seminum (St. Petersburg) 10: 56. 1845 ≡ *Thymus bonariensis* Ten. in Index Seminum (Napoli) 1839: 12. 1839 = ***Hedeoma multiflora*** Benth., Labiat. Gen. Spec.: 367. 1834.

M. bourgaeana Webb ex Bolle in Bonplandia (Hannover) 8: 283. 1860. – Holotype: [Spain, Canary Islands] "Hab. in Canaria Magna in rupestribus loci dicti Arecife, rara", *Bourgeau* [*Bourgeau, Pl. Canar. 1845-46, 508*] (B†; isotypes: K!, P!, TCD!, W!, WU!, Z!). = ***M. tenuis*** subsp. ***linkii*** (Webb & Berthel.) P. Pérez

M. bracteolata (Nutt.) Benth., Labiat. Gen. Spec.: 371. 1834 ≡ *Hedeoma bracteolata* Nutt., Gen. N. Amer. Pl., Addend.: 4. 1818 = ***Conradina*** sp.

Note. – Synonymy follows Epling & Stewart (1939: 46).

M. brevicalyx (Epling) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja brevicalyx* Epling in Ann. Missouri Bot. Gard. 14: 82. 1927 ≡ ***Clinopodium brevicalyx*** (Epling) Harley & A. Granda in Kew Bull. 55: 919. 2000.

M. brivesii Batt. in Bull. Soc. Hist. Nat. Afrique N. 13: 69. 1922. – Type: [Algeria] "Près de l'Oued Amismiz", 4.11.1909, *Brives s.n.* (not traced, MPU?).

Note. – Some other Brives types are present at MPU, but this one is not included in ALUKA (2008). According to Stafleu & Cowan (1976) part of Battandier's types are present at AL, but more recent information (P. Schäfer, pers. comm.) indicate these collections either as transferred to MPU or lost.

M. browiczii Ziel. & Kit Tan in Polish Bot. J. 46: 31. 2001. – Holotype: "Greece, Ionian Islands. Nomos and eparchia of Zakinthou: Zakinthos, between Agalas and the promontory of Ketinaria, calcareous rocky slope, c. 100 m", 25.5.1988, *Boratyśńki, Browicz, Tomlik & Zielisńki 765* (KOR; isotypes: ATH, herb. Kit Tan!).

M. brownei (Sw.) Benth., Labiat. Gen. Spec.: 372. 1834 ≡ *Thymus brownei* Sw., Prodr. Descr. Veg.: 89. 1788 ≡ ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

Note. – Sometimes erroneously listed as *"M. brownii"*.

M. brownei var. *ludens* Shinners in Sida 1: 96. 1962 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. brownei var. *pilosiuscula* A. Gray, Syn. Fl. N. Amer. 2(1): 359. 1878 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. bucheri P. Wilson in J. New York Bot. Gard. 23: 93. 1922 ≡ ***Clinopodium bucheri*** (P. Wilson) Harley in Kew Bull. 55: 920. 2000.

M. buchii Webb & Berthel., Hist. Nat. Iles Canaries 3: t. 161. Jun 1849 - Mar 1850, nom. illeg. – Type: forecited illustration (apparently based on a specimen at FI labelled "*Micromeria buchii* Webb"). ≡ ***M. tenuis*** subsp. ***linkii*** (Webb & Berthel.) P. Pérez

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Note. – Table 161 represents an illustration with an analysis (McNeill & al. 2006: Art. 42.4) and *M. buchii* would thus have been validly published. The corresponding illustration legend and species description in the text volume of the same work were, however, published at least four years in advance (l.c.: 73. Apr 1845). Since both refer to *M. linkii, M. buchii* is to be regarded as illegitimate. In addition, Peréz (1978: 138) designated a specimen at FI labelled *"Micromeria buchii"* as lectotype for *M. linkii*. Dates for the Webb names are taken from Stearn (1937).

M. bulgarica (Velen.) Vandas in Magyar Bot. Lapok 4 (8-11): 267. 1905 ≡ *M. origanifolia* subsp. *bulgarica* Velen. = ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – See comments under *M. balcanica* Velen. The citation "*M. bulgarica* (Velen.) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(2): 323. 1929", is incorrect, because the latter author refers in a footnote to Vandas' name.

M. byzantina (K. Koch) Walp., Ann. Bot. Syst. 3: 251. 1852 ≡ *Calamintha byzantina* K. Koch in Linnaea 21: 672. 1849 = ***Clinopodium nepeta*** subsp. ***glandulosum*** (Req.) Govaerts, World Checklist Seed Pl. 3(1): 18. 1999.

M. calaminthoides Lojac., Fl. Sicul. 2(2): 212. 1907. – Syntypes: [Italy, Sicily] "Rupi di M. Pellegrino (?)" 3.1825, *Tineo*, "in Herb. Pan. & Herb. Tod. sub *M. graeca longiflora*" (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – Many of the *Micromeria* names published by Lojacono-Pojero (1907) without doubt are to be placed in synonymy to *M. graeca*. Judging from the diagnoses and the accompanying illustrations it is, however, often not possible to assign the taxa to one of the currently accepted subspecies without revising the whole group. Types of Lojacono's names have not been traced for this paper. His herbarium according to Stafleu & Cowan (1981) is integrated in PAL.

M. calaminthoides var. *contracta* Lojac., Fl. Sicul. 2(2): 213. 1907. – Syntypes: [Italy, Sicily] "Palermo alla Scala di Maseddo", *Tineo*, "Monti di Castellammare", "Gibilrossa", "Busambra" (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

M. calaminthoides var. *elongata* Lojac., Fl. Sicul. 2(2): 213. 1907. – Type: [Italy, Sicily] "Pizzuta" ("herb. Pan.", not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

M. calostachya Rech. f. in Denkschr. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 105: 122. 1943 ≡ ***Thymbra calostachya*** (Rech. f.) Rech. f. in Kulturpflanze, Beih. 3: 64. 1962.

[*M. calvertii* Boiss. in Fl. Orient. 4: 571. 1879, pro syn.] – ***M. elliptica*** K. Koch

M. canescens (Guss.) Benth., Labiat. Gen. Spec.: 376. 1834 ≡ *Satureja canescens* Guss., Pl. Rar.: 228, t. 42. 1826. – Syntypes: [Italy] "In collibus maritimis Japygiae: Taranto, Punta di Cutaro, Gallipoli, Torricella, Otranto", *Gussone* (NAP?). = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – This name is accepted at species rank by Pignatti (1982) and with doubt placed in synonymy to *Satureja graeca* subsp. *garganica* by Briquet (1895: 421). Doroszenko (unpubl. Ph.D. thesis, Univ. Edinburgh 1986) places it in synonymy to *M. graeca* subsp. *longiflora*. Regarding Gussone's description and illustration, the latter might be more appropriate.

M. canescens (K. Koch) Walp., Ann. Bot. Syst. 3: 251. 1852, non Benth. 1834 ≡ *Calamintha canescens* K. Koch in Linnaea 21: 672. 1849 = ***Clinopodium nepeta*** (L.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. capitellata Benth. in Candolle, Prodr. 12: 218. 1848 ≡ ***Clinopodium capitellatum*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. carica P. H. Davis in Kew Bull. 1949: 109. 1949 ≡ ***Clinopodium caricum*** (P. H. Davis) Bräuchler & Heubl in Taxon 55: 978. 2006.

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M. carminea P. H. Davis in Kew Bull. 1949: 400. 1949. – Holotype: "Turkey, Denizli: d. Acipayam, Boz Da. above Geyran yayla, 1800-1900 m, cervices of limestone rock with *Globularia dumulosa*, flowers almost pure carmine", 16.7.1947, *Davis 13403* (K!; isotypes: E!, W!). ≡ ***M. cristata*** subsp. ***carminea*** (P. H. Davis) P. H. Davis

M. carpatha Rech. f. in Phyton 1: 208. 1949. – Lectotype (designated here by Bräuchler): [Greece] "Karpathos", 5.6.1886, *Forsyth Major 165a* [protologue: "*Vrondi, FM. 165a* in hb. Barbey"] (G-00087102!). = ***M. microphylla*** (d'Urv.) Benth.

Note. – This name is sometimes placed in synonymy to *M. sphaciotica* Boiss. & Heldr. ex Benth., which in turn mostly has been included in synonymy to *M. microphylla* (d'Urv.) Benth. (e.g., Boissier 1879; Šilić 1979; Doroszenko, unpubl. Ph.D. thesis, Univ. Edinburgh 1986). This opinion is accepted here. The second syntype cited is "Karpathos, *Rechinger 8249* (W)".

M. chamissonis (Benth.) Greene, Man. Bot. San Francisco: 289. 1894 ≡ *Thymus chamissonis* Benth. in Linnaea 6: 80. 1831 = ***Clinopodium douglasii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

[*M. chanonis* Muschl. in Just's Bot. Jahresber. 36(3): 607. 1912, erroneous for *M. chamissonis* (Benth.) Greene]. – ***Clinopodium douglasii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

Note. – When citing an article of Power & Salway (1908), Muschler mistranslated the original title "Chemical examination of *Micromeria chamissonis*" to "Chemische Untersuchung von *Micromeria chanonis* (Verba buena)", the name thus merely represents a type error.

M. chionistrae Meikle in Ann. Mus. Goulandris 6: 92. 1983. – Holotype: "Cyprus, Phini, 1000 m, in cracks of bare rock", 6.6.1939, *Kennedy 1495* (K!).

M. cilicica Hausskn. ex P. H. Davis in Kew Bull. 1949: 109. 1949 ≡ ***Clinopodium cilicicum*** (Hausskn. ex P. H. Davis) Bräuchler & Heubl in Taxon 55: 978. 2006.

[*M. cinerea* Doroszenko in Ryding in Bot. J. Linn. Soc. 155: 438. 2007, pro syn.] – ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

Note. – This name was given to a new species by Doroszenko's (unpubl. Ph.D. thesis, Univ. Edinburgh 1986), but is neither effectively nor validly published. Ryding (2007), however, mentions this name under *M. imbricata* var. *imbricata*. It therefore is included here to complete the list of names found in literature available to us.

M. compacta (Killick) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja compacta* Killick in Bothalia 7: 437. 1961 ≡ ***Killickia compacta*** (Killick) Bräuchler, Doroszenko & Heubl in Bot. J. Linn. Soc. 157: 584. 2008.

Note. – One of three species endemic to the South Afrikan Drakensberg. All three have previously been included in *Satureja* or *Micromeria* sect. *Hesperothymus*. While New World members of the latter section have been transferred to *Clinopodium,* these three species remained in *Micromeria* and recently have been placed in a genus of their own named *Killickia* (Bräuchler & al. 2008).

M. conferta (Coss. & Daveau) Stefani in Boll. Reale Orto Bot. Palermo 11: 148. 1912 ≡ *M. juliana* var. *conferta* Coss. & Daveau

Note. – Obviously this was intended to be a new combination for *M. juliana* var. *conferta* Coss. & Daveau and according to Art. 33.2 and 33.3 of the Vienna Code (McNeill & al. 2006) needs to be treated as such. The reference to the basionym, however, is very cryptic ("*Micromeria conferta* Cass." apparently a miss-citation of Coss. & Daveau).The fact that only one specimen is cited and a description (in Italian) is given obscures the new combination even more. This species is included under *M. juliana* by Siddiqi (1985).

M. congesta Boiss. & Hausskn. in Boissier, Fl. Orient. 4: 575. 1879 ≡ ***Clinopodium congestum*** (Boiss. & Hausskn.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

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M. consentina (Ten.) N. Terracc. in Nuov. Giorn. Bot. 5: 227. 1873 [as "*M. cosentina*"] ≡ *Satureja consentina* Ten. ≡ ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. consentina var. *aeolica* Lojac., Fl. Sicul. 2(2): 210. 1907. – Syntypes: [Italy] "Isole Eolie: colli vulcanici: Panaria", *Lojacono-Pojero,* "Salina a S Marina", *Lojacono-Pojero,* "Alicuari" *Tineo*, "Lipari", *Lojacono-Pojero* (not traced). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

Note. – See note under *M. calaminthoides.*

M. consentina var. *chamaepitys* Lojac., Fl. Sicul. 2(2): 210. 1907. – Syntypes: [Italy, Sicily] "Ad rupes graniticas v. schistosas in Sicilia sept. Capo d'Orlando", *Milazzo*, "Antennamare", *Gussone*, "Prov. Messina", *Gussone* (not traced). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. consentina var. *glabrata* (Guss.) Strobl in Flora 68: 369. 1885 ≡ *Satureja consentina* var. *glabrata* Guss., Fl. Sicul. Syn. 2: 88. 1844. – Syntypes: "Palermo a S. Maria a Gesu, ed alla Pizzuta, Catania, Aci, Giarre, Scaletta, Capo S. Alessio, Taormina, Messina, Capo di Calava, Capo Tindaro" (NAP?). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

[*M. consentina* var. *glabrescens* Lojac., Fl. Sicul. 2(2): 210. 1907, pro syn.] – ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. consentina var. *minutissima* Lojac., Fl. Sicul. 2(2): 210. 1907. – Type: [Italy, Sicily] "Ad rupes vulcanicas apricas calidissimas in coespites late pulvinatos pulchre floriferos, Ins. Alicuri", 1.8.1905 (NAP?). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. consentina var. *pseudotodari* Lacaita ex Lojac., Fl. Sicul. 2(2): 210. 1907. – Syntypes: [Italy, Sicily] "rupi primitive: Castanea", *Todaro,* "Capo d'Orlando, Fiumara di Zappulla, Sic. Nord.-Orient", *Todaro,* "Capo Tindaro", *Gussone,* "Capo Calava", *Gussone,* "Vetta dell'Antennamare", *Gussone* (not traced). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. consentina var. *rossii* Lojac., Fl. Sicul. 2(2): 210. 1907 [as "*rossi*"]. – Syntypes: [Italy, Sicily] "Aetna", *Rossi*, "Nicolosi", *Tineo, Torn.*, "Catania Chiuse" *Torn.*, *Tineo*, *Luglio* (not traced). = ***M. graeca*** subsp. ***consentina*** (Ten.) Guinea

M. cordata (Moris ex Bertol.) Moris, Diag. Stirp. Sard. Nov.: 2. Mar 1857 ≡ *Satureja cordata* Moris ex Bertol., Fl. Ital. 10: 519. Jan-Feb 1857. – Lectotype (designated here by Bräuchler): [Italy, Sardinia] *Moris* (BOLO [photo!]).

Note. – This species is included as subspecies in *M. filiformis* (Pignatti 1977) or in *M. microphylla* (Doroszenko unpubl. Ph.D. thesis, Univ. Edinburgh 1986). Further studies are needed to examine the delimitation between the two taxa, even more so since obvious morphological and ecological affinities with *M. marginata* exist. For the time being we think it is best to follow Valsecchi (1978) and treat it as a distinct species. The latter author has designated a lectotype for "*M. cordata* Moris" from TO ("*M. cordata* Moris, nelle fissuri delle rupi, Monti di Oliena, Giugno 1852", photo!). Bertoloni's name, however, has priority and there is no evidence that the Moris collection received by him was a duplicate of the "lectotype", consequently the typification by Valsecchi is rejected here. The only specimen preserved at BOLO and annotated as "*Satureja cordata* Moris" by Bertoloni has no locality on the label but a note indicating it as sent by Moris in 1856, which means prior to publication of the species description. This is the only collection unambiguously representing original material and therefore is chosen as lectotype here.

M. cordata [unranked] *allionii* (Zumagl.) Gand., Nov. Consp. Fl. Eur.: 397. 1910 ≡ *Thymus allionii* Zumagl., Fl. Pedem. 1: 226. 1859 ≡ *Thymus piperella* All., Fl. Pedem. 1: 21, t. 37, fig. 3. 1785, non L. 1753 ≡ ***M. marginata*** (Sm.) Chater

Note. – See note under *M. approximata* subsp. *barceloi.*

M. corsica (Pers.) H. Lév., Dict. Invent. Fl. Franc.: 22. 1916 ≡ *Thymus corsicus* Pers., Syn. Pl. 2: 131. 1806 ≡ ***Acinos corsicus*** (Pers.) Getliffe in Bot. J. Linn. Soc. 65: 263. 1972.

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M. cremnophila Boiss. & Heldr. in Boissier, Fl. Orient. 4: 570. 1879. – Holotype: [Greece] "Ad rupes verticales regionis abietinae Parnassi ad Gourna 4000'-4500'", *Heldreich* (G-BOIS).

M. cremnophila subsp. ***amana*** (Rech. f.) P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 38: 40. 1980 ≡ *M. amana* Rech. f.

M. cremnophila subsp. ***anatolica*** P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 38: 40. 1980. – Holotype: "Turkey B9 Van: 5 km N of Certak, in cervices of boulders", 25.7.1954, *Davis 23258 & Polunin* (E!; isotype: K!).

M. cremnophila Boiss. & Heldr. subsp. ***cremnophila***

M. cremnophila var. *glandulosa* Micevski in Prilozi Oddel. Biol. Med. Nauki, Makedonska Akad. Nauk. Umet. 23: 17. 2002. – Holotype: [Macedonia] "In fauce ad flumen Radika inter pagos Trnica et Volkovija, in rupibus calcareis 800 m", 23.8.1986, *Micevski* (SKO). = ***M. cremnophila*** Boiss. & Heldr. subsp. ***cremnophila***

M. cremnophila var. *thessala* Formánek in Verh. Naturf. Vereins Brünn 35: 142 & 183. 1896. – Type: [Greece] "Thessalia, Pindus: Oxya 'Despoti', untere Lage 210-400 m, Kastri et in sylvaticis Metochi Vavlavi, pr. Vlachava", 1896, *Formánek* (not traced). = ***M. cremnophila*** Boiss. & Heldr. subsp. ***cremnophila***

M. cristata (Hampe) Griseb., Spicil. Fl. Rumel. 2: 122. 1844 ≡ *Thymus cristatus* Hampe in Flora 20: 233. 1837. – Lectotype (designated here by Bräuchler): [Bulgaria] "Rumelia", [1835] *Frivaldszky* (BP-334973!).

Note. – This plant has been distributed by Frivaldszky (1836) as part of his "Centuria plantarum exsiccatarum anno 1835 in Turcia-europaea collectarum" under the name *Thymus inodorus* Desf. It was collected in Rumelia (probably in the Rhodopian mountains) by Füle, Hinke or Manolesko (all then collectors sent out by Frivaldszky; Degen 1896). Hampe (1837) subsequently identified the plant as representing a new species, which he described as *T. cristatus*. Since the whereabouts of his herbarium of phanerogams are uncertain, a specimen of Frivaldsky's "Centuria" traced at BP is designated as lectotype here. The plants on this sheet represents part of the original material, probably an isotype (though neither annotated by Hampe nor labelled with his name, but Frivaldszky's original determination instead). No duplicates have been traced so far, but might be present in numerous herbaria (e.g., G, K, P, W).

M. cristata f. *albiflora* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 116. 1975. – Holotype: [Serbia] "Jelašnićka klisura prope Niš, in valle fluminis", 22.8.1953, *Lindtner* (BEO). = ***M. cristata*** (Hampe) Griseb. subsp. ***cristata***

M. cristata f. *canescens* Vandas in Rel. Form.: 483. 1909 ≡ *M. cristata* subf. *canescens* (Vandas) Hayek, Prodr. Fl. Penins. Balcan. 2: 319. 1929 ≡ *M. cristata* var. *canescens* (Vandas) Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 116. 1975. – Syntypes: [Macedonia] "Plantae e Flora et Hadžibarica pl.", *Formánek* (not traced). = ***M. cristata*** (Hampe) Griseb. subsp. ***cristata***

M. cristata subsp. ***carminea*** (P. H. Davis) P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 21: 65. 1952 ≡ *M. carminea* P. H. Davis

M. cristata (Hampe) Griseb. subsp. ***cristata***

M. cristata var. *glandulosa* Micevski in Prilozi Oddel. Biol. Med. Nauki, Makedonska Akad. Nauk. Umet. 23: 12. 2002. – Holotype: [Macedonia] "Fauces Demir Kapija", 9.6.1972, *Micevski* (SKO). = ***M. cristata*** (Hampe) Griseb. subsp. ***cristata***

Micromeria cristata subsp. ***kosaninii*** (Šilić) Bräuchler & Govaerts, **comb. nov.** ≡ *Micromeria kosaninii* Šilić, Monogr. Satureja Fl. Jugosl.: 234. 1979. – Holotype: [Macedonia] "Galičica, Poljce, c. 1600 m, solo calcareo", 11.10.1970, *Šilić* (SARA; isotype: LJU).

