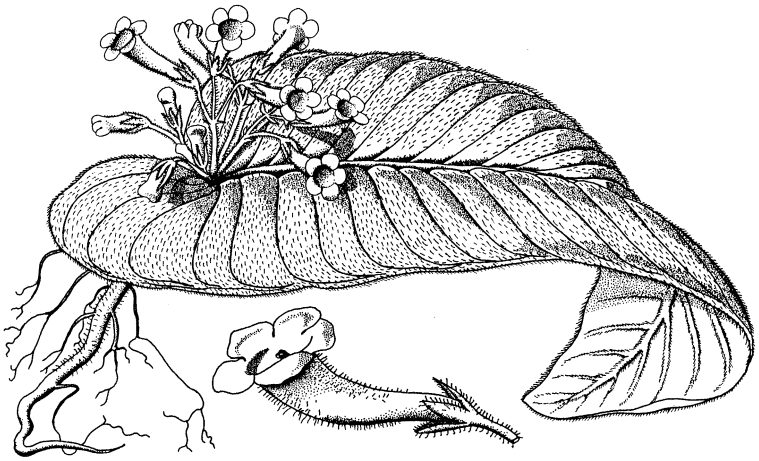
FRITSCHIANA

81



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Jean-Pierre REDURON, Walter Karl ROTTENSTEINER & Christian SCHEUER

Beiträge zur Flora von Istrien V:
The Istrian Apiaceae: a new determination key, distribution maps, and a list of specimens housed in the herbarium GZU

Graz, 11. Februar 2016

Hofrat Prof. Dr. Karl FRITSCH
(∗ 24.2.1864 in Wien, † 17.1.1934 in Graz)

Karl FRITSCH studierte nach einem Jahr in Innsbruck an der Universität Wien Botanik und wurde dort 1886 zum Dr.phil. promoviert; 1890 habilitierte er sich. Nach Anstellungen in Wien wurde FRITSCH 1900 als Professor für Systematische Botanik an die Universität Graz berufen, wo er aus bescheidenen Anfängen ein Institut aufbaute. 1910 wurde er Direktor des Botanischen Gartens, 1916 wurde das neu errichtete Institutsgebäude bezogen. Aus der sehr breiten wissenschaftlichen Tätigkeit sind vor allem drei Schwerpunkte hervorzuheben: Floristisch-systematische Studien, besonders zur Flora von Österreich, monographische Arbeiten (besonders über *Gesneriaceae*) und Arbeiten zur systematischen Stellung und Gliederung der Monocotylen. An Kryptogamen interessierten ihn besonders Pilze und Myxomyceten.

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Beiträge zur Flora von Istrien V♦: The Istrian Apiaceae: a new determination key, distribution maps, and a list of specimens housed in the herbarium GZU

Jean-Pierre REDURON*, Walter K. ROTTENSTEINER**
& Christian SCHEUER***

REDURON J.-P., ROTTENSTEINER W.K. & SCHEUER C. 2016: Beiträge zur Flora von Istrien V: The Istrian Apiaceae: a new determination key, distribution maps, and a list of specimens housed in the herbarium GZU. - Fritschiana (Graz) 81: 1–80. – ISSN 1024-0306. – [http://botanik.uni-graz.at/de/fritschiana/]

The first author has revised 550 specimens of Apiaceae (Umbelliferae) from the herbarium GZU. The following taxa are new for Istria: *Anthriscus sylvestris* subsp. *nemorosa*, *Athamanta cretensis*, *Bupleurum ranunculoides* subsp. *telonense* (also new for Italy!), *Cervaria rivini* var. *latifolia* (also new for Croatia!), *Laserpitium latifolium* f. *macrophylla* (also new for Croatia!), *Petroselinum crispum* var. *angustifolium* (also new for Croatia!), *Petroselinum crispum* var. *petroselinum* (also new for Croatia!), *Sium sisarum* (also new for Croatia and Slovenia!), *Torilis africana* var. *africana* (also new for Croatia!), and *Torilis arvensis* subsp. *neglecta*. *Oenanthe silaifolia* is new for Friuli-Venezia Giulia. – The geographical distribution of the Apiaceae in Istria's 21 sections is shown in 170 distribution maps.

Vom Erstautor wurden 550 Belege von Apiaceae (Umbelliferae) aus dem Herbarium GZU revidiert. Folgende Taxa sind neu für Istrien: *Anthriscus sylvestris* subsp. *nemorosa*, *Athamanta cretensis*, *Bupleurum ranunculoides* subsp. *telonense* (auch neu für Italien!), *Cervaria rivini* var. *latifolia* (auch neu für Kroatien!), *Laserpitium latifolium* f. *macrophylla* (auch neu für Kroatien!), *Petroselinum crispum* var. *angustifolium* (auch neu für Kroatien!), *Petroselinum crispum* var. *petroselinum* (auch neu für Kroatien!), *Sium sisarum* (auch neu für Kroatien und Slowenien!), *Torilis africana* var. *africana* (auch neu für Kroatien!) und *Torilis arvensis* subsp. *neglecta*. *Oenanthe silaifolia* ist neu für Friaul-Julisch Venetien. – In 170 Arealkarten wird die Verbreitung der Apiaceae in Istriens 21 Teilgebieten gezeigt.

Keywords: Analytic key, Apiaceae, chorology, Croatia, distribution maps, flora of Istria, Italy, literature, Slovenia, specimens.

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♦ ROTTENSTEINER W.K. 2014: Beiträge zur Flora von Istrien IV: Neue und seltene Taxa für Istrien, Kroatien und Slowenien. - Fritschiana (Graz) 77: 1–61.

1. Introduction

With 168 taxa, the family Apiaceae (Umbelliferae) is richly represented in Istria and very diverse. The plants of this family are entomophilous and produce a very important range of chemical compounds, mainly volatile. They occur in every sort of biotope, and therefore play an effective role in ecosystem functionality and vitality. Their conservation is important for the environmental quality.

Istrian specimens of Apiaceae already present in GZU and ± recent collections by the second author were sent to the first author for identification, with his own specialised documentation and herbarium. These identifications were published in REDURON 2002–2013 and have been used for the mapping.

The revision of 550 specimens from the herbarium GZU identified several new taxa for Istria, some also for Croatia and/or Italy and/or Slovenia. It also resulted in an amended identification key and in a set of distribution maps for all taxa of Istrian Apiaceae. The revised GZU material contained 83 species + 1 hybrid from 51 genera, altogether 97 taxa.

In total, 125 species + 7 hybrids + 2 cultivated species in 67 genera of the family Apiaceae have been recorded from Istria so far, altogether 168 taxa.

Some of the listed taxa are of special interest. For instance, we have found some variants with wide-segmented leaves, see *Cervaria rivini* var. *latifolia*, *Laserpitium latifolium* f. *macrophyllum*, and *L. siler* var. *latissimum*. These may represent sciaphilous ecotypes.

Bupleurum ranunculoides subsp. *telonense* is an underestimated and little-known taxon within the *B. ranunculoides* complex where it represents an ancestral element of dry and sunny mediterranean lowlands, besides the more recent subsp. *ranunculoides* of high mountain habitats.

The two species of *Dichoropetalum* occur sympatrically in Istria and give the rare hybrid *D.* ×*zirnichii* which should be considered when discussing the biological delimitation of species within this genus.

Among the useful plants, we would like to draw attention to the strange narrow-leaved variant of parsley, *Petroselinum crispum* var. *angustifolium* which is, at the rosette stage, only identifiable by the smell of crushed leaves! In France, it is mainly found around castles and ruins: it should have been cultivated in castle gardens and exchanged. On the other hand, the Skirret, *Sium sisarum*, is no more cultivated in Europe for its sweet roots (“Zuckerwurz”).

We have also recorded a remarkable number of populations of *Seseli tommasinii*, a well-delimited species restricted to Italy and the western part of the Balkan Peninsula.

Despite the present work, the knowledge of Istrian Apiaceae can be improved. Botanists are advised to focus on the genera *Bupleurum*, *Daucus*, and *Seseli*.

Acknowledgements. We thank the curator of the herbarium GZU, Dr. Anton DRESCHER (Graz, Austria) for the excellent cooperation, Mr. Dietmar JAKELY (Graz, Austria) for designing the distribution maps, and Mag. Paul VERGÖRER (Kirchbichl, Austria) for providing herbarium collections.

Fig. 1: *Anthriscus sylvestris* (L.) HOFFM. subsp. *nemorosa* KOSO-POL., new for Istria!

Fig. 2: *Athamanta cretensis* L., new for Istria!

2. Analytic determination key for the family Apiaceae in Istria

Remarks on the terminology adopted in the present treatment (by C. SCHEUER):

leaf divided (= "compound"):
The phylloplane consists of few to many, clearly separated parts, the **segments** (ultimate segments, derniers segments, "leaflets"). Leaves of most Istrian Apiaceae are divided one ore more times, either pinnately divided ("pinnate") or "ternate".
[N.B.: The term "segment" is defined differently in other treatments, where it is often used for the pinnae of the 1st order only, e.g. in *Flora Europaea*.]

leaf (or leaf segment) incised:
The phylloplane is not divided, but incised to an undefined degree. Leaves or segments with rather shallow incisions are usually called "lobed", very deeply incised leaves or segments are usually termed "dissected". These incisions may be quite variable within the same species ("leaf segments ± incised").

umbel:
Unless stated otherwise, the term "umbel" refers to a double (compound) umbel, consisting of few to many simple umbels (partial umbels, umbellets). The double umbel is typical of the subfamily Apioideae.

bracts:
Involucral leaves of a double umbel, unless stated otherwise.

bracteoles:
Involucral leaves of a partial umbel (umbellet), unless stated otherwise.

flowers radiating:
The marginal petals of the peripheral flowers of an umbel or umbellet are enlarged and spreading outwards.

fruit:
The terms "dorsal/ventral side" refer only to one half (mericarp) of a fruit. The two mericarps usually separate along the septum (= their ventral sides) at maturity. Their dorsal sides can be smooth or ornamented, e.g. with ridges or spines. Both dorsal and ventral sides may bear longitudinal stripes (vittae).

Abbreviations:

r = rare, s = scattered, f = frequent
k = cultivated
? = occurrence doubtful
† = extinct
n.s. = in a narrow sense

For the acronyms of Istria's 21 sections, see page 77. If an acronym is printed in **bold** letters, the specialist (J.-P. REDURON) has examined material from that region, otherwise the data are based on literature only.

1 Plant spiny, like a thistle **2**
— Plant not like a thistle **3**

2 Flowers in capitules ..... ***Eryngium***
— Flowers in umbels ..... ***Echinophora***

3(1) Basal leaves and/or cauline leaves not divided, but in some genera ± deeply incised **4**
— All leaves divided into clearly separated segments ("leaflets"), often 2 or more times **12**

4 Upper cauline leaves amplexicaul or perfoliate **5**
— Upper cauline leaves neither amplexicaul nor perfoliate **6**

5 Basal leaves not divided, with entire margin; bracts absent or ovate; bracteoles usually surpassing the flowers ..... ***Bupleurum***
— Basal leaves 2–3 times divided; bracts and bracteoles absent ..... ***Smyrnium***

6(4) Leaves not lobed, with entire margin, distinctly longer than wide, often linear, grass-like ..... ***Bupleurum***

— Basal leaves crenate or ± deeply incised, circular, ovate or blunt-pentagonal in outline **7**

7 Plant creeping; leaves peltate, with crenate margin and long petioles surpassing the slender inflorescences; flowers minute, in a terminal tuft or whorled on the axis ..... ***Hydrocotyle***

— Plant erect; leaves not peltate; flowers in simple or compound umbels, or in capitules; inflorescences usually well visible **8**

8 Flowers not in compound umbels, but in cymosely arranged simple umbels or capitules, not radiating; fruit with bristly or squamulate (scaly) surface **9**

— Flowers in compound umbels; marginal flowers radiating; fruit without bristles or scales on the surface (but sometimes with hairs) **10**

9 Flowers in simple umbels with well-developed, white or pink bracts; fruit with squamulate (scaly) surface ..... ***Astrantia***

— Flowers in capitules with short, green bracts; fruit covered with hooked bristles ..... ***Sanicula***

10(8) Perennial plant, very robust; umbels with mostly more than 20 rays ..... . ***Heracleum***

— Annual plant, slender; umbels with 2–15 (–20) rays **11**

11 Plant glabrous; fruit globose ..... ***Coriandrum***

— Plant with soft or bristly hairs; fruit flat, with thickened margin ..... ***Tordylium***

12(3) Flowers yellow, light yellow, yellowish green, pale green or reddish green, rarely purple to reddish <u>and</u> fruit spiny **13**

— Flowers white, whitish or pink, rarely purple **37**

13 Flowers in single terminal capitules, golden yellow, surrounded by green bracts distinctly longer than the flowers ..... ***Hacquetia***

— Flowers in (compound) umbels, without such surpassing bracts **14**

14 Leaves divided into broad segments (length:width ratio about 1–2); segments usually broadly ovate to lanceolate, incised or not **15**

— Leaves divided into narrow segments (length:width ratio always higher); segments linear, linear-lanceolate, sometimes filamentous **25**

15 Fruit flattened, very thin in cross section, in the centre only slightly thickened **16**

— Fruit in cross section not or only a little flattened, in the centre distinctly thicker, or blunt-pentagonal or almost circular **20**

16 Leaves 1 time ternate ..... ***Heracleum***

— Leaves 1–3 times pinnate **17**

17 Leaves with stellate hairs; fruit with 6–14 longitudinal stripes (vittae) on the ventral side ..... ***Opopanax***

— Leaves without stellate hairs; fruit with 2–4 (–6) longitudinal stripes (vittae) on the ventral side . **18**

18 Lamina of the leaves triangular in outline; wings of the fruit as broad as or broader than the central body ..... ***Tommasinia***

— Lamina of the leaves elongated in outine; wings of the fruit distinctly narrower than the central body **19**

19 Plant robust, usually 100–200 cm tall; leaves mostly 1 time pinnate, their segments broad, weakly lobed, serrate-dentate; flowers deep yellow ..... ***Pastinaca***

— Plant slender, usually 30–80 cm tall; leaves 2–3 times pinnate, their segments deeply incised, with narrow lobes; flowers pale yellow ..... ***Dichoropetalum***

20(15) Fruit spiny ..... ***Torilis***

— Fruit not spiny, but sometimes winged **21**

21 Fruit with well-developed dorsal wings ..... ***Laserpitium***

— Fruit without dorsal wings, but sometimes with prominent dorsal ridges, or winged only on the margin **22**

22 Fruit with winged margin **23**
— Fruit without winged margin **24**
23 Umbels almost flat or hemispheric, with 8–20 rays; leaf segments obovate-rhombic, cuneate ***Levisticum***
— Umbels globose, with 20–90 rays; leaf segments ovate or elliptical, never cuneate (except the terminal ones) ..... ***Angelica***
24(22) Upper cauline leaves with ovate, lobed segments; fruit 5–7 mm long, black when ripe ..... ***Smyrnium***
— Upper cauline leaves with linear-lanceolate segments; fruit 2–3 mm long, greenish or brownish when ripe ..... ***Petroselinum***
25(14) Flowers purple to reddish; fruit spiny **26**
— Flowers yellow, light yellow or greenish; fruit not spiny, sometimes winged **27**
26 Bracts 2–4, scarious; marginal petals of the umbel enlarged and radiating; fruit 6–16 mm long ..... ***Turgenia***
— Bracts absent or very reduced; marginal petals of the umbel tiny, not radiating; fruit 2.5–7 mm long ..... ***Torilis***
27(25) Fruit flattened, very thin in cross section, in the centre only slightly thickened **28**
— Fruit in cross section not or only a little flattened, in the centre distinctly thicker, or blunt-pentagonal or almost circular **32**
28 Bracts present, lanceolate; fruit with 28–32 longitudinal stripes (vittae) on the ventral side ..... ***Ferulago***
— Bracts absent or very reduced; fruit with 2–6 longitudinal stripes (vittae) on the ventral side **29**
29 Leaves oblong in outline; anthers green ..... ***Dichoropetalum***
— Leaves ovate or triangular in outline; anthers white or yellow **30**
30 Giant plant up to 300 cm; leaves green above, distinctly glaucous beneath; sheaths of the cauline leaves very large, inflated ..... ***Ferula***
— Plant up to 100 cm, rarely more; leaves and leaf sheaths different **31**
31 Plant annual; leaf segments mostly up to 2 cm long; flowers deep yellow ..... ***Anethum***
— Plant perennial; leaf segments 3–9 cm long; flowers pale yellow ..... ***Peucedanum***
32(27) Fruit distinctly winged ..... ***Laserpitium***
— Fruit without distinct wings, but sometimes with prominent ridges **33**
33 Leaves distinctly succulent; flowers greenish white; fruit spongy ..... ***Crithmum***
— Leaves not or hardly succulent; flowers light to deep yellow; fruit not spongy **34**
34 Plant dioecious (or monoecious), pyramid-like in habit; flowers light yellow or whitish; ripe fruit blackish ..... ***Trinia***
— Plant not dioecious, of different habit; flowers pale to deep yellow, never whitish; ripe fruit brown, greenish, sometimes purple **35**
35 Bracteoles present, short; flowers pale yellowish; plant with parsley smell ..... ***Petroselinum***
— Bracteoles absent; flowers bright or deep yellow; plant with anise or unpleasant smell **36**
36 Plant annual; fruit without prominent ridges ..... ***Ridolfia***
— Plant perennial or biennial; fruit with prominent ridges ..... ***Foeniculum***
37(12) Bracteoles dimorphic, some setaceous, some bulgy-spathulate and short-acuminate ..... ***Ammoides***
— Bracteoles all similar, never bulgy-spathulate, or absent **38**
38 Bracteoles long, linear, deflexed on the outward side of the umbellet ..... ***Aethusa***
— Bracteoles different or absent **39**
39 Sheaths of the cauline leaves with stipule-like pinnae at the base ..... ***Carum***
— Sheaths of the cauline leaves without stipule-like pinnae **40**
40 Bracts divided or at least incised **41**
— Bracts neither divided nor incised, or absent **46**

41 Fruit spiny ..... ***Daucus***
— Fruit not spiny, glabrous **42**

42 Plant annual; bracts divided into linear segments ..... ***Ammi***
— Plant perennial; bracts only incised **43**

43 Lamina of the basal leaves triangular in outline, 3–4 times pinnate or ternate; terrestrial plants **44**
— Lamina of the basal leaves oblong in outline, mostly 1 time pinnate (unless submerged); aquatic plants **45**

44 Umbels with 12–22 rays; fruit with equally prominent ridges, with 3–4 longitudinal stripes (vittae) between the dorsal ridges ..... ***Grafia***
— Umbels with (18–) 20–45 rays; fruit with unequally winged ridges, the lateral ones lower, with 1 longitudinal stripe (vitta) between the dorsal ridges ..... ***Molopospermum***

45(43) Petiole of the basal leaves with several septa; leaves with uniformly dentate segments; umbels only terminal, with (17–) 20–35 rays ..... ***Sium***
— Petiole of the basal leaves with only 1 septum; leaves with irregularly dentate segments; umbels terminal and lateral, with 7–12 (–20) rays ..... ***Berula***

46(40) Flowers at the margin of the umbel (or umbellet) with enlarged, radiating petals **47**
— Petals ± uniform, or marginal petals only slightly larger than those in the centre **59**

47 Fruit baggy, didymous (with ± globose halves) ..... ***Bifora***
— Fruit different **48**

48 Fruit flattened <u>and</u> at the margin distinctly thickened ..... ***Tordylium***
— Fruit at the margin not distinctly thickened **49**

49 Fruit spiny **50**
— Fruit not spiny, but sometimes verrucose or hairy, or glabrous **54**

50 Bracts absent or very reduced **51**
— Bracts present **53**

51 Plant perennial; fruit distinctly elongated, with very short spines ..... ***Anthriscus***
— Plant annual or biennial; fruit ovoid to oblong-ovoid, with longer, conspicuous spines **52**

52 Leaves with narrow, linear segments, leaf sheaths inflated and elongated ..... ***Astrodaucus***
— Leaves with broad, ovate segments, without such conspicuous sheaths ..... ***Torilis***

53(50) Leaves 2–4 times pinnate; bracts oblong-linear, at least half as long as the umbel rays ..... ***Orlaya***
— Leaves only 1 time pinnate; bracts lanceolate, shorter, up to ¼ of the length of the umbel rays ..... ***Turgenia***

54(49) Fruit globose, not splitting when ripe ..... ***Coriandrum***
— Fruit not globose, splitting into two parts (mericarps) when ripe **55**

55 Fruit very flattened, with thin margins ..... ***Heracleum***
— Fruit different, not very flattened **56**

56 Sepals present, persistent on the fruit ..... ***Oenanthe***
— Sepals absent or very short or caducous **57**

57 Plant perennial, with tubers; basal, subterranean part of the stem flexuous and tapering (sometimes only short) ..... ***Huetia***
— Plant perennial or annual, without tubers; stem at the base straight, not tapered **58**

58 Fruit 10–95 mm long, its beak at least as long as the fertile part of the fruit ..... ***Scandix***
— Fruit 5–10 mm long, its beak quite reduced or shorter than the fertile part of the fruit ..... ***Anthriscus***

59(46) Bracteoles absent or very few **60**
— Bracteoles present **70**

60 Fruit baggy, didymous (with ± globose halves) ..... ***Bifora***
— Fruit different **61**

61 Fruit hispid-hairy ..... ***Pimpinella***
— Fruit glabrous **62**
62 Fruit dorsally compressed, at the margin distinctly flattened into wings ..... ***Dichoropetalum***
— Fruit ovoid or elongated, not flattened **63**
63 Fruit very elongated, 7–10 mm long ..... ***Anthriscus***
— Fruit ovoid or oblong-ovoid, 1.2–6 mm long **64**
64 Leaf segments linear, linear-lanceolate, sometimes filiform, length:width ratio always high **65**
— Leaf segments broadly ovate to lanceolate, not incised, length:width ratio usually about 1–2, sometimes higher **67**
65 Plant dioecious (or monoecious); petals lanceolate ..... ***Trinia***
— Plant not dioecious; petals (extended-)cordate or subcircular **66**
66 Plant biennial; anthers greenish or reddish; styles only a little longer than the stylopodium .... ***Carum***
— Plant perennial; anthers white; styles 1.5–3 times longer than the stylopodium .... ***Pimpinella***
67(64) Short-stalked or sessile umbels present ..... ***Apium***
— Umbels stalked, protruding **68**
68 Leaves triangular in outline, 2 times ternate; segments ovate-lanceolate ..... ***Aegopodium***
— Leaves elongated in outline, 1 time pinnate; segments ovate or almost circular **69**
69 Umbels with 2–6 rays; petals involute; styles shorter or only a little longer than the stylopodium ..... ***Sison***
— Umbels with (6–) 8–20 (–26) rays; outer petals spreading; styles 1.5–3 times longer than the stylopodium ..... ***Pimpinella***
70(59) Fruit distinctly elongated, at least 3 times longer than broad **71**
— Fruit less elongated, ovoid, ellipsoid or almost globose, sometimes angular-cylindrical **79**
71 Basal, subterranean part of the stem tapered and ± flexuous (sometimes only short) **72**
— Base of the stem straight, not tapered **74**
72 Styles abruptly widened into the stylopodium ..... ***Bunium***
— Styles gradually widened into the stylopodium **73**
73 Bracts 0–3 ..... ***Huetia***
— Bracts 5–9 ..... ***Bunium***
74(71) Plant annual; umbels with only 2–5 rays **75**
— Plant biennial or perennial; umbels with 5–35 rays **77**
75 Fruit very elongated, its beak at least as long as the fertile part of the fruit ..... ***Scandix***
— Fruit not beaked, or the beak distinctly shorter than the fertile part of the fruit **76**
76 Stem distinctly swollen at the nodes; fruit not beaked, only narrowed at the end ..... ***Chaerophyllum***
— Stem not swollen at the nodes; fruit with a beak of ¼–½ the length of the fertile part ..... ***Anthriscus***
77(74) Leaves with linear to filiform segments; fruit hairy ..... ***Athamanta***
— Leaves with ovate, ± deeply incised segments; segments sometimes with narrow lobes; fruit glabrous, rarely verrucose **78**
78 Outer petals obovate, slightly emarginate; fruit smooth and shiny, without ridges ***Anthriscus***
— Outer petals extended-cordate; fruit with (sometimes rather inconspicuous) ridges ***Chaerophyllum***
79(70) Fruit spiny, with hamate bristles, or ± densely hairy **80**
— Fruit glabrous, glabrescent, sparsely hairy or only verrucose **85**
80 Fruit spiny or with hamate bristles **81**
— Fruit hairy (without spines or hamate bristles) **84**
81 Umbels sessile or very short-stalked, dense and capitule-like ..... ***Torilis***
— Umbels well-developed **82**

82 Petals obovate-acuminate; fruit with hamate bristles ..... ***Anthriscus***
— Petals (extended-)cordate; fruit spiny, sometimes only the outer mericarps in the umbel **83**

83 Petals glabrous, minutely verrucose; sepals ovate-lanceolate; fruit (6–) 8–10 (–13) mm long ... ***Caucalis***
— Petals hairy; sepals triangular-acuminate; fruit (2.5–) 3–6 (–8) mm long ..... ***Torilis***

84(80) Bracts (at least 8) present ..... ***Libanotis***
— Bracts absent or very short or very few ..... ***Seseli***

85(79) Fruit winged (or narrowed into wings) on the margin, or with ridges narrowed into wings **86**
— Fruit not winged, neither on the margin nor on the dorsal faces, but sometimes with prominent ridges **104**

86 Leaf segments with entire margin **87**
— Leaf segments dentate or ± incised **91**

87 Leaves oblong in outline ..... ***Dichoropetalum***
— Leaves triangular in outline **88**

88 Fruit very flattened, with wings on the margin, but without wings on the dorsal faces **89**
— Fruit not flattened, with (at least small) wings on the dorsal faces **90**

89 Stem not hollow, without latex; leaf segments very elongated, 25–90 mm long; umbels with 4–11 rays; fruit with longitudinal stripes (vittae) visible on the ventral side ..... ***Peucedanum***
— Stem hollow, with latex; leaf segments shorter, 5–20 mm long; umbels with (10–) 15–30 (–40) rays; fruit without longitudinal stripes (vittae) visible on the ventral side ..... ***Thysselinum***

90(88) Bracts absent or very short or very few; sepals absent or very reduced .... ***Coristospermum***
— Bracts present; sepals present, short, triangular and ± acuminate ..... . ***Laserpitium***

91(86) Bracts absent or very short or very few **92**
— Bracts present **96**

92 Leaves oblong in outline ..... ***Dichoropetalum***
— Leaves triangular in outline **93**

93 Leaf segments not or only a little lobed, with ± dentate margin **94**
— Leaf segments ± deeply incised, with several lobes **95**

94 Leaves 2–3 times pinnate; petals lanceolate ..... ***Angelica***
— Leaves 1–2 times ternate; outer petals extended-cordate ..... ***Imperatoria***

95(93) Stem furrowed; fruit with subequal wings ..... ***Katapsuxis***
— Stem with continuous, prominent ridges or wings; fruit with broader wings on the margin than on the dorsal faces ..... ***Selinum***

96(91) Fruit very flattened, with winged margin and unwinged dorsal faces **97**
— Fruit not very flattened, in cross section blunt-pentagonal or elliptical, sometimes with wings on the dorsal faces **101**

97 Leaf rachis recurved downwards, arcuate between the pairs of pinnae ("geniculate"); longitudinal stripes (vittae) distinctly curved on the ventral side of the fruit ..... ***Oreoselinum***
— Leaf rachis ± straight; longitudinal stripes (vittae) straight or only slightly curved or not visible on the ventral side of the fruit **98**

98 Plant often glaucous; leaf segments not or only a little lobed, dentate-spinescent ... ***Cervaria***
— Plant green; leaf segments incised, with lanceolate or linear-lanceolate lobes, softly spiky **99**

