



A CONTRIBUTION TO THE RANUNCULACEAE OF IRAQ

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Abstract. The paper presents 39 species of Ranunculaceae collected in Iraq by E. Hadač in 1960–1961. One of them is a new variety: *Ranunculus polyanthemos* var. *robustus* var. *nova*.

■ Vascular plants, Ranunculaceae, Iraq.

INTRODUCTION

Emil Hadač collected a relatively rich plant material from Iraq, deposited now in the National Museum, Praha (PR). Most of his excursions were undertaken with prof. Dr. A. D. Q. Agnew and prof. Dr. Richard Wheeler-Haines, and some of them also with the assistants Waleed-al Hashimi or Faisal abd'el Kader. One excursion to the Southern desert was undertaken with Dr. Ali al Rawi from the State herbarium in Abu Ghuraib. Our thanks are due to all the named colleagues for their help during these excursions. Our material has been studied predominately by prof. C. C. Townsend, but not all our localities were published. In our opinion every locality of these collected species is useful for the eventual mapping, so we publish all the material studied by us, even in cases when the taxon is relatively common. Townsend's notes, concerning individual taxa are discussed in the text.

LIST OF SPECIES

Caltha L.

C. polypetala HOCHST. ex LORENT – Shirzawa, pes merid. montis Helgurd, 11. 6. 1960, leg. E. Hadač, no. 2475. This species is very often merged with *C. palustris* L. We are, however, of the opinion that even if the distinguishing features are not unambiguously expressive, the Iraqi plants belong to the independent species *C. polypetala*, characterised before all by the robustness of the plants, size and form of follicles, as well as by the form of perianth segments.

Nigella L.

N. oxypetala BOISS. var. *tenuifolia* BOISS. – Distr. Sulaimania: summo montis Kopi Qaradagh, 29. 5. 1961, leg. E. Hadač et col., no. 5170; distr. Rowanduz: ad viam inter vicos Naprdan et Sheikhan, 5. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5357; in iugo Dar Mazala inter Sulaimania et Qaradagh, 28. 5. 1961, leg. E. Hadač et col., no. 5099.

N. arvensis L. var. *longicornis* (ZOH.) TOWNSEND – Jezira meridionalis, 60 km ad bor. – bor. – occid. a Baghdad, 5. 5. 1961, leg. E. Hadač, A. Agnew, R. W. Haines, no. 4510; ad viam 76 km ad orientem a Rutba, 27. 4. 1961, leg. E. Hadač et col., no. 4485; inter Neftkhana et Kani Masi, 10. 5. 1961, leg. E. Hadač, R. W. Haines et Waleed Hashimi, no. 4642; Jebel Hamrin, ad viam Baquba – Khamazin, 24. 5. 1961, leg. E. Hadač et col., no. 4658.

***Delphinium* L.**

D. tuberosum AUCH. ex BOISS. – Kopi Qaradagh: Waziara, 29. 5. 1961, leg. E. Hadač, no. 6300; Sarcal, ripa rivuli dextra, alt. 2220 m, in *Hordeeto bulbosi*, 10. 6. 1960, leg. E. Hadač, no. 2694; Derbend, 4. 6. 1960, leg. E. Hadač, no. 2049; distr. Rowanduz: declivio boreali montis Potin (“Botine”), 20. 6. 1961, leg. A. Agnew, E. Hadač et R. W. Haines, no. 6056a; Potine, 20. 6. 1961, leg. E. Hadač, no. 6056b; all specimens were revised by Townsend (1972) as *D. tuberosum* Auch. ex Boiss., excl. locality: distr. Rowanduz: ad vicum Sakri Sakran, alt. 1900 m, 6. 6. 1961, leg. E. Hadač et Faisal abd’el Kader, no. 5588 (Townsend 1972 ?*D. tuberosum* Auch. ex Boiss., young).

D. macrostachyum BOISS. ex HUTH in ENGLER – Inter pagos Shirwan Mazin et Hupa, 6. 1961, leg. A. Agnew, E. Hadač et R. W. Haines, no. 5862, Townsend (1980) knows only 3 localities, and Iranshahr et al. (1992) 5 localities from Iraqi Kurdistan.

