

THE TYPIIFICATION OF ROYLE'S RANUNCULACEAE: II

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ABSTRACT. Duplicate specimens of Royle types of Ranunculaceae in the Kew general herbarium (K) and the Wallich herbarium (K-W) at Kew have been examined and their type status evaluated. A table is presented giving a summary of the location and status of all Royle types seen at K, K-W, LIV, DD, E & E-GL.

In the previous part of this paper* the specimens of Ranunculaceae in the Royle herbarium (LIV) and those in the Saharanpur herbarium (DD) were discussed and their type status examined. Since then I have been able to search the general herbarium at Kew (K) for duplicates of the Royle herbarium, and to examine the Wallich collection (K-W) for those Wallich types which Royle consulted and which are applicable to Royle species. These are listed and discussed below, particularly in relation to the specimens at LIV and DD. This paper should be used in conjunction with the previous in which the collecting localities and other details of Royle specimens are given. The 1978 paper also contains all the references to Royle's work and an explanation (p. 128) of the sequence of the species followed in both papers.

The table on p. 128 lists all Royle's species of Ranunculaceae and the location and status of all type specimens seen and examined by me at LIV, DD, K, K-W, E & E-GL. It combines the information given in the previous paper together with new information reported for the first time. There are still a number of 'possible' and 'probable' types at LIV for which a more positive designation is required and might be given by other authors more familiar with the genera involved. However, specimens indicated previously as 'probable holotypes' are now accepted definitely as holotypes and shown as such in the table. They are of the following species: *Adonis inglesii*, *Anemone tetrasepala*, *Delphinium brunonianum*, *D. incanum*, *D. pyramidale*, *D. rectivenium*, *Thalictrum marginatum*, *T. microphyllum*, *T. pauciflorum*, *T. radiatum* and *T. vaginatum*.

The history of Royle's herbarium has already been documented but mention should be made here of the duplicates at Kew. For the most part they are unlocalised, and the labels are merely inscribed 'N.W. India, Hb. Royle'. One or two sheets bear an additional locality. The set of Royle's specimens in the Kew herbarium is not complete and was extracted from the duplicates deposited at the Linnean Society in 1836 by the East India company for distribution to other herbaria. The Society was apparently unable to deal with these specimens, of which there were about 130 bundles, and eventually they found their way to Kew where a set was placed in the Kew herbarium and the remainder distributed. According to A. de Candolle (*La Phytographie* 445, 1880) a large set went to Leningrad. We know, of course, that another set is in Dehra Dun.

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* Notes R.B.G. Edinb. 36:127-137 (1978).

personal notes on the Royle collection from which I have quoted more or less verbatim. My thanks are due also to Mr L. L. Forman, Kew, for his helpful comments on this paper and to my colleague, Heather Paul, for assistance.

Clematis nutans Royle. Iso. K.

Clematis venosa Royle. Iso. K.

Thalictrum elegans [Wall. ex] Royle. Wall. Cat. 4728—lecto. K-W. The syntype specimen from Kumaon in K-W is selected as lectotype rather than the other syntype from Choor at LIV.

Thalictrum microphyllum Royle. Iso. K. The label accompanying this specimen bears the following: '*Thalictrum alpinum* L., *T. microphyllum* & *T. marginatum* Royle, *T. acaule* Cam. and N.W. India, Hb. Royle'. The two specimens at the bottom left-hand corner of the sheet are *T. microphyllum*, the remainder are plants of *T. alpinum* from Glen Doll, Forfar, Scotland. There are no plants of *T. marginatum* on this sheet.

Thalictrum radiatum Royle. Iso. K. The Kew specimen is labelled 'Garhwal' and Royle gave the locality of *T. radiatum* as Mussooree, which is in Garhwal. I therefore accept this specimen as an isotype.

Anemone wallichiana Royle. Lecto. K. This may be the only Royle specimen of *A. wallichiana* in existence and it is labelled 'Kanawer' corresponding to the locality cited in Royle's description. I therefore accept it as a type. In their work on the 'Taxonomy of the genus *Pulsatilla*', Aichele & Schwegler (*Fedde, Rep. Sp. Nov.* 60: 114, 1957) chose as the neotype of *Pulsatilla wallichiana* (Royle) Ulbrich a *Hooker & Thomson* specimen in the Stockholm herbarium (S). According to Article 8 of the *International Code of Botanical Nomenclature*, if any original material is rediscovered, the choice of a neotype is superseded.