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Note. – This taxon was described as a species by Šilić (1979) and included as a subspecies under *Satureja cristata* by Greuter & al. (1986). This concept is followed here, making a new combination under *Micromeria* necessary.

M. cristata subsp. ***orientalis*** P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 38: 41. 1980. – Holotype: "Turkey B6 Malatya: Gurun to Malatya, 40 km from Malatya, c. 1400 m, cliff ledges and cracks, fls. pale lilac", 7.8.1956, *McNeill 461* (E!).

M. cristata subsp. ***phrygia*** P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 38: 40. 1980. – Holotype: "Turkey B2 Kutahya: d. Gediz, Saphane Da., 1900-2000 m, sunny rocks, flowers white with mouve spotting on lip", 27.8.1950, *Davis 18457* (E!; isotype: K!).

M. cristata f. *subuniflora* Bornm. in Bot. Jahrb. Syst. 61, Beibl. 140: 73. 1927. – Holotype: [Macedonia] "Macedonia centralis: In distr. Montium Duditza- et Suharupa-planina, in m. Dwe Uschi (= Zwei-Ohrenberg), c. 1700 m", 24.7.1917, *Schultze 326* (B!; isotype: JE!). = ***M. cristata*** subsp. ***cristata***

M. cristata f. *umbrosa* Bornm. in Bot. Jahrb. Syst. 61, Beibl. 140: 73. 1927. – Holotype: [Macedonia] "In rupe Markov-Kamen vallis fluvii Lepenac (infra pag. Kačanik), 500 m" 5.7.1918, *Bornmüller, Plantae Macedonicae 4851* (HBG; isotypes: B!, BP!, JE!). = ***M. cristata*** subsp. ***cristata***

Note. – Bornmüller's 1918 trip to Macedonia was financed by the Institut für Allgemeine Botanik in Hamburg, the top set of the corresponding collections, unlike other Bornmüller material, therefore is kept at HBG (H. Manitz, pers. comm.).

M. cristata subsp. ***xylorrhiza*** (Boiss. & Heldr. ex Benth.) P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 21: 64. 1952 ≡ *M. xylorrhiza* Boiss. & Heldr. ex Benth.

M. croatica (Pers.) Schott in Oesterr. Bot. Wochenbl. 7: 93. 1857 ≡ *Thymus croaticus* Pers. in Syn. Pl. 2: 130. 1806. – Type: [Croatia] "Hab. in alpibus Croatiae, rupes calcareas opplens" (P?).

M. croatica f. *glabrata* (K. Malý) Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 117. 1975 ≡ *Satureja croatica* f. *glabrata* K. Malý in Glasn. Zemaljsk. Muz. Bosne Herzegovine 40: 154. 1928. – Holotype: [Bosnia and Hercegovina] "Lisičići prope Konjic, solo calcareo, c. 260 m", *Malý* (SARA). = ***M. croatica*** (Pers.) Schott

M. croatica f. *linearilanceolata* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 117. 1975. – Holotype: [Bosnia and Hercegovina] "Kanjon Rakitnice, solo calcereo, c. 400 m", 15.10.1967, *Šilić* (SARA). = ***M. croatica*** (Pers.) Schott

M. croatica var. *longidens* Rohlena in Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 1912: 103. 1913 ≡ *M. croatica* f. *longidens* (Rohlena) Hayek, Prodr. Fl. Penins. Balcan. 2: 321. 1929. – Holotype: [Montenegro] "Auf felsigen Ufern des Flusses Piva bei Goransko (ca. 660 m)", *Rohlena* (PRC). = ***M. croatica*** (Pers.) Schott

Note. – Šilić (1979) cites this as "f. *longidens* Rohl.", whereas originally it has been described as a variety and was reduced to the rank of a forma later (see above).

M. croatica f. *multicaulis* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 117. 1975. – Holotype: [Bosnia and Hercegovina] "in valle Drežanka pr. Drežnica, c. 150 m, solo calcareo", 4.8.1900, *Malý* (SARA). = ***M. croatica*** (Pers.) Schott

M. croatica f. *ovalifolia* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 117. 1975. – Holotype: [Bosnia and Hercegovina] "Idbar pr. Božić, c. 500 m", 7.9.1970, *Šilić* (SARA). = ***M. croatica*** (Pers.) Schott

M. croatica var. *panciciana* (Briq.) Hayek, Prodr. Fl. Penins. Balcan. 2: 321. 1929 ≡ *Satureja croatica* var. *panciciana* Briq., Lab. Alp. Marit. 3: 427. Sep 1895. – Lectotype (see Note): [Serbia] "Mokra Gora", 1875, *Pančić 8580* (BEOU). = ***M. croatica*** (Pers.) Schott

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Note. – On a web page containing information on the Serbian botanist Pančić (http://pancic.bio.bg.ac.yu/Engl/index.html) a lectotypification for *Satureja croatica* var. *panciciana* Briq. is indicated without citation of the source. We were not able to trace the corresponding publication. No type material of this taxon seems to be present at G.

M. cunninghamii Benth., Labiat. Gen. Spec.: 730. 1835 ≡ ***Mentha cunninghamii*** (Benth.) Benth. in Candolle, Prodr. 12: 174. 1848.

M. cymuligera Boiss. & Hausskn. in Boissier, Fl. Orient. 4: 569. 1879 =? ***Mentha* sp.**

Note. – *Micromeris cymuligera* has always been regarded as isolated within the genus with respect to its annual habit and special anther structure (Boissier 1879; Bräuchler & al. 2005; Bräuchler & al. 2006; Briquet 1896; Davis 1982). Weak affinities towards sect. *Micromeria* (Doroszenko unpubl. Ph.D. thesis, Univ. Edinburgh 1986) have been suggested based on overall similarity rather than on shared characters. Preliminary molecular data indicate this species as disassociated from *Micromeria* s.str. and more closely related to the genus *Mentha* (Bräuchler, unpubl.). However, results were not clear enough to make a final decision. The lack of a marginal vein as revealed by anatomical studies (Bräuchler, unpubl.) favours exclusion of *M. cymuligera* from the genus. The perfoliate inflorescence is another feature shared with *Mentha* rather than with *Micromeria* s.str., where the bracts tend to get reduced towards the tip of the inflorescence. The ecological range from what is known (humid alpine pastures, torrent beds) is similar to that of *Mentha*. None of the species of *Micromeria* s.str. occur in such a habitat. Whether this species should be included in *Mentha* or placed in a monotypic genus ("*Cymularia*") remains to be clarified.

M. cypria Kotschy in Unger & Kotschy, Ins. Cypern: 270. 1865. – Lectotype (designated here by Bräuchler): [Cyprus] "In scopulorum fissures montis Pentadactylos et Buffavento 1500'", 4.1862, *Kotschy*, *Pl. Ins. Cypro 338* (W-0014293!; isolectotypes: BP!, G, JE!, K!, P!). = ***M. microphylla*** (d'Urv.) Benth.

Note. – The second syntype cited is *Kotschy 390* (K!, traced neither at W nor at WU) "Um Castello della Regina, 15.4.1862". It seems that less duplicates of this collection number have been distributed, therefore *Kotschy 338* is chosen as lectotype.

M. cypria var. *villosissima* H. Lindb., Iter Cypr.: 29. 1946. – Holotype: [Cyprus] "Ayios Hilarion, in fissuris rupis siccissimis", 1939, *Lindberg* (H?). = ***M. microphylla*** (d'Urv.) Benth.

M. dalmatica Benth. in Candolle, Prodr. 12: 225. 1848 ≡ ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – See note under *M. balcanica.*

M. dalmatica f. *angustifrons* Rohlena in Věstn. Král. České Spolecn. Nauk, Tr. Mat.-Prir. 2: 11. 1933 = ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. dalmatica subsp. *bulgarica* (Velen.) Guinea in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *M. dalmatica* f. *bulgarica* (Velen.) Stoj., Stefanov & Kit., Fl. Bulg. 2: 924. 1967 ≡ *M. origanifolia* subsp. *bulgarica* Velen. = ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. dalmatica f. *multiflora* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 115. 1975 = ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. dalmatica Fenzl in Index Seminum (Vienna) 1851: [page?]. 1851, non Benth. 1848 = ***Mentha pulegium*** L., Sp. Pl. 2: 577. 1753.

Note. – This name is probably a mere misinterpretation and should read *M. dalmatica* sensu Fenzl, non Benth. instead. It has been published later as *Calamintha fenzlii* Vis. in Atti Reale Ist. Veneto Sci. Lett. Arti, ser. 2, 6: 300. Mar 1855, and/or *M. fenzlei* Regel (see name entry below). The synonymy (= *Mentha pulegium* L.) as provided in Govaerts & al. (2008), seems faulty regarding material traced at W and WU, which represents *Clinopodium thymifolium* (Scop.) Kuntze or a closely related species. We were, however, unable to consult the reference and relevant material at PAD or LE.

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M. danaensis Danin in Willdenowia 27: 161. 1997. – Holotype: "Jordan, Edom, Dana Reserve, Wadi Barra area, 2 km SE of the visitor center, in crevices of smooth-faced white sandstone outcrops", 14.5.1996, *Danin 963013* (HUJ; isotype: B!).

M. darwinii Benth. in Candolle, Prodr. 12: 222. 1848 ≡ ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. darwinii var. *imbricatifolia* Speg. in Anales Soc. Ci. Argent. 53: 251. 1902 = ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. darwinii var. *pallida* Speg. in Anales Soc. Ci. Argent. 53: 251. 1902 = ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. darwinii var. *pusilla* (Phil.) Speg. in Anales Soc. Ci. Argent. 53: 250. 1902 ≡ *M. pusilla* Phil. = ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

[*M. darwinii* var. *typica* Speg. in Anales Soc. Ci. Argent. 53: 250. 1902, nom. inval.] – ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. darwinii var. *virescens* Speg. in Anales Soc. Ci. Argent. 53: 250. 1902 = ***Clinopodium darwinii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. debilis Pomel in Nouv. Mat. Fl. Atl.: 122. 1874. – Lectotype (designated here by Bräuchler): [Algeria] "Rochers de Zouia. 1400 m, Gar Roub., jn. 1855-56", *Pomel* (MPU-004936*!).

Note. – Two sheets of *M. debilis* Pomel exist at MPU, one of which has been labelled "holotype" when the types were databased (MPU-004935*!). This is the richest "type collection". Since there is no original label bearing Pomel's handwriting on that sheet, it is not considered to be suitable to serve as a lectotype. The second sheet bears two individuals each labelled with a different barcode (left hand: MPU-005512*!; right hand: MPU-004936*!) and labels written by Pomel and Maire respectively. The right hand individual is a bit richer and has more leaves on it. It therefore is chosen as lectotype here.

M. debilis var. *mauritii* Sennen, Diagn. Nouv.: 240. 1936. – Holotype: "Maroc: Beni-Snassen, Taforait, rochers calcaires, vers 900 m", *Mauricio, Sennen, Pl. Espagne 9532* (BC!; isotypes: MPU-009542*!, MPU-009543*!). = ***M. debilis*** Pomel

M. debilis var. *villosissima* Batt. & Trab. in Fl. Algérie 1: 677. Dec 1890. – Holotype: [Algeria] "Grands rochers des Cascades à Tlemcen" (AL?). = ***M. debilis*** Pomel

M. densiflora Benth., Labiat. Gen. Spec.: 375. 1834. – Lectotype: (designated by Pérez 1978: 157): [Spain, Canary Islands] "Hab. in ins. Canariensibus", *Broussonet* (K!).

Note. – A label written by Pérez de Paz in 1976 and attached to the holotype at K indicates this as most probably not collected on the Canary Islands but similar to some forms of *M. varia* Benth. For the purpose of this paper, we decided to list this name as accepted until a more detailed study on its affinities is undertaken.

M. densiflora var. *pitardii* (Bornm.) Knoche, Vagandi Mos. [page?]. 1923 ≡ *M. pitardii* Bornm. = ***M. lepida*** Webb & Berthel.

Note. – This citation is taken from Pérez (1978), who does not list a page number. We were not able to consult the reference.

M. despreauxii (Briq.) Bornm. in Repert. Spec. Nov. Regni Veg. 19: 198. 1924 ≡ *Satureja despreauxii* Briq. in Annuaire Conserv. Jard. Bot. Genève 2: 186. 1898. – Holotype: [Spain, Canary Islands] "Iles Canaries", *Despreaux 321* (G). = ***M. helianthemifolia*** Webb & Berthel.

Note. – This name was omitted by Pérez (1978) and all other treatments so far. This might be due to its listing in a footnote of the protologue of *M. kuegleri*. Doroszenko (unpubl. Ph.D. thesis Univ. Edinburgh 1986) placed the basionym in synonymy to *M. helianthemifolia,* which is followed here.

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M. diffusa Lojac., Fl. Sicul. 2(2): 216. 1907. – Type: [Italy, Sicily] "Monti di Palermo, Maggio", *Todaro* (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – See note under *M. calaminthoides.*

M. dolichodonta P. H. Davis in Kew Bull. 1951: 75. 1951 ≡ ***Clinopodium dolichodontum*** (P. H. Davis) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. domingensis Shinners in Sida 1: 96. 1962 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. douglasii (Benth.) Benth., Labiat. Gen. Spec.: 372. 1834 ≡ *Thymus douglasii* Benth. in Linnaea 6: 80. 1837 ≡ ***Clinopodium douglasii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. echioides Lacaita ex Lojac., Fl. Sicul. 2(2): 215. 1907 = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – *"Strigosa"* would be the variety to choose the specific lectotype from (Lojacono-Pojero, Fl. Sicul. 2(2): 215. 1907: "La forma piu comune e prototipa"). Furthermore see note under *M. calaminthoides*.

M. echioides var. *angustifolia* Lojac., Fl. Sicul. 2(2): 216. 1907. – Type: [Italy, Sicily] "Palermo, Porto Empedocle?" (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

[*M. echioides* var. *gasparinii* Lacaita in Lojacono-Pojero, Fl. Sicul. 2(2): 216. 1907, nom. nud.] – Based on a specimen from: [Italy, Sicily] "M. Gebbia non procul a Palazzo-Adriana" *Gasparrini 1* (not traced). – ***M. graeca*** (L.) Benth. ex Rchb.

M. echioides var. *gossypina* Lojac., Fl. Sicul. 2(2): 216. 1907. – Type: [Italy, Sicily] "Trapani, Marsala", *Lehm.* (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

M. echioides var. *griseocanescens* Lojac., Fl. Sicul. 2(2): 215. 1907. – Syntypes: [Italy, Sicily] "Ad rupes elatiores, Madonie, Busambra" *Pan.*, "Meretimo" *Tineo* (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

M. echioides var. *humillima* Lojac., Fl. Sicul. 2(2): 215. 1907. – Syntypes: [Italy, Sicily] "Ad rupes muscosas, Palermo M. Grifone", *Tineo* (not traced); "Palermo", 1872, *Ajuti* (K). = ***M. graeca*** (L.) Benth. ex Rchb.

M. echioides var. *strigosa* Lojac., Fl. Sicul. 2(2): 215. 1907. – Syntypes: [Italy, Sicily] "Ad rupes montanas, Palermo, S. Martino, Cometa, Pizzuta ed altrove" (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – See note under *M. echioides.*

M. ekmaniana (Epling & Alain) Borhidi in Acta Bot. Hung. 37: 79. 1992 ≡ *Satureja ekmaniana* Epling & Alain in Brittonia 20: 156. 1968 ≡ ***Clinopodium ekmanianum*** (Epling & Alain) Harley in Kew Bull 55: 921. 2000.

M. elegans Boriss. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 15: 330. 1953. – Holotype: [Turkey, distr. Artvin] "Prope opp. Gurshany", 30.5.1910, *Nesterov 68* (LE). = ***M. elliptica*** K. Koch

M. ellenbeckii (Gürke) Chiov. in Savoia-Aosta, Explor. Uabi-Uebi Scebeli: 443. 1932 ≡ *Satureja ellenbeckii* Gürke in Bot. Jahrb. Syst. 36: 129. 1905. – Holotype: [Ethiopia. Harege region] "Gara Mulata" *Ellenbeck 533* (B†); neotype (designated here by Ryding): "Ethiopia, Harege region, Gara Mulata", *Gillett 5319* (K!; isoneotype: FT!). = ***M. imbricata*** var. ***villosa*** (Elly Walther & K. H. Walther) Ryding

Note. – The neotype was indicated by Ryding (2007: 442) for the first time, but not accompanied by the statement "designated here" or an equivalent. It is therefore formally chosen here by Ryding.

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M. elliptica K. Koch in Linnaea 21: 669. 1849. – Holotype: [Turkey, A8 Çoruh] "Im Hochgebirge des Gaues Pertakrek auf Urgestein, c. 5000-6000' hoch", *Koch* (B†).

Note. – Davis (1982) cited the holotype at B unseen and an isotype at G seen. Although the holotype was listed as extant in Edmondson & Lack (1977), it could not be traced at B and probably has been destroyed. The holotype of *M. elliptica* var. *nana* (or more probably a fragment thereof), however, was traced at B, whereas it was not listed in Edmondson & Lack (1977). Obviously the two taxa have been confused during compilation of the list of Koch types present at B for that publication. The identity of the (fragmentary) "isotype" at G is questionable since the label indicates this as *M. elliptica* var. *nana* as well and provides only cryptic evidence for the specimen being a type ("H.C.K." =? Herbarium Carolus Kochii). No original material of the typical variety could be traced at B, G, GOET, P or W. Since new collections (by T. Dirmenci and colleagues) raised doubts about infraspecific classification, we decided to leave this name untypified until a more detailed investigation has been done.

M. elliptica var. *nana* K. Koch in Linnaea 21: 670. 1849. – Holotype: [Turkey, A8 Çoruh] "Im Hochgebirge des Gaues Pertakrek auf Urgestein, c. 5000-6000' hoch", *Koch* (B!; putative isotype: G-00087141!). = ***M. elliptica*** K. Koch

Note. – See preceding entry.

M. elliptica var. *pubescens* Boiss. & Kotschy ex Boiss., Fl. Orient. 4: 571. 1879. – Holotype: [Turkey] "Hab. in rupibus verticalibus vallis Teng prov. Musch Armeniae 6500'", 9.9.1859, *Kotschy, Iter Cilic.-Kurd. 453* (G-BOIS; isotypes: B!, BP!, JE!, K!, P!, W!). = ***M. cristata*** subsp. ***orientalis*** P. H. Davis

Note. – The text on the labels of the isotypes slightly differs from that mentioned in the protologue: "Plantae ex schistosis in alpibus prope Musch lectae; In rupestribus praeruptis ad parietes excelsas vallis Teng 6500'."

M. ericifolia (Roth ex Willd.) Bornm. in Repert. Spec. Nov. Regni Veg. 19: 198. 1924, nom. rejic. prop. ≡ *Thymus ericifolius* Roth [Bot. Cat. 2: 50. 1802, nom. nud.] ex Willd., Enum. Pl. Horti Berol.: 624. 1809 [as *"ericaefolius"*]. – Holotype: [Spain, Canary Islands] (B-W 11017!). = ***M. varia*** Benth.

Note. – This name has been proposed by Pérez (1978) for rejection in favour of *M. varia* Benth., the formal proposal, however, so far has not been published. At GOET a Roth specimen is present, almost identical to the type found in the Willdenow herbarium of B.

M. eugenioides (Griseb.) Hieron. in Bol. Acad. Nac. Ci. 4: 413. 1881 ≡ *Xenopoma eugenioides* Griseb. in Abh. Königl. Ges. Wiss. Göttingen 19: 237. 1874 = ***Clinopodium gilliesii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. euosma (W. W. Sm.) C. Y. Wu in Acta Phytotax. Sin. 10: 229. 1965 ≡ *Calamintha euosma* W. W. Sm. in Notes Roy. Bot. Gard. Edinburgh 9: 89. 1916 ≡ ***Clinopodium euosmum*** (W. W. Sm.) Bräuchler & Heubl in Taxon 55: 979. 2006.

