The discovery, naming and typification of Rosa persica (Rosaceae) with notes on its introduction into cultivation

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Source: Candollea, 79(2) : 283-294

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: https://doi.org/10.15553/c2024v792a5

The discovery, naming and typification of Rosa persica (Rosaceae) with notes on its introduction into cultivation

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Abstract

LACK, H.W. & M.W. CALLMANDER (2024). The discovery, naming and typification of Rosa persica (Rosaceae) with notes on its introduction into cultivation. *Candollea* 79: 283–294. In English, English abstract. DOI: http://dx.doi.org/10.15553/c2024v792a5

Rosa persica J.F. Gmel. (*Rosaceae*) stands out in the genus *Rosa* L. because of its simple undivided leaves lacking stipules and the intensely yellow petals carrying a dark-brownish to blackish blotch at their base. This rose was first collected by André Michaux in 1784 when he travelled in Persia [now Iran] in 1783–1784. Johann August Carl Sievers who explored for the first time the Tarbagatai Mountains in the Russian Empire (now Kazakhstan) in 1793 recollected this odd little plant and subsequently named it *R. berberifolia* Siev. This paper clarifies the taxonomy and nomenclature of this rose setting it into the context of its discovery and adds to our understanding of how *R. persica* was introduced into cultivation in western gardens. A neotype is designated for that name.

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Submitted on July 24, 2024 – Accepted on October 18, 2024 – First published online on November 20, 2024
ISSN : 0373-2967 (print), 2235-3658 (online) – Published by the Conservatoire et Jardin botaniques de Genève

Introduction

Within the large north-hemispheric genus *Rosa* L. (*Rosaceae*), the dwarf shrubby *R. persica* J.F. Gmel. is an anomaly. Its simple undivided leaves lack stipules and the intensely yellow petals have a dark-brownish to blackish blotch at their base (Fig. 1) which had led to the now rejected concept that this taxon is better placed in a separate monotypic genus *Hulthemia* Dumort. It is a diploid species with $2n = 14$ (e.g. Chao et al., 2014; sub *R. berberifolia* Siev.) and its choloroplast genome has been studied in detail (Shu-Dong et al., 2019; sub *R. berberifolia*). Furthermore, the genetic diversity of populations in the southwest of its distribution range has been analyzed (Basaki et al., 2008; sub *R. persica*). Widely occurring between western Iran and the Xinjiang Uygur Province of China, two names have been applied to this species: *R. persica*, mostly in the west, and *R. berberifolia*, mostly in the east. Modern standard floras mirror this general observation with *Flora iranica* (Zieliński, 1982: 5) and *Flora of Iran* (Khatamsuz, 1992: 37) using the former name and *Flora of China* (Gu & Robertson, 2003: 350) applying the latter name. More recently published regional floras corroborate this observation: *R. persica* in *Flora of Damawand* (Mozaffarian, 2018: 725) and *Illustrated Flora of Golestan National Park* (Akhani, 2023: 88, 105), *R. berberifolia* in *Illustrated Flora of Tajikistan* (Nowak & Nobis, 2020: 679) and the *Atlas of wild vascular plants in northern Xinjiang* (Yang et al., 2021: 352). While the *Field Guide Afghanistan* (Breckle & Rafiqpoor, 2010: 638) lists *R. persica*, the more recently published *Vascular Plants of Afghanistan*; *Augmented Checklist* (Breckle et al., 2013: 436) gives the name *R. berberifolia* (together with a quite incorrect synonymy) for this plant. A book on the flora of the Tian Shan Mountains also applies this name (Holubec & Horák, 2018: 135). All this is even more surprising when considering that the protologue (Sievers, 1796a: 151) and the first detailed description of *R. berberifolia* (Pallas, 1797: 379) contain the supposition that it may be identical to the plant which a few years before had received the name *R. persica*. This supposition has long been confirmed and is substantiated by more recent studies (e.g. Shu-Dong et al., 2019).

This paper clarifies this apparent confusion, sets the discovery and naming of this odd little rose into the context of its times, provides the typification for the name *Rosa persica* and its later synonyms *R. berberifolia* and *Hulthemia berberifolia* var. *stenophylla* Boiss., and adds to our understanding of how this plant was introduced into cultivation in western gardens.