Anemone discolor Royle. Isolecto. K. Only the plant in the bottom left-hand corner of the sheet is the isolectotype.

Anemone villosa Royle. Syntype K. Only the plants on the left-hand side of the sheet represent the syntype.

Ranunculus distans D. Don. Iso. K.

Ranunculus laetus [Wall. ex] Royle. Wall. Cat. 4702A, B & D—syntypes K-W. In the Wallich herbarium 4702A & B are each represented by single sheets while 4702C & D are mounted on the same sheet. Of these 4702A, B & D are all *R. laetus* Wall. and 4702C is a poor specimen of another species, as yet unidentified.

Ranunculus attenuatus D. Don. No type specimen has been found.

Ranunculus mollis [Wall. ex] Royle. Wall. Cat. 4704—holo. K-W. There are two sheets of no. 4704 in K-W.

Ranunculus pimpinelloides D. Don. Iso. K. The isotype is represented by the five plants at the top of the sheet, the others being collections by Falconer.

Ranunculus membranaceus D. Don. No type specimen has been found.

Ranunculus polypetalus D. Don. Iso. K. Probably only the top specimen on the sheet is isotype material.

Caltha govaniana [Wall. ex] Royle. Wall. Cat. 4710A & B—syntypes K, K-W. The Kew general herbarium contains no. 4710A & B mounted on the same sheet whilst in the Wallich

herbarium there are three sheets—one of 4710A and two of 4710B. The sheet in the general herbarium has been designated as the holotype of *C. govaniana* by P. G. Smit in 1970 and identified by her as *C. palustris* L. In her revision of the genus *Caltha* (*Blumea* 21:149, 1973) Smit listed *C. govaniana* among 'Not validly published names appearing in the literature', although the name was validated by Royle, and no type was indicated. The specimen indicated by Smit as the holotype cannot be so as it is syntypic with another collection from Choor at LIV. It is proposed to leave the LIV, K, K-W, and E-GL material as syntypes.

Isopyrum microphyllum Royle. Lecto. K. No specimen of *I. microphyllum* was found in the Wallich herbarium, although Royle stated that the illustration was from imperfect specimens in the East-Indian herbarium. There is a specimen in the Kew general herbarium labelled '*Isopyrum grandiflorum* Fisch., *I. microphyllum* Royle, N.W. India, Hb. Royle' which I here designate as the lectotype. The sheet is composed of mixed collections.

Aquilegia pubiflora [Wall. ex] Royle. Wall. Cat. 4714—holo. K-W.

Aquilegia moorcroftiana [Wall ex] Royle. Wall. Cat. 4713A, B—syntypes K-W.

Delphinium vestitum [Wall. ex] Royle. Wall. Cat. 4715B—lecto K-W., isolecto. K. In the Kew general herbarium there are two Wallich sheets numbered 4715A & B and 4715 respectively. The Wallich herbarium contains two sheets numbered 4715 & 4715B. Sheet 4715B is here designated as lectotype.

Delphinium rectivenium Royle. Iso. K.

Aconitum multifidum Royle. Holo. CGE. *A. multifidum* is a synonym of *A. violaceum* [Jacq. ex] Stapf.

Aconitum heterophyllum [Wall. ex] Royle. Wall. Cat. 4722A & B—syntype K, K-W. In the Wallich herbarium 4722A & B are on a single sheet but the A & B plants are indicated. The Kew general herbarium also has the A & B specimens on one sheet. It is proposed to regard all the specimens in K, K-W, & E-GL as syntypes.

Cimicifuga frigida Royle. Wall. Cat. 4725—holo. K-W, iso. K. There are two sheets of the holotype, one bearing flowering, the other fruiting material.

Actaea acuminata [Wall. ex] Royle. Wall. Cat. 4726—lecto. K-W, isolecto. K. The syntype at K-W from Srinagar is here selected as the lectotype rather than the Royle syntype from Choor at LIV.