[*M. fasciculata* Benth., Labiat. Gen. Spec.: 375. 1834, nom. nud. in notas ad *M. inodora*] – ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

Note. – Bentham cites this name in his description of *M. inodora* without indication of author. It is most likely to be interpreted as representing a new combination, both unintended and invalid, for *Satureja fasciculata* Raf., which in turn he listed in synonymy to *M. approximata*.

M. fasciculata (Raf.) Strobl in Flora 68: 370. 1885, nom. illeg. ≡ *Satureja fasciculata* Raf., Précis Découv. Somiol.: 39. 1814 = ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

Note. – Strobl listed *Thymus fruticulosus* Bertol., Amoen. Ital.: 101. 1819, in synonymy to his combination of *S. fasciculata* under *Micromeria* and missed on the priority of the original description Bertol. in J. Bot. Agric. 2: 76. Aug 1813, as referred to in Bertoloni (1819: 101). Strobl's name is therefore illegitimate.

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M. fasciculata var. *gracilis* (Guss.) Strobl in Flora 68: 370. 1885, nom. illeg. ≡ *Satureja fasciculata* var. *gracilis* Guss., Fl. Sicul. Syn. 2: 92. 1844. – Type: not indicated (NAP?). = ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

M. fasciculata var. *hirsuta* (Guss.) Strobl in Flora 68: 370. 1885, nom. illeg. ≡ *Satureja fasciculata* var. *hirsuta* Guss., Fl. Sicul. Syn. 2: 92. 1844. – Type: not indicated. = ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

M. fenzlii Regel in Fischer & Meyer, Index Seminum (St. Petersburg) 1866: 93. 1866 [as "*M. fenzlei* Vis."] =? ***Mentha pulegium*** L., Sp. Pl. 2: 577. 1753.

Note. – See note under *M. dalmatica* Fenzl. Regarding synonymy as provided here, the diagnosis indicates differences to specimens traced at W and WU. Thus the plant cultivated at LE based on seeds recieved from Vienna might not be identical to the species cultivated at W and PAD by that time. A final decision is not possible without consulting further literature and material at LE and PAD. The species according to the diagnosis, however, is not part of *Micromeria* as circumscribed here.

[*M. filicaulis* Schott & Kotschy in Tchihatcheff, Asie Min. Bot. 2: 131. 1860, nom. nud.] – ***M. cremnophila*** subsp. ***anatolica*** P. H. Davis.

Note. – This name is listed as an undescribed species by Tchihatcheff. At W a specimen labelled with this name ("441. M. filicaulis Kotschy & Schott, in monte Tauro, aestate 1836, No. 702.I, *Th. Kotschy*") has been identified as *M. cremnophila* subsp. *anatolica* by P. H. Davis.

M. filiformis (Aiton) Benth., Labiat. Gen. Spec.: 378. 1834 ≡ *Thymus filiformis* Aiton, Hort. Kew. 2: 313. 1789. – Lectotype (designated here by Bräuchler): [Spain] "Insulae Baleares", *Jacquin* (BM [Banks herbarium]).

Note. – According to the protologue ("nat. of the Balearic islands, introduced 1770 by Mr William Malcolm. Fl. June and July, G.H. h.") a preserved specimen from a plant of that name cultivated in the greenhouses at K prior to the description would be the first choice for a lectotype. No such specimen, however, is present at K or BM, where many specimens from plants cultivated at Kew Gardens prior to 1800 are kept. The diagnoses in Hort. Kew. vols. 1 & 2 were largely written by Dryander, who used a manuscript left by Solander (Britten 1912; Krok 1925). In this manuscript (present at the Botany Library at BM), *Thymus filiformis* is stated as described from a Jacquin collection or a specimen from his herbarium (Roy Vickery, pers. comm). At BM there is a sheet in the Banks herbarium that contains three gatherings: the first labelled "Herb. Helvet.", i.e., a collection of (supposedly) Swiss plants, made by Dick, and purchased by Banks from Pitcairn in 1775; a second labelled "Hort. Pitcairne", cultivated at Pitcairn's garden and finally the third collection "Insulae Baleares. Jacquin". The original description by Solander most probably was based on this latter collection and the species later has been introduced to Kew Gardens by Malcolm. The Jacquin collection to our knowledge represents the only preserved part of the original material and therefore is designated as lectotype here. Nevertheless, the authorship for the species is to be attributed to Aiton (McNeill & al. 2006: Art. 46.7, Ex. 35). Morales (1993) includes this species under *M. microphylla*. Until a full revision of the species group is done, we prefer to keep both taxa separate, in case of merging, the choice would have to be for *M. filiformis* for reasons of priority. The status of the infraspecific taxa of *M. filiformis* and its delimitations towards *M. microphylla* remains to be settled.

[*M. filiformis* var. *condensata* (L. Chodat) Bonafè, Fl. Mallorca 4: 56. 1980, nom. inval.] = *Satureja rodriguezii* var. *condensata* L. Chodat in Bull. Soc. Bot. Geneve, ser. 2, 15: 234. 1924. – Lectotype (designated here by Bräuchler): [Spain, Balearic Islands, Mallorca,] "Torre d'en Pau" (G-00087103 [individual on the lower right hand side]!). = ***M. filiformis*** subsp. ***rodriguezii***

Note. – Bonafè does neither include the basionym nor the reference to the protologue, rendering his new combination invalid. He cites the plant as "*M. filiformis* var. *condensata* L. Chod.". At G no specimen labelled with this name could be traced (L. Gautier, pers. comm.). There is, however, a collection labelled as *Micromeria rodriguezii* collected by R. Chodat, father of L. Chodat,

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at Torre d'en Pau on 3.4.1921. This sheet consists of several individuals (fragments of one individual?) the three right hand sided of which fit the diagnosis. Since L. Chodat explicitly states that her treatment was partially based on her father's material, this sheet most probably represents part of the original material. The right hand lower individual therefore is designated as lectotype here.

M. filiformis subsp. *cordata* (Moris ex Bertol.) Pignatti in Giorn. Bot. Ital. 111: 52. 1977 ≡ ***M. cordata*** (Moris ex Bertol.) Moris

M. filiformis (Aiton) Benth. subsp. ***filiformis***

M. filiformis var. *glandulosa* Sennen & Pau in Treb. Inst. Catalana Hist. Nat. 3: 193. 1917 [– *M. filiformis* subsp. *glandulosa* (Sennen & Pau) Bonafè, Fl. Mallorca 4: 56. 1980, nom. inval.]. – Holotype: [Spain, Balearic Islands] "Soller, fentes des rochers, jusqu'a 900 m", *Sennen, Pl. Espagne 2038* (BC!; isotype: MA!). = ***M. filiformis*** subsp. ***filiformis***

Note. – *Sennen, Pl. Espagne 2039,* a number included immediately after listing of the type locality, could erroneously be regarded as syntype; it is, however, the "type" number of *M.* ×*knochei* (MA!), whose description follows in the next clearly separated paragraph in Sennen's paper. Bonafè does include the basionym, but not the reference to the protologue, rendering his new combination invalid.

M. filiformis subsp. ***minutifolia*** (L. Chodat) Kerguélen in Lejeunia 120: 128. 1987 ≡ *Satureja filiformis* var. *minutifolia* L. Chodat in Bull. Soc. Bot. Genève, ser. 2, 15: 246. 1924. – Type: Described from Corse without indication of collector, date or precise place.

Note. – No original material labelled with this name could be traced at G (L. Gautier, pers. comm.).

M. filiformis subsp. ***rodriguezii*** (Freyn & Janka) Bonafè, Fl. Mallorca 4: 56. 1980 ≡ *M. rodriguezii* Freyn & Janka

M. filiformis var. *rubrifolia* Sennen & Pau in Treb. Inst. Catalana Hist. Nat. 3: 193. 1917. – Holotype: [Spain, Balearic Islands] "Soller, murs et collines (Bianor in sched.)", *Sennen, Pl. Espagne 2041* (BC!; isotype: MA!). = ***M. filiformis*** subsp. ***filiformis.***

M. flacca (Nábělek) Hedge in Notes Roy. Bot. Gard. Edinburgh 25: 51. 1965 ≡ *Satureja flacca* Nábělek in Publ. Fac. Sci. Univ. Masaryk (Brno) 70: 44. 1926 = ***Clinopodium molle*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. flagellaris Baker in J. Linn. Soc., Bot. 20: 232. 1883.

Note. – One of currently three accepted species endemic to Madagascar. Traditionally included in *Micromeria* section *Micromeria*, they were omitted in the last synopsis of *Micromeria* by Morales (1993). Morphological affinities with E African members of *M.* sect. *Pseudomelissa* were assumed previously (e.g., I. Hedge, pers. comm.) but more recent studies favour the placement in a new genus (Bräuchler, unpubl. data). The lack of a marginal leaf vein along with several other features (e.g. ecology, growth form, inflorescence) supports exclusion from *Micromeria* as circumscribed here.

M. fontanesii K. Koch in Linnaea 6: 670. 1849 & Pomel, Nouv. Mat. Fl. Atl.: 123. 1874 ≡ *Satureja filiformis* Desf., Fl. Atl. 2: 8, t. 121. 1798 [non *Thymus filiformis* Aiton, Hort. Kew. 2: 313. 1789, non *M. filiformis* (Aiton) Benth. 1834]. – Type: [Morocco?] "In fissuris rupium Atlantis", *Desfontaines* (P, illustrated in Desf., Fl. Atlant. 2: t. 121. 1798).

M. fontanesii var. *depauperata* Pomel, Nouv. Mat. Fl. Atl.: 123. 1874. – Holotype: [Algeria] "Environs d'Oran, Union du Sig (?), rochers", 1852, *Durando* (MPU-004938*!). = ***M. fontanesii*** K. Koch.

M. fontanesii var. *major* Batt. & Trab., Fl. Algérie 1: 677. Dec 1890. – Syntypes: [Algeria] "R.R. Les 2 Cèdres (Blida), Le Chenoua" (not traced, AL/MPU?). = ***M. fontanesii*** K. Koch

Note. – See note under *M. brivesii*.

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M. fontanesii var. *typica* Batt. & Trab. Fl. Algérie 1: 677. 1890 [nom. inval.?]. – Syntypes: [Morocco] "Tell oranais, Dahra, Tiaret, Maroc" (not traced, P?). = ***M. fontanesii*** K. Koch.

Note. – Despite not explicitly including the type of *Micromeria fontanesii,* this variety name could be regarded as not validly published. The protologue, however, includes a type citation (herb. Coss.; not the type of the species) and a diagnosis.

M. forbesii Benth., Labiat. Gen. Spec.: 376. 1834. – Holotype: [Cape Verde Islands] "Ins. Sancti Nicolai", 1822, *Forbes* (K!).

Note. – A considerably variable species with many forms on each island of the Cape Verde archipelago. Since no clear delimitations can be drawn among the variation over the whole distribution range, the varieties published are placed in synonymy to *M. forbesii* here. A specimen with more detailed label data collected by Forbes is present at G (G-00018940*!) and probably represents a duplicate of the holotype at K.

M. forbesii var. *altitudinum* Bolle in Bonplandia (Hannover) 8: 282. 1860. – Holotype: [Cape Verde Islands] "Hab. in ins. S. Antonii jugi excelsi Cumbre rupibus siccissimis", [11.1851], *Bolle* (B†). = ***M. forbesii*** Benth.

Note. – The holotype together with Bolle's herbarium was integrated in the general herbarium at B and destroyed in WW II. To our knowledge no isotypes exist at B or at Z/ZT where some Bolle duplicates are kept. A specimen of *M. forbesii* collected by Bolle in 1853 (TCD!) according to the original description might represent this variety, but indication of locality is more general, the name is not on the label or elsewhere on the specimen and flowers are absent.

M. forbesii var. *inodora* J. A. Schmidt, Beitr. Fl. Cap. Verd. Ins.: 222. 1852. – Holotype: [Cape Verde Islands] "Hab. in rupibus S. Antonii, pr. Riberiram grandem", 3.1851, *Schmidt* (not traced). = ***M. forbesii*** Benth.

Note. – Unlike other Schmidt material, the type is not to kept at HBG. At B, HAL, HEID and W specimens of the typical variety cited by Schmidt were traced, but not the type of var. *inodora*.

M. formosana C. Marquand in Hooker's Icon. Pl. 33: t. 3230. 1934 = ***Origanum vulgare*** L., Sp. Pl. 2: 590. 1753.

M. forsskahlii Benth., Labiat. Gen. Spec.: 379. 1834, nom. superfl. [as *"forskahlei"*] ≡ *Thymus imbricatus* Forssk. ≡ ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. frivaldszkyana (Degen) Velen. in Oesterr. Bot. Z. 49: 291. 1899 ≡ *Zygis frivaldszkyana* Degen in Bull. Herb. Boissier 4: 523, t. 8. Jul 1896 ≡ ***Clinopodium frivaldszkyanum*** (Degen) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. fruticosa (L.) Druce in Bot. Exch. Club Soc. Brit. Isles 3: 421. 1914 ≡ *Melissa fruticosa* L., Sp. Pl. 2: 593. 1753 ≡ *Clinopodium fruticosum* (L.) Kuntze, Revis. Gen. Pl. 2: 516. 1891, non Forssk., Fl. Aegypt. Arab.: 107. 1775 ≡ ***Clinopodium serpyllifolium*** subsp. ***fruticosum*** (L.) Bräuchler in Taxon 55: 980. 2006.

M. fruticosa subsp. *barbata* P. H. Davis in Kew Bull. 1951: 77. 1951 ≡ ***Clinopodium serpyllifolium*** subsp. ***barbatum*** (P. H. Davis) Bräuchler in Taxon 55: 980. 2006.

M. fruticosa subsp. *brachycalyx* P. H. Davis in Kew Bull. 1951: 77. 1951 ≡ ***Clinopodium serpyllifolium*** subsp. ***brachycalyx*** (P. H. Davis) Bräuchler in Taxon 55: 980. 2006.

M. fruticosa subsp. *giresunica* P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 38: 39. 1980 ≡ ***Clinopodium serpyllifolium*** subsp. ***giresunicum*** (P. H. Davis) Bräuchler in Taxon 55: 980. 2006.

M. fruticosa var. *italica* (Huter) Fen. in Webbia 28: 375. 1973 ≡ *M. marifolia* var. *italica* Huter = ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze

M. fruticosa subsp. *serpyllifolia* (M. Bieb.) P. H. Davis in Kew Bull. 1951: 77. 1951 ≡ *Nepeta serpyllifolia* M. Bieb., Fl. Taur.-Cauc. 2: 40. 1808 ≡ ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

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M. fruticulosa (Bertol.) Šilić, Monogr. Satureja Fl. Jugosl.: 256. 1979 ≡ *Thymus fruticulosus* Bertol. ≡ ***M. graeca*** subsp. ***fruticulosa*** (Bertol.) Guinea

Note. – The first to propose this name at the rank of a species under *Micromeria* was Šilić (1979), who erroneously treated it as *M. fruticulosa* (Bertol.) Grande, which was actually published as *Satureja fruticulosa* (Bertol.) Grande in Nuov. Giorn. Bot. Ital., ser. 2, 32: 91. 1925.

M. gilliesii Benth., Labiat. Gen. Spec.: 381. 1834 ≡ ***Clinopodium gilliesii*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. glabella (Michx.) Benth., Labiat. Gen. Spec.: 371. 1834 ≡ *Cunila glabella* Michx., Fl. Bor.-Amer. 1: 13. 1803 ≡ ***Clinopodlium glabellum*** (Michx.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. glabella var. *angustifolia* Torr., Fl. New York 2: 67. 1847 = ***Clinopodium glabrum*** (Nutt.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. glomerata P. Pérez in Vieraea 3: 78. 1974. – Holotype: [Spain, Canary Islands] "In fissuris rupis regione septentrionale Anaga (400 m), circa Taganaga. Stirps nivariensis rarissima", 27. 5.1972, *Pérez de Paz* (TFC 1710; isotype: K!, MA!).

M. gontscharovii Vved. in Bot. Mater. Gerb. Inst. Bot. Acad. Nauk. Uzbeksk. SSR 16: 17. 1961, nom. superfl. ≡ ***Gontscharovia popovii*** (B. Fedtsch. & Gontsch.) Boriss. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR. 15: 321. 1953.

M. gracilis (R. Br.) Benth., Labiat. Gen. Spec.: 380. 1834 ≡ *Mentha gracilis* R. Br., Prodr. Fl. Nov. Holland.: 505. 1810 = ***Mentha diemenica*** Spreng., Syst. Veg. 2: 724. 1825.

M. graeca (L.) Benth. ex Rchb., Fl. Germ. Excurs.: 311. 1831 ≡ *Satureja graeca* L., Sp. Pl. 2: 568. 1753. – Lectotype (designated by Morales 1991: 143): Herb. Linnaeus no. 723.4 (LINN).

Note. – The whole *M. graeca* alliance is very variable, resulting in numerous synonyms especially for taxa described from the Italian islands and coasts. The infraspecific classification is far from being satisfactory. In accordance to the treatment in Flora Europaea (Ball & Getliffe 1972) many taxa described are accepted here for the time being at the rank of subspecies, but may not represent natural units. A thorough revision is badly needed. Most *Micromeria* taxa described by Lojacono-Pojero (1907) are to be included under *M. graeca* but assignment to a certain subspecies in most cases is not possible without consulting the original collections.

M. graeca var. *angustifolia* (C. Presl) Benth. in Candolle, Prodr. 12: 214. 1848 ≡ *Satureja angustifolia* C. Presl, Fl. Sicul.: 36. 1826. – Holotype: [Italy, Sicily] (not traced, PR?). =? ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman.

M. graeca [unranked] *canescens* (Guss.) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ *M. canescens* (Guss.) Benth., Labiat. Gen. Spec.: 376. 1834 ≡ *Satureja canescens* Guss., Pl. Rar.: 228, t. 42. 1826 = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – See notes under *M. canescens* and *M. approximata* subsp. *barceloi.*

M. graeca subsp. ***consentina*** (Ten.) Guinea in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *M. graeca* var. *consentina* (Ten.) Nyman, Consp. Fl. Eur.: 590. 1881 ≡ *Satureja consentina* Ten., Fl. Neapol. Prodr. App. 5: 17. 1826. – Holotype: [Italy, Naples] *Tenore* (NAP).

Note. – This taxon has been included in synonymy to *M. graeca* var. *longiflora* by Bentham (1834), which is here listed as subspecies. The latter name would have priority at subspecies level if the two subspecies prove to be one taxon.

M. graeca subsp. *cypria* (Kotschy) E. F. Chapm., Cyprus Trees Shrubs: 73. 1949 Rech.f. in Arkiv Bot., ser. 2, 1(9): 430. 7 Dec 1949 ≡ *M. cypria* Kotschy = ***M. microphylla*** (d'Urv.) Benth.

Note. – Chapman cites this as *"M. graeca* subsp. *cypria* Holm." providing an indirect reference to Kotschy's basionym *M. cypria* via *Satureja graeca* subsp. *cypria* (Kotschy) Holmb., Stud. Veg. Cyprus: 159. 1914. We found no evidence for the precise publication date of Chapman's work in

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1949. Since Rechinger made the same combination in December of that year, it is very likely but not sure that Chapman should be cited as the author of this combination. No standard form has been proposed for this author (see IPNI 2008), so we introduce "E. F. Chapm." here in concordance with other abbreviations for authors of the same surname as listed there.

M. graeca var. *densiflora* Benth., Labiat. Gen. Spec.: 373. 1834. – Type: not designated. = ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman

Note. – A number of collections is cited under *M. graeca*. In case a specimen is preserved at K (herb. Bentham) labelled with the name *M. graeca* var. *densiflora* this could serve as lectotype.

M. graeca var. *densiflora* Post, Fl. Syria: 621. 1896, non Benth. 1834. – Holotype: [Lebanon] "Subalpine and alpine Lebanon; Zahleh", *Post* (BEI) = ***M. graeca*** Benth. ex Rchb.