99 Stem with latex; fruit without longitudinal stripes (vittae) visible on the ventral side ..... ***Thysselinum***
— Stem without latex; fruit with longitudinal stripes (vittae) visible on the ventral side **100**

100 Umbels mostly 4–7 cm wide; fruit 4–7 mm long ..... ***Xanthoselinum***
— Umbels mostly 7–18 cm wide; fruit 7–12 mm long ..... ***Pteroselinum***

101(96) Leaf segments not or only a little lobed, with dentate margin ..... ***Laserpitium***
— Leaf segments ± incised **102**

102 Stem hollow; leaf segments long-acuminate; fruit without longitudinal stripes (vittae) on the ventral side ..... ***Molopospermum***
— Stem solid; leaf segments not long-acuminate; fruit with 2–4 longitudinal stripes (vittae) on the ventral side **103**

103 Plant hairy; fruit 3–6 mm long, with well-developed wings ..... ***Laserpitium***
— Plant glabrous; fruit 8–13 mm long, only with prominently winged ridges ..... ***Grafia***

104(85) Leaves divided into broadly ovate to lanceolate segments (length:width ratio usually ≤ 2); segments ± incised or not **105**
— Leaves divided into narrow segments (length:width ratio always higher); segments linear, linear-lanceolate, sometimes filiform **116**

105 Leaves 1 time pinnate **106**
— Leaves 2–4 times pinnate or ternate **110**

106 Umbels very short-stalked ..... ***Helosciadium***
— Umbels stalked, the stalk at least as long as the umbel rays, protruding **107**

107 Stem solid; bracts ± reduced, short; umbels with 2–6 rays ..... ***Sison***
— Stem hollow; bracts well developed; umbels with 7–35 rays **108**

108 Plant with fleshy, fusiform, fascicled roots; styles shorter than or as long as the stylopodium . ***Sium***
— Plant with a solitary, fibrous, fusiform root; styles 1.5–3 times longer than the stylopodium **109**

109 Leaf segments uniformly dentate; umbels with (17–) 20–35 rays; petiole of the basal leaves with several septa ..... ***Sium***
— Leaf segments irregularly dentate; umbels with 7–12 (–20) rays; petiole of the basal leaves with only 1 septum ..... ***Berula***

110(105) Bracts absent or very short or very few **111**
— Bracts present **112**

111 Umbels with 20–45 rays; sepals absent ..... ***Katapsuxis***
— Umbels with 4–18 rays; sepals present, triangular ..... ***Oenanthe***

112(110) Stem maculate (very rarely green); fruit broadly ovoid, with ± wavy crenate ridges .... ***Conium***
— Stem green; fruit different **113**

113 Fruit 2–4.5 mm long **114**
— Fruit 5–13 mm long **115**

114 Plant perennial, glabrous; stem sulcate; umbels with 6–15 rays; styles upright ..... ***Oenanthe***
— Plant monocarpic, often pubescent, rarely glabrous; stem distinctly angular; umbels with mostly 20–40 rays; styles bent ..... ***Libanotis***

115(113) Stem with verticillate branches in the upper part; fruit <u>not</u> narrowed at the margin, dorsally with 1 longitudinal stripe (vitta) per groove (vallecula) ..... ***Physospermum***
— Stem with alternate branches in the upper part; fruit narrowed at the margin, dorsally with prominent ridges and 3–4 longitudinal stripes (vittae) per groove (vallecula) ..... ***Grafia***

116(104) Bracts present **117**
— Bracts absent or very short or very few **121**

117 Basal, subterranean part of the stem tapered and ± flexuous ..... ***Bunium***
— Base of the stem straight, not tapered **118**

118 Leaves distinctly succulent ..... ***Crithmum***
— Leaves not succulent **119**

119 Sepals absent; anthers yellow-green, green or reddish ..... ***Carum***
— Sepals well developed; anthers whitish or pink **120**

120 Plant perennial, glabrous; stem sulcate; umbels with 6–15 rays; styles upright ..... ***Oenanthe***
— Plant monocarpic, often pubescent, rarely glabrous; stem distinctly angular; umbels with mostly 20–40 rays; styles bent ..... ***Libanotis***

121(116) Basal, subterranean part of the stem tapered and ± flexuous (sometimes only short) **122**
— Base of the stem straight, not tapered **123**

122 Styles abruptly widened into the stylopodium ..... ***Bunium***
— Styles gradually widened into the stylopodium ..... ***Huetia***

123(121) Umbels with mostly more than 20 rays **124**
— Umbels with mostly less than 20 rays **125**

124 Leaves triangular in outline; fruit 4–6 (–8) mm long, with 3–5 longitudinal stripes (vittae) in each groove (vallecula) of the dorsal side, 6–8 on the ventral side ..... ***Coristospermum***
— Leaves ovate or oblong in outline; fruit 1.5–3 mm long, with 1 longitudinal stripe (vitta) in each groove (vallecula) of the dorsal side, 2 on the ventral side ..... ***Seseli***

125(123) Styles upright, hardened ..... ***Oenanthe***
— Styles bent when ripe **126**

126 Stem solid ..... ***Seseli***
— Stem hollow **127**

127 Water plant; submerged leaves with filiform segments; sepals present; styles distinctly longer than the stylopodium ..... ***Oenanthe***
— Terrestrial plant; sepals absent; styles only a little longer than the stylopodium ..... ***Carum***

Aegopodium L.

Plant with subterranean stolons; stem sulcate; leaves 2 times ternate; segments ovate-oblong, acuminate; fruit 3–4 mm long. – Herbaceous perennial, 50–100 cm tall. – Shrubbery edges, forest edges, bank slopes. – IV–VII (–IX). – sTT, sBE, sHV, sTS, s**GT**, s**II**, s**TV** ..... ***Aegopodium podagraria*** L. – Ground Elder

Aethusa L.

Leaves 2–3 times pinnate, very shiny on the underside, nasty smelling when crushed; bracteoles 3–6, the peripheral ones long and deflexed. – Annual or biennial herb, 5–80 (–110) cm tall. – Wasteland, fields, fallows. – VI–IX. – rTT, rBE, rHV, rTS, rGT ..... ***Aethusa cynapium*** L. – Fool's Parsley

Ammi L.

Lower leaves 1–3 times pinnate, with elliptical segments, middle leaves with lanceolate segments, upper leaves with linear segments; bracts mostly ternate to pinnate, with filiform segments; umbels with 15–40 rays. – Annual herb, 30–100 cm tall. – Wasteland, fallows. – V–VIII. – rTT, rGT, r**WK**, r**SI**, rISA, r**TV** ..... ***Ammi majus*** L. – Bullwort

Ammoides ADANS.

Plant glabrous; bracts absent or only 1 short bract; umbels with 5–15 rays, very unequal; petals about 0.4–0.9 mm long, white; fruit almost globose, about 1–2 mm. – Annual herb, 20–40 cm tall. – Dry grassland, waysides, wasteland, fallows. – IV–IX. – rTT, s**WK**, sII, s**GV**, s**SI**, rIVÖ, sIKH, sICA, sILU ..... ***Ammoides pusilla*** (BROT.) BREISTR. – Small Ammoid, Ptychotis (*Ptychotis ammoides* W.D.J.KOCH)

Anethum L.

Plant glabrous; stem terete; leaves 3–4 times pinnate; bracts and bracteoles absent. – Annual herb, 20–50 (–120) cm tall. – Cultivated (native in Southwest Asia); garden escape: fallows, wasteland. – VII–VIII. – rTT, rBE, sGT, sII, rSI ..... ***Anethum graveolens*** L. – Dill

Angelica L.

1 Flowers greenish or whitish, in globose umbels; anthers green (pale green at the beginning); fruit with narrow wings (longitudinal stripes (vittae) numerous but invisible). – Biennial herb, 100–200 (–300) cm tall. – Cultivated (native in Northern and Eastern Europe); garden escape: banks, trenches. – V–VII. – rII ..... ***Angelica archangelica*** L. – Garden Angelica

— Flowers white or pink, in hemispheric or more rarely flat umbels; anthers white or pink; fruit with broad wings, with 4 dorsal and 2 ventral longitudinal stripes (vittae). – Biennial herb, 50–150 (–200) cm tall. – Moist meadows, shrubbery, forest edges. – VI–VIII. – rTT, rBE, rHV, rTS, r**MM**, rGT, rII ..... ***Angelica sylvestris*** L. – Wild Angelica

a Leaf segments distinctly elongated, narrow-elliptical or lanceolate, length:width ratio = (2.2–) 2.6–3.6 (–5), usually decurrent and sometimes adnate at the base; umbels less numerous, less than 30, on average 19–26, but larger in diameter, on average 18–21 cm and with more rays, more than 40, on average 48–60; bracts more numerous, more than 10, on average 11–13; central body of the fruit (without wings) 1.7–2.1 mm long. – Cold mountain habitats. – If present in the area? ..... **subsp. *bernardiae*** REDURON – Bernard's Angelica

– Leaf segments broadly ovate, ovate-subcircular to ovate-lanceolate, length:width ratio = (1.1–) 1.4–1.7 (–2.3), usally not decurrent, but at the base cordate, rounded or cuneiform; umbels more numerous, more than 40, on average 43, but slightly smaller in diameter, on average 12 cm and with less rays, less than 40, on average 32; bracts less numerous, less than 10, on average 7; central body of the fruit (without wings) slightly smaller, about 1.5 mm long. – rTT, rGT ..... **subsp. *sylvestris*** – Wild Angelica n.s.

Hybrid:
Angelica archangelica × *Angelica sylvestris* (***Angelica ×mixta*** NYÁR. ex TODOR) / Mixed Angelica

Anthriscus PERS.

1 Plant annual or biennial, slender; umbels lateral, opposite to the leaves, with 2–7 rays, usually without male flowers; petals short, only 1–2 mm long **2**

— Plant perennial, robust; umbels terminal, with (4–) 7–16 (–20) rays, also with male flowers; petals usally 2–4 mm long **3**

2 Fruit short, 2–4 mm long, pear-shaped; beak equalling $^1/_4$–$^1/_3$ of the length of the fruit; umbels with glabrous rays; smell of the crushed leaves mostly nasty. – Annual herb, 20–60 (–80) cm tall. – Wasteland, shibljak edges. – IV–VI (–VII). – rGT, rII ..... ***Anthriscus caucalis*** M.BIEB. – Bur Chervil

— Fruit linear-elongated, 7–10 mm long; beak equalling $^1/_3$–$^1/_2$ of the length of the fruit; umbels with pubescent rays; smell of the crushed leaves pleasant, aromatic. – Annual herb, 20–50 (–80) cm tall. – Wasteland, shibljak edges. – IV–VI. – sTT, r**II**, rSI ..... ***Anthriscus cerefolium*** (L.) HOFFM. – Garden Chervil

3(1) Fruit shorter than the pedicels; basal leaves more ternate than pinnate, (rounded-)triangular in outline, lowest pinnae of the 1st order of about the same size as the rest of the leaf; segments often somewhat overlapping; uppermost cauline leaves often 1 time ternate, their segments dentate to dissected. – Herbaceous perennial, 50–130 cm tall. – Mountain habitats: moist forests, tall forb associations. – VI–VII. – rBE, rTS, rMM ..... ***Anthriscus nitida*** (WAHLENB.) HAZSL. – Shiny Cow Parsley

— Fruit as long as or longer than the pedicels; basal leaves pinnate, triangular-elongated in outline, lowest pinnae of the 1st order always smaller than the rest of the leaf; uppermost cauline leaves 1–2 times pinnate. – Herbaceous perennial, 50–130 (–160) cm tall. – Forests, forest edges, shrubbery edges, meadows, wasteland. – V–VII. – sTT, fBE, f**HV**, f**TS**, f**MM**, rWK, f**II**, s**SI**, r**TV** ..... ***Anthriscus sylvestris*** (L.) HOFFM. – Cow Parsley

a Ripe fruit smooth, shiny. – Leaf segments ± broadly ovate. – sTT, f**HV**, f**II**, sSI ..... **subsp. *sylvestris*** – Cow Parsley n.s.

– Ripe fruit with acute or tuberculate nodules ..... **b**

b Leaf segments distinctly cuneiform. – f**TS**, f**MM**, r**TV** ..... **subsp. *fumarioides*** (WALDST. & KIT.) SPALIK – Fumitory Cow Parsley

– Leaf segments not distinctly cuneiform. – s**TS** ..... **subsp. *nemorosa*** (M.BIEB.) KOSO-POL. – Grove Cow Parsley

Apium L.

Root fusiform, hard, not edible; stem mostly erect; leaves shiny, 1 time pinnate, with broadly cuneiform, often 3-lobed segments; petioles fibrous, not succulent; bracts and bracteoles absent. – Biennial herb, 30–100 cm tall. – Moist, ± saline banks, meadows and trenches, wasteland. – V–IX. – sGT, rWK, rII, s**GV**, rSI, rIVÖ, r**IKH**, r**ISA**, rILU .....
Apium graveolens L. **var.** ***graveolens*** – Wild Celery n.s.

Astrantia L.

Basal leaves long-petiolate, palmately lobed, with (3–) 5–7 (–9) lobes; bracts clearly exceeding the simple umbel of flowers, with distinct lateral nerves, whitish to pink; sepals 1.5–3 mm long, distinctly spiny. – Herbaceous perennial, 30–70 (–100) cm tall. – Forest edges, tall forb associations. – V–VII (–VIII). – rBE, sTS, rMM .....
Astrantia major L. ***subsp. involucrata*** (W.D.J.Koch) Ces. – Involucrate Masterwort
(*Astrantia carinthiaca* Hoppe ex Mert. & W.D.J.Koch)

Astrodaucus Drude

Leaves glabrous or dispersed-pubescent; umbels with 8–15 rays; bracteoles 5, ciliate; petals 4–5 mm long; fruit 5–6 mm long. – Biennial herb, 30–100 cm tall. – Introduced (native in Eastern Europe and Southwest Asia): wasteland. – V. – rGT ..... ***Astrodaucus orientalis*** (L.) Drude – Eastern Star-carrot

Athamanta L.

1 Umbels with 12–35 (–50) rays; hairs on the rays rigid, shorter than the diameter of the rays; leaves glabrous or only dispersed-pubescent, their segments up to 35 mm long, linear to filiform; bracts 0–8; bracteoles numerous, lanceolate. – Herbaceous perennial, 30–50 cm tall. – Rocky slopes, karst heath, open dry woods, shrubbery edges. – V–VIII (–IX). – rTT, f**TS**, s**MM**, r**GT**, rII ..... ***Athamanta turbith*** (L.) Brot. – Rock Athamanta
(*Athamanta rupestris* Rchb.)

— Umbels with 5–15 (–36) rays; hairs on the rays flexible, at least as long as the diameter of the rays; leaves hirsute, greyish green, their segments 2–7 mm long, linear; bracts 0–5; bracteoles numerous. – Herbaceous perennial, 20–40 (–60) cm tall. – Karst heath. – V–VII. – r**TV** .....
Athamanta cretensis L. – Cretan Athamanta

Berula W.D.J.Koch

Stem finely grooved; bracts 6–10, unequal, the longer ones spreading and mostly pinnately lobed; bracteoles 5–8, unequal; fruit globose, low-ribbed, about 2 mm. – Herbaceous perennial, 30–80 (–100) cm tall. – Moist trenches, freshwater shores. – V–VIII. – rTT, s**GT**, s**II**, rIVÖ .....
Berula erecta (Huds.) Coville – Lesser Water-parsnip
(*Sium erectum* Huds.)

Bifora Hoffm.

1 Umbels terminal, with 3–8 rays, radiating; marginal petals bifid, 4–5 mm long, much bigger than those in the centre; partial umbels with many flowers; anthers green; styles elongated, 2–3 times longer than the stylopodium; fruit finely granulated, notched at the top. – Annual herb, 10–30 (–40) cm tall. – Fields, fallows. – IV–VI. – sTT, rTS, f**GT**, f**WK**, s**II**, rGV, s**SI**, rIVÖ, r**TV** ...
Bifora radians M.Bieb. – Radiating Bifora

— Umbels lateral, with (1–) 2–3 (–5) short rays; petals ± equal, small, about 1 mm long; partial umbels with 2–3 flowers only; anthers purple; styles very short, about 0.2 mm long, as long as the stylopodium; fruit rough, verrucose, mamillate at the top. – Annual herb, 20–40 cm tall. – Fields, fallows. – III–V. – rTS, rGT, s**WK**, sII, sGV, s**ISI** .....
Bifora testiculata (L.) Spreng. – Verrucose Bifora

Bunium L.

1 Fruit stalk distinctly thinner than the fruit, not more than 0.3 mm in diameter **2**

— Fruit stalk about as thick as the fruit, at least 0.5 mm in diameter **3**

2 Bracts 1–5 (–6); fruit with 3 longitudinal stripes (vittae) per groove (vallecula) on the dorsal side .... *Bunium alpinum* subsp. *montanum* **3**

— Bracts 5–10; fruit with only 1 longitudinal stripe (vitta) per groove (vallecula) on the dorsal side. – Herbaceous perennial, 20–60 (–100) cm tall. – Garrigue, dry grassland, stony slopes. – IV–VI. – r**MM** ..... ***Bunium bulbocastanum*** L. – Great Pignut (*Carum bulbocastanum* (L.) W.D.J.KOCH)

3(1) Fruit 3–3.5 mm long, with 3 longitudinal stripes (vittae) per groove (vallecula) on the dorsal side. – Herbaceous perennial, 15–30 cm tall. – Dry grassland, karst heath, stony and rocky slopes. – V–VI. – s**MM**, r**GV**, s**IVÖ**, sIPE, s**IKH**, sILE, s**ILU** ..... ***Bunium alpinum*** WALDST. & KIT. **subsp. *montanum*** (W.D.J.KOCH) P.W.BALL – Mountain Pignut (*Bunium divaricatum* auct.)

— Fruit 3.5–6 mm long, with 1 longitudinal stripe (vitta) per groove (vallecula) on the dorsal side ... **4**

4 Bracts 0–3; stylopodium pulvinate (cushion-shaped). – Herbaceous perennial, 20–60 cm tall. – Rocky and stony slopes, wasteland. – IV–VI. – r**IVÖ**, r**IKH** ..... ***Bunium ferulaceum*** SIBTH. & SM. – Balkan Pignut

— Bracts 5–9; stylopodium acutely conical. – Herbaceous perennial, 20–60 cm tall. – Introduced (native in Southwestern Europe): fields. – V–VI. – rIVÖ ..... ***Bunium pachypodum*** P.W.BALL – Thick-stalked Pignut

Bupleurum L.

1 Upper cauline leaves perfoliate; annual herbs; bracts absent **2**

— Upper cauline leaves not perfoliate <u>or</u> plant perennial **3**

2 Umbels with (2–) 4–8 (–11) rays; fruit smooth, hidden by the upright bracteoles after anthesis. – Annual herb, 10–50 (–75) cm tall. – Fields, wasteland. – V–VI. – s**TT**, sGT, rWK, s**II**, sSI, sIVÖ, ?ILU, r**TV** ..... ***Bupleurum rotundifolium*** L. – Hare's Ear, Thorow-wax

— Umbels with 2–3 (–5) rays; fruit granular-verrucose; bracteoles spreading also after anthesis. – Annual herb, 10–50 cm tall. – Fields, fallows, wasteland. – IV–VII. – s**TT**, rBE, rTS, s**GT**, f**WK**, rII, r**GV**, sSI, sIVÖ, fIKH, fILU, r**TV** ..... ***Bupleurum subovatum*** LINK ex SPRENG. – False Hare's Ear, False Thorow-wax

3(1) Plant perennial, with a robust rhizome and with sterile shoots **4**

— Plant annual, with thin roots and without sterile shoots **5**

4 Bracts petaloid, ovate, ± broad, yellow-green, sometimes orange-coloured. – Herbaceous perennial, 20–30 (–60) cm tall. – Rocky slopes, dry grassland, karst heath. – VII–VIII. – s**TT**, rBE, sTS, rII ..... ***Bupleurum ranunculoides*** L. – Buttercup Hare's Ear

- **a** Plant of hills and mountains; stem erect, hardly branched; leaves flat or convolute, linear-lanceolate to narrow-linear; bracteoles broad or narrow. – rTT, rBE, sTS, rII ..... **subsp. *ranunculoides*** – Buttercup Hare's Ear n.s.
  - **aa** Lower cauline leaves flat, linear-lanceolate to broadly linear, 5–10 mm broad; upper cauline leaves ovate-lanceolate, perfoliate. – rTT, rBE, rTS ..... **var. *ranunculoides*** – Buttercup Hare's Ear n.s.
  - **–** Lower cauline leaves ± convolute, linear to narrow-linear, 1–2 (–3) mm broad; upper cauline leaves much broader or the same. – rTT, rBE, rTS, rII ..... **var. *gramineum*** (VILL.) LAPEYR. – Grass Hare's Ear
- **–** Plant of dry and sunny lowlands; stem flexuous, very branched; leaves narrow-linear, convolute; bracteoles narrow, very inconspicuous. – r**TT** .. **subsp. *telonense*** (GREN. ex TIMB.-LAGR.) COSTE – Mediterranean Hare's Ear

— Bracts linear or lanceolate, green. – Herbaceous perennial, 20–80 (–120) cm tall. – Karst heath, forest edges. – VI–VIII. – rTT, r**HV**, s**TS**, rGT, rGV ..... ***Bupleurum falcatum*** L. – Sickle-leaved Hare's Ear

- **a** Plant of lowlands; umbels with up to 15 rays; fruit about 3 mm long, not winged along the edge between dorsal and ventral side. – r**TS**, rGT ..... **subsp. *falcatum*** – Sickle-leaved Hare's Ear n.s.
  - **aa** Basal leaves obovate or lanceolate. – r**TS**, rGT ..... **var. *falcatum*** – Sickle-leaved Hare's Ear n.s.
  - **–** Basal leaves linear. – r**TS** ..... **var. *angustifolium*** LECOQ & LAMOTTE – Fine-leaved Hare's Ear
- **–** Plant of high hills and mountains; umbels with up to 9 rays; fruit about 5 mm long, slightly winged along the edge between dorsal and ventral side. – Basal leaves linear. – rTT, r**HV**, s**TS** ..... **subsp. *cernuum*** (TEN.) ARCANG. – Nodding Hare's Ear

5(3) Bracteoles broad, length:width ratio = 1.3–4 (–5), concealing the buds and the fruit, often ± scarious **6**

— Bracteoles elongated, length:width ratio = 4–10, not concealing the buds nor the fruit, herbaceous **7**

6 Bracteoles ovate, with (3–) 5 nerves, the middle one ending in a 0.5–1.5 mm long awn. – Annual herb, 5–15 (–35) cm tall. – Garrigue, dry grassland, maquis edges. – IV–VIII. – rMM, sSI, rIVÖ . ***Bupleurum baldense*** TURRA – Small Hare's Ear

— Bracteoles lanceolate, sometimes broader, with 3 nerves, the middle one ending in a 0.8–3 mm long awn. – Annual herb, (10–) 20–50 (–75) mm tall. – Dry grassland, garrigue, maquis edges, olive groves, karst heath, pinewood edges, rocky slopes. – IV–X. – f**TT**, r**BE**, r**TS**, s**MM**, f**GT**, f**WK**, rII, f**GV**, f**SI**, f**IVÖ**, fIPL, f**IKH**, fILE, fIUN, fICA, f**ILU**, f**IAS**, s**TV** ..... ***Bupleurum veronense*** TURRA – Awl Hare's Ear (*Bupleurum aristatum* BARTL. ex RCHB.)

Remark: The related species ***Bupleurum baldense*** and ***Bupleurum veronense*** need further study. All herbarium specimens previously determined as ***Bupleurum apiculatum*** FRIV. (see REDURON 2004: 632) or as ***Bupleurum baldense*** TURRA **subsp. *gussonei*** (ARCANG.) TUTIN (see REDURON 2002b: 578 and REDURON 2003: 624) have to be revised. For the time being, these plants are assigned to ***Bupleurum veronense***.

7(5) Fruit verrucose **8**

— Fruit smooth **9**

8 Fruit 1.5–2.5 mm long, ridges continuously protruding, undulated, ± densely covered with greyish or brownish warts; plant with long, filiform branches. – Annual herb, 5–50 (–70) cm tall. – Halophyte associations, dry grassland. – VIII–X. – rTT, s**GT**, s**WK**, rII, s**SI**, rIVÖ, sILU ..... ***Bupleurum tenuissimum*** L. – Slender Hare's Ear

— Fruit 1–1.5 (–2) mm long, ridges low, homogeneously covered with small white warts; plant with only short branches. – Annual herb, (3–) 5–30 cm tall. – Halophyte associations, salt marshes. – IV–VI. – ?TT, rGT, rII, rTV ... ***Bupleurum semicompositum*** L. – Short-branched Hare's Ear

9(7) Leaves on the underside with a distinctly keeled midrib; petals broader than long, with a broad, almost involute median lobe; fruit (3–) 4–6 (–7) mm long. – Annual herb, 30–100 (–200) cm tall. – Dry grassland, karst heath, pinewoods, maquis, shibljak and shrubbery edges, way- and roadsides, wasteland. – V–IX. – s**TT**, s**TS**, s**MM**, s**GT**, f**WK**, s**II**, f**GV**, s**SI**, f**IVÖ**, s**IKH**, sILU, s**TV** .... ***Bupleurum praealtum*** L. – Rush Hare's Ear (*Bupleurum junceum* L.)

— Leaves on the underside without a distinctly keeled midrib; petals only slightly broader than long or as broad as long, with a narrower, incurved median lobe; fruit 2–3.5 mm long **10**

10 All umbels well-developed, terminal; petals mostly yellow, their median lobe as broad as or broader than half the width of the petal. – Annual herb, 30–60 cm tall. – Shibljak edges. – VIII–IX. – rTT ..... ***Bupleurum gerardi*** ALL. – Gerard's Hare's Ear

— Only terminal umbels well-developed, the lateral ones reduced to rather few clustered flowers; petals often dark violet, sometimes dirty yellow or greenish, their median lobe mostly narrower than half the width of the petal. – Annual herb, 20–70 cm tall. – Waysides, maquis edges. – V–VII. – rILU ..... ***Bupleurum affine*** SADLER – Hungarian Hare's Ear

Hybrid:
Bupleurum baldense × *Bupleurum veronense* (***Bupleurum ×polense*** MURR) / Pola Hare's Ear – rSI

Carum L.

Root fusiform; leaves glabrous; sheath of the upper cauline leaves with basal stipule-like pinnae; bracts mostly absent, rarely 1–8. – Biennial herb, 30–40 (–80) cm tall. – Hay meadows, orchards, karst heath. – IV–VII. – sTT, s**BE**, s**HV**, s**TS**, s**MM**, rGT, rWK, rIUN ..... ***Carum carvi*** L. – Caraway

Caucalis L.

Leaves 2–3 times pinnate; bracts 0–2; bracteoles 3–5; petals cordate, white or pinkish. – Annual herb, 10–30 (–40) cm tall. – Fields, fallows, wasteland. – V–VII. – sTT, rTS, sGT, s**WK**, rGV, s**SI**, sILU ..... ***Caucalis platycarpos*** L. – Small Bur-parsley (*Caucalis daucoides* L.)

aa Fruit with well-developed, hooked spines; spines a little longer than the diameter of the fruit. – sTT, sGT ..... **var. *platycarpos*** – Small Bur-parsley n.s.

– Fruit with short spines; spines about 1 mm long, conspicuously broadened at the base. – rTT ..... **var. *muricata*** (GODR.) V.N.TIKHOM. – Short-spiny Bur-parsley

Cervaria WOLF

Lower leaves 2–3 times pinnate; leaf segments robust, almost coriaceous; petals white. – Herbaceous perennial, 30–100 (–120) cm tall. – Forest edges, way- and roadsides, freshwater shores. – V–X. – s**TT**, s**HV**, sTS, r**MM**, s**GT**, sWK, f**II**, s**GV**, sIVÖ, sIPL, rIKH, rILU, r**TV** ..... ***Cervaria rivini*** GAERTN. – Broad-leaved Spignel, Much Good (*Peucedanum cervaria* (L.) LAPEYR.)

