

# PARIETARIA OFFICINALIS AND P. JUDAICA

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## ABSTRACT

A full account is given of the nomenclature and typification of the British species of *Parietaria*. It is shown that the type of *P. officinalis* L. is specimen No. 1220.2, and that of *P. judaica* L. specimen No. 1220.3, in the Linnaean Herbarium (LINN). *P. officinalis* is a species found in the Orient and central and northern Europe, but absent from the British Isles. The British species should be called *P. judaica* L., of which *P. ramiflora* Moench and *P. diffusa* Mertens & Koch are synonyms. The diagnostic features of *P. officinalis* and *P. judaica* are given.

Although name-changes in the British flora have been not infrequent in recent years, comparatively few have been based purely on taxonomic conclusions; rather have the majority resulted from the exploration of the very necessary, but to most botanists rather arid, fields of bibliography and nomenclature. It would appear, however, that the name by which British botanists know the common Pellitory-of-the-wall must be changed on purely taxonomic grounds.

In the current authoritative check-list of British plants (Dandy 1958), the Pellitory is listed as *Parietaria diffusa* Mertens & Koch, with *P. officinalis* auctt. and *P. ramiflora* auctt. in synonymy. These synonyms reflect two taxonomic conclusions; firstly, that the names *P. officinalis* L. (1753) and *P. ramiflora* Moench (1794) have been misapplied to our British species, and secondly, that taxa described under these names represent one or more species distinct from *P. diffusa* Mertens & Koch.

The existence of at least two closely related species of *Parietaria*—one erect in habit with larger leaves, the other more decumbent with smaller foliage (to which the degree of accrescence and form of the perianth of the hermaphrodite flowers and various other characters have been added)—has been indicated by three principal authors, viz. Linnaeus (1756), Moench (1794) and Mertens & Koch (1823). Linnaeus, in the dissertation '*Flora Palaestina*', described *Parietaria judaica* L. in the following terms:

*Parietaria Judaica accedit ad Parietariam officinalem, sed caule glabro, petiolis brevioribus, florum aceruis ad ramos, vix vero ulli ad caulem.*

This diagnosis was based on material collected by his student Hasselquist in Palestine, as the entry here '582 judaica H. Palaestina' indicates.

Moench contrasts his new species *P. ramiflora* with *P. officinalis* in the following manner:

*officinalis* L., caule erecto: foliis lanceolato-ovatis: subhirsutis: florum glomerulis caulinis pluribus pedunculatis. *Icon Oederi*, Tab. 521.

*ramiflora*, caule decumbenti: ramis non caule floriferis: glomerulis sessilibus: foliis hirsutis ovatis. *Parietaria judaica* Linn. *Parietaria officinalis* Pollich. *Pal. n.* 940 huc pertinet. Folia minora atro-virentia.

Mertens & Koch simplified the matter (for themselves!) by distinguishing two species of *Parietaria* and, feeling that other names had been confused by previous authors (as reflected in their synonymy), they renamed these species *P. erecta* and *P. diffusa*. The single name *P. officinalis* (of various authors) figures in the synonymy of *P. erecta*, while in the synonymy of *P. diffusa* the names *P. officinalis* 'nach Smith', *P. judaica* Wild. and *P. ramiflora* appear.

From the above facts, and from Mertens & Koch's further observations, it is clear that:

1. In describing *P. ramiflora*, Moench was also superfluously renaming *P. judaica* L.
2. In describing *P. diffusa*, Mertens & Koch believed themselves to be renaming

*P. ramiflora* Moench, but did not consider that this was in fact true *P. judaica* L. Neither did they know for certain whether their *P. erecta* was true *P. officinalis*.

The first requirement is thus to typify both *Parietaria officinalis* and *P. judaica*. Paclt (1952) has stated that the type of *P. officinalis* is in the *Hortus Cliffortianus* Herbarium at the British Museum, where the species is represented by two specimens, of which Paclt gives photographs. One of these is '*P. erecta*' and is described by Paclt as the holotype; the other is '*P. diffusa*', and is described by Paclt as the paratype. In point of fact, Linnaeus did not cite a holotype and therefore, by definition, there could be no paratype. If the *Hortus Cliffortianus* specimens could be regarded as types at all they would be syntypes, because Paclt selected the specimen resembling '*P. erecta*' as the lectotype of *P. officinalis* L. Clearly, however, neither of these specimens can be regarded as the type of *P. officinalis*. Linnaeus' concept of this species had altered from that which he held when writing the *Hortus Cliffortianus* by the time he wrote the *Species Plantarum*. Two points alone will illustrate this:

1. In the *Hortus Cliffortianus*, '*Parietaria sicula, alsines folio. Bocc. sic. 47, t. 24*' is cited under *P. officinalis*. In the *Species Plantarum* this has been transferred to *P. lusitanica*.