M. graeca subsp. ***fruticulosa*** (Bertol.) Guinea in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *Thymus fruticulosus* Bertol. in J. Bot. Agric. 2: 76. Aug 1813. – Lectotype (designated here by Bräuchler): [Italy, Sicily, Palermo] "*Satureja fruticosa* Cyrilli; Ex Panormo dedit Pisis(?)", 1806, *Bivona-Bernardi* (BOLO [photo]!).

Note. – This seems to be one of the more distinct forms of the *M. graeca* alliance. There is no indication of the type in the protologue, which seems to be an abridged pre-print extract of the Amoenitates Italicae (Bertoloni 1819), since both numbering of the account and species diagnosis are exactly the same. In the latter treatment, the name *Satureja fasciculata* is cited in synonymy to *T. fruticulosus* along with two old Boccone names from specimens seen by Bertoloni in herb. DD Josephi & Cajetan Monti. Another specimen cited (Bertoloni 1819: 101) is one collected under the name *Satureja fruticosa* Cyrilli in Sicily by Bivona-Bernardi in 1806; it represents the only collection for which there is proof that it was in Bertoloni's posession when writing the original diagnosis. This specimen is preserved at BOLO, forming part of Bertoloni's "Hortus siccus Florae Italicae" (A. Managlia, pers. comm.) and in our opinion is the best choice for a lectotype.

M. graeca subsp. ***garganica*** (Briq.) Guinea in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *Satureja graeca* subsp. *garganica* Briq., Lab. Alp. Mar. 3: 421. 1895. – Type: [Italy] "Mte. Gargano" (not traced).

Note. – Pignatti (1982) includes *Satureja graeca* subsp. *garganica* in synonymy to *M. canescens,* which he recognizes as distinct species and in turn is listed in synonymy to *M. graeca* subsp. *micrantha* by Govaerts (1999). This seems to be among the more distinct forms of *M. graeca* s.l. At G there is only one specimen of this taxon that could represent original material, though it is neither labelled with the name nor with Briquet's handwriting (G-00087140!). We therefore decided to wait until better material is available for typification.

M. graeca (L.) Benth. ex Rchb. subsp. ***graeca***

M. graeca var. *hirsuta* (C. Presl) K. Koch ≡ *Satureja hirsuta* C. Presl in Presl & Presl, Del. Prag.: 79. 1822 = ***M. juliana*** (L.) Benth.

M. graeca subsp. *imperica* Chater in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *M. thymoides* De Not., Repert. Fl. Ligust.: 353. 1844, non (Sol. ex Lowe) Webb & Berthel., Hist. Nat. Iles Canaries 3: 71. Dec. 1844 = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca.***

Note. – Pignatti (1982) includes this in synonymy to *M. graeca* subsp. *graeca* which is followed here after examination of material from the area of the type collection. When establishing a new subspecific name for this taxon Chater missed on the probable priority of *M. thymoides* De Not. (1844) over *M. thymoides* (Sol. ex Lowe) Webb. & Berthel. (Dec 1844). Chater's *"imperica"*, however, to our knowledge, is the oldest available name for this taxon at subspecies level. The date for the Webb & Berthel. name is taken from Stearn (1937).

M. graeca var. *latifolia* Boiss., Voy. Bot. Espange 1(16): 496. 1841. – Syntypes: "Hispania, Graecia, Italia meridionali", *Boissier* (G-BOIS?, putative isosyntypes: GOET!, W!). = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

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Note. – The specimens traced at GOET and W are duplicates from G-BOIS ("In colibus reg. calidae Regn. Granat.", Mai 1837, *Boissier*).

M. graeca subsp. ***laxiflora*** (Post) Mouterde, Nouv. Fl. Liban Syrie 3(2): 3. 1979 ≡ *M. graeca* var. *laxiflora* Post, Fl. Syria: 621. 1896. – Holotype: [Lebanon] "Subalpine and alpine Lebanon; Zahleh", *Post* (G).

Note. – Citation of the type is taken from Musselmann & Saoud (2004).

M. graeca subsp. ***longiflora*** (C. Presl) Nyman, Consp. Fl. Eur.: 590. 1881 ≡ *M. graeca* var. *longiflora* (C. Presl) Benth., Labiat. Gen. Spec.: 373. 1834 ≡ *Satureja longiflora* C. Presl, Fl. Sicul: 36. 1826. – Type: [Italy, Sicily] (not traced, PR?).

M. graeca subsp. *micrantha* (Brot.) Rivas Mart., T. E. Díaz & Fern. Gonz. in Itin. Geobot. 3: 138. 1990 ≡ *M. graeca* f. *micrantha* (Brot.) Hayek, Prodr. Fl. Penins. Balcan. 2: 320. 1929 ≡ *Thymus micranthus* Brot., Fl. Lusit. 1: 176. 1804. – Type: [Portugal] "In collibus calcareis, praesertim in Alcantara prope Olisiponem", *Brotero* (not traced, LISU?). = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

Note. – Synonymy is following Morales (1991).

M. graeca [unranked] *notarisii* (Zumagl.) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ *Thymus notarisii* Zumagl. 1849, nom. superfl. ≡ *Micromeria thymoides* De Not. 1844 [& 1846], non (Sol. ex Lowe) Webb & Berthel., Dec 1844 ≡ *M. graeca* subsp. *imperica* Chater = ***M. graeca*** subsp. ***graeca***

Note. – See notes under *M. notarisii* and *M. thymoides.*

M. graeca var. *pauciflora* Vis., Fl. Dalm. 2: 196. 1847. – Type: [Croatia] "Ad rupes maritimas scopuli S. Andrea prope Lesina", *Stalio* (not traced, PAD?) = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

M. graeca var. *rariflora* K. Koch in Linnea 21: 670. 1848. – Holotype: "Im Gundelsh. Herbar als *Calamintha cretica,* angusto oblongo folio J. H. R. *Clinopodium creticum* P. Alp." (B, extant?). = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

Note. – The herbarium of Andreas von Gundelsheimer after his death in 1715 was divided and transferred to B and M. The material studied by Koch most likely was incorporated in Willdenow's herbarium by that time. This herbarium is still extant at B, but was not searched for the type. At M a specimen labelled with "*Calamintha cretica,* P. Alp." is present, most likely one of Gundelsheimer's duplicates from his journey to Crete with Tournefort.

M. graeca var. *rupestris* (Guss.) Strobl in Oesterr. Bot. Z. 33: 331. 1883 ≡ *Satureja graeca* var. *rupestris* Guss. in Fl. Sic. Syn. 2(1): 90. 1844 = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

M. graeca var. *sicula* (Guss.) Nym. in Consp. Fl. Eur.: 590. 1881 ≡ *Satureja sicula* Guss., Fl. Sic. Syn. 2(1): 90. 1844 = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

M. graeca [unranked] *sicula* (Guss.) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ *Satureja sicula* Guss., Fl. Sic. Syn. 2(1): 90. 1844 = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

Note. – See note under *M. approximata* subsp. *barceloi.*

M. graeca subsp. ***tenuifolia*** (Ten.) Nyman, Consp. Fl. Eur.: 590. 1881 ≡ *M. graeca* var. *tenuifolia* (Ten.) Vis., Fl. Dalm. 2: 196. 1847 ≡ *Satureja tenuifolia* Ten., Fl. Napol.: 33. 1811. – Holotype: [Italy], *Tenore* (NAP).

Note. – Authentic material was traced at BP! and W! ("*Satureja tenuifolia* nobis", *Tenore*). Šilić (1979) cites this under synonymy to *M. graeca* var. *densiflora* Benth. which has priority at varietal level. At rank of a subspecies, however, *M. graeca* subsp. *tenuifolia* (Ten.) Nyman is the oldest valid name.

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M. graeca var. *villicaulis* Borb. ex Formánek in Verh. Naturf. Vereins Brünn 33: 141. 1894. – Type: [Greece] "Korfu, Analypsis et Kanali", 1894, *Formánek* (not traced). = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

M. grandiflora Killick in Bothalia 6: 439. 1954 ≡ ***Killickia grandiflora*** (Killick) Bräuchler, Doroszenko & Heubl in Bot. J. Linn. Soc. 157: 583. 2008.

Note. – See note under *M. compacta.*

M. grandis Lojac., Fl. Sicul. 2(2): 213. 1907. – Syntypes: [Italy, Sicily] "Ad rupes calcareas Palermo", *Pan.*, "Pupi nell'interno dell'Isola, forse gessose. Campofranco", *Rossi* (not traced). = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – See note under *M. calaminthoides*. Syntypes not designated to a variety.

M. grandis var. *humilior* Lojac., Fl. Sicul. 2(2): 214. 1907 = ***M. graeca*** (L.) Benth. ex Rchb.

Note. – See note under species entry.

M. grisea (Epling) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja grisea* Epling in Brittonia 7: 139. 1951 ≡ ***Clinopodium griseum*** (Epling) Harley in Kew. Bull. 55: 921. 2000.

M. guichardii (Quézel & Zaffran) Brullo & Furnari in Webbia 34: 168. 1979 ≡ *Satureja guichardii* Quézel & Zaffran in Bull. Soc. Hist. Nat. Afrique N. 52: 219. 1962. – Lectotype (designated here by Bräuchler): [Libya] "Cyrenaica, escarpment north of Barce, plain amongst limestone rocks", 26.4.1954, *Guichard KG/CYR/155* (BM-000778845!).

Note. – In the protologue, types are stated to be deposited at AL and BM without indication of a holotype. Since the whereabouts of the AL specimen are unclear (see note under *M. brivesii*), the specimen preserved at BM is here designated as lectotype. In the protologue the collector erroneously is cited as L. G. Guichard, while in the introduction of the corresponding article and on the label of the lectotype he is cited as K. M. Guichard.

M. hedgei Rech. f., Fl. Iran. 150: 507, t. 400. 1982. – Lectotype (designated here by Bräuchler): "Iran, Kerman, Bashaguerd, Ghorichi. 1000 m" 20.2.1973, *Iranshahr & Moussavi 15436-E* (W-1973-0020347!, illustrated in t. 400).

Note. – A second syntype cited is *Iranshahr & Moussavi 35809* (E!), which is according to the protologue a duplicate of the other one, but was distributed under a different number in a different year. Since the top set of Rechinger's collections is kept at W and the W specimen is illustrated in the protologue, it is here chosen as lectotype.

M. helianthemifolia Webb & Berthel., Hist. Nat. Iles Canaries 3: 79. 1845. – Lectotype (designated by Pérez 1978: 82): [Spain, Canary Islands] "In fissuris rupium ad pylas vallis Tiraxanae, Degollada de Manzanilla dicta, in regione alta Canaria", *Barker-Webb 27* (FI [individual in the centre]).

M. helianthemifolia f. *albiflora* G. Kunkel in Cuad. Bot. Canaria 16: 43. 1972. – Holotype: [Spain, Canary Islands] "Bco. de Arguineguín, 700 m", *Kunkel 15194* (G-00018865*!). = ***M. helianthemifolia*** Webb & Berthel.

M. helianthemifolia f. *glomerata* G. Kunkel in Vieraea 8: 359. 1980. – Holotype: [Spain, Canary Islands] "Gran Canaria, Barranco de Siberio, 900 m", 25.6.1974, *Kunkel 17368* (G-00018866*!). = ***M. helianthemifolia*** Webb & Berthel.

M. helianthemifolia var. *mary-annae* P. Pérez & G. Kunkel in Cuad. Bot. Canaria 26-27: 27. 1976. – Holotype: [Spain, Canary Islands] "In magno cavo vulgo dicto 'Barranco de Siberio'. Ca. Tejede, Canaria Magna (Gran Canaria dicta)", 25.7.1974, *Pérez* (TFC 5518; isotypes: MA!, FI, TFC, TFMC, herb. Kunkel) = ***M. helianthemifolia*** Webb & Berthel.

M. herpyllomorpha Webb & Berthel., Hist. Nat. Iles Canaries 3: 72. 1844. – Lectotype (designated by Pérez 1978: 238-239): [Spain, Canary Islands] "In ins. Palma", *Barker-Webb* (FI [labelled "*Thymus herpylloides* Nob."]; possible isolectotype: K!).

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M. hirsuta (C. Presl) Gand., Fl. Cret.: 80. 1916 ≡ *Satureja hirsuta* C. Presl in Presl & Presl, Del. Prag.: 79. 1822 = ***M. juliana*** (L.) Benth.

Note. – Gandoger refers to this as "*M. hirsuta* Benth." which can be interpreted as indirect reference to the basionym *Satureja hirsuta* C. Presl via the illegitimate name *M. juliana* var. *hirsuta* (C. Presl) Benth., Labiat. Gen. Spec.: 373. 1834.

[*M. hirsuta* Mazziari in Nyman, Consp. Fl. Eur.: 590. 1881, pro syn.] – ***M. nervosa*** (Desf.) Benth.

M. hispida Boiss. & Heldr. ex Benth. in Candolle, Prodr. 12: 215. 1848. – Holotype: [Greece] "In rupestribus Cretae", 4.1846, *Heldreich* (G-BOIS; isotypes: BP!, GOET!, P!, TCD!, WU [herb. Halácsy]!).

Note. – Doroszenko (unpubl. Ph.D. thesis, Univ. Edinburgh 1986) puts this species in vincity of *M. microphylla.* Judging from the types we confirm the close affinity. Although there is considerable difference in length of calyx teeth and indumentum the two taxa might be conspecific.

M. hochreutineri (Briq.) Maire in Bull. Soc. Hist. Nat. Afrique N. 7: 273. 1916 ≡ *Satureja hochreutineri* Briq. in Ann. Conserv. Jard. Bot. Genéve 7-8: 201. 1904. – Lectotype (designated here by Bräuchler): [Algeria] "Province d'Oran, Oasis de Tiout, près Aïsi Sefra, chaine rocheuse au S. de l'oasis, c. 1050 m", 31.5.1901, *Hochreutiner*, *Voyage botanique en Algérie 549* (G-000 18055*!; isolectotypes: G-00018054*!, Z-000021056!).

Note. – At G two sheets of *Hochreutiner 549* and one of *Hochreutiner 644* (both syntype numbers) are preserved. Collections of both numbers are equally rich. Since *Hochreutiner 549* has one known duplicate at Z, the specimen labelled "*Satureja hochreutineri* sp. nov., J. Briquet 1903" in Briquet's handwriting (G-00018055) is here chosen as lectotype.

M. hydaspidis Falc. ex Benth. in Candolle, Prodr. 12: 224. 1848 ≡ ***Clinopodium hydaspidis*** (Falc. ex Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. hyssopifolia Webb & Berthel., Hist. Nat. Iles Canaries 3: 72. 1844. – Lectotype (designated by Pérez 1978: 209): [Spain, Canary Islands] "In rupestribus siccis Ins. Canar. vulgatissima", *Barker-Webb* (FI [labelled "*Thymus polimorpha* sp.n.?", left hand individual in upper part of sheet with 5 individuals mounted on it]).

M. hyssopifolia var. ***glabrescens*** (Webb & Berthel.) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 212. 1978 ≡ *M. hyssopifolia* f. *glabrescens* Webb & Berthel., Hist. Nat. Iles Canaries 3: 72. 1844. – Lectotype (designated by Pérez 1978: 213): [Spain, Canary Islands] "Prope Orotavam, Nivaria", *Barker-Webb* (FI).

Note. – In a footnote Webb & Berthelot indicate both varieties as formae, but they are explicitly stated as var. in the main body of the text; Pérez (1978) treats them as formae.

M. hyssopifolia f. *hirta* Webb. & Berthel., Hist. Nat. Iles Canaries 3: 72. 1844 = ***M. hyssopifolia*** var. ***hyssopifolia/M. hyssopifolia*** var. ***glabrescens*** (Webb & Berthel.) P. Pérez

Note. – Pérez (1978) put this name in synonymy "per partem" (p.p.) to both varieties.

M. hyssopifolia Webb & Berthel. var. ***hyssopifolia***

M. hyssopifolia var. ***kuegleri*** (Bornm.) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 214. 1978 ≡ *M. kuegleri* Bornm. in Repert. Spec. Nov. Regni Veg. 19: 197. 1924.

M. illyrica (Host) Tomm. in Flora 18, Beibl. 1: 44. 1835 ≡ *Satureja illyrica* Host, Fl. Austriac. 2: 133. 1831 = ***Satureja subspicata*** Bartl. ex Vis., Stirp. Dalmat. Spec. 2: t. 4. 1826.

Note. – This name is listed as "*Micromeria illyrica* (Host)" in an itinerary by Tommasini, at the cited place obviously unintentionally making a new combination.

M. imbricata (Forssk.) C. Chr. in Dansk Bot. Ark. 4, 3: 21. 1922 ≡ *Thymus imbricatus* Forssk., Fl. Aegypt.-Arab.: 108. 1775. – Holotype: [Yemen] "Kurmae", *Forsskål* (C!; photos of holotype in Seybold 1988: 21-22).

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Note. – Some authors (e.g., Walther & Walther 1957; Seybold 1988) preferred to divide this tropical African to Arabian taxon into two to five more narrowly delimited species, but Ryding (2007) recognizes only one species with three varieties. The large and widespead var. *imbricata* is extremely polymorphic, and much more variable than the Mediterranean species of the genus. However, Ryding (2007) was not able to detect any discontinuities in the variation. Different forms may grow together and appear to be distinct at some localities, while intermediates are common at other localities. Ryding (2007) suggested that this variation pattern may be explained by partial autogamy. It does also seem uncertain whether *M. imbricata* is distinct from the Mediterranean *M. graeca.*

M. imbricata (Forssk.) C. Chr. var. ***imbricata***

M. imbricata var. ***rhodesiaca*** (Elly Walther & K. H. Walther) Ryding in Bot. J. Linn. Soc. 155: 439. 2007 ≡ *M. biflora* var. *rhodesiaca* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 7. 1957.

M. imbricata var. ***villosa*** (Elly Walther & K. H. Walther) Ryding in Bot. J. Linn. Soc. 155: 442. 2007 ≡ *M. biflora* var. *villosa* Elly Walther & K. H. Walther in Mitt. Thüring. Bot. Ges. 1(4): 7. 1957.

M. inodora (Desf.) Benth., Labiat. Gen. Spec.: 375. 1834 ≡ *Thymus inodorus* Desf., Fl. Atlant. 2: 30. 1798. – Lectotype (designated by Morales 1991: 141): [Algeria] "In collibus aridis et incultis", *Desfontaines s.n.* (P [herb. Desfontaines, central individual]).

[*M. inodora* f. *decumbens* Sennen, Diagn. Nouv.: 273. 1936, nom. nud.] – ***M. inodora*** (Desf.) Benth.

[*M. inodora* var. *elata* (Maire) Sennen, Diagn. Nouv.: 273. 1936, nom. inval.] – *Satureja fontanesii* var. *elata* Maire in Jahandiez & Maire, Cat. Pl. Maroc 3: 645. 1934 = ***M. inodora*** (Desf.) Benth.

Note. – Maire as a rule did not accept *Micromeria* and described all of his respective new taxa under *Satureja*. Sennen transferred this taxon to *Micromeria,* but listed f. *erecta* Sennen as optional name, rendering his combination of var. *elata* invalid.

[*M. inodora* f. *erecta* Sennen in Diagn. Nouv.: 273. 1936, nom. inval.] – Based on the specimen: "Maroc: Beni-Sicar, coteaux sablonneux de Hidum" *Sennen & Mauricio*, *Sennen, Pl. Espagne 9940*. – ***M. inodora*** (Desf.) Benth.

Note. – Sennen listed f. *erecta* as optional name for *M. inodora* var. *elata,* rendering both names invalid (see also note above).

M. insularis Candargy in Bull. Soc. Bot. France 44: 149. 1897 ≡ ***Clinopodium insulare*** (Candargy) Govaerts, World Checklist Seed Pl. 3(1): 17. 1999.

M. japonica Miq. in Ann. Mus. Bot. Lugduno-Batavi 2: 106. 1865 ≡ ***Mentha japonica*** (Miq.) Makino in Bot. Mag. (Tokyo) 20: 1. 1906.

M. juliana (L.) Benth. ex Rchb., Fl. Germ. Excurs.: 311. 1831 & Benth., Labiat. Gen. Spec.: 373. 1834 ≡ *Satureja juliana* L., Sp. Pl. 2: 567. 1753. – Lectotype (designated by Siddiqi 1985: 108): Herb. Linnaeus No. 723.1 (LINN).