Chaerophyllum L.

1 Umbels weakly developed, not conspicuous, with (1–) 2–3 (–4) rays; petals entire or emarginate, elongated-obovate; fruit hairy. – Annual herb, 40–100 cm tall. – Forests, shibljak, maquis. – V–VII. – rWK, r**II**, sGV, s**SI**, rTV ..... ***Chaerophyllum nodosum*** (L.) CRANTZ – Nodes Chervil (*Myrrhoides nodosa* (L.) CANNON, *Physocaulis nodosus* (L.) W.D.J.KOCH)

— Umbels well-developed, with (4–) 6–32 rays; at least the marginal petals (extended-)cordate; fruit glabrous **2**

2 Stem not maculose; petals ciliate; styles upright or only somewhat spreading, forming a "V". – Herbaceous perennial, 40–70 (–120) cm tall. – Moist grassland, shrubbery and forest edges. – VI–VII. – rBE ..... ***Chaerophyllum hirsutum*** L. – Hairy Chervil (*Chaerophyllum cicutaria* VILL.)

— Stem mostly purple-maculose; petals glabrous; styles bent **3**

3 Leaf segments and their lobes obtuse; umbels with (4–) 6–12 (–15) rays; stylopodium during anthesis almond-green, in fruit without a distinct edge at the margin. – Annual or biennial herb, 30–100 cm tall. – Shrubbery and shibljak edges, pinewoods edges, waysides, wasteland. – V–VII. – sTT, rBE, s**HV**, s**TS**, s**MM**, sGT, rWK, rII, f**GV**, s**SI**, sIVÖ, rIKH, r**TV** ..... ***Chaerophyllum temulum*** L. – Rough Chervil

— Leaf segments and their lobes acuminate; umbels with (5–) 12–20 (–25) rays; stylopodium during anthesis intensive-green or dark green, in fruit with a distinct edge at the margin **4**

4 Stem with distinctly swollen nodes; bracteoles glabrous; fruit (4–) 5–7 mm long. – Biennial herb, 80–180 (–200) cm tall. – Moist shrubbery edges, mainly along rivers. – VI–VIII. – rBE ..... ***Chaerophyllum bulbosum*** L. – Parsnip Chervil

— Stem without distinctly swollen nodes; bracteoles ciliate; fruit (7–) 8–12 mm long. – Herbaceous perennial, 80–120 cm tall. – Forest, forest and shrubbery edges, tall forb associations, karst heath. – V–VIII. – rTT, f**BE**, f**HV**, s**TS**, s**MM** ..... ***Chaerophyllum aureum*** L. – Golden Chervil

Conium L.

Stem glabrous, pruinose, mostly purple-maculose; leaves triangular in outline, 2–4 times pinnate, glabrous, soft, nasty smelling when crushed. – Herbaceous perennial, 50–180 cm tall. – Wasteland, shrubbery and shibljak edges. – Very poisonous! – VI–IX. – rTT, rTS, rMM, rGT, r**II**, sGV, rSI, rIVÖ, rIKH, rISA, rILU ..... ***Conium maculatum*** L. **subsp. *maculatum*** – Hemlock n.s.

Remark: The **subsp. *viride*** (DC.) ESPEUT, described in Croatia, is to be searched in Istria. It has a green stem without purple spots, more numerous bracteoles (mainly 5–9 versus 2–6) and longer fruit (mainly 5–9 mm versus 3.4–3.9 mm).

Coriandrum L.

Plant smelling like bugs; stem terete, finely grooved, glabrous; lower leaves pinnately lobed to 1–2 times pinnate, with broad lobes/segments; upper leaves 3–4 times pinnate, with narrow-linear lobes; fruit globose. – Annual herb, 20–50 cm tall. – Cultivated (native in West Asia), garden escape: wasteland. – V–VI. – r**TT**, rGT, rWK, rII, rIUN ..... ***Coriandrum sativum*** L. – Coriander

Coristospermum BERTOL.

Plant almost glabrous; leaves shiny, up to 30 cm long, triangular in outline, 3–5 times pinnate; bracts mostly absent; bracteoles 5–8, about half as long as the umbel rays; petals about 2 mm long, glabrous, white. – Herbaceous perennial, 60–120 cm tall. – Rocky slopes, scree. – II–VII. – rTT, sTS, s**MM** ..... ***Coristospermum lucidum*** (MILL.) REDURON, CHARPIN & PIMENOV **subsp. *seguieri*** (JACQ.) REDURON – Seguier's Lovage (*Ligusticum seguieri* VILL.)

Crithmum L.

Plant glabrous; stem base ligneous; leaves 3 times pinnate, succulent; bracts and bracteoles elongated-triangular to linear-lanceolate, deflexed; flowers greenish white. – Half-shrub, 10–50 cm tall. – Rocks and walls at the seaside. – VI–IX. – f**TT**, f**GT**, f**WK**, f**GV**, f**SI**, f**IVÖ**, fIPL, fIKH, f**ILE**, fIUN, fICA, sISA, f**ILU**, f**TV** ..... ***Crithmum maritimum*** L. – Rock Samphire

Daucus L.

Mainly biennial or annual plants, very variable; stem usually richly branched, up to 2 m; leaves 2–3 times pinnate, with thin or fleshy segments; fruiting umbels ± flat <u>or</u> concave and nest-like; bracts divided; flowers white or pinkish, usually with one or several dark purple ones in the centre of the umbel; fruit covered with ± long, curved or straight spines. – III–XII. – f**TT**, f**BE**, sHV, fTS, sMM, fGT, f**WK**, f**II**, f**GV**, f**SI**, fIVÖ, sIPL, sIKH, sILE, zISA, f**ILU**, s**IAS**, s**TV** .....
Daucus carota L. – Wild Carrot

a Bract segments mainly ovate or lanceolate; fruiting umbels spreading, flat or only slightly concave. – Stem much branched from the base, often horizontally; leaves ± fleshy, mostly shiny; spines on the secondary ridges of the fruit curved upwards or straight. – Monocarpic (usually biennial) herb, 20–40 (–80) cm tall. – Rocky slopes and cliffs at the seaside. – III–XII. – Not yet proved, but expected in the area. .....
subsp.-group *gummifer* ["***Daucus gingidium*** L."**]** – Sea Carrot
(*Daucus carota* L. subsp. *hispanicus* (GOUAN) THELL., *Daucus gummifer* ALL.)

<u>Remark</u>: Since the possibility of hybridization between the plants of the subgroup *carota* and those previously named "*D. gingidium*" (REDURON 2014: 175) has been proved, it is better to place the latter in an infraspecific treatment; the "subgroup" is here equivalent to a whole set of several subspecies and has no nomenclatural implication. The subspecies belonging to this group are not presently known in Istria, therefore they are not keyed out here.

– Bract segments linear; fruiting umbels with incurved rays, deeply concave, nest-like. – Stem upwards branched; leaves thin, not fleshy; spines on the secondary ridges of the fruit always straight. – Biennial or annual herb, 30–150 (–200) cm tall. – Wasteland, fallows, fields, dry grasslands, sometimes sandy seashores. – III–XII. – f**TT**, f**BE**, sHV, fTS, sMM, fGT, f**WK**, f**II**, f**GV**, f**SI**, fIVÖ, sIPL, sIKH, sILE, zISA, f**ILU**, s**IAS**, s**TV** .....
subsp.-group *carota* – Wild and cultivated Carrot … **b**

b Giant plant, 80–150 (–250) cm tall, very robust; leaf segments ovate or ovate-rhombic, with incised-dentate lobes and broad teeth, mostly obtuse; umbels large, (10–) 12–25 (–40) cm in diameter. – s**BE**, s**WK**, f**II**, f**GV**, r**SI**, rIPL, rILE, rILU ..... **subsp. *maximus*** (DESF.) BALL – Giant Carrot
[incl. var. *mauritanicus* (L.) SPRENG.]

– Plant more slender, mostly 30–80 (–100) cm tall, of variable height and habit; leaf segments and their lobes usually narrower and more acuminate, sometimes linear; umbels of variable size, 3–8 (–10) cm in diameter .... **c**

c Umbels mostly only 3–5 cm in diameter, marginal flowers not or only weakly radiating. – Plant slender in habit; leaves very divided; segments very narrow, often linear. – r**WK**, sSI, sIVÖ, rIPL, rISA, rILU .....
subsp. *maritimus* (LAM.) BATT. – Seashore Carrot

– Umbels of medium size, mostly 5–8 (–10) cm in diameter, marginal flowers mostly more radiating. – Plant variable in habit, sometimes quite robust; leaf segments broadly lanceolate to linear ..... **d**

d Root only slightly thickened and weakly succulent, fibrous, flexible, often branched, not pigmented (whitish), taste unpleasant; basal leaf rosette not upright, usually spreading or lying on the ground; marginal flowers mostly radiating; fruit usually only 2–4 mm long, densely covered with hooked spines, primary ribs with simple bristles. – fTT, f**BE**, f**GT**, f**WK**, f**II**, f**GV**, s**ISA**, s**ILU**, s**IAS** ..... **subsp. *carota* var. *carota*** – Wild Carrot n.s.

– Root very thickened and succulent, easily breakable, not branched, usually orange-coloured, taste pleasant; basal leaf rosette distinctly upright; marginal flowers not or only slightly radiating; fruit bigger, about 4.2 mm long, less densely covered with hooked spines, primary ribs with basally branched bristles. – Cultivated .....
subsp. *sativus* SCHÜBL. & G.MARTENS – Cultivated Carrot

<u>Hybrid</u>: *Daucus carota* subsp. *carota* × subsp. *maximus* (partly equivalent to var. *mauritanicus*) / Blended Carrot – r**ISA**

Dichoropetalum FENZL

1 Umbel rays densely rough, rarely only slightly rough; flowers pale yellow, rarely white; anthers green; styles short, about as long as the stylopodium; fruit with 2–3 (–4) longitudinal stripes (vittae) per groove (vallecula) on the dorsal side, 2–4 (–6) on the ventral side. – Herbaceous perennial, 30–80 (–100) cm tall. – Moist grassland and shrubbery, light forests, forest edges. – VI–VIII (–X). – sTT, sBE, sHV, sTS, sII, rGV, sIVÖ .....
Dichoropetalum carvifolia (VILL.) PIMENOV & KLJUYKOV – Caraway-leaved Peucedanum
(*Holandrea carvifolia* (VILL.) REDURON, CHARPIN & PIMENOV, *Peucedanum carvifolia* VILL.)

— Umbel rays glabrous and smooth; flowers white, anthers white; styles elongated, 2–5 times longer than the stylopodium; fruit with only 1 longitudinal stripe (vitta) per groove (vallecula) on the dorsal side, 2 on the ventral side. – Herbaceous perennial, 40–80 cm tall. – Forest edges, light forests, shrubbery edges. – VII–IX. – s**TT**, sBE, s**TS**, s**MM**, sGT, rWK, s**II**, r**GV**, r**TV** .....
Dichoropetalum schottii (BESSER ex DC.) PIMENOV & KLJUYKOV – Schott's Peucedanum
(*Holandrea schottii* (BESSER ex DC.) REDURON, CHARPIN & PIMENOV, *Peucedanum schottii* BESSER ex DC.)

Hybrid:
Dichoropetalum carvifolia × *Dichoropetalum schottii* (***Dichoropetalum ×zirnichii*** (COHRS) REDURON) / Zirnich's Peucedanum – rTT

Echinophora L.

Plant dispersed-pubescent; cauline leaves 2–3 times pinnate; segments with spiny tip, keeled on the underside, grooved on the upper side; umbels with 4–8 pubescent rays; bracts and bracteoles spiny; sepals pungent, persistent; petals white, pubescent on the outside, the marginal ones larger than the inner ones, radiating. – Herbaceous perennial, 20–80 cm tall. – Sandy beaches, garrigue. – VI–X. – sILU ..... ***Echinophora spinosa*** L. – Prickly Echinophora

Eryngium L.

1 Bracts ovate or ovate-lanceolate; sepals 4–5 mm long. – Herbaceous perennial, 20–40 cm tall. – Sandy beaches. – VI–IX. – rTT, rGT, rWK, r**SI**, rIVÖ, rIKH, sISA, sILU, s**IAS** .....
Eryngium maritimum L. – Sea Holly

— Bracts lanceolate or linear; sepals up to 4 mm long **2**

2 Basal leaves divided **3**

— Basal leaves not divided ..... *Eryngium creticum* **4**

3 Lamina of the basal leaves decurrent on the petiole. – Herbaceous perennial, 30–50 cm tall. – Dry grassland, garrigue, karst heath, field lynchets, shibljak and forest edges. – VI–IX (–X). – f**TT**, s**BE**, s**HV**, f**TS**, s**MM**, fGT, fWK, f**II**, s**GV**, f**SI**, f**IVÖ**, sIPL, sIKH, sIUN, sICA, sISA, sILU, sIAS, sTV ..... ***Eryngium amethystinum*** L. – Blue Eryngo

— Lamina of the basal leaves not decurrent on the petioles **4**

4 Bracteoles in the capitules not tricuspid; inflorescence greenish-white. – Herbaceous perennial, 15–40 (–60) cm tall. – Garrigue, dry grassland, karst heath, wasteland. – V–VIII. – rTT, rHV, r**MM**, sGT, f**SI**, sIVÖ, f**IKH**, fIUN, fICA, f**ISA**, fILU, f**IAS** .....
Eryngium campestre L. – Field Eryngo

— Bracteoles in the capitules tricuspid; inflorescence bluish. – Herbaceous perennial, 20–100 cm tall. – Wasteland. – VII–VIII. – r**GT**, rII, r**ILU** .....
Eryngium creticum LAM. – Small-headed Blue Eryngo

Hybrids:
Eryngium amethystinum × *Eryngium creticum* (***Eryngium ×dalmaticum*** TEYBER) / Dalmatian Eryngo
Eryngium campestre × *Eryngium maritimum* (***Eryngium ×rocheri*** CORB. ex GUETROT) / Rocher's Eryngo

Cultivated Species:
Eryngium pandanifolium CHAM. & SCHLTDL. / Pandanus-leaved Eryngo – k**GV** (Herbaceous perennial, 180–250 (–400) cm tall; leaves 100–200 cm long, linear to sword-shaped, with slender spines on the margin, silvery-green; flowers purple-brown; VIII–X; native in Brazil, Argentina.)
Eryngium ×zabelii H.CHRIST ex BERGMANS / Zabel's Eryngo – kII (Herbaceous perennial, 50–75 cm tall; stem blue; basal leaves 8–12 (–20) cm long, circular in outline, tripartite, spiny-dentate, dark green; cauline leaves trilobate; umbels 2–4 cm broad; flowers blue-violet; VII–IX; cultural hybrid.)

Ferula L.

Sheaths of the upper cauline leaves very large; leaf segments up to 30 mm long, up to 3 mm wide, margin not involute, green on the upperside, distinctly bluish-glaucous on the underside; terminal umbel with (15–) 20–40 rays; bracts and bracteoles absent or only a few. – Herbaceous perennial, 100–300 cm tall. – Wasteland. – V–VI. – rTT ..... ***Ferula glauca*** L. – Glaucous Giant-fennel
(*Ferula communis* L. subsp. *glauca* (L.) ROUY & E.G.CAMUS)

Ferulago W.D.J.KOCH

Plant dark-green; stem grooved and ± angular; leaves up to 60 cm long, triangular-ovate in outline, 3–5 times pinnate, with linear to filiform segments; bracts and bracteoles lanceolate, acuminate; styles spreading on the fruit; fruit 8–13 (–20) mm long. – Herbaceous perennial, 50–120 (–200) cm. – Dry grassland, garrigue, shibljak edges, wasteland. – V–VIII. – f**TT**, sBE, s**HV**, s**TS**, f**GT**, s**WK**, f**II**, s**GV**, sSI, s**IVÖ**, rIKH, ?ILU, r**TV** ..... ***Ferulago campestris*** (BESSER) GRECESCU – Field Ferulago
(*Ferulago galbanifera* (MILL.) W.D.J.KOCH, *Ferulago nodiflora* auct.)

Foeniculum MILL.

Plant glabrous, glaucous; stem finely grooved, shiny; leaves triangular in outline, divided into filiform segments 5–50 mm long; bracts and bracteoles mostly absent; fruit 3–10 mm long. – Biennial herb or herbaceous perennial, 50–150 (–250) cm tall. – Wasteland, shibljak, maquis and forest edges. – VI–IX (–X). – s**TT**, rTS, s**MM**, s**GT**, s**WK**, r**II**, s**GV**, f**SI**, sIVÖ, sIPL, sIKH, sIUN, s**ILU** .....
Foeniculum vulgare MILL. – Fennel

a Plant short-lived perennial or monocarpic, mostly robust, dark-green, slightly glaucous, smelling similar to anise when crushed; stem upright, solid or hollow; umbels often big, circular in outline, with (7–) 12–30 (–50) rays, average 20 rays (**var. *dulce*** and **var. *azoricum*** with only 7–10 rays, but these plants differ from subsp. *piperitum* by their sweet fruit or by their bulbous stem); leaf segments filiform-linear, distant from each other, mostly very long, (10–) 20–50 mm long; leaf sheaths close to the stem; fruit often rather light-coloured, its taste either sweet <u>or</u> pungent and bitter; petals mostly bright yellow, lemon yellow or golden yellow. – s**TT**, s**MM**, s**GT**, s**WK**, r**II**, s**GV**, s**SI**, s**ILU** ..... **subsp. *vulgare*** – Fennel n.s.

aa Main umbels of medium size, with 12–30 (–50) rays; fruit with a pungent and bitter taste; plant perennial, much branched ..... **var. *vulgare*** – Fennel n.s.

– Main umbels large, with 7–10 rays; fruit with a sweet, ± sugary taste; plant monocarpic .....
var. *dulce* (MILL.) BATT. & TRAB. – Sweet Fennel

– Plant perennial, rather slender, distinctly glaucous, not or only slightly smelling of anise when crushed; stem often ascending, always solid; umbels of medium size, 3–8 cm in diameter, irregular in outline, elliptic or polygonal, usually with 3–12 (–20) rays, average 6–8 rays; leaf segments linear or linear-lanceolate, close to each other, short and acuminate, 2–6 (–20) mm long, in habit similar to *Asparagus officinalis*; leaf sheaths at a wider angle to the stem; fruit often violet-pruinose, with a lemon taste, aftertaste pungent and unpleasant; petals deeper yellow, sometimes ochre-yellow or reddish. – s**SI**, rIVÖ, sIUN, sILU .....
subsp. *piperitum* (UCRIA) BÉG. – Pepper Fennel

<u>Remark</u>: The two subspecies are reliably distinguished by phytochemical tests: subsp. *piperitum* contains neither anethol nor estragol, but rotundifolon (present in several mint species).

Grafia RCHB.

Stem terete, finely furrowed, glabrous; leaves triangular in outline, mostly 2 times ternate, with pinnately dissected segments; umbels with 12–22 rays; bracts numerous, elongated-ovate, acuminate; bracteoles mostly 3; petals white; fruit 8–13 mm long, with prominent, almost winged ridges. – Herbaceous perennial, 40– 70 (–100) cm tall. – Karst heath. – VI–VIII. – rTT .....
Grafia golaka (HACQ.) RCHB. – Carniolian Grafia
(*Hladnikia golaka* (HACQ.) RCHB.f.)

Hacquetia NECK.

Plant short-reptant, glabrous; basal leaves stalked, palmately divided, their segments terminally 2–5-lobed; bracts 5–6, 1–2 cm long, leaf-like; petals yellow; fruit about 4 mm long, ovoid, glabrous. – Herbaceous perennial, (8–) 15–20 (–25) cm tall. – Forests, shrubbery. – III–V. – rTT, rBE, r**HV**, rTS, r**MM**, kII ..... ***Hacquetia epipactis*** (SCOP.) DC. – Green Hacquetia

Helosciadium W.D.J.KOCH

Plant reptant or ascending; stem hollow; segments of the cauline leaves ovate-lanceolate, obtusely serrate; umbels with 3–12 rays, almost sessile; bracts 0–2; bracteoles 4–7, with white margin; petals ovate-lanceolate, acute; fruit 1.5–2.5 mm long, ovoid. – Herbaceous perennial, (10–) 30–100 (–150) cm tall. – Pond shores, trenches. – V–VII. – sGV .....
Helosciadium nodiflorum (L.) W.D.J. KOCH – Fool's Water-cress
(*Apium nodiflorum* (L.) LAG.)

Heracleum L.

1 Flowers greenish or yellowish, not or only slightly radiating. – Herbaceous perennial, 50–150 cm tall. – Forest and shibljak edges, moist grassland, rocky detritus, wasteland. – VII–IX. – s**TS**, s**MM**, s**II** ..... ***Heracleum sibiricum*** L. **subsp.** ***ternatum*** (VELEN.) BRIQ. – Ternate Hogweed

— Flowers white, distinctly radiating **2**

2 Leaves lobed, not divided. – Herbaceous perennial, 50–120 (–200) cm tall. – Forest edges. – VII–VIII. – rTS ..... ***Heracleum*** **group** ***pyrenaicum*** LAM. – Pyrenees Hogweed

— Leaves divided. – Herbaceous perennial, 50–150 (–200) cm tall. – Forest and shrubbery edges, karst heath, wasteland. – V–X. – rTT, s**TS**, rMM, rGT, s**II**, r**GV** ..... ***Heracleum sphondylium*** L. – Common Hogweed

a Leaves 1 time ternate. – s**TS**, rMM ..... **subsp.** ***elegans*** (CRANTZ) SCHÜBL. & G.MARTENS – Mountain Hogweed

– Leaves pinnate. – rTT, s**II** ..... **subsp.** ***sphondylium*** – Common Hogweed n.s.

Remark: LOSER 1860 and MARCHESETTI 1896-1897 reported ***Heracleum panaces*** L. from TT (Lipica/Lippiza/Lipizza) and GT (Sv. Marko/S. Marco and Cerin/Cerè near Koper/Capodistria/Gavers), but these records must be based on misidentifications.

Huetia BOISS.

Root tuber globose; stem procumbent to ascending; leaves 2–3 times pinnate; umbels with 5–15 rays; bracts 0 (–3); bracteoles linear to lanceolate, glabrous; petals white; fruit 3–6 mm long, not dentate on the ridges. – Herbaceous perennial, 20–60 cm tall. – Open forests and shrubbery. – VI–VII. – rMM ..... ***Huetia cynapioides*** (GUSS.) P.W.BALL – Balkan Huetia
(*Biasolettia cynapioides* (GUSS.) DRUDE)

Hydrocotyle L

Stem creeping; leaves peltate, with 6–9 radiate nerves and crenate margin; inflorescences in the axillas, mostly much shorter than the petioles, their stalk 3–6 (–12) cm high, with a single terminal tuft or 2–5 whorls of minute flowers; petals greenish to reddish-white. – Herbaceous perennial, 5–12 (–25) cm long. – Ponds, lakes. – V–VII. – rIVÖ ..... ***Hydrocotyle vulgaris*** L. – Marsh Pennywort

Remark: The most recent investigations justify the position of this genus in the family **ARALIACEAE** JUSS.

Imperatoria L.

Stem hollow; leaves (1–) 2 times ternate; segments broadly obovate, often 2–3-lobed; umbel with 20–60 rays; bracts 0 (–1); bracteoles few; petals white; fruit 4–6 mm long. – Herbaceous perennial, 30–70 (–100) cm tall. – Tall forb associations, moist shrubbery. – VII–VIII. – rMM ..... ***Imperatoria ostruthium*** L. – Masterwort
(*Peucedanum ostruthium* (L.) W.D.J.KOCH)

Katapsuxis L.

Plant glabrous; stem grooved; leaf sheaths at a rather wide angle to the stem; leaves 2–4 times pinnate; segments ovate, lobed; umbels with 20–45 rays; bracts few or absent; bracteoles numerous, linear; fruit 3–4 mm long. – Herbaceous perennial, 50–120 cm tall. – Open forests, forest edges, shrubbery and shibljak edges, wasteland. – V–IX. – s**TT**, sBE, s**HV**, s**TS**, s**MM**, rGT, rWK, s**II**, s**GV**, s**IVÖ**, s**IKH**, s**ILU**, s**TV** ..... ***Katapsuxis silaifolia*** (JACQ.) RAF. – Celery Katapsuxis
(*Cnidium apioides* SPRENG., *Cnidium silaifolium* (JACQ.) SIMONK., *Laserpitium silaifolium* JACQ.)

Laserpitium L.

1 Leaf segments with entire margin **2**

— Leaf segments lobed or with serrate or dentate margin **3**

2 Umbels with 2–15 rays. – Herbaceous perennial, (10–) 30–60 (–100) cm tall. – Karst heath. – VI–VIII. – rMM ..... ***Laserpitium peucedanoides*** L. – Hog's Fennel Sermountain

— Umbels with 20–50 rays. – Herbaceous perennial, (30–) 60–120 (–150) cm tall. – Forest edges, light forests, shrubbery edges, karst heath, tall forb associations. – V–VIII. – s**TT**, rBE, s**HV**, s**TS**, s**MM**, rGT, rIVÖ ..... ***Laserpitium siler*** L. – Sermountain

aa Leaf segments 15–70 mm long, 3–25 mm broad. – ..... **var. *siler*** – Sermountain n.s.
– Leaf segments 50–80 mm long, 30–45 mm broad. r**TS**, s**MM** ..... **var. *latissimum*** MURR – Broad-leaved Sermountain

3(1) Flowers greenish-yellow or pink; bracts 0–5, caducous. – Herbaceous perennial, 40–80 (–120) cm tall. – Karst heath, shrubbery edges, light forests. – VII–VIII. – sTS, s**MM** ..... ***Laserpitium krapfii*** CRANTZ **subsp. *krapfii*** – Krapf's Laser n.s.