André Michaux: from Isfahan to Paris

The first westerner to collect a specimen of *Rosa persica* was André Michaux (1746–1802), a correspondent of the Jardin du Roi and the Cabinet du Roi in Paris. He had applied in writing to Marie-Antoinette (1755–1793), Queen of France,

Fig. 1. – *Rosa persica* J.F. Gmel.
[Iran, Province Alborz, County Shahriyar, 1530 m, 35°41'09"N 50°32'02"E, 3 Mai 2011]
[Photo: © M. Reza Ehsanimarani (https://www.inaturalist.org/observations/154904222)]

to be sent out to Persia [now Iran] with the purpose of bringing back living material for the embellishment of her garden in Trianon (Pluchet, 2014: 36–37). Provided with an annual pension paid for by her brother-in-law Louis Stanislas Xavier de France, Comte de Provence (1755–1824), later Louis XVIII, King of France, Michaux left Paris in February 1782. Maintaining correspondence with Louis Guillaume Le Monnier [Lemonnier] (1717–1799), professor at the Jardin du Roi, he entered 'Persia' in the autumn of 1783 (Pluchet, 2014: 204), a country then reigned over by shah Ali-Morad Khan Zand (1740–1785). In a letter from Ispahan [now Isfahan, Iran] dated 10 May 1784, Michaux mentioned to Lemonnier that among his new plants was one 'Rosa monophylla' (Pluchet, 2014: 201), which certainly refers to *R. persica* because this is the only species of the genus with simple leaves and lacking stipules. Michaux's report is corroborated by two specimens, the first conserved in the herbarium of Antoine-Laurent de Jussieu (P-JU nº 14173 [P00667267]), the second in the herbarium of Sir Joseph Banks (BM000946994). The former is an early fruiting specimen (Derkenne, 2020: 174) annotated in the hand of Antoine-Laurent de Jussieu (1748–1836) "apporté de Perse par M. Michaut [sic] André en 1785 [brought from Persia by André Michaut in 1785]", a date which is in agreement with Michaux's return to Paris in early July 1785 (Pluchet, 2014: 205). Additionally, we find the notes "Rosa simplicifolia Juss." and "Rosa persica Gmel." in the same hand (Fig. 2), while the second specimen at BM carries only the note "Persia André Michaux" in an unknown hand.

Appointed King's botanist on 18 July 1785, Michaux was subsequently sent out for another collecting trip and left the harbour of Lorient for New York on 28 September 1785 (Pluchet, 2014: 205). Needless to say, he was unable to

Fig. 2. – Neotype of *Rosa persica* J.F. Gmel.
[*Michaux s.n.*, P-JU nº 14173 (P00667267); © Muséum national d'Histoire naturelle, Paris]

publish the plants that he had gathered during his expedition to the Orient which had brought him as far as Anzali [now Bandar Anzali, Iran] on the Caspian Sea. Michaux's specimen must have been passed to Antoine-Laurent de Jussieu, subdemonstrator for the exterior of plants at the Jardin du Roi (Geneix, 2023), who provided a brief description mentioning that Michaux had brought the plant from Persia "Rosa … [adde:] Species nova simplicifolia, stipulis spinaeformibus, & calicis laciniis omnibus nudis, Persica inventore D. Michaut [sic]" in the Appendix of his *Genera Plantarum* (Jussieu, 1789: 452). In doing so, however, Jussieu did not provide an epithet for his novelty. Jussieu's omission was quickly spotted by Johann Friedrich Gmelin (1748–1804), professor at Göttingen University, who validated the name *Rosa persica*.

Without presenting evidence, it has been stated that Michaux's seeds of this rose were cultivated by André Thouin (1747–1824), head-gardener at the Jardin du Roi, and were also cultivated by order of Sir Joseph Banks (1743–1820) in the Royal Garden, Kew (Pluchet, 2014: 195). For the second statement proof has been found in the second edition of *Hortus Kewensis*, where the entry for *Rosa berberifolia* (a synonym of *R. persica*, see below) carries the note "Intro. [duced] about 1790, by the Right Hon. Sir Joseph Banks, Bart. K. B." (Aiton, 1811: 258; for Robert Brown's share in this work see Mabberley, 1985: 183–188). However, this accession does not seem to have been successful because in the entry for *R. berberifolia* (see below) in Rees's *The Cyclopedia* it was noted "the plants did not long survive" (Smith, 1815).