M. juliana f. *angustifolia* (Vis.) Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 115. 1975 ≡ *M. juliana* subf. *angustifolia* (Vis.) Hayek, Prodr. Fl. Penins. Balcan. 2: 318. 1929 ≡ *M. juliana* var. *angustifolia* Vis. [Stirp. Dalm.: 46. 1826, nom. nud.] Fl. Dalm. 2: 196. 1847. – Syntypes: [Croatia] "In asperis siccis apricis in insulis Ossero et Lesina", *Visiani* (not traced, PAD?). = ***M. juliana*** (L.) Benth.

M. juliana f. *barbulata* (K. Malý) Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 116. 1975 ≡ *Satureja juliana* var. *canescens* f. *barbulata* K. Malý in Bull. Inst.

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Jard. Bot. Univ. Belgrade 1-3: 229. 1930. – Syntypes: [Serbia] "Šarplanina (Scardus): Globočička Kamen", 8.1890, *Petrović* (BEOU), "Globočička klisura", 6.1921, *Soška* (BEOU). = ***M. juliana*** (L.) Benth. ex Rchb.

M. juliana var. *canescens* (Guss.) Vandas, Rel. Form.: 484. 1909 ≡ *Satureja canescens* Guss., Pl. Rar.: 228, t. 42. 1826 =? ***M. graeca*** subsp. ***longiflora*** (C. Presl) Nyman.

Note. – Šilić (1979) when citing this variety, included *M. obtusiflora* in synonymy. The latter today is regarded as synonym of *M. myrtifolia*, while *Satureja canescens* is included in the synonymy of *M. graeca* subsp. *longiflora* by Doroszenko (unpubl. Ph.D. thesis Univ. Edinburgh 1986); see note under *M. canescens*.

M. juliana var. *conferta* Coss. & Daveau in Bull. Soc. Bot. France 36: 105. 1889. – Type: [Libya] "In rupestribus prope Dernah ad 200 metr. florifera et fructifera", 7.1875, *Daveau* (not traced, MPU?) ≡ ***M. conferta*** (Coss. & Daveau) Stefani

Note. – The type of this variety apparently is not kept at P.

[*M. juliana* [unranked] *hellenica* Gand., Nov. Consp. Fl. Eur.: 367. 1910, nom. nud.] – ***M. juliana*** (L.) Benth. ex Rchb.

Note. – See note under *M. approximata* subsp. *barceloi.*

M. juliana var. *hirsuta* (C. Presl) Benth., Labiat. Gen. Spec.: 373. 1834, nom. illeg. ≡ *Satureja hirsuta* C. Presl in Presl & Presl, Del. Prag.: 79. 1822. – Type: [Italy, Sicily] (not traced, PR?). = *S. graeca* var. *canescens* Guss. in Fl. Sic. Prodr. 2: 114. 1828 = ***M. juliana*** (L.) Benth. ex Rchb.

Note. – Bentham's combination as a variety is illegitimate. *Satureja hirsuta* C. Presl has priority at species level but since *Satureja graeca* var. *canescens* Guss. is cited in synonymy this would have had priority at variety level.

M. juliana [unranked] *kerneri* (Murb.) Gand., Nov. Consp. Fl. Eur.: 367. 1910 = ***M. kerneri*** Murb.

Note. – See note under *M. approximata* subsp. *barceloi.*

M. juliana f. *latifolia* (Vis.) Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 115. 1975 ≡ *M. juliana* subf. *latifolia* (Vis.) Hayek, Prodr. Penins. Balcan. 2: 318. 1929 ≡ *M. juliana* var. *latifolia* Vis., Fl. Dalm. 2: 196. 1847. – Syntypes: [Croatia] "In asperis siccis apricis totius Dalmatiae litoralis et insulari", *Visiani* (not traced, PAD?). = ***M. juliana*** (L.) Benth. ex Rchb.

M. juliana var. *minoa* (Coustur. & Gand.) Rech. f. in Oesterr. Bot. Z. 84: 177. 1935 ≡ *M. minoa* Coustur. & Gand. = ***M. myrtifolia*** Boiss. & Hohen.

M. juliana var. *myrtifolia* (Boiss. & Hohen.) Boiss., Fl. Orient. 4: 570. 1879 ≡ ***M. myrtifolia*** Boiss. & Hohen.

M. juliana f. *ramosa* Hausskn. in Mitth. Thüring. Bot. Vereins 11: 49. 1897, in obs. – Type: not designated (JE?).

M. juliana var. *tenuifolia* (Ten.) Bornm. in Bot. Jahrb. Syst. 61, Beibl. 140: 73. 1927 ≡ *Satureja tenuifolia* Ten. ≡ ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman

Note. – Šilić (1979) cites this variety in synonymy to *M. juliana* f. *angustifolia* stating that Bornmüller's use of the name is a misinterpretation of the cited basionym. However, Bornmüller's concept is of no relevance for the synonymy of this name.

M. juliana var. *velutina* Tocl & Rohlena in Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 49: 5. 1902 ≡ *M. juliana* f. *velutina* (Tocl & Rohlena) Šilić, Monogr. Satureja Fl. Jugosl.: 234. 1979. – Holotype: [Greece] "Peninsula Athoa, circa monster. Chilandar", *Breuer* (not traced, PR?). = ***M. juliana*** (L.) Benth. ex Rchb.

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M. julianoides Webb & Berthel., Hist. Nat. Iles Canaries 3: 78. 1845. – Syntypes: [Spain, Canary Islands] "In altis jugis Teneriffae Filo de las Canadas", *Barker-Webb* (FI), "In viam ad Taganana-nam", *Smith* (B†). = ***M. lachnophylla*** Webb & Berthel.

M. julianoides var. *palmensis* Bolle in Bonplandia (Hannover) 8: 283. 1860. – Holotype: [Spain, Canary Islands] "In summi jugi la Cumbre de la Palma rupibus crateri ingenti primaevo la Caldera supereminentibus" (B†); neotype (designated by Pérez 1978: 266): [Spain, Canary Islands] "Cumbre, Insel Palma, über der Caldera", 8.1852, *Bolle* (Z!). ≡ ***M. lasiophylla*** subsp. ***palmensis*** (Bolle) P. Pérez

M. kerneri Murb. in Acta Univ. Lund. 27(5): 53. 1892. – Holotype: [Bosnia and Hercegovina] "Auf Felsenterrassen im Flussbett der Narenta an der Franz Josephs Brücke in Mostar, c. 70 m" (not traced, LD?, putative isotype: B!, JE!, K!).

Note. – Some authors included this in synonymy to *M. juliana.* Judging from authentic material from the locus classicus, the two taxa in fact might be conspecific.

M. kosaninii Šilić, Monogr. Satureja Fl. Jugosl.: 234. 1979. – Holotype: [Macedonia] "Galičica, Pljce, cca 1600 ms.m, solo calcareo", 11.10.1970, *Šilić* (SARA; isotype: LJU). ≡ ***Micromeria cristata*** subsp. ***kosaninii*** (Čilić) Bräuchler & Govaerts

M. kosaninii subsp. *prilepensis* Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 23: 14. 2002. – Holotype: [Macedonia] "Prilep – ms. Kozjak, 1000-1500 m", 17.7.1984, *Micevski* (SKO). = ***Micromeria cristata*** subsp. ***kosaninii*** (Šilić) Bräuchler & Govaerts

M. kuegleri Bornm. in Repert. Spec. Nov. Regni Veg. 19: 197. 1924. – Holotype: [Spain, Canary Islands] "Teneriffa: In insulae meridionalis faucibus Barranco de Infierno prope Adeje", 13.5. 1895, *Kuegler* (B†); lectotype (designated here by Bräuchler): "Bco. Infierno", *Kuegler* (B). ≡ ***M. hyssopifolia*** var. ***kuegleri*** (Bornm.) P. Pérez

Note. – Pérez (1978: 215) believed all original material of this name destroyed in B during WW II and designated a neotype: Los Revueltos, Abona, Tenerife. Sobre cenizas pumiticas; frecuente, *P. Pérez 12* (TFC; isoneotypes: FI, K!, TFC, Z!). At JE duplicates of many *Micromeria* collections of Kuegler's 1895 Canary Island travel bearing original labels are present, but not for *M. kuegleri*. Duplicates of the Kuegler collections were purchased by Haussknecht, while the top set was probably kept at B, since Kuegler lived there. Also the type specimens of *M. kuegleri* were kept at B (according to the protologue) and sent to Bornmüller for determination (as was the case with all Canary Island collections by Kuegler; H. Manitz, pers. comm.). While the original specimen probably was destroyed with the general herbarium at B, a fragment of the holotype was preserved in Bornmüller's private collection, which was later acquired by B. The fragment is labelled as n.sp. in Bornmüller's handwriting, but only with an abridged citation of locality and collector without date. Given the presence of this original material the neotypification cannot persist. The Kuegler material at B is designated as lectotype. Given the fragmentary nature of the lectotype, Pérez's neotype could be designated as epitype, but this needs a more thorough revision.

M. lacaitae Lojac., Fl. Sicul. 2(2): 214. 1907. – Type: [Italy, Sicily] "Rupi basse colline sul calcareo, rarissima a Palermo a Chiaranda", June, *Lojacono-Pojero* (not traced). =? ***M. graeca*** subsp. ***graeca***

Note. – See note under *M. calaminthoides.*

M. lachnophylla Webb & Berthel., Hist. Nat. Iles Canaries 3: 73. 1845. – Lectotype (designated by Pérez 1978: 254): [Spain, Canary Islands] "In rupestribus elatis aridissimis ultra pagum Chasnam, non longe a monte Pico del Almendro dicto", *Barker-Webb* (FI).

M. lanata (C. Sm. ex Link) Benth., Labiat. Gen. Spec.: 374. 1834. – Holotype: [Spain, Canary Islands] *Chr. Smith* (B†); neotype (designated by P. Pérez 1978: 113): [Spain, Canary Islands] "In Covalle Tejeda jugisque montium vecinis Magna Canaria rupibus aridis", *Barker-Webb* (FI [lower right hand individual]).

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Note. – On the page cited for this name, Bentham made new combinations under *Micromeria* for *Satureja lanata* Link and *S. tenuis* Link and cited Chr. Smith specimens seen at Lambert's herbarium as source for his taxonomic statement. On p. 731 however, he replaced the names *M. lanata*/*S. lanata* by *M. tenuis*/*S. tenuis* and vice versa. Apparently there has been a confusion of specimens which he discovered just after printing of the concerned chapter. His corrections on p. 731 simply are to be understood as advices for correct application of the names he generated on p. 374. However, the *Micromeria* names on p. 374, sometimes have been regarded erroneously as illegitimate (Pérez 1978; Govaerts & al. 2008). From a nomenclatural point Bentham's correction is irrelevant, since the fascicule containing p. 731 has been published in April 1835 while the one containing p. 374 was printed in May 1834 (Stafleu & Cowan 1976). The correct names read *M. lanata* (Chr. Sm. ex Link) Benth. and *M. tenuis* (Chr. Sm. ex Link) Benth. respectively. The typifications by Pérez (1978) remain unaffected because they are linked to the basionym not the combination. The situation is further blurred by the fact that Webb & Berthelot when newly describing *M. benthamii* included the names "*M. lanata* Benth., Lab., p. 374 non Chr. Smith" and "*M. tenuis* Benth., Lab. p. 731, non Link" in synonymy. At C the original set of Chr. Smith's collections is present including several specimens labelled with the name "*Satureja lanata*". Choice of a lectotype from this material could make the neotype designation superfluous. This requires, however, a thorough study of comprehensive herbarium material including the neotype which is beyond the focus of this study.

M. lanata (Chr. Sm. ex Link) Benth., Labiat. Gen. Spec.: 731. 1835, non Benth. 1834.

Note. – See preceding entry.

M. lasiophylla Webb & Berthel., Hist. Nat. Iles Canaries 3: 74. 1845. – Lectotype (designated by P. Pérez 1978: 264): [Spain, Canary Islands] "In fissuris rupium deustorum jugi cyclici Teneriffae Filo de Las Canadas dicti ad pylas alpinas al Paso de Guadalajara", *Barker-Webb* (FI).

M. lasiophylla Webb & Berthel. subsp. ***lasiophylla***

M. lasiophylla subsp. ***palmensis*** (Bolle) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 265. 1978 ≡ *M. julianoides* var. *palmensis* Bolle

M. lepida Webb & Berthel., Hist. Nat. Iles Canaries 3: 74. 1845. – Lectotype (designated by P. Pérez 1978: 152): [Spain, Canary Islands] "In rupibus praeruptis montium Gomerae", *Despréaux 316* (FI [left hand individual]).

M. lepida var. ***argagae*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 153. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Junonia Minor (Insula Gomera dicta) in anfractu vulgo dicto 'Barranco de Argaga' ad 200 m altitudinis", 4.5.1976, *Pérez 4* (TFC [herb. P. Pérez]; isotypes: FI, MA!, TFC 5551, Z!).

M. lepida subsp. ***bolleana*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 154. 1978. – Holotype: [Spain, Canary Islands] "In rupibus Barranco de la Laja, Gomerae", 9.1856, *Bolle* (B†); neotype (designated by Pérez 1978: 152): [Spain, Canary Islands] "Ex insula Junonia Minor (Insula Gomera dicta) in covallis dicto 'Barranco de la Laja' versus 500 m", 6.1972, *Pérez 5* (TFC [herb. P. Pérez]). – *M. densiflora* sensu Bolle in Bonplandia 8: 283. 1860, non Benth. 1834

Note. – According to Pérez (1978), Bolle's (1860) description does not match the type of *M. densiflora* Benth. at K.

M. lepida var. ***fernandezii*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 158. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Junonia Minor (Insula Gomera dicta) in rupium trachythicarum supra loco dicto 'Puntallana'", 20.7.1975, *Fernández* (ORT 6574; isotype: TFC).

M. lepida Webb & Berthel. subsp. ***lepida***

M. leucantha Svent. ex P. Pérez in Vieraea 5: 82. 1975. – Holotype: [Spain, Canary Islands] "In fissuris rupis regione SW Canaria Magna 200-800 m, c. San Nicolás de Tolentino", 28.7.1974, *Pérez* (TFC 1730; isotype: FI, MA!, O).

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Note. – Pérez cites his own collection as lectotype, since he regarded a collection made and annotated by Sventenius ("*Micromeria leucantha* sp. nov") as syntype. However, he validly describing the species and citing a single type ("lectotype"), he automatically designated a holotype. The other collection cited is a paratype.

M. libanotica Boiss., Diagn. Pl. Orient., ser. 1, 12: 50. 1853 ≡ ***Clinopodium libanoticum*** (Boiss.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. linkii Webb & Berthel., Hist. Nat. Iles Canaries 3: 79. Apr 1845. – Lectotype (Pérez 1978: 138): [Spain, Canary Islands] "In rupibus iisdem prope oppidulum Guia insula Canaria, *M. buchii*", *P. Barker-Webb* (FI). ≡ ***M. tenuis*** subsp. ***linkii*** (Webb & Berthel.) P. Pérez

Note. – See note under *M. buchii*

M. longiflora Hochst. ex Baker in Dyer, Fl. Trop. Afr. 5: 453. 1900, nom. illeg. – Holotype: [Ethiopia] "In montibus pr. Dschadscha, 5700", 30.9.1854, *Hohenacker, Schimper, Pl. Abyss. Agow 2192* (K!; isotypes: B!, BM-000797469!, GOET!, HEID!, Z!). = ***M. unguentaria*** Schweinf.

Note. – This name is illegitimate since the protologue includes *M. unguentaria* Schweinf. in synonymy. Triebel & Scholz (2008) do not list a standard abbreviation for the exsiccata series the type is part of, thus it is proposed here ("Hohenacker, Schimper, Pl. Abyss. Agow").

[*M. longiflora* (C. Presl) Nyman in Lojacono-Pojero, Fl. Sicul. 2(2): 211. 1907, pro syn.] – ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman.

M. longifolia Scheele in Linnaea 22: 593. 1849. – Type: [Croatia] "In ins. Lessina Dalmatiae", *Botteri* (not traced, it is not at B). = ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman.

Note. – This synonymy is given by Doroszenko (unpubl. Ph.D. thesis, Univ. Edinburgh 1986).

[*M. longifolia* Hochst. in Flora 39: 463. 1856, nom. nud., erroneous for *M. longiflora* Hochst.] – ***M. unguentaria*** Schweinf.

Note. – This name is listed in an enumeration of Schimper's collection distributed by Hohenacker ("Pl. abyssinicae e territoriae Agow") instead of *"M. longiflora"* as indicated on the labels of the corresponding specimens.

Micromeria longipedunculata Bräuchler, **nom. nov.** ≡ *M. parviflora* Rchb., Fl. Germ. Excurs.: 859. 1832, nom. illeg. ≡ *Satureja parviflora* Vis. in Flora 12, Ergänzungsbl. 1: 13. 1829, non C. Presl, Fl. Sicula: 36. 1826. – Holotype: [Montenegro] "In montibus Pastrovich in extremo Dalmatiae confinio prope Albaniam", August, *Visiani* (not traced, PAD?). = *Satureja inodora* Host, Fl. Austr. 2: 135. 1831 [non *M. inodora* (Desf.) Benth. 1834]. – Holotype: [Montenegro] "In Dalmatia in monte Pastrovich, aestate", *Tommasini* (W!).

Note. – *M. parviflora* is illegitimate even when considering Art. 58.1 of the ICBN (McNeill & al. 2006), since Reichenbach, when transferring Visiani's illegitimate *Satureja parviflora* to *Micromeria*, cited *Satureja inodora* Host 1831, a legitimate name, in synonymy (see also McNeill & al. 2006: Art. 53.1, Note 1 & Ex. 4). Both names, however, might be based on duplicates of the same Tommasini collection from Mt. Pastrovich, Montenegro. Though Visiani does not directly indicate Tommasini as collector, in the introduction of his treatment he referres to Tommasini as having contributed part of the material for the study. All later workers accepting this species under *Micromeria* referred to Reichenbach and Visiani repeating their errors. The name *M. inodora* since Bentham (1834) is occupied by a combination for *Thymus inodorus* Desf. As no published epithet is available, the new name *M. longipedunculata* Bräuchler is proposed here with respect to the species very long-peduncled cymes.

M. lycia Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 50: 94. 1885. – Lectotype (designated here by Bräuchler): [Turkey, Antalya: Gölbaşi] "Piankaifa [?]", *Luschan* (WU!). = ***M. myrtifolia*** Boiss. & Hohen.

Note. – The specimen at WU is stored in a type folder, labelled "Lectotype, *Micromeria lycia* Stapf; = *M. graeca* (L.) Benth. ex Reichb. subsp. *lycia* (Stapf) Davis." and a determination slip

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with the same name by P. H. Davis written in 1979. The specimen is listed as examined syntype in Flora of Turkey (Davis 1982) under the synonymy to *M. myrtifolia*. The locality (except ?"Piankaifa") is not written on the specimen but taken from Davis (1982). The name *M. graeca* subsp. *lycia* was never published and the typification apparently never was made. Therefore the lectotype is formally designated here. The other syntype at WU ("Gölbaschi", 29.5.1882, *Luschan*") was labelled paratype and identified as *M. myrtifolia* Boiss. & Hohen. by Davis and has a duplicate.

M. macrosiphon Coss. in Bull. Soc. Bot. France 27: 72. 1880. – Lectotype (designated here by Bräuchler): [Morocco] "Maroc méridional, Gorge d'Amsemsey, vers b. cap Guir, N d'Agadir", 16.5.1877, *Cosson* (P-00446725*!; isolectotype: K!).

M. madagascariensis Baker in Journ. Bot. 20: 244. 1882.

Note. – See note under *M. flagellaris* Baker.

[*M. malcolmiana* Benth. in Hooker f., Fl. Brit. India 4: 650. 1885, pro syn.] – ***Clinopodium capitellatum*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. marginata (Sm.) Chater in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *Thymus marginatus* Sm. in Dickson, Coll. Dried Pl. fasc. 3: t. 71. 1791. – Lectotype (designated here by R. Harley): Unlocalized and distributed in cited volume (K; isolectotype: BM).

Note. – When citing the type from a volume at the K library, Harley & Hall (2001) did not conform to Art. 7.11 (McNeill & al. 2006). Starting from 1.1.2001 the code requires an explicit statement "designated here/hic designatus" or equivalent in the typification. Therefore the lectotype is formally designated here by R. Harley.