— Flowers white or whitish; bracts numerous, not caducous **4**

4 Leaf segments ovate, often cordate, not or only slightly lobed; sheaths of the upper cauline leaves inflated; fruit mostly 5–11 mm long. – Herbaceous perennial, 50–150 cm tall. – Forest edges, light forests, shrubbery edges, karst heath, wasteland. – VI–VIII. – r**TT**, s**HV**, s**TS**, r**MM**, r**II** ..... ***Laserpitium latifolium*** L. – Broad-leaved Laser

aa Leaf segments pubescent on the underside ..... **var. *latifolium*** – Hairy Laser n.s.
– Leaf segments glabrous or glabrescent ..... **var. *glabrum*** (CRANTZ) SOY.-WILL. – Glabrous Laser

— Leaf segments deeply incised, with lanceolate lobes; sheaths of the upper cauline leaves not inflated; fruit mostly 3.5–5.5 mm long. – Biennial herb, 40–100 cm tall. – Moist grassland. – VII–IX. – rTT, rBE, rTS, rMM, rGT, rII ..... ***Laserpitium prutenicum*** L. – Prussian Laser

aa Upper cauline leaves 2 or more times pinnate, terminal segment 10–25 (–40) mm long. – If in the area? ..... **var. *prutenicum*** – Prussian Laser n.s.
– Upper cauline leaves only 1 time pinnate, terminal segment long-stalked and very elongated, up to 70 mm long. – rTS, sMM ..... **var. *ligulatum*** POSP. – Tongue Laser

Hybrid:
Laserpitium latifolium × *Laserpitium siler* (***Laserpitium ×besseanum*** SCHMIDELY) / Besse's Sermountain

Levisticum HILL

Plant with an intense taste and smell, like celery or the condiment "Maggi"; leaves 2 times pinnate; leaf segments up to 11 cm long, obovate-rhombic, cuneate, incised-dentate; bracts and bracteoles numerous; petals pale yellow. – Herbaceous perennial, 100–200 cm tall. – Cultivated (native in South Persia); garden escape. – VII–VIII. – rTT ..... ***Levisticum officinale*** W.D.J.KOCH – Lovage

Libanotis HALLER ex ZINN

Stem angular, deeply grooved; leaves 1–3 times pinnate; pinnae of the 1st order tilted, their lowest pairs of pinnae of the 2nd order usually overlapping across the rachis (except in subvar. *riviniana*); leaf segments ovate-cuneate, diversely incised; bracts numerous; sepals elongated, acuminate. – Monocarpic herb, 15–120 cm tall. – Forest edges, light forests, karst heath, rocks. – VI–VIII (–X). – rTT, sBE, s**HV**, s**TS**, rMM, rII, r**IVÖ** ..... ***Libanotis pyrenaica*** (L.) O.SCHWARZ – Moon Carrot
(*Seseli libanotis* (L.) W.D.J.KOCH, *Libanotis montana* CRANTZ)

a Lower leaves 2–3 times pinnate; segments and their lobes linear, elongated to lanceolate, often falcate, acute. – rTT, sBE, s**HV**, s**TS**, rMM, rII, r**IVÖ** ..... **subsp. *pyrenaica*** – Dissected Moon Carrot

aa Leaf segments deeply incised, with narrow, linear or narrow-lanceolate lobes, most of them 3–5 times longer than broad, narrowed at the base ..... **var. *pyrenaica*** – Dissected Moon Carrot n.s.
– Leaf segments less incised; lobes lanceolate, 1–3 times longer than broad, not narrowed at the base. – s**TS** **var. *libanotis*** (L.) REDURON – Common Moon Carrot

aaa Lowest pairs of pinnae of the 2nd order close to the rachis, overlapping across the rachis ..... **subvar. *libanotis*** (L.) REDURON – Common Moon Carrot n.s.
– Lowest pairs of pinnae of the 2nd order more distant from the rachis, not overlapping ..... **subvar. *riviniana*** (SCOP.) REDURON – Rivinus Moon Carrot

– Lower leaves 1–2 times pinnate; segments and their lobes ovate, roughly serrate to pinnately dissected, blunt to obtuse. – rTT, rBE, rTS, rII ..... **subsp. *intermedia*** (RUPR.) SOÓ – Siberian Moon Carrot
(*Libanotis sibirica* (L.) C.A.MEY.)

Molopospermum W.D.J.KOCH

Stem hollow, striate; basal leaves up to 100 cm long, 3–4 times pinnate; segments and their lobes lanceolate; umbel with 20–45 rays; bracts 6–9, lanceolate, sometimes incised; petals about 3 mm long, white; fruit (6.5–) 8–10 (–12) mm long. – Herbaceous perennial, 100–200 cm tall. – Fertile meadows. – VI–VII. – rTT ..... ***Molopospermum peloponnesiacum*** (L.) W.D.J.KOCH **subsp. *bauhinii*** I.ULLMANN – Bauhin's Molly the Greek

Oenanthe L.

1 Plant with lateral umbels (opposite to the cauline leaves) and terminal umbels; umbels short-stalked; aerial cauline leaves divided into numerous lobed segments; segments rarely more than 1 cm long; styles equalling about ¼ of the length of the fruit. – Annual or biennial herb, 40–70 (–150) cm tall. – Lake shores, moist trenches. – V–VI. – rWK ..... ***Oenanthe aquatica*** (L.) POIR. – Fine-leaved Water-dropwort

— Plant with terminal umbels only; umbels long-stalked; cauline leaves divided into linear segments; segments of the basal leaves sometimes broader; styles longer than ¼ of the length of the fruit **2**

2 Plant with stolons; fruit angular-obconical, forming globose partial umbels; umbels with 2–4 (–10) rays; rays thickened in fruit. – Herbaceous perennial, (30–) 40–60 (–80) cm tall. – Moist grassland. – V–VII. – rII, r**SI** ..... ***Oenanthe fistulosa*** L. **subsp.** ***fistulosa*** – Tubular Water-dropwort n.s.

— Plant without stolons; fruit of different shape; partial umbels not globose in fruit; umbels with (4–) 5–20 rays **3**

3 Fruit narrowed at both ends (barrel-shaped), sometimes obovoid or nearly obconical. – Umbel rays not thickened in fruit **4**

— Fruit cylindric or obconical, not narrowed at both ends **5**

4 Fruit 2–3.2 mm long; partial umbels dense and compact in fruit; flowers not or only slightly radiating; flowering in summer, fruiting at the end of summer. – Herbaceous perennial, 30–100 cm tall. – Moist grassland. – VI–VIII. – rTT, rII, rSI ..... ***Oenanthe lachenalii*** C.C.GMEL. – Lachenal's Water-dropwort

— Fruit 3–5 mm long; partial umbels less compact in fruit; flowers radiating; flowering in spring, fruiting in June. – Herbaceous perennial, 30–70 cm tall. – Moist grassland, usually on acid or neutral soils. – V–VI. – rGT ..... ***Oenanthe peucedanifolia*** POLLICH – Spring Water-dropwort

5(3) Partial umbels flat in fruit; fruit upright, almost cylindric; basal leaves with ovate or cuneate segments, cauline leaves with linear segments. – Herbaceous perennial, 40–100 cm tall. – Garrigue, dry grassland, karst heath, light forests, shibljak and maquis edges, shores of ponds and lakes, trenches, lynchets. – V–VII. – sTT, rHV, r**TS**, r**MM**, sGT, f**WK**, rII, s**GV**, f**SI**, f**IVÖ**, s**IPL**, rIKH, sIUN, f**ILU**, sIAS, s**TV** ..... ***Oenanthe pimpinelloides*** L. – Corky-fruited Water-dropwort

aa Plant robust; basal leaves 2–3 times pinnate. – sGT ..... **var.** ***pimpinelloides*** – Corky-fruited Water-dropwort n.s.

– Plant rather slim, not branched; basal leaves 1 time pinnate. – sGT ..... **var.** ***fallax*** POSP. – Deceptive Water-dropwort

— Partial umbels convex in fruit; fruit radiating, obconical or sometimes almost cylindric; leaves mostly with similar segments, or segments of the basal leaves somewhat broader, lanceolate. – Herbaceous perennial, (20–) 40–60 (–80) cm tall. – Moist grassland, trenches, usually on alkaline soils. – VI–VII. – r**TT**, rGT, rWK, s**SI**, s**IVÖ**, rIKH ..... ***Oenanthe silaifolia*** M.BIEB. – Narrow-leaved Water-dropwort

Opopanax W.D.J.KOCH

Lower leaves 2 times pinnate, upper leaves simple or reduced; leaves with stellate hairs on the underside; umbels with 9–25 rays; sepals absent; petals yellow; fruit 6–10 mm long, narrowly winged. – Herbaceous perennial, 100–250 cm tall. – Shrubbery and shibljak edges, wasteland. – V–VII. – rTT, s**TS**, s**MM**, rGT, r**WK**, sII, sGV ..... ***Opopanax chironium*** (L.) W.D.J.KOCH – Common Opopanax

Oreoselinum MILL.

Stem solid, terete, striate or finely grooved; leaves 2–4 times pinnate; rachis recurved downwards, arcuate between the pairs of pinnae ("geniculate"); leaf segments ovate-lanceolate, the broader ones lobed; petals white. – Herbaceous perennial, 30–60 (–100) cm tall. – Shrubbery and shibljak edges, hay meadows, karst heath. – V–X. – s**TT**, s**BE**, sHV, f**TS**, r**MM**, sGT, s**II**, rIVÖ, rIKH, r**TV** ..... ***Oreoselinum nigrum*** DELARBRE – Mountain Peucedanum (*Peucedanum oreoselinum* (L.) MOENCH)

Orlaya HOFFM.

1 Marginal petals about 2–3 times longer than the central ones, 5–8 mm long; umbels with 2–4 (–5) rays; bracts 2–3. – Annual herb, 10–40 cm tall. – Vineyards, fallows, wasteland. – V–VI. – rGT, rWK, rSI, rIVÖ, rILU ..... ***Orlaya platycarpos*** W.D.J.KOCH – Small Orlaya (*O. kochii* HEYWOOD, *O. daucoides* GREUTER)

— Marginal petals 8–10 times longer than the central ones, 8–18 mm long; umbels usually with 5–10 (–12) rays; bracts 5–8 ..... **2**

2 Spines on the fruit in 1 or partly in 2 rows, very flattened and confluent at the base. – Annual herb, 30–80 cm tall. – Olive groves, wasteland. – V–VIII. – rMM, rII, rGV, r**SI**, s**IKH** ..... ***Orlaya daucorlaya*** MURB. – Carrot Orlaya

— Spines on the fruit in 2 or 3 rows, only a little flattened and not confluent at the base. – Annual herb, 20–40 (–60) cm tall. – Shibljak and maquis edges, dry grassland, light dry forests, wasteland. – V–VII. – f**TT**, rHV, s**TS**, s**MM**, f**GT**, f**WK**, sII, f**GV**, f**SI**, f**IVÖ**, sIPL, f**IKH**, fIUN, f**ILU**, s**TV** ..... ***Orlaya grandiflora*** (L.) HOFFM. – Large-flowered Orlaya

Pastinaca L.

Stem angular, grooved to terete; leaves 1 time pinnate, their segments broadly ovate to elongated; petals yellow; fruit 4–9 mm long. – Biennial herb, 40–200 (–250) cm tall. – Lynchets, wasteland, banks, vineyards, trenches. – VI–X. – s**TT**, s**BE**, s**HV**, s**TS**, s**MM**, sGT, r**WK**, f**II**, sGV, r**SI**, rIVÖ, rILU ..... ***Pastinaca sativa*** L. – Parsnip

a Umbels very unequal, with (6–) 9–20 (–40) rays, up to 7 (–11) cm in diameter; stem mostly angular, grooved, very rarely terete; plant 40–80 (–170) cm tall, glabrescent or pubescent; branches at a rather acute angle to the stem (about 40°); segments of the lower leaves of variable shape, mostly elongated and acuminate. – s**TT**, s**BE**, s**TS**, s**MM**, s**GT**, f**II** ..... **subsp. *sativa*** – Parsnip n.s.

aa Root napiform, succulent; cultivated plant, very tall (more than 150 cm); terminal umbel with 15–30 (–40) rays, flowering in June. – r**II** ..... **var. *sativa*** – Garden Parsnip

– Root not napiform, fibrous; wild plant, 40–120 (–150) cm tall; terminal umbel with 9–15 rays; flowering from June to September ..... **bb**

bb Plant with long pubescence, ± dull; basal leaves with broadly ovate segments, length:width ratio ≤ 2. – sBE, s**II** ..... **var. *arvensis*** PERS. – Field Parsnip (subsp. *sylvestris* (MILL.) ROUY & E.G.CAMUS)

– Plant glabrous, ± shiny; basal leaves with elongated segments, length:width ratio ≥ 2. – s**MM**, s**GT** ..... **var. *pratensis*** PERS. – Meadow Parsnip

– Umbels not so unequal, with (4–) 5–8 (–10) rays, rarely more than 4 cm in diameter; stem subcylindric, sometimes slightly angular; plant (70–) 100–200 (–250) cm tall, short and densely pubescent; branches at a wider angle to the stem (about 60°); segments of the lower leaves more broadly ovate and obtuse. – rTT, rBE, r**MM**, sGT, s**WK**, s**II**, r**GV**, r**SI**, rILU ..... **subsp. *urens*** (GODR.) ČELAK. – Stinging Parsnip

Petroselinum HILL

Lower leaves 2–3 times pinnate; umbels long-stalked; petals yellowish. – Biennial herb, 40–90 cm tall. – Cultivated (area of origin unknown), garden escape: fallows, wasteland. – V–VIII. – rTT, rWK, r**GV**, rSI, rISA, r**ILU**, r**TV** ..... ***Petroselinum crispum*** (MILL.) FUSS – Garden Parsley

aa Leaf segments linear. – r**GV** ..... **var. *angustifolium*** (HAYNE) REDURON – Narrow-leaved Garden Parsley

– Leaf segments ovate or cuneate. – Petioles distinctly fibrous; wild plant. – r**TV** ..... **var. *petroselinum*** (L.) REDURON – Wild Garden Parsley

Peucedanum L.

Leaf segments broadly linear to lanceolate, 30–90 mm long; umbels with 4–11 rays; bracts 0–3; petals white or yellow; fruit 6–8 mm, with low, thick wings. – Herbaceous perennial, 20–100 (–130) cm tall. – Moist grassland. – VII–IX. – r**TT**, sBE, rMM, rGT, sII, r**SI**, rIVÖ ..... ***Peucedanum coriaceum*** RCHB. – Coriaceous Hog's Fennel

a Stem often curved at the base, up to 40 cm tall; basal leaves mostly 2 times pinnate or ternate; petals yellow. – sBE, rGT, sSI ..... **subsp. *coriaceum*** – Coriaceous Hog's Fennel n.s.

– Stem upright, up to 100 cm tall or more; basal leaves mostly 3 times pinnate or ternate; petals white or whitish. – r**TT**, rMM, rGT, r**SI** ..... **subsp. *pospichalii*** (THELL.) HORVATIĆ – Pospichal's Hog's Fennel

Physospermum CUSSON

Leaves 2–3 times pinnate; segments 50–110 mm long, serrate; petals white; fruit 5–9 mm long. – Herbaceous perennial, 50–160 cm tall. – Forest edges and glades. – V–VII. – s**TS**, s**MM** ..... ***Physospermum verticillatum*** (WALDST. & KIT.) VIS. – Whorled Bladderseed

Pimpinella L.

1 Fruit patent-hirsute. – Biennial herb, 50–100 cm tall. – Wasteland, walls. – V–VIII. – rWK, rII, rGV, r**SI**, rIVÖ, rILU, r**TV** ..... ***Pimpinella peregrina*** L. – Peregrine Burnet Saxifrage

— Fruit glabrous **2**

2 Stem angular, grooved, hollow, leafy; basal leaves usually with stalked segments, the upper leaves much smaller, but completely developed; fruit 2.5–4 mm long, fruit wall bulging between the whitish ridges. – Herbaceous perennial, 30–80 (–120) cm tall. – Moist grassland, shrubbery and shibljak edges, wasteland. – VII–VIII. – rTT, rBE, rTS, rGT, s**II** ..... ***Pimpinella major*** (L.) HUDS. **var.** ***major*** – Great Burnet Saxifrage n.s.

aaa Leaves 1 time pinnate, with ovate or almost circular segments; segments not incised, but ± deeply dentate. – rTT, rBE ..... **f.** ***major*** – Great Burnet Saxifrage n.s.

– Leaves 1–2 times pinnate, with linear or linear-lanceolate segments/lobes (similar to those of *Dichoropetalum carvifolia*). – rII ..... **f.** ***orientalis*** (GOUAN) FIORI & BÉG. – Dissected Burnet Saxifrage

— Stem terete, striate, solid (sometimes hollow in the centre), with only few leaves in the upper part; basal leaves with sessile segments, the upper ones often reduced to a petiole; fruit 2–2.5 (–3.5) mm long, fruit wall finely granular between the little prominent ridges. – Herbaceous perennial, 20–60 (–100) cm tall. – Shibljak and forst edges, semi-arid grassland, karst heath, rocky slopes, pinewoods, wasteland. – VI–X. – s**TT**, s**BE**, rHV, s**TS**, s**MM**, sGT, rWK, sII, s**SI**, s**IVÖ**, rTV ..... ***Pimpinella saxifraga*** L. – Small Burnet Saxifrage

aa Basal leaves 1 time pinnate, their segments hardly incised, but ± deeply serrate. – sTT, s**BE**, s**MM** ..... **var.** ***saxifraga*** – Small Burnet Saxifrage n.s.

– Basal leaves 2–3 (–4) times pinnate, their segments deeply incised, with lanceolate or linear lobes (only the segments of the very first basal leaves sometimes not incised) ..... **var.** ***dissectifolia*** WALLR. – Cut-leaved Burnet Saxifrage

Hybrid:
Pimpinella major × *Pimpinella saxifraga* (***Pimpinella ×intermedia*** FIGERT) / Median Burnet Saxifrage

Pteroselinum (RCHB.) RCHB.

Stem solid; leaves 3–4 times pinnate; segments pinnately incised, with lanceolate, elongated-ovate or linear lobes; bracts numerous; petals obcordate, white; wings of fruit almost translucent, at least 1.5 mm broad. – Herbaceous perennial, 10–120 cm tall. – Karst heath, forest, shrubbery and shibljak edges. – VI–VIII. – r**TT**, r**HV**, sTS, r**MM**, rGT, rWK, rII ..... ***Pteroselinum austriacum*** (JACQ.) RCHB. – Austrian Wing Parsley
(*Peucedanum austriacum* (JACQ.) W.D.J.KOCH)

Ridolfia MORIS

Plant glabrous; leaves with linear segments and lobes, the upper ones often reduced to somewhat inflated sheaths; umbels with 10–60 rays; bracts and bracteoles absent; fruit 1.5–2.5 mm long. – Annual herb, 30–80 cm tall. – Fields, vineyards. – V–VI. – rTT, r**GV** ..... ***Ridolfia segetum*** (GUSS.) MORIS – Field Ridolfia, False Fennel

Sanicula L.

Stem almost without leaves; basal leaves palmately incised, shiny, long-stalked; flowers short-stalked or sessile, partial umbels therefore capitule-like; petals whitish or pinkish. – Herbaceous perennial, 20–50 cm tall. – Deciduous forests, forest edges. – IV–VII. – rTT, rBE, s**TS**, s**MM**, sGT, rII, r**SI**, rIVÖ, rIKH, r**TV** ..... ***Sanicula europaea*** L. – European Sanicle

Scandix L.

1 Fruiting umbels somewhat flattenend, forming a comb; fruit longer than 40 mm, its beak longer than 30 mm; beak of the fruit (often strongly) flattened on the dorsal side and distinctly separated from the fertile part; carpophore not divided; bracteoles often incised. – Leaves only slightly aromatic. – Annual herb, 15–30 cm tall. – Fields, lynchets, fallows, shibljak edges, wasteland. – III–VI. – s**TT**, rTS, s**GT**, f**WK**, s**II**, s**GV**, s**SI**, rIVÖ, s**IKH**, rISA, s**ILU**, s**TV** ..... ***Scandix pecten-veneris*** L. **subsp. *pecten-veneris*** – Common Shepherd's Needle n.s.

— Fruiting umbels not flattenend, radiating; fruit shorter than 40 mm, its beak less than 30 mm long; beak of the fruit only slightly flattened on the sides and not distinctly separated from the fertile part; carpophore bifid at the top; bracteoles usually not incised. – Leaves smelling like anise. – Annual herb, 10–30 cm tall. – Grainfields, wasteland. – IV–VI. – rGT, rWK, rIKH, fIUN, sILU, rIAS ..... ***Scandix australis*** L. – Southern Shepherd's Needle

a Umbels usually with 1–3 rays; flowers not radiating, marginal petals up to 1.5 mm long; styles less than 1 mm long. – rWK, rIKH, fIUN, sILU, rIAS ..... **subsp. *australis*** – Southern Shepherd's Needle n.s.

– Umbels often with 3–5 rays; flowers distinctly radiating, marginal petals often up to 5 mm long; styles 1.5 mm long. – rGT, rILU ..... **subsp. *grandiflora*** (L.) THELL. – Radiate Shepherd's Needle

Selinum L.

Stem angular-grooved to winged; leaves 3–4 times pinnate; segments deeply incised, with lanceolate or linear-lanceolate lobes; umbels with 10–25 rays; sepals absent; fruit 3–4 mm long, with winged ridges, the marginal ones broader. – Herbaceous perennial, 30–90 cm tall. – Moist grassland. – VII–VIII. – rTT, rBE, rTS ..... ***Selinum carvifolia*** (L.) L. – Cambridge Milk-parsley

Seseli L.

1 Leaves distinctly elongated or ovate-elongated in outline **2**

— Leaves triangular or ovate-triangular in outline **4**

2 Umbels with (12–) 15–30 (–60) rays; bracteoles with a broad scarious margin .... *Seseli annuum* **5**

— Umbels with (4–) 5–12 (–15) rays; bracteoles with a narrow scarious margin **3**

3 Dorsal side of the fruit with gradually narrowed ridges, ridges narrower than the grooves. – Herbaceous perennial, 10–60 cm tall. – Karst heath. – VIII–IX. – rMM ..... ***Seseli montanum*** L. – Long-leaved Seseli

— Dorsal side of the fruit with rounded ridges, ridges much broader than the grooves. – Herbaceous perennial, 30–100 cm tall. – Maquis edges, garrigue, dry grassland, karst heath, waysides. – VIII–XI. – rTT, rBE, r**HV**, rTS, rMM, rGT, s**WK**, sII, f**GV**, s**SI**, s**IVÖ**, s**IKH**, sILE, sILU, sIAS, s**TV** ..... ***Seseli tommasinii*** RCHB.f. – Tommasini's Seseli

Remark: This species is in many characteristics similar to ***Seseli galloprovinciale*** REDURON, which grows in Southwestern France and Northern Italy. Nevertheless *S. tommasinii* seems to be a distinct species.

4(1) Leaf segments (at least of the basal leaves) lanceolate or linear-lanceolate, ± coriaceous or fleshy . *Seseli tortuosum* **6**

— Leaf segments very narrow, linear or filiform **5**

5(2) Plant green or reddish; umbels with (12–) 15–30 (–60) rays. – Biennial herb, 20–70 (–90) cm tall. – Dry grassland. – VII–X. – rTT, rBE, sTS, rMM, s**WK**, sII .. ***Seseli annuum*** L. – Annual Seseli

— Plant glaucous; umbels with (2–) 3–9 (–15) rays **6**

6 Leaf segments linear, slightly fleshy, mostly 5–15 mm long; umbels with relatively robust, pubescent rays; bracteoles with a broad scarious margin; petioles grooved. – Biennial herb, 20–70 cm tall. – Dry grassland, garrigue, wasteland, maquis edges. – VIII–X. – rBE, rMM, rGT, s**WK**, rII, rGV, s**SI**, rILE ..... ***Seseli tortuosum*** L. – Crooked Seseli

— Leaf segments linear-filiform, often distinctly elongated, 10–50 (–80) mm long; umbels with filiform, glabrous rays; bracteoles with a narrow scarious margin; petioles not grooved **7**

7 Sepals inserted at the apex of the fruit; fruit usually pubescent. – Herbaceous monocarpic, mainly biennial, 40–70 cm tall. – Dry grassland, karst heath. – VIII–X. – rTT, r**WK**, r**II** ..... ***Seseli longifolium*** L. **subsp.** ***longifolium*** – Long-leaved Seseli n.s.

— Sepals inserted about 0.5 mm below the apex of the fruit; fruit glabrous. – Herbaceous monocarpic, mainly biennial, 40–70 cm tall. – Karst heath, dry grassland, rocky slopes. – VII–X. – s**TT**, rBE, sTS, s**GT**, r**WK**, sII, rIVÖ, r**TV** ..... ***Seseli kochii*** BREISTR. – Koch's Seseli
(*Seseli elatum* GOUAN, non L.; *Seseli gouani* W.D.J.KOCH, nom. illeg.)

Sison L.

Leaves 1 time pinnate, with 7–9 pairs of ovate, often cuneate, incised-dentate segments; umbels with 2–6 rays; rays thin, unequal in length; bracts and bracteoles 1–5, rarely absent; fruit 1.5–3 mm long. – Biennial herb, 30–60 (–150) cm tall. – Moist grassland, wasteland. – VI–VIII. – r**II**, rGV, rSI, rIVÖ ..... ***Sison amomum*** L. – Stone Parsley

Sium L.

1 Stem ± deeply grooved; sepals lanceolate, about 1 mm long; fruit with thick ridges. – Plant glabrous; stem hollow; umbel with 20–35 rays; bracts entire or incised, deflexed; bracteoles lanceolate. – Herbaceous perennial, 60–120 (–150) cm tall. – Shores. – VII–VIII. – r**GT** ..... ***Sium latifolium*** L. – Greater Water-parsnip

— Stem finely grooved; sepals smaller, about 0.5 mm long; fruit with narrow ridges. – Plant glabrous; stem hollow; umbels with 10–30 rays; bracts and bracteoles linear. – Herbaceous perennial, 30–80 (–120) cm tall. – Shores, cane brakes. – VII–VIII. – r**GT**, r**II** ..... ***Sium sisarum*** L. – Skirret

Smyrnium L.

1 Upper leaves divided into 3 segments; fruit with narrow, prominent ridges. – Biennial herb, 50–120 cm tall. – Shibljak and maquis edges, wasteland. – I–V. – r**TT**, rWK, s**SI**, r**IKH**, sILU ..... ***Smyrnium olusatrum*** L. – Common Alexanders

— Upper leaves not divided, amplexicaul; fruit with weakly prominent ridges. – Biennial herb, 50–120 cm tall. – Shrubbery and shibljak edges, banks, light forests. – III–VI. – s**TT**, rBE, rHV, s**TS**, r**MM**, rGT, s**II**, s**GV**, s**TV** ..... ***Smyrnium perfoliatum*** L. **subsp.** ***perfoliatum*** – Perfoliate Alexanders n.s.

Thysselinum ADANS.

Plant with white latex; stem hollow, grooved; leaves 3–4 times pinnate; segments with lanceolate to linear lobes; petals white; wings of the ripe fruit lower than 1 mm. – Herbaceous perennial, 50–150 (–200) cm tall. – Uliginous grassland, cane brakes. – VI–VII. – rTT, rBE ..... ***Thysselinum palustre*** (L.) HOFFM. – Milk-parsley
(*Peucedanum palustre* (L.) MOENCH)

Tommasinia BERTOL.

Stem terete, finely grooved, almost glabrous, at the base without fibre-tuft; upper branches opposite or verticillate; lower leaves 2–3 times pinnate; segments ovate, (20–) 30–60 (–70) mm long; petals greenish-yellow to pale-yellow. – Herbaceous perennial, 150–250 (–350) cm tall. – Forest edges, banks. – V–VIII. – rTT, rMM, rIVÖ ..... ***Tommasinia altissima*** (MILL.) REDURON – Whorled Tommasinia
(*Angelica verticillaris* L., *Peucedanum verticillare* (L.) SPRENG., *Tommasinia verticillaris* (L.) BERTOL.)

Tordylium L.

1 Petals and stylopodium pubescent; fruit with smooth, thick margin. – Annual or biennial herb, 50–100 (–130) cm tall. – Vineyards, lynchets, shibljak edges, wasteland. – V–VII.– rTT, s**II**, rGV, r**SI**, sIVÖ ..... ***Tordylium maximum*** L. – Great Hartwort

— Petals and stylopodium glabrous; fruit with rugose, thick margin **2**

2 Radiating marginal flowers with 1 larger petal deeply incised into 2 equal parts; fruit 7–10 mm long, with 10–12 stripes (vittae) on the dorsal side and 10 on the ventral side. – Annual herb, 10–60 cm tall. – Dry grassland, wasteland, shibljak and maquis edges, walls, fallows, pinewoods. – III–VI. – rTT, s**GT**, f**WK**, sII, s**GV**, f**SI**, sIVÖ, f**IKH**, fIUN, f**ILU**, sIAS, s**TV** .....
Tordylium apulum L. – Mediterranean Hartwort

— Radiating marginal flowers with 2 larger petals incised into 2 unequal parts; fruit 2.5–3.5 mm long, with 4 stripes (vittae) on the dorsal side and 2 on the ventral side. – Annual herb, 20–50 cm tall. – Dry grassland, wasteland. – IV–VI. – rTT, rGT, sILU .....
Tordylium officinale L. – Common Hartwort

Torilis ADANS.