Richard Anthony Salisbury, né Markham (1761–1829), a gentleman of private means, published a detailed description of *Rosa persica* in his *Prodromus stirpium in horto ad Chapel Allerton vigentium* (Salisbury, 1796: 359) and attached the name *R. simplicifolia* Salisb. to it. He explicitly based this name on the specimen in the Banks herbarium (BM000946994) and noted "Sponte nascentem in Persia, legit Andr. Michaux". Interestingly Salisbury had also received living material from Banks for his garden in Chapel Allerton, now a suburb of Leeds, noting that it had survived only for two years in cultivation (Salisbury, 1796: 360). It has been stated that Salisbury had supplemented his description from these living plants (Britton, 1916), but this argument is irrelevant here.

Johann August Carl Sievers: from the Tarbagatai Mountains to Saint Petersburg

Johann August Carl Sievers (1762–1795), an apothecary in Irkutsk or Barnaul (Borodin 1908: 105), was sent out by the Imperial Medical College in Saint Petersburg in 1790 to settle the so-called rhubarb question (Rowell, 1977), i.e., to search for *Rheum palmatum* L. and find out where it could be cultivated. This was a medicinal plant of considerable economic importance for Russia which was imported from China and largely exported to the west. The idea was to find *R. palmatum* growing wild in the Russian Empire, where as we now know it does not occur, and therefore his mission was unsuccessful. Supported by funds from Catherine II (1729–1796), reigning empress of Russia, Sievers had set out from Moscow in February 1790 and explored regions never visited before by westerners, e.g., the Tarbagatai Mountains [the Russian Empire, now Kazakhstan] (Bretschneider, 1898). Additionally, he reported in letters about his findings and collected plants, among them *Rosa persica*. In his eleventh letter which he seems to have started to write on the peaks of the Tarbagatai Mountains on 30 June 1793[1] and published posthumously, he mentions having found among the new plants one "Rosa berberifolia" (Sievers, 1796a: 151, 1796b: 295). To this name a footnote marked "P." was added reading "Ein trefflicher Strauch mit dornigen dünnen Ruthen, an welchen einzelne, den Berberissen ähnliche Blätter sitzen, am Ende der Zweige die feuergelbe Blume einzeln, deren Blätter am Grunde der Blüte einen dunkelrunden Fleck haben. Vielleicht mit Rosa persica bei Jussieu einerlei [A nice shrub with thin, thorny twigs, simple leaves reminiscent of the barbery bush, on the end of the twigs solitary fire-yellow flowers, with petals with a dark, round blotch. Maybe identical with Rosa persica of Jussieu]". Sievers's letters appeared in the journal *Neue nordische Beyträge* (Sievers, 1796b) in late September 1796 (K. Boehme, pers. comm.) and as a reprint with independent pagination (Sievers, 1796a), both having the year 1796 on the titlepage. The first volume of this journal published in Saint-Petersburg and Leipzig in 1790 contains a preface by Peter Simon Pallas (1741–1811), a prominent naturalist, traveler and full member of the Imperial Academy of Sciences in Saint-Petersburg (Sytin, 2014). It is safe to assume that "P." in the seventh volume of the *Neue nordische Beyträge* stands for Pallas, the editor of the journal. The footnote on p. 295/151 has to be regarded as the protologue of the name *R. berberifolia* and according to ICN Art. 46.1. (Turland et al., 2018) this name has to be attributed to Sievers.

The report by Sievers and Pallas is substantiated by three herbarium specimens, (1) in the Stephan herbarium at LE (A. Sytin, pers. comm.), (2) in the Willdenow herbarium (B -W 09815 -01 0), and (3) in the Schlechtendal herbarium (HAL0120066); the latter is a duplicate from the Willdenow herbarium annotated by Diederich Karl von Schlechtendal (1767–1842) 'W.[illdenow] de[di]t'.