M. marifolia (Cav.) Benth., Labiat. Gen. Spec.: 382. 1834 ≡ *Nepeta marifolia* Cav. in Anales Hist. Nat. 2(2): 192. 1800 = ***Clinopodium serpyllifolium*** subsp. ***fruticosum*** (L.) Bräuchler in Taxon 55: 980. 2006.

M. marifolia var. *italica* Huter, Herb.-Stud. 22: 402. 1907 = ***Clinopodium serpyllifolium*** subsp. ***fruticosum*** (L.) Bräuchler in Taxon 55: 980. 2006.

M. maritima Yıldırımlı, Sadıkoğlu & Keskin in Ot Sist. Bot. Dergisi 13(1): 29. 2006. – Holotype: "Turkey. C2 Muğla: Marmaris, Turunç köyü, maquis vegetation, near coast, c. 5 m", 23.7.1983, *Yıldırımlı 5647* (herb. Yıldırımlı; isotype: GAZI) =? ***Mentha*** sp.

Note. – The type of this species seems to lack not only leaves and corollas but also bracteoles, a characteristic feature for *Micromeria* as circumscribed here. The species is to be excluded from *Micromeria* and in our opinion should not have been described given the poor material it is based on. The characters come closest to those of *Mentha* species.

[*M. melitensis* Tin. in L. Chodat in Bull. Soc. Bot. Geneve, ser. 2, 15: 245. 1924, pro syn.] – ***M. microphylla*** (d'Urv.) Benth.

M. microcalyx Peyr. in Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl., Abt. 1, 66: 155 & t. 2, fig. 1-4. 1872 = ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze s.l.

Note. – Peyritsch unintentionally described this species in an article dealing with floral abnormities ("Über Pelorienbildung") based on a plant raised at the Botanical Garden Vienna from seeds sent by Kotschy. Along with a drawing of a flowering shoot he provided flower details, thus establishing an illustration with analysis (McNeill & al. 2006: Art. 42.4). Additionally a cryptic diagnosis is provided: "Die zygomorphen Blüthen von *Micromeria microcalyx* waren mit kleinen atrophischen Staubgefässen versehen". The synonymy provided here is provisionally until the revision of the *Clinopodium serpyllifolium* group is completed.

M. microphylla (d'Urv.) Benth., Labiat. Gen. Spec.: 377. 1834 ≡ *Thymus microphyllus* d'Urv. in Mem. Soc. Linn. Paris 1: 327. 1822. – Lectotype (designated here by Bräuchler): [Malta] "Malte", *d'Urville* (P [labelled *"Thymus melitensis"* by d'Urville]!).

Note. – Meikle (1985) cites the type from P as unseen: "In collibus aridis insulae Melitae copiosissime" which is merely a citation from the protologue. Dumont D'Urville however cites two collections (which are regarded to be syntypes) from the herbaria of Tournefort and Vaillant

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("Calamintha minima, annua, thymi-folia Herb. Tourn., Herb. Vaill."). Additionally the title of the whole article indicates a collection made by the author as further syntype ("Enumeratio Plantarum quas in insulis Archipelagi aut littoribus Ponti-Euxini, annis 1819 et 1820, collegit atque detexit J. Dumont d'Urville"). At P a D'Urville specimen of *M. microphylla* from Malta could be traced, which has been collected on a stop en route to the main collection area (Black Sea region). This specimen is labelled by D'Urville as *Thymus melitensis,* a name never published but listed in synonymy to *Satureja microphylla* by Gussone (1844). However this specimen contains a printed label "Herbier de l'Archipel et des côtes de la Mer-noire donné par M. Dumont d'Urville" bearing the name "*M. microphylla* Benth." in Bentham's handwriting, thus representing one of the specimens cited by Bentham (1834). This one specimen without doubt is part of the original material of *Thymus microphyllus* d'Urv. and is therefore chosen as lectotype.

M. microphylla var. *glabriuscula* Benth., Labiat. Gen. Spec.: 377. 1834. – Type: not designated. = ***M. microphylla*** (d'Urv.) Benth.

[*M. microphylla* var. *gussonei* Lojac. in L. Chodat in Bull. Soc. Bot. Geneve, ser. 2, 15: 245. 1924, pro syn.] – ***M. microphylla*** (d'Urv.) Benth.

M. microphylla var. *imbricata* Balf. f. in Transact. Roy. Soc. Edinburgh 31 [Botany of Socotra]: 241. 1888. – Lectotype (designated by Ryding 2007: 435): [Yemen] "Socotra, Ostseite von Wadi Digal", *Schweinfurth 600* (K!); isolectotypes: P!, WU!). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

Note. – The P specimen is mounted on one sheet together with *Schweinfurth 529* (isolectotype of var. *remota,* see following entry); both isolectotypes are labelled "Granitfelsen oberstes Wadi Dilal", 30.4.1881.

M. microphylla var. *remota* Balf. f. in Trans. Roy. Soc. Edinburgh 31 [Botany of Socotra]: Bot. Socotra: 241. 1888 ≡ *Satureja remota* (Balf. f.) Vierhapper in Denkschr. Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 71: 437 [Beitr. Fl. Südarab. Sokotra: 117]. 1907. – Lectotype (designated by Ryding 2007: 435): [Yemen] Socotra, *Schweinfurth 529* (K!; isolectotypes: P!, W!, WU!). = ***M. imbricata*** var. ***imbricata***

M. microphylla subsp. *rodriguezii* (Freyn & Janka) A. M. Romo, Fl. Sylvestres Baleares: 261. 1994 ≡ *M. rodriguezii* Freyn & Janka ≡ ***M. filiformis*** subsp. ***rodriguezii*** (Freyn & Janka) Bonafè

M. microphylla [unranked] *sphaciotica* (Boiss. & Heldr. ex Benth.) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ *M. sphaciotica* Boiss. & Heldr. ex Benth. = ***M. microphylla*** (d'Urv.) Benth.

Note. – See notes under *M. approximata* subsp. *barceloi, M. carpatha* and *M. hispida.*

[*M. microphylla* var. *villosa* Benth., Labiat. Gen. Spec.: 377. 1834, nom. inval.] ≡ ***M. microphylla*** (d'Urv.) Benth.

Note. – When describing "var. *villosa*", Bentham included *Thymus microphyllus* in synonymy to this variety of his *M. microphylla*. Since the former is basionym to the latter, "*villosa*" represents the typical variety and must not be named other than var. *microphylla*.

M. minoa Coustur. & Gand. ex Gand., Fl. Cret.: 80. Dec 1916 & Coustur. & Gand. in Bull. Soc. Bot. France 63: 14. 1917. – Syntypes: [various syntypes cited from Greece] *Gandoger 3503, 3739, 4606, 5760, 7436, 7648, 7950, 8468, 8554, 11099, 11768* (LY). = ***M. myrtifolia*** Boiss. & Hohen.

Note. – This name was intended to be published prior to Fl. Cret. in Bull. Soc. Bot. France 63. Publication of that volume, however, was delayed to 1917 (as printed on the cover of the corresponding volume), so the names in Gandoger's Flora Cretica, according to Stafleu & Cowan (1976) published in late 1916, have priority.

[*M. minoa* f. *strigoso-villosa* Gand., Fl. Cret.: 80, Dec. 1916, nom. nud. based on *Gandoger* no. *2166, 2325, 2427, 2712, 5213, 5453, 5879, 6604, 12046, 12207, 12386, 12957*] – ***M. myrtifolia*** Boiss. & Hohen.

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M. mollis Benth. in Candolle, Prodr. 12: 225. 1848 ≡ ***Clinopodium molle*** (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. monantha (Font Quer) R. Morales in Anales Jard. Bot. Madrid 48: 154. 1991 ≡ *Satureja monantha* Font Quer in Mem. Real Acad. Ci. Barcelona 25: 351. 1936. – Type: "In rupibus arenaceis vallis fl. Uad Sidi Ifni, c. 10-30 m", 4.1835 [*Font Quer*] (fragment of holotype BC!).

Note. – At BC, two fragments are mounted on one sheet with two labels indicating them as different collections: "In rupibus arenaceis vallis fl. Nad Sidi Ifni, 10-30 m", 9.4.1935, *Font y Quer* [indicated as "Typus" but the whole label crossed out]; "Maroc: rochers arides de la vallée de l'Oued Noun", 7.1936, *Ollivier*. There is, however, no clear indication which label applies to which fragment. Given the citation of a rich and flowering type in the protologue, the material traced could only represent a fragment of the original type, which was not found at BC. Judging from the fragments, the plant seems correctly placed in *Micromeria* but is unusual compared to its congeners in the Mediterranean.

M. montana (L.) Rchb., Fl. Germ. Excurs.: 311. 1831 ≡ ***Satureja montana*** L., Sp. Pl. 2: 568. 1753.

M. mutabilis (Epling) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja mutabilis* Epling in Repert. Spec. Nov. Regni Veg. Beih. 85: 157. 1936 ≡ ***Clinopodium mutabile*** (Epling) Harley in Jorgensen & León Yánez, Cat. Vasc. Pl. Ecuad.: 954. 1999.

M. myrtifolia Boiss. & Hohen. in sched. Hohenacker, Kotschy Pl. Alepp. Kurd. Moss.: 305. 1843 & in Boissier, Diagn. Pl. Orient., ser. 1, 5: 19. 1844. – Holotype: [Iraq] "In rupestribus umbrosis ad aquaeductus pr. pagum Gara Kurdist.", 24.7.1841, *Hohenacker, Kotschy Pl. Alepp. Kurd. Moss. 305* (G?; isotypes: GOET!, K-000193718/19!, TCD!, W!).

Note. – This species was part of an exsiccata series edited and distributed by Hohenacker in 1843. The labels of this series are printed and, as is the case here, partially include Latin diagnoses for the accompanying plants, constituting effective and valid publication (McNeill & al. 2006: Art. 30.4, Ex. 4).

[*M. myrtifolia* f. *albiflora* H. Lindb., Iter Cypr.: 29. 1946, nom. nud.] – ***M. myrtifolia*** Boiss. & Hohen.

M. nepalensis Kitam. & Murata in Acta Phytotax. Geobot. 16: 3. 1955 ≡ ***Clinopodium nepalense*** (Kitam. & Murata) Bräuchler & Heubl in Taxon 55: 979. 2006.

M. nervosa (Desf.) Benth., Labiat. Gen. Spec.: 376. 1834 ≡ *Satureja nervosa* Desf., Fl. Atl. 2: 9. 1798. – Lectotype (designated by Morales 1991: 147): [Algeria?] "In fissuris rupium Atlantis", *Desfontaines s.n.* (P).

[*M. nervosa* [unranked] *cretensis* Gand., Nov. Consp. Fl. Eur.: 367. 1910, nom. nud.] – ***M. nervosa*** (Desf.) Benth.

Note. – See note under *M. approximata* subsp. *barceloi.*

M. nervosa var. *plumosa* (Hampe) Nyman, Consp. Fl. Eur.: 590. 1881 ≡ *Satureja plumosa* Hampe in Flora 25, Beibl. 1: 127. 1842. – Type: [Greece] "Attica", *Spruner* (not traced, ATH?). = ***M. nervosa*** (Desf.) Benth.

Note. – This species has been described based on material distributed by Spruner in 1840 under the name *Thymus mastichina*.

M. nervosa subsp. *rodriguezii* (Freyn & Janka) Nyman, Consp. Fl. Eur.: 590. 1881 ≡ *M. rodriguezii* Freyn & Janka ≡ ***M. filiformis*** subsp. ***rodriguezii*** (Freyn & Janka) Bonafè

[*M. nervosa* [unranked] *rodriguezii* (Freyn & Janka) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ ***M. filiformis*** subsp. ***rodriguezii*** (Freyn & Janka) Bonafè

Note. – See note under *M. approximata* subsp. *barceloi.*

[*M. neumannii* Gürke vel O. Hoffm. in Engler in Sitzungsber. Preuss. Akad. Wiss. 40: 744. 1906, nom. nud.] – ***M. imbricata*** (Forssk.) C. Chr.

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M. notarisii Gand., Nov. Consp. Fl. Eur.: 367. 1910, nom. superfl. ≡ *Thymus notarisii* Zumagl., Fl. Pedem. 1: 226. 1849, nom. superfl. ≡ *Micromeria thymoides* De Not. 1844 [& 1846], non (Sol. ex Lowe) Webb & Berthel. Dec 1844 ≡ *M. graeca* subsp. *imperica* Chater = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

Note. – See *M. thymoides* De Not. for further details. Gandoger lists this at the rank of species as nom. nov. for *M. thymoides* De Not., non Webb. & Berthel., without any reference to Zumaglini. *Thymus notarisii* Zumagl., however, he lists as basionym to an unranked infraspecific combination under *M. graeca*. Both alternative names, since published prior to 1.1.1953, are to be regarded as validly published (McNeill & al. 2006: Art. 34.2), but superfluous.

M. nubigena (Kunth) Benth., Labiat. Gen. Spec.: 381. 1834 ≡ *Thymus nubigenus* Kunth in Humboldt & al., Nov. Gen. Sp. Pl. 2: 313. 1818 ≡ ***Clinopodium nubigenum*** (Kunth) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. nubigena var. *angustifolia* Wedd., Chlor. Andina 2: 150. 1860 = ***Clinopodium nubigenum*** (Kunth) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. nubigena var. *cordifolia* Wedd., Chlor. Andina 2: 150. 1860 = ***Clinopodium nubigenum*** (Kunth) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. nubigena var. *glabrescens* Benth. in Candolle, Prodr. 12: 222. 1848 ≡ *M. nubigena* subvar. *glabrescens* (Benth.) Wedd., Chlor. Andina 2: 150. 1860 = ***Clinopodium nubigenum*** (Kunth) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. nummulariifolia Boiss., Diagn. Pl. Orient., ser. 1, 12: 50. 1853 ≡ ***Clinopodium nummulariifolium*** (Boiss.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

[*M. nuttallii* Torr. & A. Gray in Candolle, Prodr. 12: 230. 1848, pro syn.] – ***Clinopodium glabrum*** (Nutt.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. obovata (Willd.) Benth., Labiat. Gen. Spec.: 381. 1834 ≡ *Xenopoma obovatum* Willd. in Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 5: 399. 1811 = ***Clinopodium vimineum*** (L.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. obtusiflora Gand., Fl. Cret.: 80. 1916. – Holotype: [Greece, Crete] "Creta austro-orient., Prov. Hierapetra in saxosis ad H. Joannis", *Gandoger 5764* (LY). = ***M. myrtifolia*** Boiss. & Hohen.

M. odora (Griseb.) Hieronym. in Bot. Acad. Nac. Cordoba 4: 413. 1881 ≡ *Xenopoma odora* Griseb. in Abh. Königl. Ges. Wiss. Göttingen 19: 236. 1874 ≡ ***Clinopodium odorum*** (Griseb.) Harley in Kew Bull. 55: 923. 2000.

M. origanifolia (Labill.) Benth. in Candolle, Prodr. 12: 214. 1848 ≡ *Clinopodium origanifolium* Labill., Icon. Pl. Syr. 1: 14. 1791 ≡ ***Cyclotrichium origanifolium*** (Labill.) Manden. & Scheng. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 15: 337. 1953.

M. origanifolia (Vis.) Boiss., Fl. Orient. 4: 575. 1879, non (Labill.) Benth. 1848 ≡ *Thymus origanifolius* Vis. in Flora 13: 51. 1830 = ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – See note under *M. balcanica.*

M. origanifolia subsp. *bulgarica* Velen. in Oesterr. Bot. Z. 49: 292. 1899 ≡ ***Clinopodium dalmaticum*** (Benth.) Bräuchler & Heubl in Taxon 55: 979. 2006.

Note. – See note under *M. balcanica.*

M. ovata Benth., Labiat. Gen. Spec.: 377. 1834. – Holotype: [Eritrea or N Ethiopia], *Salt s.n.* (BM!). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata.***

[*M. ovata* Beck. in Hooker, Fl. Brit. India 4: 650. 1885, pro syn.] – ***M. biflora*** (Buch.-Ham. ex D. Don) Benth.

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M. ovata var. *cinereotomentosa* A. Rich., Tent. Fl. Abyss. 2: 189. 1850. – Type: [Ethiopia] "Tchélikote" [collector not cited; *A. Petit* or *Quartin Dillon?*] (P; isotype: W!) = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

Note. – This variety is described in a footnote of the cited page indicating it as collected in Tchélikote province. The cited Quartin Dillon and the Schimper collection are referred to as *M. ovata* var. *ovata*. Citation of the latter two as types resulted from the cryptic indication of the type of var. *cinereotomentosa*. At least one known collection from Tchélikote province was made by A. Petit (type of *Solanum grossidentatum* A. Rich., Tent. Fl. Abyss. 2: 101. 1850).

M. palmensis (Bolle) Lid in Skr. Norske Vidensk.-Akad. Oslo, Mat.-Naturvidensk. Kl., ser. 2, 23: 152. 1968 ≡ *M. julianoides* var. *palmensis* Bolle ≡ ***M. lasiophylla*** subsp. ***palmensis*** (Bolle) P. Pérez

M. parviflora Rchb., Fl. Germ. Excurs.: 859. 1832, nom. illeg. ≡ *Satureja parviflora* Vis. 1829, non C. Presl 1826 ≡ ***M. longipedunculata*** Bräuchler = *Satureja inodora* Host 1831, non *M. inodora* (Desf.) Benth. 1834.

Note. – See note under *M. longipedunculata*.

M. parviflora f. *effusa* Rohlena ex Šilić, Monogr. Satureja Fl. Jugosl.: 262. 1979, nom. illeg. – Holotype: [Serbia] "Podgorica", 6.1900, *Rohlena* (PRC). = ***M. longipedunculata*** Bräuchler

M. parviflora f. *monantha* Latzel ex Šilić, Monogr. Satureja Fl. Jugosl.: 262. 1979, nom. illeg. – Holotype: [Bosnia and Hercegovina] "Bijela Gora, in rupibus calcareis, 370 m", 25.6.1911, *Latzel* (SARA). = ***M. longipedunculata*** Bräuchler

M. parviflora f. *multiantha* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 118. 1975, nom. illeg. – Holotype: [Montenegro] "In rupestribus ad Bukovica pr. Cetinje", 8.1931, *Pejović* (PR). = ***M. longipedunculata*** Bräuchler

M. parviflora f. *rubrotincta* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 118. 1975, nom. illeg. – Holotype: [Montenegro], "Lovćěn, Ivanova Korita s. Bjeloši, in rupibus calcareis", 25.8.1968, *Šilić* (SARA). = ***M. longipedunculata*** Bräuchler

M. parvula Chiov., Racc. Bot.: 103. 1935 = ***Clinopodium abyssinicum*** (Hochst. ex Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. peltieri (Maire) R. Morales in Anales Jard. Bot. Madrid 48: 154. 1991 ≡ *Satureja peltieri* Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 34. 1929. – Holotype: [Morocco] "Boujad, rocailles calcaires", 17.4.1927, *Peltier* (MPU-004297*!).

M. perezii Bolle in Bonplandia (Hannover) 8: 282. 1860. – Holotype: [Spain, Canary Islands] "In Caldera ins. Palmae", September, *Bolle* (B†). = ***M. herpyllomorpha*** Webb & Berthel.

M. perforata Miq. in Ann. Mus. Bot. Lugduno-Batavum 2: 106. 1865 = ***Mosla japonica*** (Benth.) Maxim. in Bull. Acad. Imp. Sci. Saint-Pétersbourg 20: 461. 1875.

M. perrottetii Gand. in Bull. Soc. Bot. France 65: 67. 1918. – Holotype: "India orient., in montibus Nilagiri", *Perrottet 938* (not traced, LY?). = ***M. biflora*** (Buch.-Ham. ex D. Don) Benth.

M. persica Boiss., Diagn. Pl. Orient., ser. 1, 7: 48. 1846. – Lectotype (designated here by Bräuchler): [Iran] "Th. Kotschy, Pl. pers. austr., Ed. R.F. Hohenacker 1845, Prope ruinas u. Persepolis, pr. monumentum Nakschi Rustam", 4.1842, *Kotschy, Pl. Pers. Austr. 882* (G-BOIS: G-00150059!; isolectotypes: K!, W!).