1 Umbels predominantly lateral, opposite to the leaves; umbel peduncles up to 5 cm long; umbels with only 2–3 (–5) rays **2**

— Umbels predominantly terminal; umbel peduncles longer than 5 cm; umbels with (2–) 3–18 (–20) rays **3**

2 Umbels with very short rays, forming compact heads (rather than true umbels), with a very short peduncle (less than 1 cm) or sessile; peripheral fruit of the umbel with spinose outer mericarps, the central fruit usually only verrucose. – Annual herb, 20–60 cm tall. – Dry grassland, grainfields, wasteland, rocky slopes. – III–VII. – s**TT**, r**MM**, s**GT**, s**WK**, s**SI**, r**IVÖ**, sIPL, s**IKH**, s**ILU**, sIAS ..... ***Torilis nodosa*** (L.) RCHB.f. **subsp. *nodosa*** – Knotted Hedge-parsley n.s.

— Umbels of ± typical habit; fruit usually homogeneous, mericarps identical. – Annual herb, 10–40 cm tall. – Introduced (native in the Eumediterranean region): wasteland. – V–VI. – rTT. .....
Torilis leptophylla (L.) RCHB.f. – Slender-leaved Hedge-parsley

3(1) Bracts 4–8 (–12); stylopodium glabrous. – Biennial herb, (30–) 50–120 cm tall. – Forest edges, shrubbery and shibljak edges. – VI–XI. – sTT, sBE, s**HV**, rTS, sGT, rWK, sII, r**SI**, rIVÖ, rIKH ...
Torilis japonica (HOUTT.) DC. – Upright Hedge-parsley
(*Torilis anthriscus* (L.) C.C.GMEL.)

— Bracts 0–1; stylopodium mostly hispid; annual herbs **4**

4 Styles very short, only 0.1–0.4 mm long; flowers not or only slightly radiating; petals mostly reddish or greenish; umbels with only 2–3 (–4) rays. – Annual herb, 20–60 cm tall. – Dry grassland, maquis and shibljak edges, pinewoods, wasteland, fallows. – IV–VII. – rTT, sGT, s**WK**, s**II**, s**GV**, s**SI**, s**IVÖ**, s**IPL**, f**IKH**, s**ILU**, rIAS .... ***Torilis africana*** SPRENG. – African Hedge-parsley

aa Plant with ± uniform leaves. – r**IVÖ**, rIAS ..... **var. *africana*** – African Hedge-parsley n.s.

– Plant with conspicuously unequal leaves, the upper ones divided into linear and very elongated segments. – rTT, sGT, s**WK**, s**II**, s**GV**, s**SI**, s**IVÖ**, s**IPL**, f**IKH**, s**ILU** .....
var. *heterophylla* (GUSS.) REDURON – Purple Hedge-parsley
(*Torilis arvensis* (HUDS.) LINK subsp. *heterophylla* (GUSS.) THELL.)

— Styles 0.4–1.5 mm long, 1–6 times longer than the stylopodium; flowers ± radiating; petals bright-coloured, white or whitish; umbels mostly well-developed, only sometimes reduced, with (2–) 3–12 (–20) rays. – Plant with quite uniform leaves, the upper ones somewhat reduced and often with narrower, but not distinctly elongated segments. – Annual herb, 15–200 cm tall. – Wasteland, dry grassland, shibljak and maquis edges. – V–XII. – s**TT**, r**MM**, sGT, s**WK**, s**II**, s**GV**, s**SI**, s**IVÖ**, rIPL, sIKH, rISA, r**ILU**, r**IAS**, r**TV** .....
Torilis arvensis (HUDS.) LINK – Spreading Hedge-parsley

a Marginal petals moderately to slightly radiating, up to 1.5 mm long; styles 0.4–0.8 mm long in fruit, up to 3 times longer than the stylopodium, often poorly visible (covered by bristles); umbels with (2–) 3–7 (–9) rays. – Plant of very variable habit, very small (15 cm) or sometimes up to 200 cm. – In cooler shady biotopes. – s**TT**, r**MM**, sGT, s**WK**, s**II**, s**GV**, s**SI**, s**IVÖ**, rIPL, sIKH, rISA, rILU ..... **subsp. *arvensis*** – Spreading Hedge-parsley n.s.

– Marginal petals distinctly radiating, at least 2 mm long; styles 0.9–1.5 mm long in fruit, 3–6 times longer than the stylopodium, visible (longer than the bristles); umbels with (5–) 6–12 (–20) rays. – Plant almost always tall and quite robust, 50–200 cm. – r**ILU** ..... **subsp. *neglecta*** (SCHULT.) THELL. – Neglected Hedge-parsley

Trinia HOFFM.

Plant dioecious, branched from the base, glabrous, glaucous; leaves 2–3 times pinnate, with narrow-linear segments; bracteoles 0–1; petals lanceolate, in male flowers pale yellow, in female flowers whitish-reddish; fruit 2.5–3.5 mm, blackish when ripe. – Monocarpic herb, 15–30 (–50) cm tall. – Karst heath, dry grassland, waysides. – IV–VII. – f**TT**, rBE, f**TS**, sMM, s**GT**, rWK, rII, rIVÖ ....
Trinia glauca (L.) DUMORT. **var. *glauca*** – Glaucous Honewort

Turgenia HOFFM.

Leaves 1 time pinnately divided or incised, with lanceolate, incised-serrate segments/lobes; bracts 3–5; bracteoles 5–7; petals white, pink or purple, radiating; fruit 8–12 mm, strongly spiny. – Annual herb, 5–60 cm tall. – Fallows, fields, wasteland. – V–VI. – rTT, sGT, s**WK**, r**II**, s**SI**, rIVÖ, rILU, r**TV** .
Turgenia latifolia (L.) HOFFM. – Greater Bur-parsley

Xanthoselinum SCHUR

Umbels very numerous, arranged in a pyramid-shaped inflorescence; umbel rays usually densely scabrous on the inside; petals white; styles 2–3 times longer than the stylopodium. – Herbaceous perennial, (50–) 80–180 cm tall. – Shibljak edges, rocky slopes, railway embankments. – IV–XI. – s**TT**, rBE, r**TS**, s**GT**, s**WK**, s**II**, s**GV**, s**SI**, rIVÖ .....
Xanthoselinum alsaticum (L.) SCHUR **subsp. *venetum*** (SPRENG.) REDURON, CHARPIN & PIMENOV
– Southern Masterwort
(*Peucedanum venetum* (SPRENG.) W.D.J.KOCH)

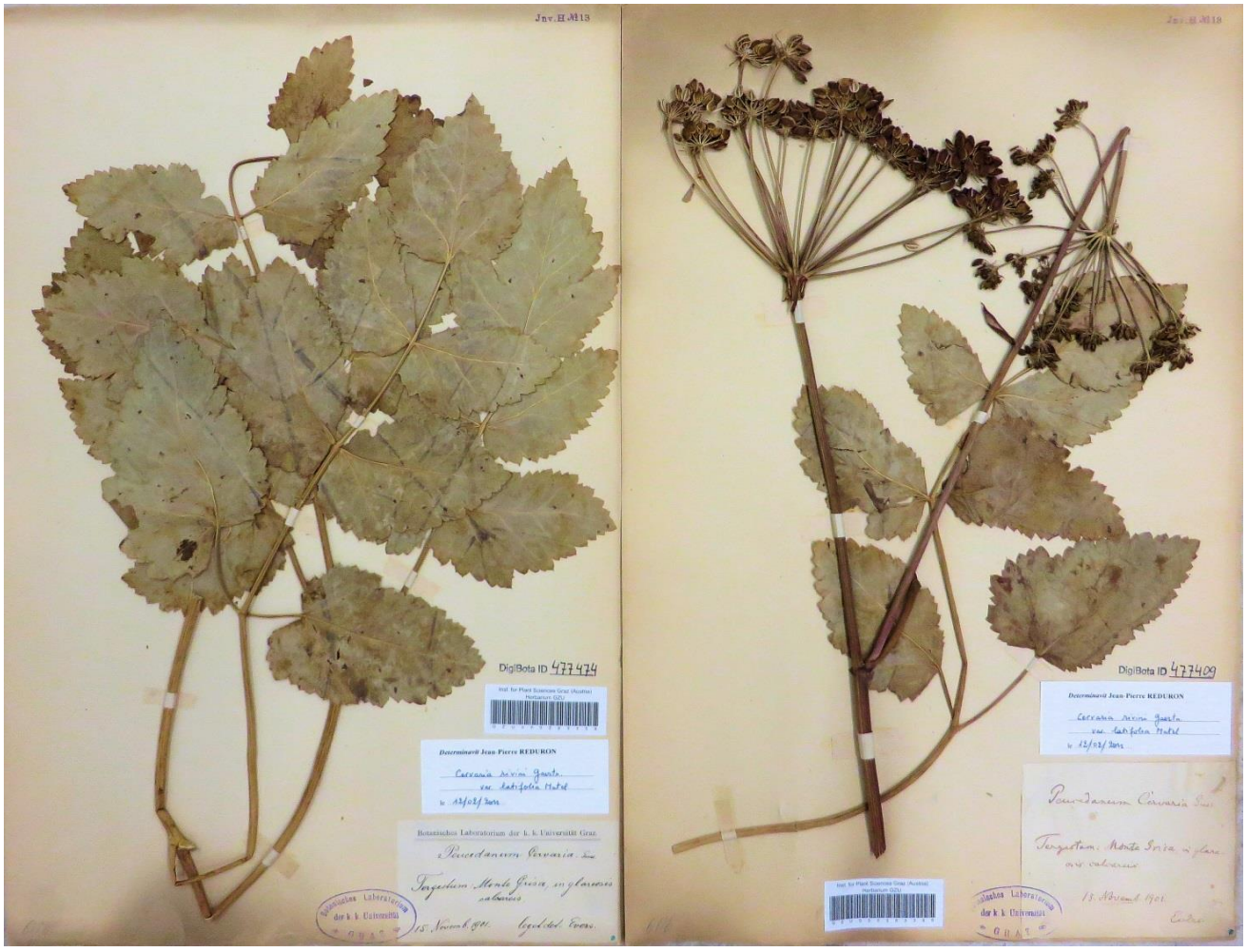


Fig. 3: *Cervaria rivini* GAERTN. var. *latifolia* MUTEL, new for Istria und Croatia!

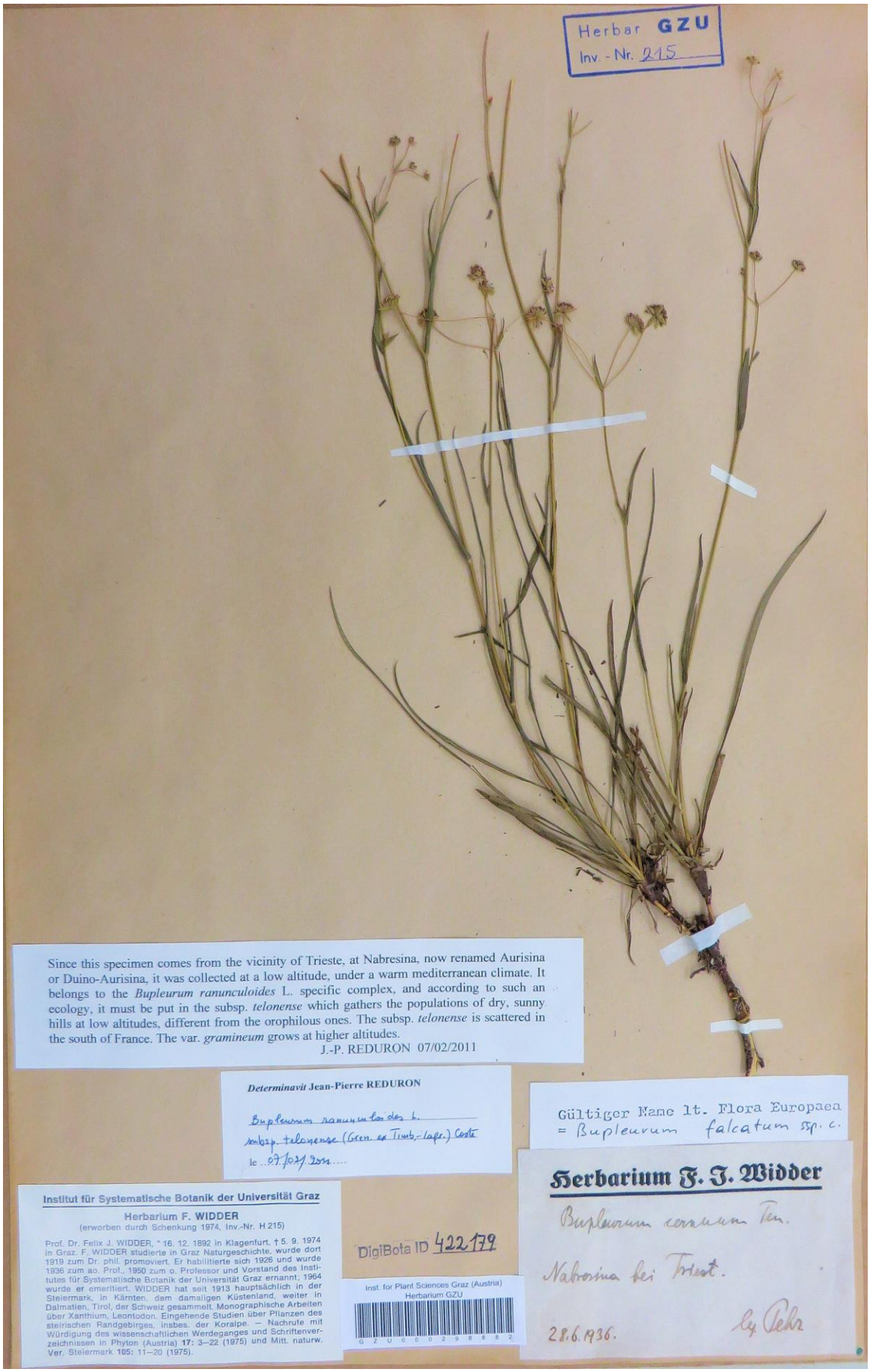


Fig. 4: *Bupleurum ranunculoides* L. subsp. *telonense* (GREN. EX TIMB.-LAGR.) COSTE, new for Istria and Italy!

3. Specimina visa ex GZU

***Aegopodium podagraria* Linnaeus:** Fiume, Scoglietto; 06.1882; leg. Vončina (GZU-112420).- Slowenien, Istrien, Notranja Istra/Istria interna/Inner-Istrien, E Koper/ Capodistria/Gavers, etwa 0,7 km SE Kortine, am linken Ufer der Rižana/Risana, N 45° 31,94', E 13°52,35', 120 m alt.; Waldrand; 25.05.2003; leg. W. Starmühler (GZU-285140).

***Ammi majus* Linnaeus:** Fiume; s.d.; Herb. Huber & Dietl (GZU-118108).- Flora von Istrien, Pola, Wege im See-Arsenal; 02.07.1891; leg. K. Untchj (GZU-283210).- Suedistrien, Pola, grasige Rampe vor[?] dem Staatsgymnasium im Viale Carrara; 20.06.1916; leg. Vončina (GZU-112063).- Südistrien, Pola, an der Rampe beim Staatsgymnasium im Viale Carrara; 20.06.1916; leg. Vončina (GZU-283179).- Südistrien, Pola, an der Rampe beim Staatsgymnasium im … [Viale Carrara]; 20.06.1916; leg. Vončina (GZU-283209).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SE Poreč/Parenzo, bei Valkarin/Valcarino, 70 m alt.; Terra rossa, feuchte Straßenböschung; 13.06.2003; leg. P. Vergörer (GZU-285108).

***Ammoides pusilla* (F. de A.Brotero) M.A.F.Breistroffer:** In Süd-Istrien; auf Äkkern; s.d.; Herb. Huber & Dietl (GZU-118118).- Pola; s.d.; leg. Pelikan (GZU-298800).- Istrien, Pola; 06.06.; s.n. (GZU-298912, GZU-298974).- Istrien, sonnige Hügel um Pola, Kalk, 30 m; 26.06.1874; leg. J. Freyn (GZU-298972).- Pola; 31.08.1882; Herb. K. Fritsch (GZU-298971).- Istrien, Pola, Grasplätze bei Veruda; 06.1898; leg. K. Untchj (GZU-298911).- Pola, Istrien, auf Grasplätzen gemein; 22.07.1898; leg. K. Untchj (GZU-298942, GZU-298973).- Pola; 05.19??; s.n. (GZU-298797).- Pola; 04.07.[19]02; leg. J. Schwarz (GZU-298913, GZU-298918, GZU-298943).- Pola; 06.07.1917; leg. B. Schellauf (GZU-298941).- Pola; 22.06.1918; leg. B. Schellauf (GZU-298948).- Flora istriaca, Pula, Rabac, ruderal beim Campingplatz; 02.09.1964; leg. F. Höpflinger (GZU-298734).- Kroatien, Istrien (Istria, Istra), West-Küste (Costa occidentale, Zapadna obala), NE Parenzo (Poreč), Vranich (Vranići), 200 m alt.; Trockenrasen, Kalk; 06.1994; leg. P. Vergörer (GZU-232641).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole; Wegrand, Terra rossa; 06.06.2002; leg. P. Vergörer (GZU-238681).- Kroatien, Istrien, Južna Istra/Istria meridionale/Süd-Istrien, S Pula/Pola, im Amphitheater, N 44°52,31', E 13°51,17', 30 m alt.; Trockenrasen; 07.08.2004; leg. M. Münch, U. & W. Starmühler (GZU-285139).- Kroatien, Istrien, Zapadna obala/Costa occidentale/ West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel „Diamant" nahe dem Tennisplatz, 20 m alt.; mehrjährige Brache, Terra rossa; 26.09.2004; leg. P. Vergörer (GZU-285109).

***Anthriscus cerefolium* (Linnaeus) G.F.Hoffmann var. *cerefolium*:** Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, Pazin/Pisino/Mitterburg, N 45°14', E 13°56', am Weg von der Mitterburg in die Foiba-Schlucht, etwa 240 m alt.; lichter Laubwald; 07.05.2005; leg. W. Mucher sen., U. & W. Starmühler (GZU-285131).

***Anthriscus sylvestris* (Linnaeus) G.F.Hoffmann:** Flora von Istrien, Pola, Sumpfgräben, Prato grande; 20.05.1893[?]; leg. K. Untchj (GZU-298745).- Pola, Hecken des Prato grande; 24.05.1908; leg. Vončina (GZU-116934).

***Anthriscus sylvestris* (Linnaeus) G.F.Hoffmann subsp. *fumarioides* (F. de P.A. von Waldstein & P.Kitaibel) K.Spalik:** Monte Maggiore, Istrien; s.d.; Herb. Huber & Dietl (GZU-120197).- Fiume; s.d.; leg Noë (GZU-298741).- In monte Slavnik pr. Tergestum; 07.1880; leg. T. Pichler (GZU-298742, GZU-118758).- Istria, Monte Planik et Monte Maggiore, in silvis; 06.06. et 04.08.1898; leg. Evers (GZU-298712, GZU-298743).- Flora von Istrien, Pola, Bergwälder Monte Maggiore; 22.05.1899; leg. K. Untchj (GZU-298713).- Monte Maggiore; 05.1916; leg. Vončina (GZU-112053).- Jugoslawien, Istrien, auf der Učka (Monte Maggiore) in einem Gehölz bei etwa 1100 m; 19.05.1986; leg. Melzer (GZU-298744).- Kroatien, Istrien (Istria, Istra), Tschitschenboden (Cicceria, Ćićarija), NE Pin-

guente (Buzet), S-Hang vom M. Sbeunizza (Žbevnica), N 45°27,30', E 14°01,69', 850 m alt.; *Pinus*-Wald mit *Fraxinus*, *Ostrya* und *Sorbus*; 05.06.1998; leg. W. Starmühler (GZU-232642).

***Anthriscus sylvestris* (Linnaeus) G.F.Hoffmann subsp. *nemorosa* (Marschall von Bieberstein) B.M.Koso-Poljanski:** Istrien, Sbevnica b. Rakitović; schattige steinige Orte; 06.[1]914; leg. Arbesser (GZU-027088). **!!New for Istria!!**

***Anthriscus sylvestris* (Linnaeus) G.F.Hoffmann subsp. *sylvestris*:** Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, Pazin/Pisino/Mitterburg, N 45°14', E 13° 56', bei der Mitterburg, etwa 260 m alt.; 07.05.2005; leg. W. Mucher sen., U. & W. Starmühler (GZU-285138).

***Apium graveolens* Linnaeus var. *graveolens*:** Kroatien, Istrien, Insel Susak/Sansego, beim Leuchtturm auf dem Berg Garba/M. Garbe, N 44°30,84', E 14°18,12', 85 m alt.; *Arundo donax*-Gebüsch; 21.06.2003; leg. W. Mucher sen., U. & W. Starmühler (GZU-285137).

***Athamanta cretensis* Linnaeus:** Croatien, auf den Karstbergen bei Fiume; 06.1880; leg. T. Pichler (GZU-117490). **!!New for Istria!!**

***Athamanta turbith* (Linnaeus) F. de A.Brotero:** Peter Sintenis: Iter in Istria 1881, Mt. Maggiore, Felsen gegen Mala Utzka; 21.09.1881; leg. A. Toepffer (GZU-117491, GZU-117492).- Istria, Lupoglava, in fissuris rupium calcar. ad castellum Mahrenfels; 06.06.1898; leg. Evers (GZU-283174, GZU-283175, GZU-283204, GZU-283205).- Istria, Monte Maggiore, in rupib. calcareis cacuminis orientalis; 02.08.1899; leg. Evers (GZU-283172, GZU-283203).- Istrien, Umgebung v. Rakitocić; Felsen; 06.[1]914; leg. Arbesser (GZU-027209).- Slowenien, Istrien (Istria, Istra), Tschitschenboden (Cicceria, Čičarija), SSE Cosina (Kozina), Slaunig (M. Taiano, Slavnik), W-Hang der Grmada, 985 m alt.; Gebüschsaum; 04.09.1999; leg. V. Mikoláš & W. Starmühler (GZU-232643).- Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, NNE Buzet/Pinguente, SW-Hang des Berges Žbevnica/M. Sbeunizza, N 45°27,432', E 14°00,990', 937 m alt.; Karstheide; 21.05.2011; leg. V. Mikoláš, W. Mucher sen. & W. Starmühler (GZU-316269).

***Berula erecta* (W.Hudson) F.V.Coville:** Triest, nasse Gräben bei Strugnano; 08.1912; leg. Vončina (GZU-116902, GZU-116903).- Slowenien, Istrien, Tržaški zaliv/ Golfo di Trieste/Golf von Triest, Strunjan/Strugnano, beim Hotel "Krka", 1 m alt.; Flysch, Wassergraben; 27.03.2003; leg. P. Vergörer (GZU-285136).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, N Barban/Barbana, am rechten Ufer der Raša/Arsa etwa 3 km NNW von Most-Raša/Arsa-Brücke, N 45°04,96', E 14°01,45', 20 m alt.; Wassergraben; 07.08.2004; leg. M. Münch, U. & W. Starmühler (GZU-285130).

***Bifora radians* Marschall von Bieberstein:** Fiume; 06.1858; Herb. J. Kerner (GZU-119725).- Sušak, Villa Budan; 04.05.1903; leg. Vončina (GZU-116899).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Novigrad/Cittanova/Neuenburg, an der Straße von Nova Vas/Villanova nach S nach Srbani/Serbani, N 45°21'09,48", E 13° 38'23,04", 106 m alt.; *Avena sativa*-Feld; 05.06.2011; leg. K. Zernig & W. Starmühler (GZU-316241).

***Bifora testiculata* (Linnaeus) C.P.J.Sprengel:** Pola – Kaiserwald; 23.05.1887; Herb. K. Fritsch (GZU-283208).- Pola; 1891; Herb. F. Krašan (GZU-283207).- Flora von Istrien, Pola, Aecker unter Casonivecchi; 19.06.1891; leg. K. Untchj (GZU-283178).- Istrien, Pola, Getreideacker an der Fasanastraße; 06.1895; leg. Vončina (GZU-116897).

***Bunium alpinum* F. de P.A. von Waldstein & P.Kitaibel subsp. *montanum* (W.D.J.Koch) P.W.Ball:** Flora exsiccata Austro-Hungarica 1347. Istria, in saxosis montis Majoris, solo calc., 1000-1200$^{mt.}$ s. m. (locus classicus); s.d.; leg. Marchesetti (GZU-283206).- Monte Ossero; 21.05.1887; Herb. K. Fritsch (GZU-283177).- Istrien, auf bewachsenen Schutthalden an den Abhängen des Knezgrad ober Lovrana; 26.05.1928; leg. F.J. Widder (GZU-283176).- Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel

Vögls, W Baška/Bescanuova, am Weg vom Berg Veli Gradac/M. Gabri nach Batomalj, N 44°57,891', E 14°43,833', 208 m alt.; Felstrift; 30.04.2007; leg. W. Mucher sen. & W. Starmühler (GZU-303250).- Kroatien, Istrien, Quarner Bucht, otok Cres/isola Cherso/Insel Kherscher, ESE Cres/Cherso/Kherscher, am Weg vom Berg Garbujev/Gherbuie nach Loznati/Losnati, N 44°56,325', E 14°26,412', 256 m alt.; Trockenrasen; 22.05.2009; leg. E. Schalk & W. Starmühler (GZU-303249).

***Bunium bulbocastanum* Linnaeus:** Kroatien, Istrien (Istria, Istra), Golf von St. Veit (Golfo di Fiume, Riječki zaljev), NE Albona (Labin), SE Fianona (Plomin), SE-Hang des M. Versak, N 45°07,34', E 14°12,30', 210-230 m alt.; Garigue; 10.05.1997; leg. W. Starmühler (GZU-232644).

***Bupleurum falcatum* Linnaeus:** Slowenien, Istrien, Čičarija/Cicceria/Tschitschenboden, S Obrov/Obrovo Santa Marina/Obrou, Gipfelregion des Žabnik/M. Sabni/Schabnig, N 45°28,92', E 14°05,49', 1020 m alt.; Karstheide; 13.08.2002; leg. U. & W. Starmühler (GZU-238742).

***Bupleurum falcatum* Linnaeus subsp. *cernuum* (M.Tenore) G.Arcangeli:** Vom Slavnikberge; s.d.; leg. Tommasini (GZU-118069).- In monte Schabnik Istriae; s.d.; Herb. D.H. Hoppe (GZU-065049).- In m$^{\underline{te}}$ Slavnik ad Matteria; 07.1880; leg. T. Pichler (GZU, GZU-118951).- Flora von Istrien, Monte Slavnik; 24.06.1894; leg. K. Untchj (GZU-298852).- Istrien, Slaunig; Wiesen; 09.06.1912; leg. Vončina (GZU-116880).- Istrien, Sbevnica b. Rakitović; Bergwiesen; 06.[1]914; leg. Arbesser (GZU-027068).- Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, NE Buzet/Pinguente, E-Hang der Žbevnica/M. Sbeunizza, N 45°27,44', E 14°01,36', 960 m alt.; Karstheide; 29.06.2003; leg. M. Münch & W. Starmühler (GZU-285132).

***Bupleurum falcatum* Linnaeus subsp. *falcatum* var. *angustifolium* H.Lecoq & M.Lamotte:** Slowenien, Istrien, Čičarija/Cicceria/Tschitschenboden, S Kozina/Cosina, SW Podgorje/Piedimonte del Taiano, am Weg zum Berg Kojnik/M. Cavallo, 455 m alt.; Karstheide; 09.06.2004; leg. H.P. Meister, U. & W. Starmühler (GZU-285146).