D. peregrinum L. subsp. *halteratum* (SIBTH. et SM.) BATTAND. – Inter vicos Chamchamal et Qarangir, 30. 5. 1961, leg. E. Hadač et col., no. 5250 (Townsend 1972 revised as ? *D. peregrinum* subsp. *halteratum* (Sibth. et Sm.) Batt., but too young). Townsend (1980) writes “Of doubtful occurrence in Iraq, but only record being by Huth”. Iranshahr et al. (1992) under the name *D. venulosum* Boiss. (syn. : *D. halteratum* Sibth. et Sm. var. *venulosum* (Boiss.) Finet et Gagnep.), report two Rechinger’s localities from Iraqi Kurdistan.

D. ambiguum L. – Sarchinar prope Sulaimania, 30. 5. 1961, leg. E. Hadač et col., no. 4774.

D. oliverianum DC. – In oppido Rowanduz, 18. 6. 1961, leg. A. Agnew, E. Hadač et R. W. Haines, no. 5780; inter pagos Shirwan Mazin et Hupa, 23. 6. 1961, leg. A. Agnew, E. Hadač et R. W. Haines, no. 6222; ad viam inter opp. Kirkuk et Sulaimania, loco Derbend dicto, 26. 5. 1960, leg. E. Hadač, no. 1817; in agris inter Tasluja et Sarchinar, 25. 5. 1961, leg. E. Hadač et col., no. 4768; Kopi Qaradagh: Waziara, 29. 5. 1961, leg. E. Hadač et col., no. 6252.

D. tomentosum AUCH. ex BOISS. – Azmir dagh prope Sulaimania, 26. 5. 1960, leg. E. Hadač, no. 1879.

D. flavum DC. – Jebel Hamrin, ad viam Baquba-Khanaquin, 24. 5. 1961, leg. E. Hadač et col., no. 4657; Jezira meridionalis, 60 km ad bor. – bor. – occid. a Baghdad, 5. 5. 1961, leg. E. Hadač, A. Agnew et R. W. Haines, no. 4506.

***Ranunculus* L.**

R. brachylobus BOISS. et HOHEN. in BOISS. – Shirzawa, pes merid. montis Helgurd, 11. 6. 1960, leg. E. Hadač, no. 2455; Sarcal: ad pedem montis Helgurd, 2200 m, 4. 6. 1960, leg. E. Hadač, no. 2100; Sarcal: ripa rivuli ad pedem montis Helgurd, 2190 m, leg. E. Hadač,

no. 2135; distr. Rowanduz: Hassar-i-Sakran, alt. 2400–2800 m, leg. E. Hadač et Faisal abd'el Kader, no. 5638. Townsend (1980) reports this taxon as locally common in the central sector of the alpine region.

R. sericeus BANKS et SOLAND. in RUSSELL – Sarcal, vallis Nowandae ripa dextra, alt. 2220 m, 9. 6. 1960, leg. E. Hadač, no. 2355; Sarcinal, 27. 5. 1960, leg. E. Hadač, no. 1926; ad pedem montis Pira Magrun, loco Girdabor dicto, 25. 5. 1961, leg. E. Hadač et col., no. 4705.

R. diversifolius BOISS. et KOTSCHY in BOISS. – Declivio meridionali cotae 2450 m supra Sarcal, alt. 2400 m, 5. 6. 1960, leg. E. Hadač, no. 2299; distr. Rowanduz: ad vicum Sakri Sakran, 6. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5554. Townsend (1980) presents only 5 localities.

R. kotschyi BOISS. – Sarcal, pes merid. montis Helgurd in *Ornithogaleto*, 12. 6. 1960, leg. E. Hadač, no. K26; distr. Rowanduz: in valle Hassar-i-Sakran, 7. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5626; Sarcal: vallis Nowandae ripa dextra, alt. 2230 m, 9. 6. 1960, leg. E. Hadač, no. 2346. Townsend (1980) presents 2 localities of this species.

R. polyanthemus L. – Sarcal, pes montis Helgurd, in *Blysmeto*, 2200 m, 4. 6. 1960, leg. E. Hadač, no. 2674; pes merid. montis Helgurd, in *Ornithogaleto*, 12. 6. 1960, leg. E. Hadač, no. 2703; Sarcal, vallis Nowandae ripa dextra, alt. 2220 m, 9. 6. 1960, leg. E. Hadač, no. 2347; distr. Rowanduz: Hassar-i-Sakran, alt. 2400–2880 m, 7. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5626.