The specimen in the Willdenow herbarium (Fig. 3) needs a brief commentary. The front cover of the blue folder carries a label in Willdenow's hand, the inner side of the blue folder bears four additional well-known labels (Crépin, 1872: 101). These read (1) "Rosa berberifolia mihi Улджаръ"

1 Admittedly the year is not indicated in this letter, but judging from the dates given in Sievers's sixteen other letters (Sievers 1796a, b) 1793 is more probable than any other year.

Fig. 3. – Lectotype of *Rosa berberifolia* Siev. Herbarium specimen (above); Labels attached to the inner side of the blue folder (below). [*Sievers s.n.*, B -W 09815 -01 0; © Botanischer Garten und Botanisches Museum Berlin]

[in Sievers's hand], (2) "Flos inodorus ad fl. Uldshar […]" [in Pallas's hand], (3) "Rosa berberifolia simplicifolia P." [in Pallas's hand], and (4) "Stephan W." [possibly in the hand of the scribe Johann Carl Strempel, cf. Lack (2024)]. Label (4) indicates that Willdenow may have received this specimen from Friedrich Christian Stephan (1757–1814), professor of chemistry and botany and his equivalent at the Medical-Surgical Academy in Moscow. Judging from Sievers's letters Улджаръ stands for the Urzhar river flowing from the Tarbagatai range into the lake Alakol near the Dzhungarian Gate in what is now easternmost Kazakhstan.

Back from his expedition after four years of travelling, Sievers was elected corresponding member of the Imperial Academy of Sciences in Saint-Petersburg on 3 March 1795, but committed suicide less than three weeks later in this city (Sytin, 2014: 229). This is how it came about that his botanical collections were studied and published in 1797 by Pallas (Pallas, 1797; Sytin, 2014: 229), shortly after Sievers's letters had posthumously appeared in the press. In this paper Pallas gave a more detailed description of *Rosa persica* and included an engraving of Sievers's specimen based on the drawing of an unknown botanical illustrator. Aware of the existence of the name *R. persica* Pallas added the note "An *Rosa persica* Jussieu" and thereby expressed his doubt about the identity of the plant. When writing his account of the genus *Rosa* for the fourth edition of Linnaeus's *Species Plantarum* Carl Ludwig Willdenow (1765–1812), professor of natural history at the Collegium medico-chirurgicum in Berlin, seems to have considered Pallas's doubts and listed "Juss. Gen. ed Ust. 372" in the synonymy of *R. berberifolia* (Willdenow, 1799: 1063). This reference stands for Usteri's edition of Jussieu's *Genera plantarum* (Jussieu, 1791: 372) and has the brief description of *R. persica* published previously in Jussieu's Addenda appended to the pertinent generic description, again without including a binomial. In short, Willdenow had placed *R. persica* into the synonymy of the later name *R. berberifolia*. Furthermore, Willdenow gave Persia as provenance of *R. berberifolia*. The impact of his *Species Plantarum*, a basic reference work for the first decades of the nineteenth century, was such that many subsequent authors followed him in his nomenclatural treatment. One of them was Alexander von Bunge (1803–1890) in his account for the *Flora altaica* (Bunge, 1830: 224), while Carl Friedrich von Ledebour (1785–1851), previously professor of botany at Dorpat University (then Russian Empire, now Tartu, Estonia) and Bunge's predecessor in the chair, preferred the name *Hulthemia berberifolia* in his *Flora rossica* (Ledebour, 1843–1846: 72). All this led to the exclusive use of *Rosa berberifolia* and *Hulthemia berberifolia* for this species in the literature on the flora of Russia and China. The latter generic name had been validated by Barthélemy Charles Joseph Dumortier (1797–1878) in 1824 and refers to the great bibliophile Charles Joseph Emmanuel van Hulthem (1764–1832), whose collection became the founding stock of the Royal Library of Belgium.

The engraving published by Pallas shows a fruiting specimen and a single separate seed. However, nowhere any indication exists that living material of his collection was introduced into cultivation.