***Bupleurum praealtum* Linnaeus:** Trockene Orte bei Cattinara nächst Triest; 06., 07.; leg. M. Prihoda (GZU-298774).- Am Wege nach Tersato bei Fiume selten; 17.08. 1879; leg. Fritsch iun. (GZU-298805).- Fiume, Volksgarten; 24.06.[18]80; leg. Vončina (GZU-116878).- Fiume; an Hecken; 29.07.1881; leg. K. Untchj (GZU-118964).- Istria, Abbazia, in dumet. marginibus locis saxos. ad viam „Reichsstraße" inter Abbazia et Lovrana; 23. u. 24.09.1897; leg. Evers (GZU-298739, GZU-298769).- Istria, Abbazia, in locis saxosis; 21.07.1898; leg. Evers (GZU-298775, GZU-298808).- Fiume, in locis saxosis ad margines dumetorum in confinibus Croatiae et Istriae ad Cantride; 15.08.1898; leg. Evers (GZU-298799, GZU-298821).- Flora von Istrien, Pola, Macchien bei Val di Becka; 10.08. 1900; leg. K. Untchj (GZU-298778, GZU-298809).- Cherso; 25.09.[19]03; leg. M. Heider (GZU-298779).- Bei Lovrana; 26.09.[19]03; leg. M. Heider (GZU-298810).- Istrien, Umgebung von Pola; buschige Orte; 08.[1]905; leg. Arbesser (GZU-027066).- Auf Kalk bei Borst, Istrien; 08.1908; leg. F. Stolba (GZU-298780).- Sistiana b. Triest; 07.1910; leg. E. Diettrich-Kalkhoff (GZU-298891).- Napoleonstrasse; 09.1910; Herb. F. Stolba (GZU-298861).- Österreich, Küstenland, Sossich; 17.07.[19]15; leg. Litschauer (GZU-298831, GZU-298892).- Flora italica, Trieste, trockene Wälder bei Sistiana; 25.07.1953; leg. Höpflinger (GZU-151048).- Flora italica, Trieste, Napoleonsweg, steinige Wiesen und Hänge in etwa 250 m; 18.07.1953; leg. Höpflinger (GZU-022519).- Flora istriaca, Opatija, erdige Hänge an der Straße bei Moscenicka Draga; 29.08.1964; leg. Höpflinger (GZU-298862).- Kostrena, Jugosl.; Karstwiese; 11.09.[19]65; s.n. (GZU-145527).- Jugoslawien, Istrien, nördlich Novigrad in Dajla im Gebüsch an der Straße; 23.07.1989; leg. Melzer (GZU-298832).- Slovenija, Istra, in graminosis fruticosis prope vicum Gračišče, solo calc. 300 m s. m., 0449/3; 06.09.1992; leg. T. Wraber (GZU-236323).- Kroatien, Istrien (Istria, Istra), West-Küste (Costa occidentale, Zapadna obala), E Orsera (Vrsar), an der Straße

zwischen Flengi und Geroldia (Gradina), N 45°09,73', E 13°41,08', 145 m alt.; Trockenrasen; 24.07.1999; leg. W. Starmühler (GZU-232645).- Kroatien, Istrien, Riječki zaljev/ Golfo di Fiume/Golf von St. Veit, SSW Opatija/Abbazia, 0,4 km N Brseč/Bersezio del Carnaro/Warschetsch, N 45°11,25', E 14°14,02', 155 m alt.; Schibliaksaum; 08.08.2004; leg. M. Münch, U. & W. Starmühler (GZU-285147).- Kroatien, Istrien, Riječki zaljev/Golfo di Fiume/Golf von St. Veit, SSE Labin/Albona, am Weg von Gondolić/Danzabella nach Labin/Albona, N 45°03,828', E 14°08,469', 200 m alt.; Trockenrasen; 09.08.2004; leg. M. Münch & W. Starmühler (GZU-285149).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/ Inner-Istrien, W Pazin/Pisino/Mitterburg, Tinjan/Antignano, N 45°13,213', E 13°50,193', 325 m alt.; Ruderal am Straßenrand; 12.08.2004; leg. M. Münch & W. Starmühler (GZU-285148).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel „Rubin", 25 m alt.; Schibliaksaum, Terra rossa; 26.09.2004; leg. P. Vergörer (GZU-285151).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SE Rovinj/Rovigno/Rofein, Naturschutzgebiet Palud/Palù, am Weg entlang vom Südufer des Sees; 5 m alt.; Macchiensaum; 03.10.2004; leg. W. Starmühler & P. Vergörer (GZU-285152).- Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel Vögls, am Weg von Njivice zum N-Ufer vom Omišaljskog jezero/Castelmuschio-See, N 45°10,431', E 14°33,110', 18 m alt.; Schibliaksaum; 16.07.2006; leg. W. Mucher sen., H. & W. Starmühler (GZU-303247).- Slowenien, Istrien, Čičarija/Cicceria/ Tschitschenboden, S Kozina/Cosina, NE Rakitovec/Aquaviva dei Vena, SW-Hang zwischen dem Berg Lipnik/M. dei Tigli und dem Berg Kavčič/M. Caucizze, N 45°28,258', E 13°58,434', 633 m alt.; Gebüschsaum; 11.08.2007; leg. U. & W. Starmühler (GZU-303246).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo, entlang der Eisenbahnstrecke, N 45°22'45,29", E 14°04'31,24", 389 m alt.; Bahnböschung; 02.07.2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316270).

***Bupleurum ranunculoides* Linnaeus subsp. *telonense* (J.C.M.Grenier ex P.M. E.Timbal-Lagrave) J.F.Coste:** Nabresina bei Triest; 28.06.1936; leg. Pehr (GZU-298882). **!!New for Istria and Italy!!**

***Bupleurum rotundifolium* Linnaeus:** Pflanzen aus dem Karst bei Triest; s.d.; leg. V. Stephanides (GZU-125029).- Fiume; unter der Saat; 06.1885; leg. Vončina (GZU-116857).- Sanvincenti; 03.06.[19]16; leg. Litschauer (GZU-298823).

***Bupleurum subovatum* J.H.F.Link ex C.P.J.Sprengel:** In agris tergestinis; s.d.; Herb. D.H. Hoppe (GZU-065051).- Fiume, unter Saaten; s.d.; leg. Rigler (GZU-298720).- Pola, am Meeresufer, Weg zum Amphitheater; s.d.; Herb. J. Kerner (GZU-115919).- Istrien, Pola; 03.05.1948; leg. Schambach (GZU-122085).- Pola, Felder am Weg zum Kaiserwald; 23.05.1887; Herb. K. Fritsch (GZU-298801).- Istrien, Pola, Brioni maggiore; 05.1890; leg. Vončina (GZU-116870).- Flora von Istrien, Pola, Brachäcker bei Fisella; 18.06.1895; leg. K. Untchj (GZU-298771).- Fiume, ad viam Voloscaensem; 09.07.1898; leg. Evers (GZU-298773).- Istria, Cantride, in locis incultis; 06.1899; leg. Evers (GZU-298806).- Istria, Cantride, in locis incultis; 28.06.1899; leg. Evers (GZU-298776, GZU-298803).- Istrien, Dignano; an sonnigen Stellen sehr häufig; 05.1918; leg. F. Fischer (GZU-298807).- Pola; 25.06.1918; leg. B. Schellauf (GZU-298777).- Brachäcker in Lussin am Kirchenberge; 06.1935; Herb. F. Stippl (GZU-298804).- Flora italica, Triest, Muggia, Acker nahe der Volksschule von Chiampore in etwa 180 m; 15.07.1953; leg. Höpflinger (GZU-022505).- Flora italica, Triest, Muggia, Acker nächst der Schule von Chiampore; 15.07.1953; leg. Höpflinger (GZU151061).- Rovinj, Istrien; 04.06.[19]65; leg. G. Heinrich (GZU-218828).

***Bupleurum tenuissimum* Linnaeus:** Flora von Istrien, Brachacker bei Veruda; 27.09.1893; leg. K. Untchj (GZU-298853, GZU-298883).- Slovenija, Istra, Strunjan, in arenosis graminosis subsalsis in vicinitate agri salinarii, 2 m s. m., 0447/4; 17.09.1982; leg.

T. Wraber (GZU-236322).- Slowenien, Istrien (Istria, Istra), Golf von Triest (Golfo di Trieste, Tržaški zaliv), E Gavers (Capodistria, Koper), WNW Bertocchi (Bertoki), N 45°33,11', E 13°55,70', 5 m alt.; Halophytenflur; 21.10.2000; leg. W. Starmühler (GZU-238675).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Zelena Laguna/Val Sessola, 1 m alt.; Halophytenflur mit *Atriplex halimifolium*, *Aster tripolium*, *Suaeda maritima* u.a., Meeresschlick; 02.10.2004; leg. W. Starmühler & P. Vergörer (GZU-285153).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, 2 m alt.; Marsch; 03.10.2004; leg. W. Starmühler & P. Vergörer (GZU-285163).

***Bupleurum veronense* A.Turra:** Flora exsiccata Austro-Hungarica 122. In ditione Illyrico-litorali, in collibus apricis ad Tergestum; s.d.; leg. Pichler (GZU-298762, GZU-298792).- Flora exsiccata Austro-Hungarica 3686. Litorale austriacum, frequens in graminosis Opčinae ad Tergestum, solo calcareo nummulitico, 350 m. s. m.; s.d.; leg. Marchesetti (GZU-298940).- Pola; s.d.; leg. B. Schellauf (GZU-298975).- Lussinpiccolo; s.d.; leg. Noë (GZU-298945, GZU-298970).- An sonnigen, steinigen Hügeln um Triest; 05., 06.; leg. M. Prihoda (GZU-298761).- Steinige Orte um Triest; 06., 07.; leg. M. Prihoda (GZU-298914).- Pola; 13.06.; Herb. F. Krašan (GZU-298976).- Istr., Lipizza bei Triest; [18]47; leg. Keil (GZU-298915).- Istrien, Triest, am Karst; 12.06.1865; leg. M. Hiendlmayr (GZU-298947).- Triest, in der Nähe von Optschina auf Karstfelsen häufig; 10.08.1879; leg. Fritsch iun. (GZU-298731).- Fiume; auf Felsen; 15.07.1881; leg. K. Untchj (GZU-118901).- Auf Felsen, Fiume; 20.07.1881; leg. K. Untchj (GZU-118900).- Padric, auf dem Karste; 08.1881; leg. ... (GZU-118959).- Straße zwischen Borst u. Bollimitz bei Triest; 18.06. [18]82; leg. Kammerer (GZU-298763).- Fiume – Martinšcica; 02.07.[18]84; leg. Vončina (GZU-116889).- Flora von Triest, Napoleonstrasse bei Contovello; 07.1893; leg. C. Steurer (GZU-118205).- Istrien, grasige Hügel bei Pola, 2-170 m; 17.06.1897; leg. K. Untchj (GZU-299000).- Istria, Abbazia; in locis lapidosis; 26.08.1897; leg. Evers (GZU-298917, GZU-198978).- Bei Kostrena (Fiume); 24.09.[19]03; s.n. (GZU-298733).- Istrien, Umgebung von Pola; sonnige, steinige Hügel; 08.[1]905; leg. Arbesser (GZU-027075).- Herpelje (auf der Fahrt nach Pola); 16.06.1906; s.n. (GZU-134070).- Küstenland, Borst; 02.07.1906; leg. K. Fritsch (GZU-298791, GZU-298910).- Croatia, Tersatto bei Fiume; 08.1906; leg. M. Heider (GZU-298944).- Bei Station Herp. Košina; 22.08.1909; s.n. (GZU-134072).- B. Opcina; 12.09.1909; s.n. (GZU-134071).- Istrien; 1910; leg. I. Stussiner (GZU-298977).- Bei Herpelje, Kalk, 480 m; 28.06.1911; leg. F. Stolba (GZU-298916, GZU-298946).- Triest, Opcina; auf Grasplätzen häufig; 07.1911; leg. Vončina (GZU-116888).- Istrien, Porto Quieto, Punta del Dente; 07.1914; leg. Vončina (GZU-116891).- Istrien, Medveja b. Lovrana; sonnige, steinige Orte; 07.[1]916; leg. Arbesser (GZU-027076).- Italien, Triest, Wiesen am Mt. Spaccato, ca 400 m; 31.07.1953; leg. Höpflinger (GZU-151054).- Istrien, Ucka, Tal bei Draga Moscenitza; 05.08.1955; leg. W. Möschl (GZU-298732).- Italien, Umgebung von Triest, Karst, Val Rosandra; Felsheide; 16.07.1985; leg. S. Pignatti & J. Poelt (GZU-298735).- Jugoslawien, Kroatien, Insel Krk, Camping Pušća nördlich von Omišalj, 0-30 m; 26.07.1985; leg. M. & H. Mayrhofer (GZU-298793).- Slowenien, Istrien (Istria, Istra), Tschitschenboden (Cicceria, Čičarija), N Pinguente (Buzet), SE Rachitovich (Rakitovec), S-Hang des M. Kavčić, N 45°27,48', E 13°59,38', 685 m alt.; Trockenrasen; 19.08.1999; leg. W. Starmühler (GZU-232646).- Kroatien, Istrien, Süd-Istrien (Istria meridionale, Južna Istra), SSE Pola (Pula), am Weg von Promontore (Premantura) zum Kap Promontore (Rt Kamenjak), N 44°46,60', E 13°55,10', 30 m alt.; Garigue; 07.07.2000; leg. U. & W. Starmühler (GZU-285170).- Kroatien, Istrien, Insel Ilovik/Asinello, S Ilovik/S. Pietro dei Nembi, am Weg vom Did/M. Nono zur Paržine-/Parsine-Bucht, 40 m alt.; Olivenhain; 18.05.2001; leg. H.P. Meister, C. Michaelis & W. Starmühler (GZU).- Kroatien, Istrien, Insel Krk/Veglia/Vögls, SW-Ortsrand von Baška/Bescanuova, N 44°57,50', E 14°44,82', 45 m alt.; *Pinus nigra*-Waldrand; 14.06.2001; leg. U. & W. Starmühler (GZU-285169).-

Kroatien, Istrien, Insel Krk/Veglia/Vögls, NW Baška/Bescanuova, am Weg von Draga Bašćanska/Val Bescanuova zum M. Obzova, 115 m alt.; Steintrift; 14.06.2002; leg. U. & W. Starmühler (GZU-286201).- Kroatien, Istrien, Insel Lošinj/Lussino, Lussin, am Weg von Nerezine/Neresine auf den Berg Osoršćica/M. Ossero, 145 m alt.; Macchiensaum; 20.06.2003; leg. U. & W. Starmühler (GZU-285164).- Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel Vögls, NE Omišalj/Castelmuschio, Halbinsel Lanterna, am Weg von Voz/Vos nach SSE zum Hügel Bejavec, N 45°14,021', E 14°35,185', 39 m alt.; lückiger Trockenrasen; 16.07.2006; leg. U. & W. Starmühler (GZU-303245).- Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel Vögls, SE Omišalj/Castelmuschio, NW der Zaljev Soline/Valle Meline/Saline-Bucht, an der Straße von Rudine/Rudina nach Čižići, N 45°10,249', E 14°36,388', 11 m alt.; Trockenrasen; 17.07.2006; leg. U. & W. Starmühler (GZU-303248).

***Carum carvi* Linnaeus:** Flora von Istrien, Bergwälder, Monte Maggiore; 30.06. 1901; leg. K. Untchj (GZU-298902).- Istrien, Waldlichtungen des Slaunig; 09.06.1912; leg. Vončina (GZU-116857).- Kroatien, Istrien, Zaledje Rijeke/Entroterra di Fiume/Hinterland von St. Veit, SSW Klana/Clana/Klan, NE-Ortsrand von Studena, N 45°25,83', E 14°23,49', 570 m alt.; Mähwiese; 01.05.2001; leg. W. Starmühler (GZU-236947).- Slowenien, Istrien, Brkini/Berchinia/Berkin, zwischen Ilirska Bistrica/Villa del Nevoso/Illyrisch Feistritz und Podgrad/Castelnuovo/Neuhaus, etwa 1,5 km SW Harje, N 45°32,791', E 14°11,243', 440 m alt.; Wegrand; 31.05.2005; leg. W. Starmühler (GZU-285165).

***Caucalis platycarpos* Linnaeus:** Pola; 24.05.1887; Herb. K. Fritsch (GZU-298961).- Pola, Fasana; 24.06.[18]89; Herb. F. Krašan (GZU-298813, GZU-298880).- Istrien, Pola, Brioni maggiore; 06.1891; leg. Vončina (GZU-116855).- Flora von Istrien, Pola, wüste Plätze bei Punta Aguzzo; 26.05.1895; leg. K. Untchj (GZU-298991).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel „Diamant", 30 m alt., Brache, Terra rossa; 14.05.2004; leg. P. Vergörer (GZU-285166).

***Cervaria rivini* J.Gaertner:** Fiume, Felsenabhänge an der Fiumera; 09.1870; leg. M. Jabornegg (GZU-298867).- Istria, Abbazia, in dumetis rupestribus littoris; 23.09.1897; leg. Evers (GZU-283357, GZU-283358, GZU-283388).- Istria, Sistiana; 28.08.1904; leg. M. Heider (GZU-283387).- Triest, Abhänge des Monte Spaccato gegen S. Giovanni; 08.1912; leg. Vončina (GZU-116671).- Slowenien, Istrien, Zaledje Reke/Entroterra di Fiume/Hinterland von St. Veit, SE Ilirska Bistrica/Illyrisch Feistritz, an der Straße von Zabiče/Castelvecchio/Guttenegg nach Gomance/Jagdhaus Hermsburg, SW-Hang des Goljak, N 45° 30,47', E 14°23,52', 930 m alt.; Waldrand; 12.08.2002; leg. U. & W. Starmühler (GZU-238747).- Kroatien, Istrien, Učka gora/Territorio del Monte Maggiore/Gebiet des Monte Maggiore, N Plomin/Fianona, an der Straße von der Kirche Sv. Juraj/S. Giorgio/Hl. Georg nach Katun/Cattuni, N 45°10,91', E 14°11,04', 90 m alt.; Ruderal am Straßenrand; 04.09. 2003; leg. U. & W. Starmühler (GZU-285167).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, NE Buje/Buie, etwa 1 km SW Momjan/Momiano/Momlan, N 45° 26,066', E 13°42,264', 280 m alt.; Straßenrand; 18.10.2009; leg. E. Schalk & W. Starmühler (GZU-303244).- Slowenien, Istrien, Čičarija/Cicceria/Tschitschenboden, S Kozina/ Cosina, am Weg von Rakitovec/Aquaviva dei Vena nach SE zur kroatischen Grenze, N 45°27,690', E 13°58,888', 578 m alt.; Schotterwegrand; 25.09.2010; leg. V. Mikoláš & W. Starmühler (GZU-316245).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo, entlang der Eisenbahnstrecke, N 45°22'49,72", E 14°04'28,75", 385 m alt.; Fels; 02.07.2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316244).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/ Inner-Istrien, SE Buzet/Pinguente, S Roč/Rozzo/Rotz, an der Straße nach Hum/Colmo/ Cholm, ESE Benčići, N 45°21'03,61", E 14°02'42,75", 291 m alt.; steiniger Trockenrasen; 30.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316246).- Kroatien, Istrien,

Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Poreč/Parenzo, an der Straße von Gedići/ Ghedda nach Nova vas/Villanova, 110 m alt.; Straßenrand, Terra rossa; 26.09.2011; leg. P. Vergörer (GZU-316243).

***Cervaria rivini* J.Gaertner var. *latifolia* P.A.V.Mutel:** Istria, Abbazia, in dumetis rupestribus littoris; 23.09.1897; leg. Evers (GZU-283357, GZU-283358).- Tergestum, Monte Grisa, in glareosis calcareis; 15.11.1901; leg. Evers (GZU-283359, GZU-283389). **!!New for Istria and Croatia!!**

***Chaerophyllum aureum* Linnaeus:** Flora von Istrien, Mala Uzca – Monte Maggiore; 04.07.1880; leg. K. Untchj (GZU-298849).- Kroatien, Istrien, Zaledje Rijeke/Entroterra di Fiume/Hinterland von St. Veit, 0,1 km S Rupa/Ruppa, N 45°28,06', E 14°17,11', 450 m alt.; Karstheide; 29.05.2002; leg. U. & W. Starmühler (GZU-238680).- Kroatien, Istrien, Brkini/Berchinia/Berkin, SE Podgrad/Castelnuovo d'Istria/Neuhaus, etwa 0,6 km SE Pasjak/Passiaco, N 45°28,91', E 14°14,64', 465 m alt.; Karstheide; 28.05.2003; leg. W. Starmühler (GZU-285168).- Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, SW Male Mune/Mune Piccolo/Klein-Mune, N-Fuß des Berges Orljak/M. Aquila/Großer Adlerberg, N 45°27,181', E 14°08,762', 630 m alt.; Schutt am Wegrand; 22.05.2011; leg. V. Mikoláš, W. Mucher sen. & W. Starmühler (GZU-316242).

***Chaerophyllum nodosum* (Linnaeus) H.J.N. von Crantz [= *Myrrhoides nodosa* (Linnaeus) J.F.M.Cannon]:** Istrien, Pola; 13.05.1848; leg. Schambach (GZU-118837).- In einer Hecke bei Pola; 24.05.1887; Herb. K. Fritsch (GZU-283380).- Flora von Istrien, Pola, Hecken, Prato grande; 18.05.1896; leg. K. Untchj (GZU-283349).- Istria, Pola, in dumetis ad Stignano; 05.06.1898; leg. Evers (GZU-283350).- Flora von Istrien, Pola, Macchien bei Veruda; 30.03.1903; leg. K. Untchj (GZU-298995).- Istrien, Pola, Hecken im Prato grande; 22.05.1906; leg. K. Untchj (GZU-283352, GZU-283381).- Österreich, Küstenland, Arsatal; 17.05.[19]16; leg. Litschauer (GZU-283351).

***Chaerophyllum temulum* Linnaeus:** Fiume; 05.1886; leg. Vončina (GZU-116888).- Pola, nahe dem Rande der „Foibe"; 23.05.1887; Herb. K. Fritsch (GZU-298879).- Istrien, in Gebüschen oberhalb Volosca häufig; 25.05.1928; leg. F.J. Widder (GZU-298818).

***Conium maculatum* Linnaeus:** Istrien, Foibe von Pisino; 07.1912; leg. Vončina (GZU-116830).

***Coriandrum sativum* Linnaeus:** Tergestum, Barcola, in campo ferroviae meridionalis; 27.05.1902; leg. Evers (GZU-298848, GZU-298878).- Triest, Porto nuovo; auf Schutt; 06.1912; leg. Vončina (GZU-116829).

***Coristospermum lucidum* (P.Miller) J.-P.Reduron, A.Charpin & M.G.Pimenov subsp. *seguieri* (J.N.Jacquin) J.-P.Reduron:** Flora von Istrien, Bergwiesen, Monte Maggiore; 06.1900; leg. K. Untchj (GZU-283311).- Istrien, Monte Maggiore, bei Vela Učka; 08.1905; leg. Vončina (GZU-116699).- Mitteleuropäisches Gebiet, Provinz der Alpenländer, Karst, Učka (Mt. Maggiore) in Nordostistrien, am Nordosthang in Karstwald, ca 1200 m; 07.06.1958; leg. [H.] Schaeftl[ein] (GZU-150527).

***Crithmum maritimum* Linnaeus:** An der felsigen Meeresküste von Istrien; s.d.; leg. Pelikan (GZU-298994).- Bei Triest; s.d.; s.n. (GZU-118208).- Ad littora maris adriat. pr. Tergestium; s.d.; Herb. D.H. Hoppe (GZU-065003).- Flora exsiccata Austro-Hungarica 1327. In agro Tergestino, in rupestribus ad mare; s.d.; leg. Solla (GZU-283305).- Pr. Fiume; s.d.; leg. Bilimek[?] (GZU-118211).- Fiume; s.d.; leg. Bilimek (GZU-119269).- Pola; s.d.; leg. Schellauf (GZU-283317).- Salinen von Servola bei Triest; 07.-08.; leg. M. Prihoda (GZU-283272).- Fiume, am Meeresufer; 09.09.[18]47; Herb. K. Fritsch (GZU-283273).- Meeresufer bei Triest; 10.1875; leg. Kammerer (GZU-298903).- Triest, auf Karstfelsen an der Straße nach Miramare sehr gemein (Meeresküste); 11.08.1879; leg. Fritsch iun. (GZU-283302).- Paul Sintenis: Iter in Litorale 1881, Miramar bei Triest; 08.09.[1881]; leg. A. Toepffer (GZU-117473).- Flora von Küstenland, Meeresufer bei Miramare; 09.1882; leg. V.

Engelhardt (GZU-117474).- Flora von Triest, Meeresufer bei Barcola; 19.08.[18]88; leg. V. Engelhardt (GZU-298904).- In Felsenspalten am Meeresufer bei Miramar nächst Triest; 22.05.[1]891; Herb. P. v. Troyer (GZU-283318).- Felsen am Strande von Ika bei Abbazia, Istrien; 09.1894; leg. Weisbach (GZU-283289).- Flora des österreichischen Littorale, Meeresufer an der Straße nach Miramare bei Triest; 04.08.1895; leg. V. Engelhardt (GZU-298905).- Flora von Istrien, Pola, Seestrand bei Ovina; 28.08.1895; leg. K. Untchj (GZU-298934).- Istria, Abbazia, in rupestribus littoris; 26.08.1897; leg. Evers (GZU-283287, GZU-283319).- Istria, Abbazia, in rupib. littoreis; Früchte folgen im Herbste; 07.1898; leg. Evers (GZU-283290, GZU-283304).- Flora von Istrien, am Meeresstrand bei Pirano; 08.1899; leg. V. Engelhardt (GZU-118431).- Triest, Leuchtturm gegen das Meer; 22.08. 1904; leg. F. Knoll (GZU-298963).- Istrien, Insel Brioni; steiniges Meeresufer; 08.[1]905; leg. Arbesser (GZU-027181).- Küstenland, Barcola; 26.09.1906; leg. K. Fritsch (GZU-283301).- Österreich, Küstenland, Rovigno; 10.08.[19]15; leg. Litschauer (GZU-283288).- Flora von Istrien, Pola; 09.1923; leg. G. Conrath (GZU-298993).- Nördl. Adria, bei Baška auf der Insel Krk; 07.1935; leg. A. Widder (GZU-298907).- Gefunden auf der Insel Losinj in der Bucht von Cigat am Meeresstrand; 15.04.1954; Herb. Dischendorfer (GZU-298933).- Istria, Piran (Pirano), an einer Mauer und auf einem Ruderalplatz zwischen Geröll; 28.08.1955; leg. E. Zenker (GZU-027750, GZU-027751).- Yugoslawien, Lovran bei Abbazia; 13.09.1958; leg. J. Brunner (GZU-283282).- Flora istriaca, Pula, Rabac; Felsen am Strand; 12.09.1964; leg. F. Höpflinger (GZU-298820).- Kostrena, Jugosl.; Küste; 11.09. 1965; s.n. (GZU-145522).- Jugoslawien, Kroatien, Mali Lusinj, Steilküste SW der Ortschaft, Kalk; 12.09.1979; leg. W. Wetschnig (GZU-298964).- Jugoslawien, Kroatien, Insel Krk, Camping Pušća nördlich von Omišalj, 0-30 m; 26.07.1985; leg. M. & H. Mayrhofer (GZU-298850).- Kroatien, Istrien, Bale zwischen Pula und Rovinj; 05.1998; leg. W. Buzina (GZU-236742).- Kroatien, Istrien (Istria, Istra), Süd-Istrien (Istria meridionale), NE Pola (Pula), E Altura (Valtura), NW-Ufer der Bado-Bucht (Porto Badò, Luka Budava), 3 m alt.; Klippen zum Meer; 17.10.1998; leg. U. & W. Starmühler (GZU-232647).- Kroatien, Istrien, Quarner Bucht, Insel Zeča/Levrera, Kap Tanka, N 44°46,886', E 14°19,062', 5 m alt.; Meeresklippen; 14.05.2005; leg. U. & W. Starmühler (GZU-285180).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, NNW Umag/Umago, N Savudrija/Salvore, Luka Savudrija/Salvore-Bucht, N 45°29,974', E 13°30,289', 1 m alt.; Klippen am Meer; 15.08.2007; leg. W. Mucher sen. & W. Starmühler (GZU-303243).