The distribution of this species in Iraq is very remarkable. Its localities are widely scattered around the mountain complex of Helgurd. *R. polyanthemus* occurs in western and northern parts of Turkey and Iran. Our plants from Iraq are rather variable, especially in their total height, flower size and the form of beak on fruits. Most striking, however, are plants from the locality Hassar-i-Sakran with their robust stature (up to 70 cm height), stout stem, large flowers, prolonged and dense hairs of flower receptacle and rather prolonged hook terminated beaks.

We name this plant var. *robustus*.

Ranunculus polyanthemus L. var. ***robustus*** var. nova. – Planta robusta ca 70 cm alta, longe patente villosa, caules 7 mm in diam., receptaculum longe pilosum; petala plus minusve 12 mm longa et plus minusve 12 mm lata. – Holotypus: distr. Rowanduz: Hassar-i-Sakran, alt. 2400–2800 m, 7. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5626. Holotypus in herb. PR asservatur.

R. oxyspermus WILLD. var. ***phrygius*** (BOISS.) P. H. DAVIS – Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1404. Townsend (1980) reports only 5 localities and Iransahr et al. (1992) two localities from Iraqi Kurdistan.

R. neocuneatus TOWNSEND – Jebel Sinjar supra Kizil Kan, 19. 3. 1961, leg. E. Hadač, A. Agnew et Waleed, no. 3608. We have not identified this specimen but Townsend (1972) designated it as *R. ?neocuneatus* C. C. T. (or *oxyspermus* var. *phrygius* – fruit needed).

R. myosuroides BOISS. et KOTSCHY in BOISS. – Sub cacumine montis 2450 m supra Sarcal, alt. 2420 m, ad nives tabescentes, 5. 6. 1960, leg. E. Hadač, no. 2247. Townsend

(1980) as well as Iranshahr et al. (1992) report this species from only one locality in Iraqi Kurdistan, Helgurd (Bornmüller, no. 826, from the first half of the 19th century).

R. bulbiferus BOISS. et HOHEN. in BOISS. – Shirzawa, pes merid. montis Helgurd, 11. 6. 1960, leg. E. Hadač, no. 2249; declivio boreali cotae 2450 m supra Sarcal, sub summo montis, alt. 2420 m ad nives tabascentes, 5. 6. 1960, leg. E. Hadač, no. 2238; in cota 2530 m supra Sarcal, alt. 2520 m, 5. 6. 1960, leg. E. Hadač, no. 2270; distr. Rowanduz: Has-sar-i-Sakran, alt. 2400–2800 m, 7. 6. 1961, leg. E. Hadač et Faisal abd’el Kader, no. 5641. According to Townsend (1980) very rare in the alpine region of Iraq and he quoted the only locality Helgurd, (Bornmüller no. 827) where plants were collected at the beginning of the 19th century. From Iraqi Kurdistan (in montibus N Rest, Thesiger no. 928, 949) Iranshahr et al. (1992) report also one locality.

R. aucheri BOISS. – Distr. Rowanduz: declivio boreali montis Potin (“Botine”), 20. 6. 1961, leg. A. Agnew, E. Hadač et R. W. Haines, no. 6164. Townsend (1980) reports 5 localities, Iranshahr et al. (1992) quote none.

R. asiaticus L. – Sulaimania, 30. 3. 1960, leg. G. V. Groos et al., no. 1030; Dokkan dam, 570 m, 9. 4. 1960, leg. E. Hadač, no. 1198; ad viam inter Kirkuk et Chamchamal, 830 m, 9. 4. 1960, leg. E. Hadač, no. 1124; Adheim prope Injana, 23. 3. 1961, leg. E. Hadač, A. Agnew et Valeed, no. 3900; Ba’shiqa, 12. 4. 1960, leg. E. Hadač, no. 1519; Türkiža, inter Dohuk et Zacho, 21. 3. 1961, leg. E. Hadač, A. Agnew et Valeed, no. 3701; ad viam 25 km ad meridiem a Kirkuk, 23. 3. 1961, leg. E. Hadač, A. Agnew et Valeed, no. 3820.

R. macrorhynchus BOISS. var. ***leiocarpus*** (ZOH.) TOWNSEND – Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1394; Sulaimania: in decliviis supra opp. Penjwin, 26. 5. 1961, leg. E. Hadač et col., no. 4891; distr. Sulaimania: loco Benawa Suta dicto prope opp. Penjwin, 26. 5. 1961, leg. E. Hadač, no. 4948.