2. In the *Hortus Cliffortianus* the main diagnostic phrase given for *P. officinalis* is '*Parietaria foliis lanceolato-ovatis*', while in the *Species Plantarum* this reads '*Parietaria foliis lanceolato-ovatis alternis*'.

From point (2) it is obvious that, in addition to his changed concept of *P. officinalis*, Linnaeus had before him at the time of writing the *Species Plantarum* (when the *Hortus Cliffortianus* Herbarium was not available to him) a further specimen enabling him to add the word 'alternis' to his diagnosis. Thus there can be no doubt that the true type of *Parietaria officinalis* is the specimen No. 1220.2, in the Linnaean Herbarium housed at the rooms of the Linnean Society of London (LINN). The statement by Scholz (1955) that *P. officinalis* must be rejected as a *nomen ambiguum* is quite incorrect.

At this point, the name *P. officinalis* departs from consideration for the British Pellitory-of-the-Wall. Moench typified this species correctly, for the Linnaean specimen is the plant also known as *P. erecta*, and is not a British species. Dandy is thus correct in calling the British Pellitory '*P. officinalis* auct.' (non L.)

There is in the Linnaean Herbarium one specimen (1220.3) labelled '*judaica*' by Linnaeus in his own handwriting and bearing a sign indicating a western Asiatic origin. This is evidently the plant of the *Flora Palaestina* dissertation, and can be accepted as the holotype of *P. judaica*. Another specimen in the Linnaean Herbarium (1220.4) bears the abbreviation 'H.U.', indicating that it was cultivated in the Uppsala University Botanic Garden, which was under Linnaeus' control; but the epithet *judaica* was added by Smith, the subsequent owner of the Linnaean Herbarium, and not by Linnaeus himself.

The real problem is—are *P. judaica* L. (*P. ramiflora* Moench) and *P. diffusa* Mertens & Koch conspecific, or are they not? Opinions have differed widely, and during the course of naming general collections of plants from the Balkans and south-west Asia the writer has had an opportunity to test the various treatments, and to resolve the matter while preparing an account of the *Urticaceae* for the *Flora of Iraq*. All that can be said is that from the existing accounts one is quite unable to distinguish confidently between *P. diffusa* as represented by British material and *P. judaica* as represented by Oriental material.

The greatest authority on the flora of eastern Europe and western Asia, Edmond Boissier, had no doubts in this matter. In 1875 he reduced *P. diffusa* to synonymy under *P. judaica*, describing at the same time a var. *brevipetiolata*, into which he sank *P. multicaulis* Boiss. & Heldr. Hayek (1924) took up the name *P. vulgaris* Hill, *Brit. Herb.* 491 (1757), for the decumbent Pellitory, and cited *P. diffusa*, *P. ramiflora* and *P. judaica* Hal. (non. L.) in his synonymy, with reference to a paper by Vierhapper (1919). *P. vulgaris* Hill, however, is a name which must be rejected under Article 23 of the *International Code of Botanical Nomenclature*, as an incidental binomial published in a work which did not consistently employ binomial nomenclature. Vierhapper appears to have attempted to separate *P. judaica* and *P. 'ramiflora'* by means of vegetative characters which become less impressive as one

studies material from various points in the geographical range of the aggregate as a whole.