***Daucus carota* Linnaeus:** Fiume; 06.1885; leg. Vončina (GZU-116827).- Flora von Istrien, Pola, Wiesen am Prato grande; 07.1897; leg. K. Untchj (GZU-298616, GZU-298646).- Tergestum, ad margines nemorum prope Miramar; 26.03.1902; leg. Evers (GZU-298614, GZU-298645).- Tergestum, in lapidicinis montis Spaccato; 02.07.1902; leg. Evers (GZU-298615, GZU-298644, GZU-298659, GZU-298660).- Tergestum, in lapidicinis montis Spaccato, super vallem Guardiella; 02.07.1902; leg. Evers (GZU-298612, GZU-298642).- Jugoslawien, Istrien, nördlich von Novigrad (Westküste) bei Mareda nahe Dajla; auf Ödland; 23.07.1981; leg. H. Melzer (GZU-298689).

***Daucus carota* Linnaeus subsp. *carota*:** Istria, Berseć; in rupibus littoreis calcareis; 17.07.1899; leg. Evers (GZU-298643).- Istria, Berseć; in rupibus calcar. littoris liburnici; 17.07.1899; leg. Evers (GZU-298613).- Istria, in prato vallis Risano inter vallem "Mte Sermino" et locum "Calogiorno" dictum; 26.04.1902; leg. Evers (GZU-298617, GZU-298619, GZU-298647).- Kroatien, Istrien, Insel Ilovik/Asinello, 0,3 km NW Ilovik/Porto S. Pietro dei Nembi, N 44°27,85', E 14°32,56', 5 m alt.; Macchiensaum; 19.06.2003; leg. U. & W. Starmühler (GZU-285220).

***Daucus carota* Linnaeus subsp. *carota* var. *carota*:** Kroatien, Istrien (Istria, Istra) Insel Lussin (I. Lussino, O. Lošinj), NE-Ortsrand von Lussinpiccolo (Mali Lošinj), N 44° 32,49', E 14°27,90', 2-5 m alt.; Ruderal; 09.08.1997; leg. W. Starmühler & J. Walter (GZU-232648).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, WNW Buzet/

Pinguente, Bračana-/Brazzana-Tal E Žonti/Sonti, N 45°24,76', E 13°54,75', 130 m alt.; feuchte Wiese; 22.06.2003; leg. U. & W. Starmühler (GZU-285190).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SSE Novigrad/Cittanova, Luka Mirna/Porto Quieto/Quieto-Bucht, Uvala Tarska/Val di Torre/Torre-Bucht, 0,6 km E vom Kap Resta bei der Konoba „Al Porto", N 45°18,766', E 13°36,827', 1 m alt.; Halophytenflur; 14.08.2007; leg. W. Mucher sen., U. & W. Starmühler (GZU-303242).- Slowenien, Istrien, Brkini/Berchinia/Berkin, SE Kozina/Cosina, Tublje/Tubbiano, N 45°35,648', E 13°58,442', 489 m alt.; Straßenrand; 06.09.2009; leg. V. Mikoláš & W. Starmühler (GZU-316266).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo/Rotzfeld, entlang der Eisenbahnstrecke, N 45°22'39,57", E 14°04'36,58", 399 m alt.; Brache; 30.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316262).

***Daucus carota* Linnaeus subsp. *maximus* (R.L.Desfontaines) J.Ball:** Flora von Istrien, Pola, Arsenalhöfe; 08.08.1890; leg. K. Untchj (GZU-298690).- Istria, Abbazia, in dumetis; 26.08.1897; leg. Evers (GZU-298641).

***Daucus carota* Linnaeus subsp. *maximus* (R.L.Desfontaines) J.Ball var. *mauritanicus* (Linnaeus) C.P.J.Sprengel:** Istria, Abbazia, in dumetis; 26.08.1897; leg. Evers (GZU-298649).- Istria, Bergeč, in rupibus calcar. littoris liburnici; 17.07.1899; leg. Evers (GZU-298611).

***Dichoropetalum schottii* (W.S.J.G. von Besser) M.G.Pimenov & E.V.Kljuykov:** Istria, Volosca, in silvis ad "König Karls-Weg"; Veprinaz, in silvis versus Montem Maggiore; 09.1898; leg. Evers (GZU-283300, GZU-300996).- Istria, Volosca, in silvis; Fiume: Val Recina, ad rupes calcar.; 09.1898; leg. Evers (GZU-283329).- Istria, Monte Maggiore, in rupib. calcar. versus Veprinaz; 05.09.1898; leg. Evers (GZU-300936).- Istria, Monte Maggiore, in rupibus calcar. versus Veprinač; 05.09.1898; leg. Evers (GZU-283327).- Istria, Monte Maggiore, in rupib. calcareis ad viam "Reichsstrasse" versum pagum Veprinaz; 05.09.1898; leg. Evers (GZU-298692).- Fiume: Val Recina, in rupibus calcar.; 08.09.1898; leg. Evers (GZU-283296, GZU-283297, GZU-283326).- Istria, Abbazia, in dumetis ad "König Karls-Weg". Volosca, in dumetis pietrosis; 04.09.1898, 18.09.1899, 11.08.1899; leg. Evers (GZU-283328, GZU-300933, GZU-300963, GZU-300997).- Istria, Volosca, in dumetis saxosis, solo calcar.; 09.1899; leg. Evers (GZU-283299).- Istria, Abbazia, in dumetis ad "König Karls Promenade" ad "südlich. Strandweg" et alibi; 04.09.1898, 11.08. et 01.09.1899; leg. Evers (GZU-283298, GZU-300966, GZU-300993).- M. Spacc.[ato]; 09.19??; s.n. (GZU-283320).- Bei Kostrena (Fiume); 24.09.[19]03; leg. M. Heider (GZU-300967).- Kroatien, Istrien (Istria, Istra), Inner-Istrien (Istria interna Unutrašnja Istra), NE Parenzo (Poreč), Villanova (Nova vas); Wegrand, Kalk; 20.09.1999; leg. P. Vergörer (GZU).- Kroatien, Istrien, Učka gora/Territorio del Monte Maggiore/Gebiet des Monte Maggiore, N Plomin/Fianona, an der Straße von der Kirche Sv. Juraj/S. Giorgio/Hl. Georg nach Katun/Cattuni, N 45°10,91', E 14°11,04', 90 m alt.; Ruderal am Straßenrand; 04.09.2003; leg. U. & W. Starmühler (GZU-286202).- Slowenien, Istrien, Čičarija/Cicceria/Tschitschenboden, S Kozina/Cosina, am Weg von Podgorje/Piedimonte del Taiano auf den Berg Slavnik/M. Taiano/Slaunig, N 45°31,346', E 13°57,470', 586 m alt.; Waldrand; 06.09.2009; leg. V. Mikoláš & W. Starmühler (GZU-316261).

***Eryngium amethystinum* Linnaeus:** Istrien, Pola; s.d.; Herb. Palla (GZU-283200).- Flora exsiccate Austro-Hungarica 1353. In agro Tergestino, in declivibus montium prope Tergestum, solo calc., circa 300$^{mt.}$ s. m.; s.d.; leg. Solla (GZU-283285).- An steinigen Standorten um Triest sehr häufig; 06.-Herbst; leg. M. Prihoda (GZU-283313).- Paul Sintenis: Iter in Litorale 1881, Triest, S. Giovanni; 07.09.[1881]; leg. A. Toepffer (GZU-118914).- Auf steinigen Wiesen, Fiume; 15.09.1881; leg. K. Untchj (GZU-118913).- Fiume; 06.1889; leg. Vončina (GZU-116812).- Karstebene hinter Opčina bei Triest; 20.05.[1]891; Herb. P. v. Troyer (GZU-283171).- Flora von Istrien, Pola, Macchien bei Veruda; 10.08.1891; leg. K. Untchj (GZU-283314).- Flora von Triest, Stephanie Straße;

27.07.1892; leg. V. Engelhardt (GZU-283283).- Istria, Abbazia, in dumetis rupestribus; 23.09.1897; leg. Evers (GZU-283169, GZU-283170, GZU-283199, GZU-283286, GZU-283316).- Bei Mattuglie; 28.09.[19]03; leg. M. Heider (GZU-283284).- Istrien, Insel Brioni; sonnige steinige Orte; 08.[1]905; leg. Arbesser (GZU-026533).- S. Rocco; 27.08.1908; s.n. (GZU-134083, GZU-134084).- Am Straßenrand bei Medvea nächst Lovran (Lovrana), Istrien; 21.08.1909; leg. Woloszczak (GZU-283315).- Österreich, Küstenland, Canfanaro; 01.08.1914; leg. Litschauer (GZU-283281).- Adriagebiet, bei Baška auf der Insel Krk; 07.1935; leg. A. Widder (GZU-283173).- Flora italica, Triest, Muggia, Wegränder unweit Chiampore in etwa 150 m; 02.08.1953; leg. Höpflinger (GZU-150984).- Jugoslawien, Istrien, Draga Moscenicka; 02.08.1955; leg. W. Möschl (GZU-283167).- Trieste, zw. Obelisco u. Prosecco; 05.09.[19]55; Herb. J. Eggler (GZU-087405).- Yugoslawien, Umgebung von Lovran bei Abbazia; 13.09.1958; leg. J. Brunner (GZU-283168).- Jugoslawien, Kroatien, Insel Krk, Camping Pušća nördlich von Omišalj, 0-30 m; 26.07.1985; leg. M. & H. Mayrhofer (GZU-283198).

***Eryngium campestre* Linnaeus:** Pola; s.d.; leg. Pelikan (GZU-295456).- Pola; 01.08.[18]86; Herb. F. Krašan (GZU-295426).- Flora von Istrien, Pola, Wiesen bei F. Turcian; 25.05.[18]93; leg. K. Untchj (GZU-295467).- Kroatien, Istrien, Insel Ilovik/Asinello, 0,3 km NW Ilovik/Porto S. Pietro dei Nembi, N 44°27,85', E 14°32,56', 5 m alt.; Macchiensaum; 19.06.2003; leg. U. & W. Starmühler (GZU-285189).- Kroatien, Istrien, Insel Susak/Sansego, am Weg von Susak/Porto Sansego zum Leuchtturm auf dem Berg Garba/M. Garbe, N 44°30,85', E 14°18,24', 65 m alt.; Sandböschung; 21.06.2003; leg. W. Mucher sen., U. & W. Starmühler (GZU-285188).

***Eryngium creticum* J.B.P.A. de Monet de Lamarck:** Dalmatien, Insel Ossero; s.d.; s.n. (GZU-118021).- Istria, unterhalb "Scoffie di Sotto" am Wege nach S. Nicolo d'Oltre bei Capodistria, auf Mergel, 40 m s.m.; 15.07.1909; leg. Demades (GZU-295369, GZU-295399).

***Eryngium maritimum* Linnaeus:** Flora von Istrien, Pola, Seestrand bei Batt. Coina; 22.07.1890; leg. K. Untchj (GZU-298520).- Flora von Istrien, Pola; 09.1923; leg. G. Conrath (GZU-298708).

***Eryngium pandanifolium* L.V.A. von Chamisso & D.F.L.Schlechtendal:** Istria, Abbazia, in horto publico "Curpark"; 10.09.1899; leg. Evers (GZU-298678, GZU-298709).

***Ferulago campestris* (W.S.J.G. von Besser) D.Grecescu:** In pratis saxosis auf d. Karste bei Triest; s.d.; Herb. D.H. Hoppe (GZU-064997).- Fiume; s.d.; Herb. Huber & Dietl (GZU-120422).- Občina (sul Carso); 29.07.1855; leg. C. Kolkiarski[?] (GZU-300937).- Flora von Triest, Geröll am M$^{e.}$ Spaccato; 06.07.1892; leg. V. Engelhardt (GZU-300849).- Istria, Abbazia; in dumetis rupestribus; 20.07.1897; leg. Evers (GZU-300814, GZU-300815).- Istria, Volosca, in dumetis rupestribus versus Castua et Flumen; 22.07.1898; leg. Evers (GZU-300845).- Flora von Istrien, Wiesen bei Brest; 16.07.1899; leg. K. Untchj (GZU-300998, GZU-300968).- Carso tergestinus, in locis pietrosis nec non in pratis montis Spaccato; 19.06.1902; leg. Evers (GZU-300846, GZU-300848).- Sistiana bei Triest; 27.09.[19]04; leg. M. Heider (GZU-300816).- Küstenland, Opčina; 27.06.1906; leg. K. Fritsch (GZU-300819).- Küstenland, zwischen Opčina und Prosecco; Wiesen; 06.[1]909; leg. Arbesser (GZU-027163).- Sistiana b. Triest; Gebüsch; 06.1910; leg. E. Diettrich-Kalkhoff (GZU-300817).- Istrien, Abbazia; buschige Orte; 07.[1]916; leg. Arbesser (GZU-027161, GZU-027162).- Triest, Wiesen bei Chiampore; 24.07. u. 02.08.1953; leg. Höpflinger (GZU-039111).- Mitteleuropäisches Gebiet, Provinz der Alpenländer, Karst, Karstwiese bei Rupa (zwischen Matulje und Illyrisch Feistritz = Ilirska Bistrica); 07.06.1958; leg. [H.] Schaeftl[ein] (GZU-150511, GZU-150512).- Slowenien, 10 km S von Ilirska Bistrica, zw. Jelšane u. Rupa; Karstwiese; 08.06.1973; leg. J. Hafellner (GZU-300844).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, WNW Buzet/Pinguente, Bračana-/Brazzana-Tal E Žonti/Sonti, N 45°24,76', E 13°54,75', 130 m alt.; feuchte Wiese; 22.06.2003;

leg. U. & W. Starmühler (GZU-285181).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/ Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo, entlang der Eisenbahnstrecke, N 45°22'47,95", E 14°04'29,33", 387 m alt.; Fels; 02.07.2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316259).

***Foeniculum vulgare* P.Miller subsp. *piperitum* (B. da Ucria) A.Béguinot:** Istrien, Pola, Hecken gegen Fisella; 20.08.1897; leg. K. Untchj (GZU-295367).- Istrien, Umgebung von Pola; steinige, sonnige Hügel; 08.[1]905; leg. Arbesser (GZU-027204).

***Foeniculum vulgare* P.Miller subsp. *vulgare*:** An Hecken zwischen Triest und Miramare; 06., 07.; leg. M. Prihoda (GZU-295457).- Flora von Istrien, Pola, Aecker bei Batt. Ovina; 15.09.1893; leg. K. Untchj (GZU-300951).- Istria, Abbazia, in rupib. littoreis prope Icici copiosissime; 30.07., 09.08.1897; leg. Evers (GZU-298595, GZU-300921).- Istria, in locis lapidosis et rupestribus ad pagum Cantride; 15.09.1898; leg. Evers (GZU-298592, GZU-300982).- Flora von Istrien, Pola, Scoglio Pietro; 05.10.1901; leg. K. Untchj (GZU-118415).- Istria, Barcola – Triest; 27.08.1904; leg. M. Heider (GZU-295428, GZU-300769).- Istrien, Lussin; buschige Orte; 09.[1]912; leg. Arbesser (GZU-027205).- Istrien, Voloska; steinige, sonnige Orte; 07.[1]916; leg. Arbesser (GZU-027206).- Jugoslawien, Istrien, nördlich Novigrad in Daila (Dalja) auf einer Mole im Hafen; 12.07.1989; leg. Melzer (GZU-295427).- Kroatien, Istrien (Istria, Istra), West-Küste (Costa occidentale, Zapadna obala), 1 km ENE Rofein (Rovigno, Rovinj), an der Straße nach Villa di Rovigno (Rovinjsko selo), an der Abzweigung des Weges zur Stanzia „Sure Stine vulgo Folo R.", N 45° 06,13', E 13°41,22', 70 m alt.; Ruderal; 24.07.1999; leg. W. Starmühler (GZU-232649).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Poreč/Parenzo, Višnjan/ Visignano; mehrjährige, zuwachsende Brache, Terra rossa; 07.10.2004; leg. P. Vergörer (GZU-285270).

***Hacquetia epipactis* (G.A.Scopoli) A.P. de Candolle:** Fiume, Rečina Thal, Bergabhang über der Rečinaquelle; 07.04.1882; leg. Vončina (GZU-116796).- Istria, Monte Maggiore, in dumetis umbrosis valliculae torrentis Lovranensis in consortio *Erythronii dens-canis*; 02.05.1898; leg. Evers (GZU-295368, GZU-295398).

***Heracleum* group *pyrenaicum* J.B.P.A. de Monet de Lamarck:** Slowenien, Istrien (Istria, Istra), Tschitschenboden (Cicceria, Čičarija), N Pinguente (Buzet), etwa 0,5 km S Rachitovich (Rakitovec), N 45°27,74', E 13°58,84', 555 m alt.; *Quercus*-Waldrand; 19.08. 1999; leg. W. Starmühler (GZU-232650, GZU-232651).

***Heracleum sibiricum* Linnaeus subsp. *ternatum* (Velenovský) Briquet:** Kroatien, Istrien, Učka gora/Territorio del Monte Maggiore/Gebiet des Monte Maggiore, WSW Rijeka/Fiume/St. Veit am Pflaumb, an der Straße vom Poklon-Sattel auf den Gipfel Vojak/ M. Maggiore/Utschkaberg, N 45°17,963', E 14°12,693', 1076 m alt.; 31.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316265).

***Heracleum sphondylium* Linnaeus:** Istria, Abbazia, in margine dumetor.; 26.08. 1898; leg. Evers (GZU-295379, GZU-295458, GZU-295466).

***Heracleum sphondylium* Linnaeus subsp. *sphondylium*:** Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, an der Straße von Motovun/Montona nach Brkač/San Pancrazio di Montona/Wexenstein, 0,2 km E Kranjceti/Cranzetti, N 45°19,633', E 13°48,845', 190 m alt.; Waldrand; 17.10.2009; leg. E. Schalk & W. Starmühler (GZU-303241).

***Katapsuxis silaifolia* (J.N.Jacquin) C.S.Rafinesque:** Am Abhange des Monte Spaccato b. Triest; s.d.; leg. Tommasini (GZU-118178).- In montosis sylvaticis im Walde von Lippiza; s.d.; Herb. D.H. Hoppe (GZU-064974, GZU-065030).- Im Walde von Lipizza am Karst; 06., 07.; leg. M. Prihoda (GZU-298846).- Litorale, Monte Spaccato; 07.1857; leg. J.C. Eques Pittoni a Dannenfeldt (GZU-118184).- Fiume, buschige Stellen im Dragathal; 27.05.[18]82; leg. K. Untchj (GZU-117505).- Flora von Triest, steinige Abhänge an der Scala Santa; 27.06.[18]87; leg. V. Cerouvé (GZU-298844).- Flora von Istrien,

Bergwälder, Monte Maggiore; 27.09.1892; leg. K. Untchj (GZU-298847).- Istria, Monte Maggiore, in pratis dumetosis prope pagum Mala Učka; 04.08.1898; leg. Evers (GZU-298843, GZU-298873).- Istria, Monte Maggiore, in pratis prope pagum Mala Ucka b. Monte Sissol, in declivib. rupestrib. et ad margines dollinarum; 04.08.1898, b. 30.06.1899; leg. Evers (GZU-298877).- Istria, Monte Maggiore, in pratis silvaticis et in silvis umbros.; 16.07.1898, 02.08.1899; leg. Evers (GZU-298812, GZU-298875).- Val Rabaz, in saxosis ad turritis; 06.06.[18]99; s.n. (GZU-298817).- Istria, Monte Sissol, in margine dollinarum, nec non in declivib. rupestrib. solo calcar.; 30.06.1899; leg. Evers (GZU-298790).- Istria, Monte Sissol, in margine dollinarum, nec non in declivib. rupestribus solo calcar.; 30.06.1899; leg. Evers (GZU-298845).- Istria, Monte Sissol, in margine dollinarum, nec non in declivibus rupestribus solo calcar.; 30.06.1899; leg. Evers (GZU-298760).- Bei Klana; 31.07.[19]04; leg. M. Heider (GZU-298876).- Croatia, Klana b. Fiume; 01.08.1904; leg. M. Heider (GZU-298816).- Küstenland, Opčina; 27.06.1906; leg. K. Fritsch (GZU-298814, GZU-298815).- Sistiana b. Triest; Gebüsch; 06.1910; leg. E. Diettrich-Kalkhoff (GZU-298874).- Österreich, Küstenland, Canfanaro; 09.08.[19]15; leg. Litschauer (GZU-283330).- Istrien, Rukovac b. Voloska; Waldränder; 07.[1]916; leg. Arbesser (GZU-027195).- Triest, steinige Lichtungen am Mt. Spaccato, ca 400 m; 31.07.1953; leg. Höpflinger (GZU-151483).- Kroatien, Istrien (Istria, Istra), Gebiet des Monte Maggiore (Territorio del Monte Maggiore, Učka gora), an der Straße vom Poklon-Sattel zum Gipfel des M. Maggiore (Vojak), N 45°18,01', E 14°12,51', 1145 m alt.; Waldrand; 25.07.1999; leg. W. Starmühler (GZU-232653).- Kroatien, Istrien, Insel Lošinj/Lussino/Lussin, am Weg von Nerezine/Neresine auf den Orsorščica/M. Ossero, 520 m alt.; *Pinus nigra*-Wald; 20.06.2003; leg. U. & W. Starmühler (GZU-285269).- Kroatien, Istrien, Ćićarija/Cicceria/ Tschitschenboden, Bosco di Apriano/Waprinitzer Wald, W Opatija/Abbazia, am Weg vom Poklon-Sattel auf den Berg Brložnik/M. Berlosni/Berlosnig, N 45°19,146', E 14°12,782', 1010 m alt.; Karstheide; 08.09.2005; leg. H. Mucher & W. Starmühler (GZU-286131, GZU-286139).- Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel Vögls, SE-Ortsrand von Vrbnik/Verbenico, N 45°04'29,52", E 14°40'52,11", 17 m alt.; Schotterwegrand; 02.07. 2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316495).

***Laserpitium krapfii* H.J.N. von Crantz subsp. *krapfii*:** Istria, Monte Maggiore, ad margines silvarum in pratis; 06., 07.1898; leg. Evers (GZU-283294).- Istria, Monte Maggiore, ad margines et in pratis silvar. lateris orientalis; 18.06.1898, 16.07.1898; leg. Evers (GZU-283324).- Istria, Monte Maggiore, ad margines et in pratis silvar. lateris orientalis; 18.06.1898, 16.07.1898, 5. et 6.07.1899; leg. Evers (GZU-283295).- Istria, Monte Maggiore, in pratis dumetosis; 06.07.1899; leg. Evers (GZU-283323).- Mitteleuropäisches Gebiet, Provinz der Alpenländer, Karst, Učka (Mt. Maggiore) in Nordostistrien, Buchenmischwald am Nordosthang, ca 1100 m; 07.06.1958; leg. [H.] Schaeftl[ein] (GZU-147369, GZU-147370).

***Laserpitium latifolium* Linnaeus:** Triest, waldiger Abhang des M$^{\underline{te}}$ Kokus gegen Basovizza; 08.[18]84; leg. V. Engelhardt (GZU-283325).- Slowenien, Istrien, Zaledje Reke/ Entroterra di Fiume/Hinterland von St. Veit, SE Ilirska Bistrica/Villa del Nevoso/Illyrisch Feistritz, an der Straße von Žabiče/Castelvecchio/Guttenegg nach Gomance/Jagdhaus Hermsburg, 0,5 km SE der Abzweigung der Straße nach Okroglina, N 45°30,40', E 14°24,39', 1055 m alt.; *Fagus sylvatica*-Waldrand, 12.08.2002; leg. U. & W. Starmühler (GZU-238678, GZU-238679).

***Laserpitium latifolium* Linnaeus f. *macrophyllum* P.Bolzon:** Istria, Monte Maggiore, in pratis lapidosis ad margines silvarum; 06.07.1899; leg. Evers (GZU-283291, GZU-283312). **!!New for Istria and Croatia!!**

***Laserpitium siler* Linnaeus:** Flora von Istrien, Monte Slavnik; 24.06.1894; leg. K. Untchj (GZU-283293).- Carso tergestinus, in pascuis lapidosis prope Bazovizza; 19.06. 1902; leg. Evers (GZU-283292, GZU-283321, GZU-283322).- Kroatien; Istrien; Ćićarija/

Cicceria/Tschitschenboden, NNE Buzet/Pinguente, SW-Hang des Berges Žbevnica/M. Sbeunizza, N 45°27,405', E 14°00,899', 849 m alt.; lichter Wald; 21.05.2011; leg. V. Mikoláš, W. Mucher sen. & W. Starmühler (GZU-316260).

***Libanotis pyrenaica* (Linnaeus) O.Schwarz subsp. *pyrenaica* var. *libanotis* (Linnaeus) J.-P.Reduron:** Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, NE Buzet/Pinguente, E-Hang der Žbevnica/M. Sbeunizza, N 45°27,40', E 14°01,73', 835 m alt.; Karstheide; 29.06.2003; leg. M. Münch & W. Starmühler (GZU-286209).

***Oenanthe fistulosa* Linnaeus:** Pola, Prato grande, in den Sumpfgräben; 29.05. 1908; leg. Vončina (GZU-116683).

***Oenanthe pimpinelloides* Linnaeus:** Fiume; s.d.; Herb. Huber & Dietl (GZU-118141).- Pola; s.d.; leg. Pelikan (GZU-298657).- Pola; s.d.; Herb. F. Krašan (GZU-298687, GZU-300985).- Fiume; in feuchtem, schattigen Gebüsch; 06.; leg. Noë (GZU-065063).- Istrien, Pola; 02.06.1848; leg. Schambach (GZU-122069).- Pola; 24.05.1887; Herb. K. Fritsch (GZU-298654).- Istrien, Pola, Kaiserwald; 07.1891; leg. Vončina (GZU-116689).- Istria, Abbazia, in dumetis; 01.08. et 02.08.1897; leg. Evers (GZU-298618, GZU-298648, GZU-298688).- Istria, bei Lovrana; 03.06.1905; leg. M. Heider (GZU-300924).- Flora von Istrien, Pola, Hecken, Mte Vincurian; 01.06.1906; leg. K. Untchj (GZU-298656).- Istrien, in Kräuterfluren auf wüsten Plätzen bei Rovigno; 28.05.1928; leg. F.J. Widder (GZU-298686).- Canal di Leme (Istr.); 21.05.1934; Herb. M. Salzmann (GZU-060323).- Jugoslawien, Istrien, nördlich von Novigrad auf dem Autocampingplatz Mareda im aufgelichteten Eichenwald häufig; 13.07.1989; leg. Melzer (GZU-298655, GZU-298685).- Kroatien, Istrien (Istria, Istra), West-Küste (Costa occidentale, Zapadna obala), Fontane (Funtana), 100 m alt.; Kalk; 06.1995; leg. P. Vergörer (GZU-232654).- Kroatien, Istrien, Južna Istra/Istria meridionale/Süd-Istrien, N Pula/Pola, an der Straße von Štinjan/Stignano zur Štinjaska Draga/Valle Maggiore/Stignano-Bucht, N 44°53,681', E 13°48,395', 10 m alt.; Trockenrasen; 02.06.2006; leg. H.P. Meister, U. & W. Starmühler (GZU-303221).