R. millefolius BANKS et SOLAND. in RUSSELL – Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1394; ad pedem montis Pira Magrun loco Girdabor dicto, 25. 5. 1961, leg. E. Hadač et col., no. 4710.

R. cornutus DC. – Distr. Sulaimania: ad Girdabor, ad pedem montis Pira Magrun, 24. 5. 1961, leg. E. Hadač et col., no. 4744; et no. 4711; Diltawa, 16. 3. 1960, leg. E. Hadač et col., no. 815.

R. muricatus L. – Babylon, in agris, 29. 3. 1960, leg. E. Hadač, no. 1002; Baghdad: Saadun str., 22. 3. 1960, leg. E. Hadač, no. 953; Ba’shiqa, 12. 4. 1960, leg. E. Hadač, no. 1497.

R. arvensis L. – Nowanda, 13. 6. 1960, leg. E. Hadač, no. 2502; Tasluja, 28. 5. 1961, leg. E. Hadač, no. 1977; Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1403; distr. Sulaimania: loco Benawa Suta dicto prope opp. Penjwin, 26. 5. 1961, leg. E. Hadač, no. 4950; distr. Rowanduz: ad vicum Sakri Sakran, 6. 6. 1961, leg. E. Hadač et Faisal abd’el Kader, no. 5464.

R. chius DC. – Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1402.

R. pinardii (STEV.) BOISS. – Distr. Sulaimania: in monte Kopi Qaradagh decl. bor., 29. 5. 1961, leg. E. Hadač et col., no. 5212; distr. Rowanduz: ad vicum Sakri Sakran, 6. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5465. Townsend (1980) characterised this species as rare and presents it from only two localities. Iranshahr et al. (1992) know one locality in Iraqi Kurdistan.

R. sceleratus L. – Šatt Hamdan, in palmeto, 7. 2. 1960, leg. E. Hadač, no. 224 a,b,c. Townsend (1980), reports only 4 localities in the desert regions of Iraq.

R. ophioglossifolius VILL. – Diltawa, in fossa aquatica, 16. 3. 1960, leg. E. Hadač et col., no. 816.

Ficaria GUETT.

F. kochii (LEDEB.) IRANSHAHR et RECH. f. – Decl. borealis cotae 2450 m supra Sarcal, alt. 2250 m, 5. 6. 1961, leg. E. Hadač, no. 2208.

Batrachium (DC.) S. F. GRAY

B. rionii (LAGGER) NYM. – In fossa aquatica ad viam inter Baghdad et Rut, ca. 50 km a Baghdad, 26. 4. 1960, leg. E. Hadač, no. 1693 (rev. Townsend 1972 as *Ranunculus tri-chophyllus* Chaix var. *rionii* (LAGGER) RIKLI).

B. sphaerospermum (BOISS. et BLANCHE) Iranshahr – In fossa aquatica in Iskanderia, 18. 2. 1961, leg. E. Hadač et A. Agnew, no. 3104; 5 km S of Amara, in fossa aquatica, 5. 2. 1960, leg. E. Hadač, no. 200; Diltawa, 16. 3. 1960, leg. E. Hadač et col., no. 820; distr. Sulaimania: in declivio montis calcarei supra vicum Khormal (montes Avroman), 27. 5. 1961, leg. E. Hadač, no. 5027. All specimens cited here were revised by Townsend (1972) as *Ranunculus sphaerospermus* Boiss. et Blanche.

Ceratocephala MOENCH

C. falcata (L.) PERS. – Baghdad, in cultis, 9. 2. 1960, leg. E. Hadač, no. 266; wadi ad merid. orientem a Rawa, 11. 2. 1960, leg. E. Hadač et Hakim al Rawi, no. 408; Ashiq, 2. 3. 1960, leg. E. Hadač et col., no. 746; Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1417; inter Hadhar et Sharqat, 23. 2. 1961, no. 3155; wadi Saab suq prope K3, 10. 2. 1960, leg. E. Hadač et Hakim al Rawi, no. 330; ad viam inter Tekrit et Baidji, 21. 2. 1961, leg. E. Hadač et R. W. Haines, no. 3127; Jebel Sinjar supra Kizil Kan, 19. 3. 1961, leg. E. Hadač, no. 3628; Kaisarki (sub monte Jebel Sinjar), 19. 3. 1961, leg. E. Hadač et col., no. 3654.