Hegi (1912) adopted the strange course of using the name *P. ramiflora* Moench, while placing *P. judaica* L. in synonymy, together with *P. diffusa*. This has been rectified by Schreiber (1958) in the second edition of Hegi's Flora, who omits *P. judaica* from the synonymy of *P. diffusa* without giving reasons for so doing. Finally, the two European Floras which use, probably, the broadest and narrowest views of species were consulted. Fiori (1923) relegated both *P. erecta* and *P. judaica* to varietal rank under *P. officinalis* with *P. ramiflora* and *P. diffusa* in synonymy under *P. officinalis* var. *judaica*. In the Flora URSS, Jarmolenko (1936) separated *P. judaica* from '*P. officinalis*' (i.e. *P. 'ramiflora' / diffusa*) and '*P. erecta*' (*P. officinalis*), on the grounds that in *P. judaica* all the flowers are hermaphrodite, while in the other two species the lower flowers of the inflorescence are pistillate. Examination of the Linnaean type, and general material of *P. judaica* in herbaria, did not bear out this distinction; though the female flowers of *P. judaica* are always harder to see than those of *P. officinalis* L., at least one can be seen on the type specimen without dissection of the cymes.

While examining the Kew herbarium (K) material of *Parietaria* an interesting feature arose from this distinction brought to light by Jarmolenko. This is the gradual reduction eastwards in the number of female flowers to be found in the decumbent *Parietaria*. In the extreme west of its range (e.g., in Great Britain), female flowers are plentiful. On reaching Greece these are still readily found but are considerably fewer in number. A specimen illustrating this is *Heldreich, Herb. Fl. Hellen. 94*, gathered on the Athens Acropolis. In western Turkey (e.g., *Sintenis, Iter Trojanum 486*), female flowers are still frequent, but as one moves eastwards they become progressively harder to find and are often absent. The writer could detect no female flowers, for example, on isotype material of *P. multicaulis* Boiss. & Heldr. (from Pisidia), or on *Davis, Dodds & Ćetik 19045*, gathered at Niğde, C. Anatolia, or on several other recent specimens gathered by Dr. P. H. Davis and his collaborators. On the following specimens: *McNeill 502* (Bitlis), *Davis 16616* (Bozkir) and *Aucher 9794* (Aintab), however, female flowers were scarce but certainly present. Sometimes in the Orient the female flowers are solitary and are found in the axils of the lower leaves—e.g., *Maitland 100* (Baalbek, Syria) and *Post 1015* (Beirut, Lebanon). When female flowers are present, their morphology is similar to those of the British and western European *P. diffusa*. Somewhat strangely, all the Egyptian material seen has plentiful female flowers. In Iraq, female flowers may be present or not in gatherings otherwise taxonomically indistinguishable, and in Iran female flowers are rarely found at all. The pattern of gradual decline makes specific or even infraspecific separation by means of this character impossible. Weddell (1856) attempted to separate *P. judaica* and *P. officinalis* var. *diffusa* (Mertens & Koch) Weddell by stressing the latter part of Linnaeus' diagnosis—'*Florum acerui ad ramos, vix vero ulli ad caulem*', observing: '*Par ces mots: florum acerui, etc., l'auteur de l'espèce a en effet mis en relief un des traits les plus essentiels de la plante, et celui qui la distingue le plus nettement du P. officinalis. En d'autres termes, les tiges cespitueuses du P. judaica sont sous-frutescentes et vivaces, tandis que celles du notre Pariétaire (P. officinalis) commune sont ordinairement herbacées et annuelles*'. A footnote guards us against using plants of *P. judaica* flowering in the first year for this comparison. Weddell also observed in his description of *P. judaica*: '*floribus hermaphroditis quam feminei multo numerosioribus*', but does not go so far as to say that female flowers may be absent. Béguinot (1908) did not find this growth character at all satisfactory, nor does it appear to be so; in the Orient many species become more woody than in Europe, often due to constant grazing by the ubiquitous goats, and all manner of transitional forms occur. Two specimens from the Rowanduz Gorge of Iraq, *Guest 13094* and *Guest 2091*, show respectively a much-branched plant with almost all the flower-clusters on the branches and a less-branched plant with most of the cymes disposed along the stem. The remarks of Mertens & Koch follow much the same pattern as those of Weddell, but it is clear that none of these authors had seen the type specimen of *P. judaica*. No character has come to light by which *P. judaica*

may be separated from *P. diffusa* and *P. 'ramiflora'* or by which two distinct taxa representing the latter two species may be recognized.

Thus, the earliest name available for the British Pellitory-of-the-Wall is *P. judaica* L. It is remarkable that this name has not hitherto been adopted in this country in view of the fact that Villars (1787) used the name *P. judaica* L. for the Western species before either *P. ramiflora* Moench or *P. diffusa* Mertens & Koch was published for which correct decision he was taken to task by Weddell (1856).