Note. – The second syntype cited is *Aucher-Eloy 5190* (G, P!). The labels indicate the lectotype and its duplicates as forming part of Kotschy's "Plantae Persiae australis". The standard abbreviation for this series would be "Hohenacker, Kotschy Pl. Pers. Austr.". According to Triebel & Scholz (2008) only c. 600 numbers were issued by Hohenacker. Judging from the high number and the handwritten labels on all types seen (instead of printed ones for the Hohenacker series) this collection has not been edited as part of the latter exsiccata series.

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M. pilosa Benth. in Bentham & Hooker, Gen. Pl. 2: 1188. 1876 = ***Killickia pilosa*** (Benth.) Bräuchler, Doroszenko & Heubl in Bot. J. Linn. Soc. 157: 577. 2008.

Note. – See note under *M. compacta.*

M. pilosiuscula (A. Gray) Small, Fl. S.E. U.S.: 1042. 1903 ≡ *M. brownei* var. *pilosiuscula* A. Gray = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. pineolens Svent., Addit. Fl. Canar. 1: 55. 1960. – Lectotype (designated by Pérez 1978: 274): [Spain, Canary Islands] "Tamadaba", 21.4.1958, *Sventenius* (ORT 6504).

Note. – Sventenius. cites three collections, none of them collected in 1958: Gran Canaria, In montibus Goyedrae, 25.9.1948 (ORT 6500); Gran Canaria, Tamadaba, In pineto, 19.7.1949; Gran Canaria, Tamadaba, In pineto 19.9.1951. Pérez (1978) states his lectotype to be labelled "*Micromeria pineolens* Svent., Original: Tamadaba 21.4.1958". However, this specimen includes in a small celophane capsule the dissected flower and calyx that served the author for the illustration accompanying the species description (drawn in 1958 by Sventenius himself) and therefore unambiguously represents original material.

M. piperella Benth., Labiat. Gen. Spec.: 379. 1834, nom. illeg. ≡ *Thymus piperella* All., Fl. Pedem. 1: 21, t. 37, fig. 3. 1785, non L., Sp. Pl. 2:. 1753. – Syntypes: [Italy, Piemonte] "In alpibus maritimis ad rupes ubique, uti illis, quae pertinent ad Monregalensem Provinciam, atque ad oppida di Garressio, Carlin, la Briga etc." (TO?). = ***M. marginata*** (Sm.) Chater

Note. – *M. piperella* is illegitimate even when considering Art. 58.1 (McNeill & al. 2006), since Bentham (1834), when transferring Allioni's *Thymus piperella* to *Micromeria*, cited *Thymus marginatus* Sm., a legitimate name, in synonymy (see also McNeill & al. 2006: Art. 53.1, Note 1 & Ex. 4). The illustration (t. 37, fig. 3) in Allioni clearly identifies his *Thymus piperella* as conspecific with *M. marginata*.

[*M. piperella* Pančić in Nyman in Consp. Fl. Eur.: 591. 1881, pro syn.] – ***M. croatica*** (Pers.) Schott

M. piperella var. *croatica* (Pers.) Benth. in Candolle, Prodr. 12: 221. 1848, nom. illeg. ≡ *Thymus croaticus* Pers., Syn. Pl. 2: 130. 1806 ≡ ***M. croatica*** (Pers.) Schott

Note. – See *M. piperella.*

M. pitardii Bornm. in Repert. Spec. Nov. Regni Veg. 6: 1. 1908. – Holotype: [Spain, Canary Islands] "Gomera: Roque de Valle Hermoso, ad rupes, 600 m", 6.1905, *Pitard 1473* (B†?; isotypes: JE!, P-00446723*!; Z!). = ***M. lepida*** Webb & Berthel.

M. plumosa (Hampe) Gand., Nov. Consp. Fl. Eur.: 367. 1910 ≡ *Satureja plumosa* Hampe = ***M. nervosa*** (Desf.) Benth.

Note. – See also *M. nervosa* var. *plumosa*

M. polioides Webb & Berthel., Hist. Nat. Iles Canaries 3: 76. 1845. – Type: [Spain, Canary Islands] "Insula Canaria", *Despréaux* (not traced, FI?). = ***M. tenuis*** (Link) Benth. subsp. ***tenuis***

M. popovii (B. Fedtsch. & Gontsch.) Vved., Fl. Uzbekist. 5: 404. 1961 ≡ *Satureja popovii* B. Fedtsch. & Gontsch. in Acta Hort. Petrop. 41: 117. 1929 ≡ ***Gontscharovia popovii*** (B. Fedtsch. & Gontsch.) Boriss. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR. 15: 321. 1953.

M. preauxii Webb & Berthel., Hist. Nat. Iles Canaries 3: 75. 1845. – Lectotype (designated by Pérez 1978: 128): [Spain, Canary Islands] "Rochers de Goyavrae", 5.1930, *Despréaux 30* (FI [lower left hand individual]). ≡ ***M. ×preauxii*** Webb & Berthel.

Note. – Described as species, as hybrid established by Pérez (1978: 127).

M. pseudocroatica Šilić, Monogr. Satureja Fl. Jugosl.: 248. 1979. – Holotype: [Croatia] "Dalmatia, Peninsula Pelješac, supra pagum Pijavičino, s. calc., expos. merid., c. 200 m", 10.10.1975, *Šilić* (SARA; isotype: LJU). = ***M. croatica*** (Pers.) Schott.

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Note. – At BP a specimen collected by Šilić on the same day and at the same locality is present but indicated to grow on "solo dolomit., S-exp.".

[*M. pubescens* Boiss. & Kotschy in Boissier, Fl. Orient. 4: 571. 1879, pro syn.] – *M. elliptica* var. *pubescens* Boiss. = ***M. cristata*** subsp. ***orientalis*** P. H. Davis

M. pulchella (Clos) Wedd., Chlor. Andina 2: 151. 1860 ≡ *Soliera pulchella* Clos in C. Gay, Fl. Chil. 4: 489, t. 53. 1849 ≡ ***Kurzamra pulchella*** (Clos) Kuntze, Revis. Gen. Pl. 2: 521. 1891.

M. pulegium (Rochel) Benth., Labiat. Gen. Spec.: 382. 1834, nom. illeg. ≡ *Melissa pulegium* Rochel in Pl. Banat. Rar. 62. 1828 ≡ ***Clinopodium pulegium*** (Rochel) Bräuchler in Taxon 55: 979. 2006.

Note. – When making his combination under *Micromeria* for *Melissa pulegium* Rochel, Bentham included the older valid name *Melissa subnuda* Waldst. & Kit. at variety level, rendering his combination illegitimate. To our knowledge, no legitimate combination under *Micromeria* has been made so far, all later works cite Bentham and thus repeat his error. The two taxa with respect to the types (*Melissa pulegium* Rochel, lectotype M! and *Melissa subnuda* Waldst. & Kit., holotype BP!) represent different species.

M. pulegium var. *subnuda* (Waldst. & Kit.) Benth. in Candolle, Prodr. 12: 224. 1848, nom. illeg. = *Melissa subnuda* Waldst. & Kit., Descr. Icon. Pl. Hung. 3: 291 & t. 262. 1812 ?= ***Clinopodium nepeta*** nothosubsp. ***subisidoratum*** (Borbás) Govaerts, World Checklist Seed Pl. 3(1): 18. 1999.

Note. – The occurrence of nothosubspecies in such a variable group as *C. nepeta* s.l. is highly doubtful, the more since the whereabouts of Borbas' type (not at BP) are uncertain.

M. punctata Benth., Labiat. Gen. Spec.: 378. 1834. – Holotype: [Eritrea or N Ethiopia], *Salt s.n.* (BM!; photo of holotype in Seybold 1988: 27) = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

[*M. punctata* var. *angustifolia* Vatke in Linnaea 43: 93. 1881, nom. nud.] – ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. purpurea (Kellogg) A. Gray, Bot. California 1: 595. 1876 ≡ *Hedeoma purpurea* Kellogg in Proc. Calif. Acad. Sci. 5: 52. 1873 = ***Mentha canadensis*** L., Sp. Pl. 2: 577. 1753.

Note. – Kellogg was in doubt about the proper generic placement of this species. Affinities to *Pogogyne* were mentioned. Gray when transferring it to *Micromeria* states it to be "in no respect a *Hedeoma*". Greene (1893) identified it as *Mentha pulegium* L., launching an attack on both forementioned workers. This in turn was corrected by Brandegee (1893) later that year, who defended Gray and placed the taxon in synonymy to *Mentha canadensis* L. This finding obviously has been overlooked by later workers (e.g., Epling & Stewart 1939) until today.

M. purtschelleri Gürke in Engler, Hochgebirgsfl. Afrika: 365. 1892. – Holotype: [Tanzania, Moshi District] "Kilimandscharo, am Muëbach", *Meyer 244* (B†). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. pusilla Phil. in Anales Univ. Chile 90: 556. 1890 [as *"pasilla"*] = ***Clinopodium darwinii*** (Benth.) Kuntze

M. pygmaea Rchb., Fl. Germ. Excurs.: 311. 1831 = ***Satureja subspicata*** Bartl. ex Vis., Stirp. Dalmat. Spec. 2: t. 4. 1826.

M. quartiniana A. Rich., Tent. Fl. Abyss. 2: 190. 1850. – Holotype: [Ethiopia, Tigray region] "Crescit in montosis lapidosis prope Dobra-Sina" [Durasina], 9.8.1839, *Quartin-Dillon* (P!). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

[*M. reinholdii* Heldr. in Boissier, Fl. Orient. 4: 570. 1879, pro syn.] – ***M. myrtifolia*** Boiss. & Hohen.

["*M. remota* (Balf. f.) Vierh." [actually as *Satureja remota*] in Denkschr. Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 71: 437 [Beitr. Fl. Südarab. Sokotra: 117]. 1907] = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

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Note. – This erroneous citation of *Satureja remota* as *Micromeria remota* goes to back to Walther & Walther (1957: 7). The unintentional combination by these authors in *Micromeria* is, however, not valid, because no direct reference to the protologue of the basionym as required by Art. 33.4 since 1953 (McNeill & al. 2006) was given. Another erroneous variant ("*Micromeria remota* Balf. f.", nomenclaturally likewise irrelevant) was published by Miller & Morris (2004: 582).

M. repens Hook. f. in London J. Bot. 6: 274. 1847 = ***Mentha diemenica*** Spreng., Syst. Veg. 2: 724. 1825.

M. rivas-martinezii Wildpret in Vieraea 3: 72. 1974. – Holotype: [Spain, Canary Islands] "In fissuris rupium loco vulgo dicto – Roque de Juan Bay – insula Nivaria, Tenerife dicta", 7.4.1973, *Wildpret* (TFC 1708; isotype: MAF 85542, herb. Rivas-Martínez).

Note. – Although a holotype was indicated (TFC 1708), Wildpret gives two collection dates (9.4.1971 and 7.4.1973). Pérez (1978) does not mention that fact and cites the holotype (TFC 1708) as having been collected on 7.4.1973. In Paris a duplicate of TFC 1708 is preserved, that was collected by W. Wildpret on 9.4.1971 ("Locus classicus, Roque de Juan Bay. Peninsula de Anaga. Tenerife. Canarias").

M. rivas-martinezii f. *angustifolia* Wildpret in Vieraea 3: 73. 1974. – Holotype: [Spain, Canary Islands] "Roque Juan Bay", *Wildpret* (TFC 1709). = ***M. rivas-martinezii*** Wildpret.

Note. – A holotype is indicated by Wildpret (TFC 1709) but two collection dates are given (9.4.1971 and 7.4.1973).

M. rodriguezii Freyn & Janka in Oesterr. Bot. Z. 24: 16. 1874. – Lectotype (designated here by Bräuchler): [Spain, Balearic Islands, Ins. Minorca] "Menorca, in valle Varranco del Favaret prope Mahon ad rupes calcareas", 29.3.1873, *Hegelmaier*, *Iter gallico-hispanicum 1873* (STU!; isolectotype: JE!). ≡ ***M. filiformis*** subsp. ***rodriguezii*** (Freyn & Janka) Bonafè.

Note. – The protologue cites various syntypes collected by Friedrich Hegelmaier on the Balearic Islands, during his "Iter gallico-hispanicum 1873" and subsequently sent to the authors: "Ins. Minorca, in valle Varranco del Favaret prope Mahon ad rupes calcareas 29.3." (isosyntype JE!, STU!); "Ins. Minorca, in declivibus apricis vallis Son Blanc (cum M. filiformi Benth.)" (isosyntype STU!); "Ins. Minorca, Varranco de Algendar ad rupes calcareas, 1.4." (isosyntype STU!); "Ins. Majorca: ad munimenta urbis Palma, 11.4." (isosyntypes STU!). According to Stafleu & Cowan (1976), the whereabouts of Freyn's herbarium are uncertain (possibly BRNM), Janka's herbarium is at CL with many duplicates at BP (Stafleu & Cowan 1979). Only BP could be consulted for this study, but none of the syntypes was traced there. Hegelmaier's herbarium, however, is kept at STU and duplicates of all syntypes are preserved there. Given the uncertainty of the "true" syntypes' whereabouts, the STU specimens are candidates to serve as lectotype, though neither annotated by Freyn nor Janka. The collection made on 29.3.1873 bears the richest individual, fits the description and is known from a duplicate at JE as well and therefore is chosen as lectotype here.

M. rupestris (Wulfen) Benth. in Candolle, Prodr. 12: 225. 1848 ≡ *Satureja rupestris* Wulfen in Jacquin, Collectanea 2: 130. 1789 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. rutenbergiana Vatke in Abh. Naturwiss. Vereine Bremen 9: 135. 1885 = ? *M. flagellaris* Baker

Note. – See note under *M. flagellaris*.

M. satureioides (R. Br.) Benth., Labiat. Gen. Spec.: 380. 1834 ≡ ***Mentha satureioides*** R. Br., Prodr. Fl. Nov. Holland.: 505. 1802.

M. schimperi Vatke in Linnaea 37: 326. 1872. – Holotype: [Ethiopia, Tigray region] "Anadehr", *Schimper 576* (B†; isotypes: K!, E!, Z!). = ***M. imbricata*** (Forssk.) C. Chr. var. ***imbricata***

M. serbaliana Danin & Hedge in Notes Roy. Bot. Gard. Edinburgh 32: 261. 1973. – Holotype: "Egypt, S Sinai: Gebel Serbal, cliffs of smooth red granite, NW exposure, 1850 m", 6.8.1968, *Danin* (HUJ; isotype: E!).

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[*M. serbica* Adamović in Šilić, Monogr. Satureja Fl. Jugosl.: 247. 1979, pro syn.] – ***M. croatica*** (Pers.) Schott

M. serpyllifolia Scheele in Linnaea 22: 593. 1849. – Type: [Croatia?] "Dalmatia" (not traced). = ***M. croatica*** (Pers.) Schott

M. serpyllifolia (M. Bieb.) Boiss., Diagn. Pl. Orient., ser. 2, 4: 13. 1859, non Scheele 1849 ≡ *Nepeta serpyllifolia* M. Bieb., Fl. Taur.-Cauc. 2: 40. 1808 ≡ ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. serpyllifolia var. *barbata* Boiss., Fl. Orient. 4: 574. 1879 ≡ *M. fruticosa* subsp. *barbata* P. H. Davis ≡ ***Clinopodium serpyllifolium*** subsp. ***barbatum*** (P. H. Davis) Bräuchler in Taxon 55: 980. 2006.

[*M. serpyllimorpha* Benth. in Candolle, Prodr. 12: 217. 1848, erroneous for *M. herpyllomorpha*] – ***M. herpyllomorpha*** Webb & Berthel.

[*M. sessiliflora* (C. Presl) Gand., Nov. Consp. Fl. Eur.: 367. 1910, pro syn.] – ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman

M. sessilis Benth. in J. Bot. 6: 274. 1847 = ***Mentha diemenica*** Spreng., Syst. Veg. 2: 724. 1825.

M. shepardii (Post) Post in Bull. Herb. Boissier 1: 405. 1893 ≡ *Nepeta shepardi* Post in J. Linn. Soc. Bot. 24: 439. 1888 = ***Clinopodium congestum*** (Boiss. & Hausskn.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.

M. sinaica Benth., Labiat. Gen. Spec.: 380. 1834. – Holotype: [Egypt] "Rochers du Sinaï", 6.1832, *Bové 61* (K!; isotype: P!, W!).

M. sphaciotica Boiss. & Heldr. ex Benth. in Candolle, Prodr. 12: 220. 1848 & Boiss. & Heldr. in Boissier, Diagn. Pl. Orient. ser. 1, 12: 48. 1853. – Holotype: [Greece] "In rupestribus regionis sempervirentis Cretae in fauce Aratana provinciae Sphakia", 7.1846, *Heldreich* (K!; isotypes: BP!, G-BOIS, GOET!). = ***M. microphylla*** (d'Urv.) Benth.

Note. – See notes under *M. carpatha* and *M. hispida.*

[*M. sphaciotica* f. *villosa* Gand., Fl. Cret.: 80. Dec. 1816, nom. nud.] – ***M. microphylla*** (d'Urv.) Benth.

M. sphaerophylla Baker in J. Linn. Soc. Bot. 20: 232. 1883.

Note. – See note under *M. flagellaris.*

M. spicata Vis. ex Rchb., Fl. Germ. Excurs.: 311. 1831 = ***Satureja cuneifolia*** Ten., Fl. Napol.: 33. 1811.

M. spicigera K. Koch in Linnaea 17: 295. 1844 ≡ ***Satureja spicigera*** (K. Koch) Boiss., Fl. Orient. 4: 566. 1879.

M. spicigera (K. Koch) Walp., Ann. Bot. Syst. 3: 251. 1852, non K. Koch 1844 ≡ *Calamintha spicigera* K. Koch in Linnaea 21: 671. 1848 = ***Clinopodium serpyllifolium*** (M. Bieb.) Kuntze

M. staminea Boiss. & Hohen. in Boissier, Diagn. Pl. Orient., ser. 1, 5: 19. 1844 ≡ ***Cyclotrichium stamineum*** (Boiss. & Hohen.) Manden. & Scheng. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 15: 337. 1953.

M. stolonifera Benth., Labiat. Gen. Spec.: 371. 1834 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

M. subcordata Vis. ex Benth., Labiat. Gen. Spec.: 379. 1834. – Holotype: [Croatia?] "In Dalmatia", *Visiani* (K). = ***M. croatica*** (Pers.) Schott

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M. subnuda (Waldst. & Kit.) Degen, Fl. Velebit 2: 632. 1937 ≡ *Melissa subnuda* Waldst. & Kit., Descr. Icon. Pl. Hung. 3: 291, t. 262. 1812 = ***Clinopodium nepeta*** nothosubsp. ***subisidoratum*** (Borbás) Govaerts, World Checklist Seed Pl. 3(1): 18. 1999.

M. suborbicularis (Alain) Borhidi in Acta Bot. Acad. Sci. Hung. 26: 264. 1981 ≡ *Satureja suborbicularis* Alain in Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 15: 13. 1956 = ***Clinopodium bucheri*** (P. Wilson) Harley in Kew Bull. 55: 920. 2000.

Note. – Synonymy follows Cantino & Wagstaff (1998).

M. subulifolia Rech. f. in Biol. Skr. 8(1): 74. 1955 ≡ ***Hyssopus subulifolius*** (Rech. f.) Rech. f., Fl. Iran. 150: 525. 1982.

M. taygetea P. H. Davis in Kew Bull. 1949: 110. 1949 ≡ ***Clinopodium taygeteum*** (P. H. Davis) Bräuchler & Heubl in Taxon 55: 980. 2006.

M. tenella (Epling) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja tenella* Epling in Repert. Spec. Nov. Regni Veg. Beih. 85: 161. 1936 ≡ ***Clinopodium tenellum*** (Epling) Harley in Jorgensen & León Yánez, Cat. Vasc. Pl. Ecuad.: 954. 1999.

M. teneriffae (Poir.) Benth. ex G. Don in Loudon, Hort. Brit.: 483. 1830 ≡ *Thymus teneriffae* Poir. in Lamarck, Encycl. 7: 650. 1806. – Lectotype (designated by Pérez 1978: 52): [Spain, Canary Islands] "*Thymus canariensis* Vent. […] Teneriffa" (P [herb. Lamarck]).