Guillaume-Antoine Olivier: from Tehran to Paris

A few weeks after the proclamation of the French Republic in September 1792 the government sent two naturalists on a fact-finding mission to the Ottoman Empire and adjacent countries (Bernard, 1997: 1162). This initiative came from Jean-Marie Roland de La Platière (1734–1793), the French minister of the interior, one of his intentions being the removal of Guillaume-Antoine Olivier (1756–1814) and Jean-Guillaume Bruguière (1749–1798) from Paris. Apparently, both were regarded as being attached to the ancien régime, Olivier even seen as an opponent of Maximilien Robespierre (1758–1794), and consequently it was thought that their lives would be safer when travelling abroad on behalf of the Republic. This plan worked for Olivier, but not for Bruguière who was sickly during most of the tour and died on the return journey in Ancona. The expedition included elements of espionage (Corsi, 2009: 8) and diplomacy, since the travelers were instructed to attract the attention of the new shah, Mohammad Khan Qajar (1742–1797), the founder of a new dynasty. However, in the end they were only received by his prime minister Hadjji Ebrahim Shirazi (1745–1801) in Tehran in September 1796 (Bernhard, 1997: 1232). Judging from the travelogue *Voyage à l'Empire othoman, l'Égypte et la Perse* (Olivier, 1800–1807) the two travelers were interested in a wide range of topics and collected extensively. According to a list of the materials given to the Muséum d'Histoire naturelle in Paris dated 1 March 1819 these included, among others, 800–900 plant specimens (Bernard, 1997: 1232).

In June 1796 the two travelers entered Persia. Writing in retrospect, Olivier reported with reference to a locality near Kengaver [now Kangavar, Iran] "Nous voyons pour la première fois une rose à fleur jaune, d'une odeur très-suave. L'arbuste qui le produit, est très-épineux et n'a pas un pied de hauteur; il est rameux, et porte des feuilles simples, ovales, à bords dentés. Chaque rameau est terminé par une seule fleur. Les graines que nous cueillîmes dans le mois d'août, à Tehéran, ont très bien levé à Paris [For the first time we see a rose with yellow flowers and a very sweet smell. The shrub which produces them is very spiny and is only one foot in height; it is branched and carries simple, oval leaves with toothed margins. Each branch ends in a single flower. The seeds we collected in Tehran in August have germinated very well in Paris]" (Olivier, 1807a: 49). The pertinent footnote gives the name *Rosa berberifolia* and two references (Jussieu, 1789: 453; Poiret, 1804: 276),

while the next sentence refers the reader to an illustration in the Atlas volume of Olivier's *Voyage* (Olivier, 1807b). This engraving, i.e. tab. 43, is annotated *R. simplicifolia*, shows a richly branched flowering specimen of *R. persica* and is based on a drawing by Pierre-Antoine Poiteau (1766–1854). Since the two travelers are not known to have been accompanied by an illustrator, the drawing must have been made in Paris, where Poiteau had started to produce drawings that were to be published in the *Plantae aequinoctiales* (Humboldt & Bonpland, 1805–1817). Poiteau shows a detached petal with its dark basal spot, which indicates he depicted a living specimen. In his travelogue Olivier did not specify the nursery where his plant from Tehran was being cultivated, but that one founded by Jacques-Martin Cels (1740–1806) in Montrouge west of Paris is one of the probable candidates. As a matter of fact, a specimen of *R. persica* annotated "ex H. Cels" and "dedit Olivier" has survived in the Ventenat herbarium in Geneva (G00415919) and carries a detailed unpublished description in the hand of Étienne-Pierre Ventenat (1757–1808). This includes the statement that the flowers are yellow and that the specimen had been grafted on a rootstock of *R. spinosissima* L. Years later the first printed catalogue of this nursery, then owned by François Cels (1770–1832), lists *R. persica* under the name *R. berberifolia* with the note that the plants were being cultivated in the orangery (Anon., 1817: 31).