Various authors have included the decumbent Pellitory (under one name or another) in *P. officinalis* L. at varietal or subspecific rank, but it is in fact a distinct species. *P. officinalis* has a much more restricted range, being chiefly found in central and northern Europe, reaching westwards to the Iberian Peninsula (where it is rare) and eastwards to northern Iran. *P. judaica*, on the other hand, extends further west to the British Isles and Macaronesia, east to Tian Shan and Pakistan and south to N.W. Africa, Egypt, Palestine and Iraq. The differences between the two species are dealt with in detail by Mertens & Koch; much of the difficulty in separating them has been caused by undue emphasis being placed on characters of foliage and habit, in both of which *P. judaica* in particular is very variable. Table 1 summarizes the characters found most useful by the present writer.

TABLE 1. Comparative characters of *Parietaria officinalis* L. and *P. judaica* L.

	<i>P. officinalis</i> L.	<i>P. judaica</i> L.
<i>Female flower</i>	Length in fruit 2.75–3 mm, much exceeding the bracts, very conspicuous. Segments more broadly lanceolate, midrib and margins confluent only at the tip.	Length in fruit 2.0–2.25 mm, not much exceeding the bracts, rather inconspicuous. Segments narrowly lanceolate, subaristate with the confluence of the midrib and margins.
<i>Hermaphrodite flower</i>	Perianth remaining campanulate in fruit, not exceeding 3 mm.	Perianth in fruit tubular, accrescent to 3–3.5 mm.
<i>Achene</i>	More narrowly ovoid, 1.5–1.8 mm long, frequently distinctly asymmetrical.	Shortly ovoid, 1.0–1.2 mm long.

The following is a limited synonymy, omitting the numerous infraspecific taxa based mostly on leaf characters.

*PARIETARIA OFFICINALIS* L., *Sp. Pl.* 1052 (1753).

*P. erecta* Mertens & Koch, *Röhlings Deutschlands Flora* ed. 3, 1, 825 (1823).

*P. officinalis* L. var. *erecta* (Mertens & Koch) Weddell, *Archs. Mus. natn. Hist. nat., Paris* 9, 507 (1857).

*P. officinalis* subsp. *erecta* (Mertens & Koch) Béguinot, *Nuov. G. bot. ital.* 15, 341 (1908).

*PARIETARIA JUDAICA* L., *Fl. Palaest.* 32 (1756); *Amoen. Acad.* 4, 466 (1759).

*P. vulgaris* Hill, *British Herbal* 491 (1757), nomen nonrite binom.

*P. ramiflora* Moench, *Meth.* 327 (1794), nomen superfluum illegitimum.

*P. assurgens* Poir., *Encycl. Méth.* 5, 15 (1804).

*P. punctata* Willd., *Sp. Pl.* ed. 4, 4, 953 (1805).

*P. diffusa* Mertens & Koch, *Röhlings Deutschlands Flora* ed. 3, 1, 827 (1823).

*P. maderensis* Reichb., *Flora (Regensburg)* 13, 131 (1830).

*P. officinalis* L. var. *diffusa* (Mertens & Koch) Weddell, *Archs. Mus. natn. Hist. nat. Paris* 9, 507 (1857).

*P. officinalis* L. var. *ramiflora* Aschers., *Fl. Brandenb.* 610 (1864).

*P. officinalis* L. var. *judaica* (L.) Gort., *Fl. Friul.* 2, 140 (1906).