Paeonia emodi [Wall. ex] Royle. Wall. Cat. 4727—holo. & iso. K, iso. K-W sub no. 811. There are two sheets of 4727 in the Kew general herbarium but in K-W the sheet under 4727 is a *Polypodium*. In a list of corrigenda on p. 250 of *Wall. Cat.* is stated against 4727 'Deleat. *Paeonia* quae N:811 *Lege Polypodium acutissimum* Wall.'. There are three sheets of *P. emodi* in K-W labelled 'Kemaon, R. Blinkworth' although the Catalogue entry under no. 811 is 'Srinaghur, R.B.'. Because of this confusion it seems better to regard the sheets in K as providing material for the selection of a holotype, although this has not yet been done.

SUMMARY OF STATUS AND LOCATION OF ROYLE RANUNCULACEAE TYPES

	LIV	DD	K-W	K	E	E-GL
<i>Aconitum cordatum</i>		lecto.				
<i>A. heterophyllum</i>			synt.	synt.		synt.
<i>A. laeve</i>	lecto.					
<i>A. multifidum</i> ¹						
<i>Actaea acuminata</i>	orig. synt. holo.		lecto.	isolecto.		isolecto.
<i>Adonis inglesii</i>	lecto.					
<i>Anemone discolor</i>	lecto.			isolecto.		
<i>A. tetrasepala</i>	holo.					
<i>A. villosa</i>	synt.	synt.		synt. lecto.		
<i>A. wallichiana</i>						
<i>Aquilegia moorcroftiana</i>	type		synt. holo.			synt. iso.
<i>A. pubiflora</i>						
" " var. <i>mussooriensis</i>	prob. T					
<i>Caltha govaniana</i>	synt.		synt. holo.	synt. iso.		synt. iso.
<i>Cimicifuga frigida</i>						
<i>Clematis cordata</i>	poss. T					
<i>C. globosa</i>	poss. T					
<i>C. nutans</i>	prob. T			iso.		
<i>C. tenuifolia</i>	poss. T					
<i>C. venosa</i>		type		iso.		
<i>Delphinium brunonianum</i>	holo.					
<i>D. cashmerianum</i>		type				
<i>D. incanum</i>	holo.					
<i>D. pyramidale</i>	holo.					
<i>D. rectivenium</i>	holo.	prob. iso.		iso.		
<i>D. vestitum</i>	orig. synt.	orig. synt.	lecto.	isolecto.	isolecto.	isolecto.
<i>Isopyrum microphyllum</i>				lecto.		
<i>Oxygraphis polypetalus</i>		lecto.				
<i>Paeonia emodi</i>		poss. iso.	iso.	holo. & iso.		iso.
<i>Ranunculus attenuatus</i>						
<i>R. choorensis</i>	prob. T					
<i>R. distans</i>	prob. T			iso.		
<i>R. glabellus</i>	poss. T					
<i>R. hirtellus</i>	synt.					
<i>R. laetus</i>	synt.		synt.			synt.
<i>R. membranaceus</i> ²						
<i>R. mollis</i>			holo.			iso.
<i>R. nervosus</i>	prob. T					
<i>R. pimpinelloides</i>	prob. T			iso.		
<i>R. polypetalus</i>	prob. T			iso.		
<i>R. vitifolius</i>	isolecto.?	lecto.?				
<i>Thalictrum elegans</i>	orig. synt.		lecto.			isolecto.
<i>T. marginatum</i>	holo.	iso.				
<i>T. maxwellii</i>	prob. T					
<i>T. microphyllum</i>	holo.	iso.		iso.		
<i>T. neurocarpum</i>	prob. T					
<i>T. pauciflorum</i>	holo.					
<i>T. radiatum</i>	holo.	iso.		iso.		
<i>T. vaginatum</i>	holo.					

Note: 'poss. T' and 'prob. T' stand for possible or probable type; 'orig. synt.' indicates a collection different from the lectotype which was originally syntype material. When 'type' only is noted its exact status has not yet been determined.

¹ Holo. at CGE.

² No type specimen found.