Adonis L.

A. dentata DELILE – Wadi Muhammadi 63 km ad occid. a Romadi, 26. 4. 1961, leg. E. Hadač, no. 4320; Altun Köprü, 320 m, 10. 4. 1960, leg. E. Hadač, no. 1361; Injana, 8. 4. 1960, leg. E. Hadač, no. 1089; Sihar prope Faludja, 1. 3. 1960, leg. E. Hadač et A. Agnew, no. 512; in deserto 30 km ad occid. a Shubcha, 14. 4. 1961, leg. E. Hadač, A. Agnew et col., no. 4181; 6 km ad bor. orientem a Chan Banni Saad, 13. 3. 1960, leg. E. Hadač et col., no. 802; ad viam 20 km ad or. a Balad Sinjar, 20. 3. 1961, leg. E. Hadač, A. Agnew et Waleed, no. 3673; Buseia, 8. 3. 1961, leg. E. Hadač, no. 3466; in deserto 11 km ad septentrionem a Roháli, 27. 2. 1961, leg. E. Hadač et A. Rawi, no. 3228; Tadj, ad viam inter opp. Baghdad et Samarra, 12. 3. 1960, leg. E. Hadač, no. 697; Jebel Sinjar supra Kizil Kan, 19. 3. 1961, leg. E. Hadač, no. 3246; ad viam inter Kirkuk et Cham-

chamal, 830 m, 9. 4. 1960, leg. E. Hadač, no. 1122. In our opinion all specimens represent the species *A. dentata*. Townsend (1972), however, had attached revision labels (in the following specimens) with the identification as *A. microcarpa* DC., a conclusion which we can not confirm, because the differences in the sculpture of the fruits are clear. – Sakri Sakran, ad riv., alt. 1900 m, leg. E. Hadač, no. 5582; Dokkan dam, 9. 4. 1960, leg. E. Hadač, no. 1187; Sulaimania: ad Guirdabar, ad pedem montis Pira Magran, 24. 5. 1961, leg. E. Hadač et col., no. 4739; Kirkuk, 10. 4. 1960, no. 1280; Shaqlawa, 11. 4. 1961, leg. E. Hadač, no. 1399; Tasluja, 28. 5. 1960, leg. E. Hadač, no. 1970; 2 km ad merid. – occid. a Chan Banni Saad, 13. 3. 1960, leg. E. Hadač et col., no. 780.

A. aestivalis L. – Rowanduz: ad vicum Sakri Sakran, 6. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5472.

Anemone L.

A. coronaria L. – Sulaimania, 30. 3. 1960, leg. G. W. Groos et al., no. 1015; ripa fl. Khazir inter Kirkuk et Tuz, 23. 3. 1961, leg. E. Hadač, A. Agnew et Waleed, no. 3839; ad viam 20 km ad or. a Balad Sinjar, 20. 3. 1961, leg. E. Hadač, A. Agnew et Waleed, no. 3668; ad viam 65 km ad or. a Balad Sinjar, 20. 3. 1961, leg. E. Hadač et Waleed, no. 3676; Shaqlawa, 11. 4. 1960, leg. E. Hadač, no. 1395, no. 1398, no. 1418.

Thalictrum L.

T. minus L. – Distr. Rowanduz: ad vicum Sakri Sakran, alt. supra 2000 m, 6. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5515; Sarcal, pes montis Helgurd, alt. 2200 m, ripa rivuli dextra, 10. 5. 1961, leg. E. Hadač, no. 2377; ad viam inter Benawa Suta et Penjwin, 26. 5. 1961, leg. E. Hadač et col., no. 4979.

T. isopyroides C. A. M. in LEDEB. – Distr. Rowanduz: inter vicos Sheikhan et Sakri Sakran, 5. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5412. Townsend (1980) quotes only 3 localities, similarly Iranshahr et al. (1992) knows 3 localities from Iraqi Kurdistan.

T. sultanabadense STAPP – Distr. Rowanduz: in valle Hassar-i-Sakran, 7. 6. 1961, leg. E. Hadač et Faisal abd'el Kader, no. 5672; distr. Sulaimania: summo montis Kopi Qaradagh, 29. 5. 1961, leg. E. Hadač et col. Townsend (1980) reports 3 localities and Iranshahr et al. (1992) 5 from Iraqi Kurdistan.

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