Another descendant of Olivier's accession is reported to have been transferred from Paris to England and flowered in the garden of one Charles Walsham in Whetstone, now in the London borough of Barnet, before 1808. It was depicted by William Hooker (1779–1823; J. Compton, pers. comm.) and the pertinent illustration was published as a coloured engraving, i.e. tab. 101, together with an extremely detailed description of the living plant (Salisbury, 1808). In this text we also find the statement that the specimens raised from Michaux's seeds at Kew and Chapel Allerton (see above) did not survive their first two years in cultivation. This is hardly surprising as this rose grows in desert sand and rock and is adapted to survive severe heat and drought in its native habitat.

Malmaison: Josephine, Claude-Antoine Thory, and Pierre-Joseph Redouté

Malmaison is the name of an estate situated near the Seine southwest of Paris which was bought by Josephine Bonaparte (1763–1814), the first wife of Napoleon, in 1799. She had her new acquisition embellished and enlarged at an immense cost giving particular attention in her garden to the cultivation of rare and new plants. Conservatories, among them a huge, well-documented building called "serre chaude [hot house]", were erected and living material was acquired from a broad spectrum of sources (Callmander et al., 2017). Among them was the nursery of Jacques-Martin Cels and it is possible that this company delivered a specimen of *Rosa persica*, André Dupont (see below) being an alternative supplier. We do not know precisely when a specimen of *R. persica* was acquired, nor do we know for how long the plants may have survived. In any case a living specimen was described by Claude-Antoine Thory (1759–1827) who explicitly mentioned in his text that it was in cultivation in Malmaison and had been grafted on a rootstock (Redouté, 1817: 28). The pertinent colour engraving (Fig. 4) is based on a watercolour by Pierre-Joseph Redouté (1759–1840), which is now untraceable. It shows a specimen with two fully opened flowers and, again, a single detached petal with its characteristic dark basal blotch. Furthermore, Thory noted that almost all cultivators of this rose in France had lost their specimens and that grafting on *R. spinosissima* seems the best method to multiply *R. persica* (Redouté, 1817: 28).

Except for the detached petal, the engraving based on Pierre-Joseph Redouté was carefully copied by one Louise von Wangenheim and combined with her copy of the illustration of *Rosa persica* published by Pallas though showing only part of the fruiting branch. Her resulting image was subsequently published as a coloured engraving in another monograph of the genus *Rosa* (Rössig, 1802–1820: tab. 53) which otherwise contains no new information.

Other nurseries

It would be naive to presume that *Rosa persica* was available only at the Cels nursery. Another nursery in possession of living material was that owned by André Dupont (1742–1817), a well-known collector and dealer of roses in Paris who had Josephine as one of his customers (Derkenne, 2020). This fact is substantiated by a herbarium sheet in the Dupont herbarium kept at P with several fragments of this rose with three labels. Two of these read "echantillon levé en Perse arbre entier donné par Olivier [specimen collected in Persia, complete rootstock given by Olivier]" and "deux pétales d'une fleur de la greffe faite chez moy fleurie en 1801 [two petals of a flower from a graft I made and which had flowered in 1801]" (Derkenne, 2020: 219). The third label reads "greffe du simplicifolia prete a fleurir la meme année de greffe et cassée par accident sous la coupe de verre 7bre 1809 [graft of simplicifolia ready to flower the same year as the graft, by accident broken under the glass dome September 1809]". Furthermore, five carefully pressed petals of this species arranged as they would have been in the flower and annotated by Antoine-Laurent de Jussieu "Fleurie chez M. Dupont et donnée par lui 1812 [flowered at Mr. Dupont and donated by him in 1812]" are preserved in the Jussieu herbarium (P-JU nº 14173, P00667268; Fig. 2) (Derkenne, 2020: 174). Even before this specimen was given to Antoine-Laurent de Jussieu the cultivation of *R. persica* in Dupont's nursery was mentioned in the *Bon Jardinier* in 1803 and later in 1808, when the note was added "c'est chez lui qu'on

en a fait le portrait pour les Vélins du Muséum [it was in this nursery that a portrait of it was made for the Collection des Vélins]" (Derkenne, 2020: 219). However, this illustration was definitely not included in this famous collection.