M. teneriffae var. *brevidens* Bornm. in Repert. Spec. Nov. Regni Veg. 6: 2. 1909. – Holotype: [Spain, Canary Islands] 1901, *Bornmüller, Pl. exsicc. Canar. 2719* (B†?). = ***M. varia*** subsp. ***gomerensis*** P. Pérez

M. teneriffae var. ***cordifolia*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 55. 1978. – Holotype: [Spain, Canary Islands] "In fisuris rupium soleatarum in Bco. de las Vigas, Fasnia, Nivaria – Tenerife dicta", 18.2.1973, *Pérez 6* (herb. Pérez; isotype: TFC 1738).

M. teneriffae var. *ramosa* Webb & Berthel. ex Christ in Bot. Jahrb. Syst. 9: 134. 1888 ≡ *M. teneriffae* f. *ramosa* (Webb & Berthel. ex Christ) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 53. 1978. – Lectotype (designated by Pérez 1978: 54): [Spain, Canary Islands] "*M. terebinthinacea* spec. nov. var. ß, Habit. in fissuris rupium regionis inferioris Teneriffae! et Canariae?", *Barker-Webb* (FI). = ***M. teneriffae*** (Poir.) Benth. ex G. Don

M. teneriffae f. *subramosa* P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 56. 1978. – Holotype: [Spain, Canary Islands] "Plante que je n'ai trouvée qu'une seule fois, Tenerife", *Despéraux 312* (FI). = ***M. teneriffae*** (Poir.) Benth. ex G. Don).

M. teneriffae (Poir.) Benth. ex G. Don var. ***teneriffae***

M. tenuifolia (Ten.) Rchb., Fl. Germ. Excurs.: 311. 1831 & Benth. in Candolle, Prodr. 12: 215. 1848 ≡ *Satureja tenuifolia* Ten. ≡ ***M. graeca*** subsp. ***tenuifolia*** (Ten.) Nyman

M. tenuis (Link) Benth., Labiat. Gen. Spec.: 374. 1834, non Benth., Labiat. Gen. Spec.: 731. 1835, nom. superfl. ≡ *Satureja tenuis* Link in Buch, Phys. Beschr. Canar. Ins.: 143. 1828. – Holotype: [Spain, Canary Islands] "Canarische Inseln", *Smith* (B†); neotype: (designated by Pérez 1978: 135): [Spain, Canary Islands] "Gde. Canaria, statione exacta non notata", *Despréaux 296* (FI).

Note. – In the literature there is an erroneous attribution of the authorship of *M. tenuis* to Webb & Berthel., Hist. Nat. Iles Canaries 3: 75. 1845, resulting from Bentham's wrong application of the name *M. tenuis* to *M. benthamii*. Later workers without justification considered Bentham's nomenclaturally correct combination as irrelevant and regarded Webb & Berthelot's treatment of *M. tenuis* as place of the legitimate new combination for *Satureja tenuis* Link. See also note under *M. lanata* (Chr. Sm. ex Link) Benth.

M. tenuis subsp. ***linkii*** (Webb & Berthel.) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 137. 1978 ≡ *M. linkii* Webb & Berthel., Hist. Nat. Iles Canaries 3: 79. 1845.

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M. tenuis var. ***soriae*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 136. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Canaria Magna (Gran Canaria dicta) in magno cavo „Bco. de Arguineguin" dicto, prope pagum Soria dicto", 21.4.1973, *Pérez 13* (herb. Pérez; isotypes: FI, K!, LPA, MA!, ORT, TFC, TFMC, Z!).

M. tenuis (Link) Benth. subsp. ***tenuis***

M. tenuis (Link) Benth. var. ***tenuis***

M. therebinthinacea (Brouss. ex Willd.) Webb & Berthel., Hist. Nat. Iles Canaries 3: 80. 1845 [as *"M. terebinthinacea"*] ≡ *Thymus therebinthinaceus* Brouss. [Elench. horti bot. monspel. 59. 1805, nom. nud.] ex Willd., Enum. Pl.: 624. 1809. – Holotype: *Broussonet* (B-W 11016). = ***M. teneriffae*** (Poir.) Benth. ex G. Don

M. teydensis Bolle in Bonplandia (Hannover) 8: 282. 1860. – Syntypes: [Spain, Canary Islands] "Hab. gregarie in regione excelsa montis Pico de Teyde et in la Cumbre proxima, unde in pineta supra Igueste descendit (…) colitur in horto botanico Berolinensi" (B†). = ***M. lachnophylla*** Webb & Berthel.

M. thymbra (L.) Kostel., Allg. Med.-Pharm. Fl. 3: 763. 1834 ≡ ***Satureja thymbra*** L., Sp. Pl. 2: 567. 1753.

M. thymifolia (Scop.) Fritsch in Kerner, Sched. Fl. Exs. Austro-Hung. 8: 119. 1899 ≡ *Satureja thymifolia* Scop., Fl. Carn., ed. 2, 1: 428, t. 29. 1771 ≡ ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *albida* K. Malý in Wiss. Mitt. Bosnien & Herzegovina 7: 538. 1900 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *albiflora* K. Malý in Wiss. Mitt. Bosnien & Herzegovina 7: 538. 1900 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *condensata* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 114. 1975 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *hirsutior* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 114. 1975 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *macrodonta* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 114. 1975 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *obscura* K. Malý in Wiss. Mitt. Bosnien & Herzegovina 7: 538. 1900 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *parvifolia* Šilić in Glasn. Zemaljsk. Muz. Bosne Hercegovine Sarajevu Prir. Nauke 13: 114. 1975 = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymifolia f. *picta* (L. F. Čelak. & Rohlena) Šilić, Monogr. Satureja Fl. Jugosl.: 189. 1979 ≡ *Satureja thymifolia* f. *picta* L. F. Čelak. & Rohlena in Acta Bot. Boh. 1: 3. 1922. = ***Clinopodium thymifolium*** (Scop.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. thymoides De Not., Repert. Fl. Ligust.: 319-320. 1844 & Prosp. Fl. Lusit.: 53. 1846, non (Sol. ex Lowe) Webb. & Berthel., Hist. Nat. Iles Canaries 3: 71. Dec 1844. – Type: [Italy] "In glareis secus amnem Uneliae", *Berti* (not traced, GE?). ≡ *M. graeca* subsp. *imperica* Chater = ***M. graeca*** (L.) Benth. ex Rchb. subsp. ***graeca***

Note. – According to Stearn (1937) Webb & Berthelot's name dates from December 1844; there is no evidence about the month of publication of De Notaris' work in 1844. For further details see notes under *M. graeca* subsp. *imperica*.

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M. thymoides (Sol. ex Lowe) Webb & Berthel., Hist. Nat. Iles Canaries 3: 71. Dec 1844, non De Not. 1844 ≡ *Satureja thymoides* Sol. ex Lowe ≡ ***M. varia*** subsp. ***thymoides*** (Sol. ex Lowe) P. Pérez

Note. – See previous entry.

M. thymoides (Sol. ex Lowe) Webb & Berthel. subsp. *cacuminicolae* (P. Pérez) Rivas Mart. in Itinera Geobot. 15: 704. 2002, nom. illeg.? ≡ *M. varia* var. *cacuminicolae* P. Pérez = ***M. varia*** subsp. ***thymoides*** (Sol. ex Lowe) P. Pérez

M. thymoides (Sol. ex Lowe) Webb & Berthel. var. *citriodora* Webb & Berthel., Hist. Nat. Iles Canaries 3: 71. 1844, nom. illeg.? – Holotype: [Spain, Canary Islands] "In sylvis Teneriffae", *Barker-Webb* (not traced, FI?). = ***M. varia*** Benth.

M. thymoides (Sol. ex Lowe) Webb & Berthel. var. *rupestris* Webb & Berthel., Hist. Nat. Iles Canaries 3: 71. 1844, nom. illeg.? – Lectotype (designated by Pérez 1978: 183): [Spain, Canary Islands] "*M. thymoides* Webb et Berth. a. rupestris. Pedunculi multiflori, in rupibus Lancerotta septentrionum, 28" (FI). ≡ ***M. varia*** subsp. ***rupestris*** (Webb & Berthel.) P. Pérez

M. todari Lacaita ex Lojac., Fl. Sicul. 2(2): 211. 1907 ≡ *Satureja longiflora* C. Presl [non *M. longiflora* Hochst. ex Baker] = ***M. graeca*** subsp. ***longiflora*** (C. Presl) Nyman

M. tragothymus Webb & Berthel., Hist. Nat. Iles Canaries 3: 73. 1845. – Type: [Spain, Canary Islands] "In montosis Teneriffae", *Barker-Webb* (not traced, FI?). = ***M. varia*** Benth.

M. unguentaria Schweinf., Beitr. Fl. Aethiop.: 124. 1867. – Type: [Ethiopia, Gondar region] "Auf 5700' hohen Bergen bei Dschadscha", 30.9.1854, *Schimper* [s.n.?] (holotype: B†); lectotype (designated by Ryding 2007: 442): [Ethiopia, Gondar region] "Dschadscha", 30.9. 1854, *Schimper 112* (Z-000039175!; isolectotypes: E!, FI, HEID!).

M. vana (Epling) R. Morales in Bot. Complut. 18: 164. 1993 ≡ *Satureja vana* Epling in Ann. Missouri Bot. Gard. 14: 79. 1927 ≡ ***Clinopodium vanum*** (Epling) Harley & A. Granda in Kew Bull. 55: 926. 2000.

M. varia Benth., Labiat. Gen. Spec.: 374. 1834., nom. cons. prop. – Lectotype (designated by Pérez 1978: 174): [Spain, Canary Islands] "Ins. Teneriffa" (K [right hand individual]).

Note. – See note under *M. ericifolia.*

M. varia var. *angustissima* Bolle ex Christ in Bot. Jahrb. Syst. 9: 131. 1888. – Type: [Spain, Canary Islands] "In Canaria magna supra Tafira", 3.1884, *Christ* (not traced, BAS?). = ***M. varia*** subsp. ***canariensis*** P. Pérez

M. varia var. *cacuminicolae* P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 186. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Maderae, regione cacuminalis juxta 'Pico do Arrieiro' ad 1750 m. supra Mare", 6.1976, *Pérez* (TFC 5577; isotypes: B!, FI, K!, MA!, O, TFMC, Z!). = ***M. varia*** subsp. ***thymoides*** (Sol. ex Lowe) P. Pérez

M. varia subsp. ***canariensis*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 180. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Canaria Magna (G. Canaria dicta) in magno anfractu 'Bco. Oscuro' dictum, prope Tamadaba, versus 900 m. supra Mare", 10.7.1974, *Pérez* (herb. Pérez).

M. varia f. *citrodora* (Webb & Berthel.) Christ in Bot. Jahrb. Syst. 9: 133. 1888 ≡ *M. varia* var. *citriodora* (Webb & Berthel.) Burchard in Biblioth. Bot. (Stuttgart) 98: 182. 1929 ≡ *M. thymoides* var. *citrodora* Webb & Berthel. = *M. herpyllomorpha* Webb & Berthel., p.p. = ***M. varia*** Benth.

M. varia subsp. ***gomerensis*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 179. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Junonia Minor (Insula Gomera dicta) in loco vulgo dicto 'Ladera de Pilas' in anfractu 'Bco. de la Villa', juxta S. Sebastián", 5.1976, *P. Pérez 8* (herb. Pérez; isotypes: TFC, MA!).

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M. varia f. *herpyllomorpha* (Webb & Berthel.) Christ in Bot. Jahrb. Syst. 9: 133. 1888 ≡ ***M. herpyllomorpha*** Webb & Berthel.

M. varia subsp. ***hierrensis*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 184. 1978. – Holotype: [Spain, Canary Islands] "Ex insula Hierro dicta, in rupibus abruptis super pagum Sabinosa dictum proclivibus ad nebulas diurnas expositis", 7.1973, *Pérez 11* (herb. Pérez; isotypes: MA!, TFC, TFCM).

M. varia f. *hyssopifolia* (Webb & Berthel.) Christ in Bot. Jahrb. Syst. 9: 133. 1888 ≡ ***M. hyssopifolia*** Webb & Berthel.

M. varia f. *lachnophylla* (Webb & Berthel.) Christ in Bot. Jahrb. Syst. 9: 133. 1888 ≡ ***M. lachnophylla*** Webb & Berthel.

M. varia subsp. ***meridialis*** P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 181. 1978. – Holotype: [Spain, Canary Islands] "In regione australe insulae Canariae Magnae (Gran Canaria dicta) in rupibus circumstantibus loco Fataga dicto, ubi est frequens", 20.7.1974, *P. Pérez 10* (herb. Pérez).

M. varia f. *microphylla* Christ in Bot. Jahrb. Syst. 9: 134. 1888. – Type: [Spain, Canary Islands] "In convallibus reg. marit. insular. fere omnium", *Barker-Webb* (not traced, FI?). = ***M. varia*** Benth.

M. varia subsp. ***rupestris*** (Webb & Berthel.) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 182. 1978 ≡ *M. varia* f. *rupestris* (Webb & Berthel.) Christ in Bot. Jahrb. Syst. 9: 133. 1888 ≡ *M. thymoides* (Sol. ex Lowe) Webb & Berthel. var. *rupestris* Webb. & Berthel.

M. varia subsp. ***thymoides*** (Sol. ex Lowe) P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 185. 1978 ≡ *Satureja thymoides* Sol. ex Lowe in Trans. Cambridge Philos. Soc. 4: 19. 1831. – Holotype: Madeira, *Solander* (not traced, K?).

M. varia Benth. subsp. ***varia***

M. variegata (Host) Rchb., Fl. Germ. Excurs.: 859. 1832 ≡ *Satureja variegata* Host, Fl. Austr. 2: 134. 1832 ≡ ***Satureja montana*** subsp. ***variegata*** (Host) P. W. Ball in Bot. J. Linn. Soc. 65: 352. 1972.

M. viminea (L.) Druce in Rep. Bot. Exch. Club Brit. Isles 3: 421. 1914 & Urb. in Repert. Spec. Nov. Regni Veg. 16: 142. 1919 ≡ *Satureja viminea* L., Syst. Nat., ed. 10, 2: 1096. 1759 ≡ ***Clinopodium vimineum*** (L.) Kuntze, Revis. Gen. Pl. 2: 516. 1891.

M. wardii C. Marquand & Airy Shaw in J. Linn. Soc., Bot. 48: 216. 1929 ≡ ***Clinopodium wardii*** (C. Marquand & Airy Shaw) Bräuchler in Taxon 55: 980. 2006.

M. weilleri (Maire) R. Morales in Anales Jard. Bot. Madrid 48: 154. 1991 ≡ *Satureja weilleri* Maire in Bull. Soc. Hist. Nat. Afrique N. 19: 62. 1928. – Lectotype (designated here by Bräuchler): [Morocco] "Rochers volcaniques, bords de l'Oued Ksiksou, Oulmès (Zaïan), 800 m", 29.4.1927, *Jahandiez* [*& Weiller*] *74* (MPU-001919*!; isolectotype: P-00083230*!).

Note. – Two collections of *S. weilleri* Maire collected by Jahandiez and determined by R. Maire on 7.2.1928 exist, one at P one at MPU. In a database the P specimen was indicated as holotype and the MPU specimen as isotype, but such a designation has neither been made by the author himself nor by a subsequent publication on *Micromeria* or *Satureja* so far (P. Schäfer, pers. comm.). Since MPU houses the complete herbarium of R. Maire and the sheet at MPU represents the richer collection and has – in contrast to the P sheet – the original Jahandiez Herbarium label, it is here chosen as lectotype.

M. xalapensis (Kunth) Benth., Labiat. Gen. Spec.: 372. 1834 ≡ *Thymus xalapensis* Kunth in Humboldt & al., Nov. Gen. Sp. Pl. 2: 316. 1818 = ***Clinopodium brownei*** (Sw.) Kuntze, Revis. Gen. Pl. 2: 514. 1891.

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M. xylorrhiza Boiss. & Heldr. ex Benth. in Candolle, Prodr. 12: 217. 1848. – Lectotype (designated by Davis 1982: 345): [Turkey] "In fissuris rupium Tauri Lycaonici, 1520 m, in monte Anemas", *Heldreich* (G). ≡ ***M. cristata*** subsp. ***xylorrhiza*** (Boiss. & Heldr. ex Benth.) P. H. Davis

Note. – At W a putative isosyntype ("Mt. Bondracun[?] Pisidiae", *Heldreich 1148*) is present.

M. yezoensis Miyabe & Tatew. in Trans. Sapporo Nat. Hist. Soc. 14: 8. 1935 = ***Mentha japonica*** (Miq.) Makino in Bot. Mag. (Tokyo) 20: 1. 1906.

Hybrids

Hybridisation seems a quite common phenomenon in *Micromeria* with the majority of hybrids described from the Canary Islands (Pérez 1978) but also from other areas between taxa as morphological distinct as *M. inodora* and *M. graeca* (Lièvre 1921). To our knowledge, no crossing experiments have been conducted so far. Taking into account the great variability of many taxa, it is questionable whether some of the taxa described as hybrids actually are of such origin or simply represent extreme forms of a natural range of variation. The names for hybrids are here listed without further evaluation of their status.

M. ×*angosturae* P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 146. 1978 ≡ *M. tenuis* subsp. *linkii* × *M. varia* subsp. *canariensis*

M. ×*benthamineolens* Svent. in Index Seminum (Agron. Investig. Nat. Hispan. Inst.) 1968: 48. 1969 ≡ *M. benthamii* × *M. pineolens*

M. ×*bourlieri* Maire & Gauth.-Lièvre in Bull. Soc. Hist. Nat. Afrique N. 12: 173. 1921 ≡ *M. graeca* × *M. inodora*

Note. – The second author sometimes has wrongly been cited as "Le Lièvre", which is, however, the standard form (IPNI 2008) for J. F. Le Lièvre, from the USA. Obviously the second author, Lucienne Lièvre, later married and carried the name Gauthier-Lièvre, the standard form according to IPNI (2008) is Gauth.-Lièvre.

M. ×*confusa* G. Kunkel & P. Pérez in Cuad. Bot. Canaria 26-27: 21. 1976 ≡ *M. benthamii* × *M. lanata*

M. ×*glandulosa* Sennen in Bol. Soc. Ibér. Ci. Nat. 32: 62. 1934

M. ×*hybrida* Zagan. in Actes Inst. Bot. Univ. Athènes 1: 250. 1940 ≡ *M. graeca* × *M. nervosa*

M. ×*intermedia* G. Kunkel & P. Pérez in Cuad. Bot. Canaria 26-27: 23. 1976 ≡ *M. benthamii* × *M. helianthemifolia*

M. ×*knochei* Sennen & Bianor in Sennen, Treb. Inst. Catalana Hist. Nat. 3: 193. 1917 ≡? *M. nervosa* × *M. rodriguezii*

Note. – Knoche (1922: 346), includes this in synonmy to his *M. biflora* var. *rodriguezii* (Freyn & Janka) Knoche

M. ×*meteorica* Hausskn. in Mitt. Thüring. Bot. Vereins, ser. 2, 11: 48. 1897 ≡ *M. cremnophila* × *M. juliana*

M. ×*nogalesii* G. Kunkel & P. Pérez in Cuad. Bot. Canaria 26-27: 25. 1976 ≡ *M. lanata* × *M. varia* subsp. *canariensis*

M. ×*perez-pazii* G. Kunkel in Vieraea 8: 360. 1980 ≡ *M. benthamii* × *M. tenuis*

M. ×*preauxii* Webb & Berthel., Hist. Nat. Iles Canaries 3: 75. 1845 ≡ *M. benthamii* × *M. varia* subsp. *canariensis*

Note. – Described as species, as hybrid established by P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 127. 1978

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M. ×*tagananensis* P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 108. 1978 ≡ *M. glomerata* × *M. varia*

M. ×*tapeinantha* Rech. f. in Denkschr. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 105: 123. 1943 ≡ *M. graeca* × *M. nervosa*

M. ×*wildpretii* P. Pérez, Rev. Gen. Micromeria Reg. Macarones.: 99. 1978 ≡ *M. rivas-martinezii* × *M. varia*

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