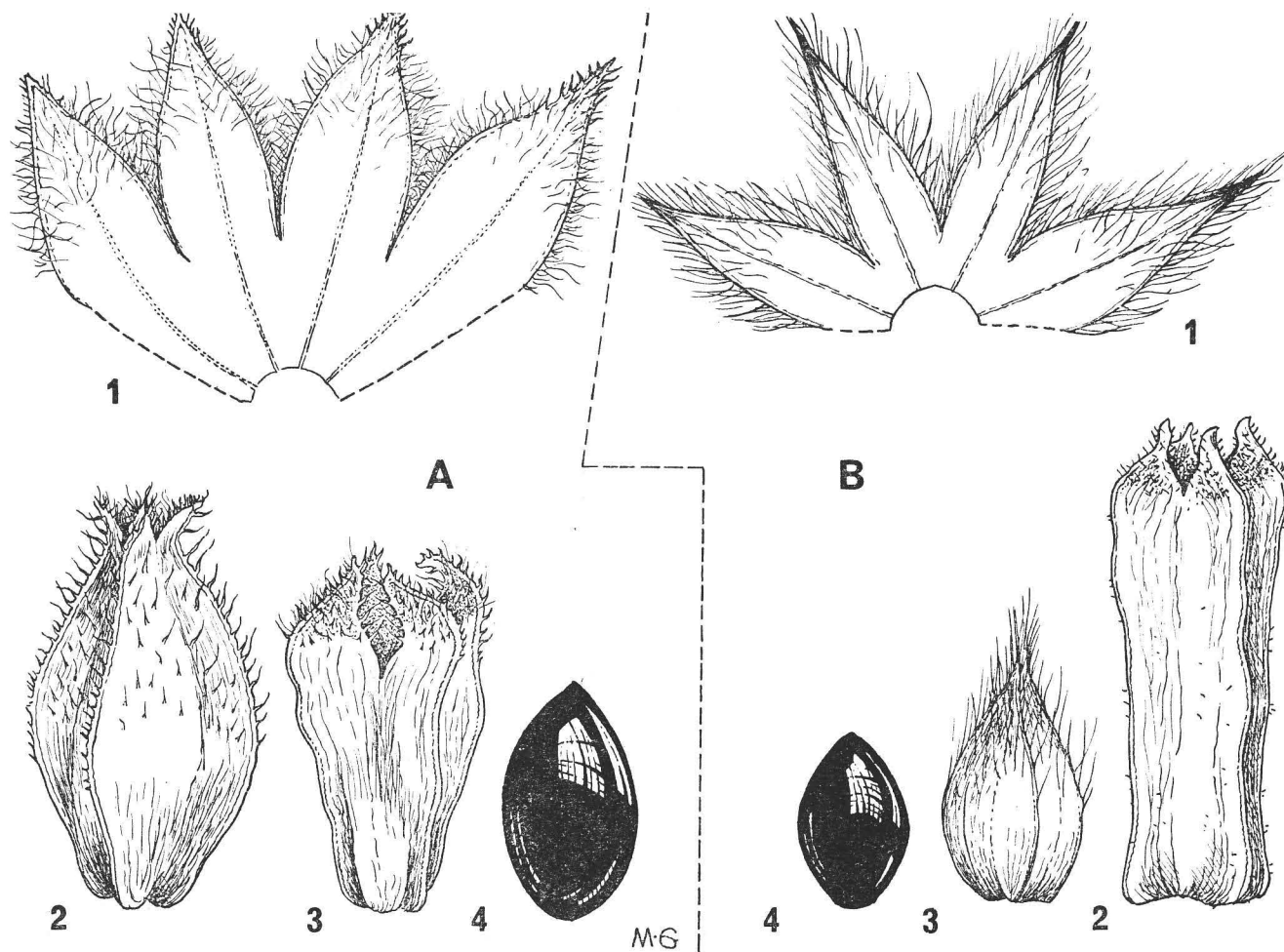


Fig.1. A. *Parietaria officinalis* L., 1, female perianth opened; 2, female perianth; 3, hermaphrodite perianth; 4, achene (from Kmet 3868, Hungarian material). B. *P. judaica* L., 1, female perianth, opened; 2, hermaphrodite perianth; 3, female perianth; 4, achene (from Rawi in National Herbarium of Iraq 23686, Iraqi material). All  $\times 14$ .

*P. officinalis* L. subsp. *judaica* (L.) Béguinot, *Nuov. G. bot. ital.* **15**, 342 (1908).

*P. officinalis* L. 'Rasse' *ramiflora* Aschers. & Graebn., *Syn. Mitteleurop. Fl.* **4**, 623 (1911).

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Since this paper was submitted for publication, J. Mennema (Leiden) & S. Segal (Amsterdam) have published two papers on 'Het geslacht *Parietaria* in Nederland', in *Gorteria* **3** (7), 96–102 (1967) and **3** (8) : 109–118 (1967). Working primarily from a Western European viewpoint, they reach the same conclusions as the present author; unfortunately, Dr. Mennema and I each heard of our interest in this problem at too late a stage for a co-operative effort to be produced.