When Dupont offered his herbarium to the Muséum d'Histoire naturelle in Paris in 1814 he included a rootstock of what he called "Rosa monophyla" (Derkenne, 2020: 212). Judging from the pertinent specimen kept in his herbarium, this was clearly *R. persica* (Derkenne, 2020: 182, 219). Another specimen (G00413516) annotated "Rosa monophilla" in an unknown hand (Derkenne, pers. comm.) and "hort. bot. paris" in the hand of John Isaac Briquet (1870–1933) also belongs here. While it is not surprising that Dupont's offer was accepted by the professors at their meeting in Paris on 16 February 1814, it is most remarkable that the proceedings explicitly mention the living specimen "qui manquoient a l'etablissement [which was missing at the institution, i.e., in the Jardin des Plantes]" (Derkenne, 2020: 182).

A few years after Dupont's death a note on *Rosa persica* appeared stating 'Nous ne l'avons vu que chez M. Dupont, qui vient de donner au Jardin du Roi [à Paris] le seul pied qu'il possédait' [We have seen it only at Mr. Dupont, who just donated the only specimen he owned to the Jardin du Roi [in Paris] (Loiseleur-Deslongchamps & Michel, 1819[2]: 14). By that time, it was already known to the initiated in Paris that this rose was extremely difficult to cultivate, that it was reluctant to flower, indeed that it could not flower at all and that even grafting was no long-term success (Bosc, 1821). Pancrace Bessa (1772–1846) had depicted this single specimen, again with a detached petal, in a watercolour, which is now lost. The colour print based on it appeared in the last volume of the *Nouveau Duhamel* (Loiseleur-Deslongschamps & Michel, 1819: tab. 14, fig. 2). A decade later a note on *R. persica* appeared stating "It resists cultivation in a remarkable manner, submitting permanently neither to budding, nor grafting, nor laying, nor striking from cuttings; nor, in short, to any of those operations [...] Drought does not suit it, it does not thrive in wet; heat has no beneficial effect, cold no prejudicial influence; care does not improve it, neglect does not injure it" (Lindley, 1829). Cultivation in other gardens remained tedious and largely unrewarding (e.g. Geschwind, 1909). However, no attempt is made here to deal in any detail with this topic nor with the naturally occurring hybrids of *R. persica*, e.g., the recently described *R.* ×*binaloudensis* Vaezi, Arjmandi & Sharghi from NE Iran (Vaezi et al., 2019). Artificial crosses with *R. persica* are known as ×*Hulthemosa* Juz. which regularly show the dark basal blotch on their petals, but these also fall outside the scope of this paper.

2 The treatment of the genus *Rosa* published in this last volume of the *Traité des arbres et arbustes qu'on cultive en France*, the so-called *Nouveau Duhamel*, seems to have been published in 1817, but further research is necessary to clarify this matter.

Taxonomic synopsis

Rosa persica J.F. Gmel., Syst. Nat., ed. 13, 2(1): 855. 1791.

≡ *Hulthemia persica* (J.F. Gmel.) Bornm. in Bull. Herb. Boiss., sér. 2, 6: 607. 1906.

Neotypus (designated here): **Iran:** "Persia", 1784, *Michaux s.n.* (P-JU nº 14173 [P00667267, right hand specimen]!; isoneo-: BM [BM006946994] image!) (Fig. 2).

= *Rosa simplicifolia* Salisb., Prodr. Stirp. Chap. Allerton 359. 1796. **Holotypus: Iran:** "Persia", 1784, *Michaux s.n.* (BM [BM006946994] image!; iso-: P-JU nº 14173 [P00667267, right hand specimen]!).

= *Rosa berberifolia* Siev. in Neue Nord. Beytr. Phys. Geogr. Erd- Völkerbeschreib. 7: 295. 1796. ≡ *Hulthemia berberifolia* (Siev.) Dumort., Not. Hulthemia 13. 1824. ≡ *Lowea berberifolia* (Siev.) Lindl. in Edwards's Bot. Reg. 15: tab. 1261. 1829. – *Rhodopsis berberifolia* (Siev.) Ledeb. ex Dippel, Handb. Laubholzk. 3: 601. 1891 [nom. inval. pro syn.]. **Lectotypus** (designated here): **Kazakhstan:** "Улджарь" [Urzhar river], [1790–1794], *Sievers s.n.* (B-W [B -W 09815 -01 0]!; isolecto-: HAL [HAL0120066] image!; possible isolecto-: LE [herb. Stephan] image!) (Fig. 3).

= *Hulthemia berberifolia* var. *stenophylla* Boiss., Fl. Orient. 2: 669. 1872–73. **Lectotypus** (designated here): **Iran:** "prope urbem Teheran", 16.IV.1843, *Kotschy 26* (G-BOIS [G00795111]!; isolecto-: G [G00415939, G00415940]!). **Syntypus:** ibid., s.d., *Kotschy 26a* (G-BOIS [G00795112]!).

Distribution. – Afghanistan (Breckle et al., 2013: 436), China (Xinjiang) (Gu & Robertson, 2003: 350; Han 2019: 532), Iran (Khatamsuz, 1992: 37), Kazakhstan (Abdulina, 1999: 149), Kyrgyzstan (Lazkov & Sultanova, 2014: 52), Tajikistan (Kočkareva, 1975: 477), Turkmenistan (Nikitin & Gel'dichanov, 1988: 298), Uzbekistan (Korotkova, 1955: 356).

Notes. – Gmelin (1791: 855) repeated Jussieu (1789: 452)'s description but in a modified form and explicitly added the note 'Michaut apud Jussieu gen. plant. p. 452' (Gmelin, 1791: 855). Since the name *Rosa persica* was not published solely by reference to a previously and effectively published description or diagnosis (ICN Art. 38.1) but associated with a separate description and, secondly, since Gmelin included a reference to Jussieu's description and not to a specimen, a neotype has to be designated (ICN Art 9.8).

Sievers's collection deposited in B-W is designated here the lectotype of *Rosa berberifolia*. A duplicate is deposited at HAL and also in the herb. Stephan at LE (see above).

Fig. 4. – Colour stipple engraving based of Pierre-Joseph Redouté of *Rosa persica* J.F. Gmel.
[Redouté, P.-J., *Les Roses*, Paris, 1817; © Bibliothèque, Conservatoire et Jardin botaniques de Genève]

Edmond Boissier (1810–1885) in the second volume of his *Flora Orientalis* described *Hulthemia berberifolia* var. *stenophylla*. Two sheets are deposited under that name in G-BOIS. *Kotschy 26*, which is cited in the protologue, and *Kotschy 26a* that is not explicitly cited in the protologue and bears the determination "Rosa berberifolia var. spathulata". We therefore prefer to designate *Kotschy 26* [G00795111] as the lectotype of this variety with two duplicates in the general herbarium at G.

Epilogue

Growing often *en masse* in the wild, *Rosa persica* in flower adds numerous intensely yellow spots to the vegetation. In Iran it is recorded to be locally such a common plant that it was collected for fire wood and as a wooden staff used in stables (Geschwind, 1909: 95). Its name, however, goes back to the intrepid early travelers and collectors André Michaux and Johann August Carl Sievers, the latter best known for the first report of *Malus sieversii* (Ledeb.) M. Roem. found in the wild, the principal progenitor of the cultivated apple (*M. domestica* (Suckow) Borkh.).

Acknowledgements

Thanks are due to Katrin Böhme (Berlin) for the date of publication of the seventh volume of the *Neue Nordische Beyträge*, James Compton (Tisbury) for William Hooker's year of death, Vincent Derkenne (Chambéry) for information on A. Dupont, Eckhard von Raab-Straube† (Berlin) for the interpretation of Chinese title pages, Andrey Sytin (Saint-Petersburg) for sending an image of the specimen in the Stephan herbarium at LE, Mohammed Reza Ehsanimarani for the permission to publish his photograph of *Rosa persica* (Fig. 1), Philippe de Candolle and Jean-Philippe Chassot for digitising figure 4, and Nick Turland (Berlin) and Valéry Malécot (Angers) for advice on nomenclatural matters. James Compton kindly read and commented on a draft version of this paper. Two anonymous reviewers are thanked for improving an earlier version of this manuscript.

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