***Oenanthe silaifolia* Marschall von Bieberstein:** Pola; s.d.; Herb. F. Krašan (GZU-300954).- Servola bei Triest; 25.05.1887; Herb. K. Fritsch (GZU-300984).- Pola, Val Rancon; in pratis humidis littoreis; 22.05.1902; leg. Evers (GZU-300925).- Pola, Val Rancon, in pratis humidis littoreis (in consortiis *Trifolii stricti*); 22.05.1902; leg. Evers (GZU-300955).- Pola, Prato grande; 24.05.[1]908; leg. Vončina (GZU-116690).- Istrien, Val Bandon b. Pola; Sumpfwiesen; 05.[1]914; leg. Arbesser (GZU-027189).- Kroatien, Istrien, Insel Krk/ Veglia/Vögls, S-Ufer von Ponikve/Lago di Ponighe/Ponighe-See, N 45°04,24', E 14°34,31', 5 m alt.; Feuchtwiese; 13.06.2002; leg. U. & W. Starmühler (GZU-238746). **!!New for Friuli-Venezia Giulia!!**

***Opopanax chironium* (Linnaeus) W.D.J.Koch:** Istria, Fianona, ad margines vinetarum; 01.07.1899; leg. Evers (GZU-283346, GZU-283347, GZU-283377, GZU-283379).- Flora von Istrien, Wiesen bei Brest; 16.07.1899; leg. K. Untchj (GZU-283376).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, an der Straße von Roč/Rozzo/Rus nach Hum/Colmo/Cholm, Forčići/Forsici, N 45°22'54,55", E 14°02'33,86", 241 m alt.; Trockenrasen, 02.07.2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316492).

***Oreoselinum nigrum* A.Delarbre:** Umgebung von Fiume, Platak, 111^{m}; 08.1888; leg. Vončina (GZU-116664).- Istria, Monte Maggiore; in silvis; 16.07.1898; leg. Evers (GZU-283360, GZU-283390).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, an der Straße von Roč/Rozzo/Rotz nach Hum/Colmo/Cholm, S Forčići/Forsici, etwa 0,1 km N der Abzweigung nach Savki, N 45°22'18,92", E 14°02'31,59", 257 m alt.; Ackerrain; 30.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316510).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Poreč/Parenzo, ENE Višnjan/Visignano, bei der Sternwarte bei Tičan/Tiziani, 330 m alt.; Schibliaksaum, Terra rossa; 03.10.2011; leg. P. Vergörer (GZU-316264).

***Orlaya daucorlaya* S.S.Murbeck:** Pola; 10.06.; Herb. F. Krašan (GZU-298829).- Flora von Istrien, Pola, Aecker, Prato grande; 18.06.1890; leg. K. Untchj (GZU-298827, GZU-298857).

***Orlaya grandiflora* (Linnaeus) G.F.Hoffmann:** Istrien, Fiume; 05.-06.; leg. Donner (GZU-298980).- Küstenland, Opčina; 28.06.1906; leg. K. Fritsch (GZU-298860).- Croatia, Tersatto bei Fiume; 08.1906; leg. M. Heider (GZU-298920).- Flora von Istrien, Lussinpiccolo; 05.1907; leg. A. Wilkoszewski (GZU-298889).- Pola, b. Kaiserwald; 28.05.1907; Herb. F. Stolba (GZU-298950).- Istrien, Abbazia; buschige Orte; 06.[1]916; leg. Arbesser (GZU-027083).- Italien, Straße auf der Höhe Sistiana bei Triest; 31.05.1962; leg. J. Brunner (GZU-298890).- Flora istriaca, Rovigno, steinige Stellen an der Punta corrente; 11.06.1962; leg. F. Höpflinger (GZU-298859).- Mošćenice – Brseč; 25.05.1963; s.n. (GZU-218593).- Kroatien, Istrien (Istria, Istra), Insel Cherso (O. Cres), SW Orlez (Orlec), SE Sbisina (Zbišina), am Weg zum Vrana-See (Lago di Vrana, Vransko jezero), 330 m alt.; *Pinus*-Wald; 29.05.1997; leg. W. Starmühler (GZU-238677).- Kroatien, Istrien, Bale zwischen Pula und Rovinj; 05.1998; leg. W. Buzina (GZU-236740).- Kroatien, Istrien, Insel Lošinj/Lussino/Lussin, am Weg von Nerezine/Neresine auf die Televrina/M. Ossero, 105 m alt.; Macchiensaum; 17.05.2001; leg. M. Schnabl, O. Rainer & W. Starmühler (GZU-236946).- Kroatien, Istrien, Insel Krk/Veglia/Vögls, NE Krk/Veglia/Vögls, E-Ortsrand von Muraj/Murai, N 45°03,00', E 14°36,40', 85 m alt.; Schibliaksaum; 14.06.2001; leg. U. & W. Starmühler (GZU-236945).- Kroatien, Istrien, Insel Cres/Cherso, SW Belej/Bellei, am Weg zur Kirche Sv. Martin/S. Martino, N 44°46,39', E 14°25,10', 140 m alt.; Trockenrasen; 19.05.2002; leg. U. & W. Starmühler (GZU-238741).

***Orlaya platycarpos* W.D.J.Koch:** Istria, G. h. l. P.; s.d.; leg. Keil (GZU-298661).

***Pastinaca sativa* Linnaeus:** Sistiana; 28.08.[19]04; leg. M. Heider (GZU-298825).- Slowenien, Istrien, Zaledje Reke/Entroterra di Fiume/Hinterland von St. Veit, SE Ilirska Bistrica/Illyrisch Feistritz, an der Straße von Zabiče/Castelvecchio/Guttenegg nach Gomance/Jagdhaus Hermsburg, E-Hang des Bezgovec, N 45°31,20', E 14°21,37', 625 m alt.; Waldrand; 12.08.2002; leg. U. & W. Starmühler (GZU-238744).

***Pastinaca sativa* Linnaeus subsp. *sativa*:** Boschetto bei Triest; 07., 08.; leg. M. Prihoda (GZU-298886).- Flora italica, Trieste, Muggia, ruderal bei S. Croce; bis 1,70 m hoch; 28.07.1953; leg. Höpflinger (GZU-147406).- Kroatien, Istrien (Istria, Istria), Inner-Istrien (Istria interna, Unutrašnja Istra), SE Buie (Buje), im Tal des Quieto (Mirna) bei der Ponte Porton, N 45°21,47', E 13°44,18', 20 m alt.; Wegrand; 23.07.1999; leg. W. Starmühler (GZU-232655).

***Pastinaca sativa* Linnaeus subsp. *sativa* var. *pratensis* Persoon:** Slowenien, Istrien, Tržaški zaliv/Golfo di Trieste/Golf von Triest, WSW Koper/Capodistria/Gavers, Seča/Sezza, N 45°29,754', E 13°36,847', 15 m alt.; Ölbaumhain; 07.09.2009; leg. V. Mikoláš & W. Starmühler (GZU-316271).- Kroatien, Istrien, Učka gora/Territorio del Monte Maggiore/Gebiet des Monte Maggiore, WSW Opatija/Abbazia, N-Ortsrand von Vela Učka/Montemaggiore d'Istria, N 45°18'18,51", E 14°11'38,78", 856 m alt.; Straßenrand; 31.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316274).

***Pastinaca sativa* Linnaeus subsp. *sativa* var. *sativa*:** Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Novigrad/Cittanova, SE Nova Vas/Villanova, Mirna-/Quieto-Tal, etwa 0,2 km SW vom Gehöft Stuparić, N 45°20,885', E 13°40,230', 9 m alt.; feuchter Graben; 12.08.2007; leg. U. & W. Starmühler (GZU-303222).

***Pastinaca sativa* Linnaeus subsp. *urens* (D.A.Godron) L.J.Čelakovský:** Flora von Istrien, Pola, Gräben im Prato grande; 28.08.1894; leg. K. Untchj (GZU-298887).- Istria, Lovrana; in dumetis; 05.09.1898; leg. Evers (GZU-298826, GZU-298856).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, N Labin/Albona, Ćepićko polje/Corte Abla/Zepich-Feld, 0,5 km SSW Čepić/Felicia/Pitsch, W vom Kloster, N 45°11,54', E 14°07,95', 45 m alt.; Ruderal am Wegrand; 06.09.2003; leg. U. & W. Starmühler (GZU-

285268).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, W Motovun/Montona, Brkač/San Pancrazio di Montona/Wexenstein, M. Lissandrin, N 45°19,73', E 13°48,13', 170 m alt.; Weingarten; 25.10.2003; leg. U. & W. Starmühler (GZU-285267).

***Petroselinum crispum* (P.Miller) J.M.Fuss** (a variant with sepals!)**:** Kroatien, Istrien, Insel Lošinj/Lussino/Lussin, Mali Lošinj/Lussinpiccolo, in der Nicolo-Tesla-Straße, N 44°31,98', E 14°28,53', 45 m alt.; Ruderal; 21.06.2003; leg. U. & W. Starmühler (GZU-285280).

***Petroselinum crispum* (P.Miller) J.M.Fuss var. *angustifolium* (F.G.Hayne) J.-P. Reduron:** Istria, Volosca, in collibus lapidosis prope pagum Cantride; 22.07.1898; leg. Evers (GZU-298824, GZU-298854). **!!New for Istria and Croatia!!**

***Petroselinum crispum* (P.Miller) J.M.Fuss var. *petroselinum* (Linnaeus) J.-P. Reduron:** Fiume, Tersato, ad castellum Frangipanorum; 15.08.1897; leg. Evers (GZU-298855, GZU-298884, GZU-298885). **!!New for Istria and Croatia!!**

***Peucedanum coriaceum* H.G.L.Reichenbach subsp. *pospichalii* (Thellung) Horvatić:** Bei Triest; s.d.; Herb. Huber & Dietl (GZU-120409).- Feuchte Wiesen bei Noghera nächst Triest; 06.07.; leg. M. Prihoda (GZU-283355).- Flora von Istrien, Pola, Sumpfwiesen, Prato grande; 20.07.1901; leg. K. Untchj (GZU-283271).

***Physospermum verticillatum* (Waldstein & Kitaibel) R. de Visiani:** Istria, Monte Maggiore, copiose; s.d.; leg. Tommasini (GZU-298966, GZU-298996).- Flora von Istrien, Bergwiesen, Monte Maggiore; 29.06.1892; leg. K. Untchj (GZU-298908).- Istria, Monte Maggiore et Monte Planik; in silvis totius tractus; 07., 08.1898; leg. Evers (GZU-298935, GZU-298965).- Istria, Monte Planik, in silvis totius tractus usqu. ad mtm Cirkveni vrh prope refug. Stephan.; 16.07.1898; leg. Evers (GZU-298691, GZU-298998).- Istria, Monte Maggiore, in silvis lateris orientalis; 19.06. et 16.07.1898, 06.07.1999; leg. Evers (GZU-298936, GZU-298968).- Istria, Monte Maggiore et Monte Planik; in silvis et pratis; 05. u. 06.07.1899; leg. Evers (GZU-298906, GZU-298938).- Istrien, ober Rukovac bei Voloska, Wälder oberhalb; 07.[1]916; leg. Arbesser (GZU-027179).- Kroatien, Istrien, Ćićarija/ Cicceria/Tschitschenboden, Bosco di Apriano/Waprinitzer Wald W Rijeka/Fiume/St. Veit am Pflaumb; S Mali Brgud/Bergut piccolo/Klein-Bergud, am Waldweg von der Lisina nach Rukovac/Ruccavazzo, 350 m alt.; *Fagus sylvatica*-Mischwald, Kalk; 27.05.2005; leg. W. Neuner & P. Vergörer (GZU-286136, GZU-286137).

***Pimpinella peregrina* Linnaeus:** Istrien, Pola; 07.[18]78; leg. … (GZU-118935).- Flora von Istrien, Pola, Hecken um Prato grande; 01.07.1897; leg. K. Untchj (GZU-298909).- Fiume, Tersato, ad muros castelli Frangipanorum; 08.07.1898; leg. Evers (GZU-298736, GZU-298766).- Flora von Istrien, Pola, Hügel u. Hecken im südl. Prato grande; 12.07.1899; leg. K. Untchj (GZU-118352).- Flora von Istrien, Pola, Hecken im südlichen Prato grande; 08.07.1901; leg. K. Untchj (GZU-298939).

***Pimpinella saxifraga* Linnaeus:** Monte Spaccato bei Triest; 08., 09.; leg. M. Prihoda (GZU-300928).- Küstenland, Wiese bei Cosina unweit Herpelje; 29.08.1897; leg. K. Untchj (GZU-298999).- Flora von Istrien, Pola, Hecken im Val Bado; 17.09.1897; leg. K. Untchj (GZU-298851, GZU-298881).- Monte Maggiore; 09.[19]03; leg. M. Heider (GZU-298969).

***Pimpinella saxifraga* Linnaeus var. *saxifraga*:** Slowenien, Istrien, Brkini/Berchinia/Berkin, SE Kozina/Cosina, Tublje/Tubbiano, N 45°35,648', E 13°58,442', 489 m alt.; Straßenrand; 06.09.2009; leg. V. Mikoláš & W. Starmühler (GZU-316273).- Kroatien, Istrien, Učka gora/Territorio del Monte Maggiore/Gebiet des Monte Maggiore, WSW Rijeka/ Fiume/St. Veit am Pflaumb, an der Straße vom Poklon-Sattel auf den Gipfel Vojak/M. Maggiore/Utschkaberg, N 45°18,078', E 14°12,598', 1113 m alt.; *Fagus sylvatica*-Waldrand; 31.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316272).

***Pteroselinum austriacum* (J.N.Jacquin) H.G.L.Reichenbach:** Croatia, Klana b. Fiume; 01.08.1904; leg. M. Heider (GZU-283386).- Istria, Sistiana; 28.08.1904; leg. M. Heider (GZU-283356).

***Ridolfia segetum* G.G.Moris:** Istria, Icici prope Abbazia, in vinetis desertis et incultis; 20.07.1898; leg. Evers (GZU-298772, GZU-298802).

***Sanicula europaea* Linnaeus:** Fiume – Lopača; 21.05.1881; leg. Vončina (GZU-116638).- Flora von Istrien, Pola, Kaiserwald, selten; 06.05.1890; leg. K. Untchj (GZU-298702).- Kaiserwald, Pola; 20.04.1910; s.n. (GZU-134055).- Slowenien, Istrien, Čičarija/ Cicceria/Tschitschenboden, SSW Obrov/Obrovo Santa Marina/Obrou, am Weg von Zagrad/Sagrado zum Glavičorka/M. Rasusizza, N 45°30,12', E 14°04,00', 810 m alt.; Waldrand; 13.08.2002; leg. U. & W. Starmühler (GZU-238743).

***Scandix pecten-veneris* Linnaeus:** Österreich, Küstenland, Rovigno; 21.03. [19]16; leg. Litschauer (GZU-298631).

***Scandix pecten-veneris* Linnaeus subsp. *pecten-veneris*:** Fiume; 05.1885; leg. Vončina (GZU-116633).- Flora von Istrien, in der Arena in Pola; 14.04.1887; leg. Jetter (GZU-035144).- Pola; 05.04.[18]89; Herb. F. Krašan (GZU-298672).- Flora von Istrien, Pola, Seestrand bei Veruda; 18.04.1894; leg. K. Untchj (GZU-298704, GZU-298705).- Prosecco; Gartenzäune; 21.04.1898; Herb. Palla (GZU-298701).- Pirano (Istrien); 29.04.1900; Herb. M. Salzmann (GZU-058286).- Istria, bei Lovrana; 03.06.1905; leg. M. Heider (GZU-298673).- Grasige Weinbergränder bei Isola, Istrien; 15.04.1906; leg. F. Stolba (GZU-298620, GZU-298650).- Küstenland, Servola; 24.04.1906; leg. K. Fritsch (GZU-298674).- Zwischen Gras am Wege zum Kalkofen auf Lussin; 04.1908; leg. J. Nevole (GZU-298671).- Küstenland, Servola b. Triest; sonniger Hain; 04.[1]910; leg. Arbesser (GZU-027103).- Istrien, Pola, Brachen bei Medolino; 04.1912; leg. Vončina (GZU-116635).- Istrien, Ins. Lussin; kult. Orte; 04.[1]912; leg. Arbesser (GZU-027104).- Pola; 04.1918; leg. Schellauf (GZU-298703).- Contovello b. Triest (Kstl.); 17.04.1924; Herb. M. Salzmann (GZU-058286).- Yugoslawien, Pola; 17.04.1960; leg. J. Brunner (GZU-298707).- Rovinj, Istrien, 06.06.1965; leg. G. Heinrich (GZU-218825).- Kroatien, Istrien, südöstlich von Pola bei Pomer auf einem Acker; 30.04.1989; leg. H. Melzer (GZU-298677).- Kroatien, Istrien (Istria, Istria), Inner-Istrien (Istria interna, Unutrašnja Istra), 2,5 km SSW Gimino (Žminj), E Modrusani (Modrušani), N 45°07,03', E 13°53,08', 335 m alt.; Ackerrain; 02.05.1997; leg. W. Starmühler (GZU-232656).- Kroatien, Istrien, Quarner Bucht, otok Cres/isola Cherso/Insel Kherscher, N Osor/Ossero, Štivan/San Giovanni; 27.04.1999; leg. B. Frajman (GZU-303228).- Kroatien, Istrien, Južna Istra/Istria meridionale/Süd-Istrien, NE Pula/Pola, 0,2 km SW Marčana/Marzana d'Istria, N 44°56,76', E 13°56,76', 165 m alt.; Trockenrasen; 01.05.2001; leg. W. Starmühler (GZU-236944).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Rovinj/Rovigno/Rofein, Zlatni rt/Punta Montauro/Goldenes Kap, N 45°04,20', E 13°37,61', 15 m alt.; Wegrand; 05.04.2004; leg. U. & W. Starmühler (GZU-285389).- Kroatien, Istrien, Zapadna obala/ Costa occidentale/West-Küste, SE Rovinj/Rovigno/Rofein, Spanidiga, am Weg von der Buschenschank „Arka" nach W zur Uvala Cisterna/Valle Cisterna/Zisternen-Bucht, etwa 50 m E der Konoba „Mofardin", N 45°02,377', E 13°41,937', 10 m alt.; Wegrand; 18.03.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316295).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, E Rovinj/Rovigno/Rofein, N Kokuletovica/Cocaletto, am Weg von der Kirche Madonna del Campo nach NW, N 45°04,869', E 13°41,297', 47 m alt.; Straßenrand; 19.03.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316294).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SE-Stadtrand von Rovinj/ Rovigno/Rofein, an der Straße nach Polari, N 45°04,308', E 13°39,338', 40 m alt.; Schibliaksaum; 18.04.2011; leg. M. Fellner, W. Mucher sen., E. Schalk & W. Starmühler (GZU-316275).

***Seseli annuum* Linnaeus:** Kroatien, Istrien, Zapadna obala/Costa occidentale/ Westküste, S Poreč/Parenzo, Plava Laguna, 30 m alt.; Trockenrasen, Terra rossa; 10.2001; leg. P. Vergörer (GZU-236943).

***Seseli annuum* Linnaeus subsp. *annuum*:** Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel „Mediteran"; Trockenrasen, Kalk; 11.10.2002; leg. P. Vergörer (GZU-238745).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, bei der Tankstelle, 30 m alt.; buschige Garigue, Terra rossa; 25.09.2006; leg. P. Vergörer (GZU-303223).

***Seseli kochii* M.A.F.Breistroffer [= *S. gouani* W.D.J.Koch]:** Flora exsiccata Austro-Hungarica 1338. In ditione Tergestina, in asperis montis Spaccato, solo calc., 150-400$^{mt.}$ s.m.; s.d.; leg. Marchesetti (GZU-300987).- Monte Spaccato bei Triest; 08., 09.; leg. M. Prihoda (GZU-300958).- Litorale, M^{te} Spaccato; 07.1857; leg. J.C. Eques Pittoni a Dannenfeldt (GZU-118163).- Flora von Triest, Abhang des Monte Spaccato; 06.09.[18]85; leg. V. Engelhardt (GZU-300988).- Flora von Triest, Geröll an der Stephaniestraße; 05.09.1896; leg. V. Engelhardt (GZU-118498).- Fiume, in rupib. calcar. vallis Recinae; 08.09.1898, 02.11.1898; leg. Evers (GZU-300956).- Fiume, in rupibus calcar. vallis Recinae; 08.09.1898, 02.11.1898; leg. Evers (GZU-300926, GZU-300986).- Istria, Barcola – Triest; 27.08.1904; leg. M. Heider (GZU-295397).- Küstenland, Opčina; 27.09.1906; leg. K. Fritsch (GZU-300927, GZU-300957).- Istrien, Triest, Rosandratal bei Zaule; 09.1911; leg. Vončina (GZU-116616).- Trieste, zw. Obelisco und Prosecco; 05.09.[19]55; Herb. J. Eggler (GZU-087359).- Flora von NE-Italien, Umgebung von Triest, Karst, Monte Grisa, NW Triest, bei Prosecco, ± 220 m; Kalkfelsen; 09.09.1987; leg. J. Poelt (GZU-300989).

***Seseli longifolium* Linnaeus subsp. *longifolium*:** Kroatien, Istrien (Istria, Istra), Süd-Istrien (Istria meridionale, Južna Istra), ENE Pola (Pula), 1 km SSE Altura (Valtura), an der Straße nach Cavrano (Kavran), 110 m alt.; Macchiensaum; 17.10.1998; leg. U. & W. Starmühler (GZU-232657).

***Seseli tommasinii* H.G.Reichenbach fil.:** Flora exsiccata Austro-Hungarica 1340. Istria, in dumetis prope Parenzo, solo calc., 5-100$^{mt.}$ s. m. (Ditio classica); s.d.; leg. Marchesetti (GZU-298988).- Flora von Istrien, Pola, Hügel bei Veruda; 22.09.1893; leg. K. Untchj (GZU-298958).- Flora Croatica, ad Zakalj pone Fiume; 11.10.1894; leg. Rossi (GZU-118487).- Istria, Abbazia, in locis rupestribus ad viam „Reichsstrasse" inter Lovrana et Mošcenizza; 21.09.1897; leg. Evers (GZU-298928, GZU-298989).- Istria, Abbazia, in dumetis, nec non in locis pietrosis ad viam „Reichsstrasse" ad Lovrana, ad Mošcenizza etc.; 21.09.1897, 15.10.1897; leg. Evers (GZU-298929, GZU-298959).- Istria, Monte Maggiore, in rupibus calcar. ad viam „Reichsstraße" versus Veprinaz; 05.09.1898; leg. Evers (GZU-298992, GZU-298954).- Fiume, in rupibus calcareis, nec non in muris vallis Recinae; 08.09.1898; leg. Evers (GZU-300960, GZU-300990).- Fiume, in rupib. calcar. vallis Recinae; 08.09.1898; leg. Evers (GZU-300929, GZU-300959).- Istria, Abbazia, in rupibus littoreis; 09., 10.1898; leg. Evers (GZU-298932, GZU-298962).- Istria, Volosca, in rupib. calcareis ad viam Flumensem; 10.1899; leg. Evers (GZU-298937).- Istria, Volosca, in rupib. calcareis viae Flumensis in Preluko; 11.10.1899; leg. Evers (GZU-298901, GZU-298967).- Cherso; 25.09.[19]03; leg. M. Heider (GZU-298984).- Flora von Istrien, Pola, Grasplätze – Monte Rizzi; 14.09.1905; leg. K. Untchj (GZU-298997).- Istrien, Pola, trockene, sonnige Grasplätze an der Sissanostrasse; 01.11.1907; leg. Vončina (GZU-116629).- Flora istriaca, Pula, Rabac, Felsen an der Strandpromenade; 12.09.1964; leg. F. Höpflinger (GZU-298990).- Croatia, Istra, in graminosis lapidosis prope vicum Poljane supra Opatija, solo calc., 200 m s. m., 0651/4; 20.10.1971; leg. T. Wraber (GZU-298985).- Kroatien, Istrien (Istria, Istra), Süd-Istrien (Istria meridionale, Juzna Istra), SE Pola (Pula), am Weg von Promontore (Premantura) zum Kap Promontore (Rt Kamenjak), 30 m alt.; Macchiensaum; 16.10.1998; leg. U. & W. Starmühler (GZU-285390).- Kroatien, Istrien,

Zapadna obala/Costa occidentale/Westküste, S Poreč/Parenzo, Plava Laguna, 30 m alt.; Trockenrasen, Terra rossa; 10.2001; leg. P. Vergörer (GZU-236934).- Kroatien, Istrien, Zaledje Rijeke/Entroterra di Fiume/Hinterland von St. Veit, 0,1 km S Rupa/Ruppa, N 45° 28,35', E 14°16,99', 450 m alt.; Karstheide; 07.09.2003; leg. U. & W. Starmühler (GZU-285388).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel "Rubin", 30 m alt.; Trockenrasen, Terra rossa; 26.09.2004; leg. P. Vergörer (GZU-285445).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SSE Poreč/Parenzo, E Mugeba/Monghebbo, etwa 80 m alt.; Wegrand, Terra rossa; 03.10.2011; leg. P. Vergörer (GZU-316293).

***Seseli tortuosum* Linnaeus:** Pola; 28.09.1884; Herb. Palla (GZU-298925, GZU-298955).- Flora von Istrien, Pola, Seestrand bei Fisella; 20.09.1893; leg. K. Untchj (GZU-298956, GZU-298986).- Flora von Istrien, Pola, Scoglio Pietro; 25.09.1901; leg. K. Untchj (GZU-298926).- Südistrien, Macchien bei Monumenti; 09.1916; leg. Vončina (GZU-116630, GZU-116631, GZU-298987).- Südistrien, Macchien bei Monumenti; 11.1916; leg. Vončina (GZU-298957).- Jugoslawien, Istrien, am Südhang ober dem Limski Kanal ne [NE] von Rovinj an steiniger Stelle an der Straße; 09.11.1984; leg. Melzer (GZU-298927).- Kroatien, Istrien, Južna Istra/Istria meridionale/Süd-Istrien, SSE Pula/Pola, 1 km S Premantura/Promontore, etwa 25 m alt.; in ungemähten Wiesen; 22.09.2006; leg. D. Jakely & H. Könighofer (GZU-303237).

***Sison amomum* Linnaeus:** Istrien, Kloster Čepić; 07.1897; leg. Vončina (GZU-116600).

***Sium latifolium* Linnaeus:** Istrien, Bucht von Pirano, Canal Sibadore bei den Salinen von Sicciole; 07.1912; leg. Vončina (GZU-116602, GZU-116603).

***Sium sisarum* Linnaeus:** Istrien, Bucht von Pirano, Kanal Sibadore bei den Salinen von Sicciole; 07.1912; leg. Vončina (GZU-116604, GZU-116605).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, NE Novigrad/Cittanova, SSE Nova Vas/ Villanova, SE Srbani/Serbani, SE der Erzengel Michael-Kirche, bei der Brücke über die Mirna/Quieto, N 45°20,127', E 13°39,170', 7 m alt.; *Phragmites*-Gebüsch am Flussufer; 12.08.2007; leg. U. & W. Starmühler (GZU-303230). **!!New for Istria, Croatia and Slovenia!!**

***Smyrnium olusatrum* Linnaeus:** Istrien, Pola; 10.04.[18]48; leg. Schambach (GZU-118689).- Triest, St Andrea; 24.04.[1]870; leg. C. Marchesetti (GZU-298864, GZU-298895).- Istrien, Pola, S. Caterina; 11.04.1891; leg. Vončina (GZU-116601).- Flora von Istrien, Pola, Scoglio San Pietro; 20.03.1897; leg. Untchj (GZU-298866, GZU-298896).- Flora von Istrien, Pola, Scoglio Pietro; 14.03.1902; leg. Untchj (GZU-298865).- Tergestum, St. Andrea, in dumetis antiqui Campi Martii; 22.04.1902; leg. Evers (GZU-298833, GZU-298863, GZU-298893).- Flora von Istrien, Pola, Scoglio Pietro; 14.04., 19.05.1905; leg. Untchj (GZU-298835).- Istrien, Ins. Cherso, Ossero; auf Mauerschutt; 04.[1]912; leg. Arbesser (GZU-027158).

***Smyrnium perfoliatum* Linnaeus subsp. *perfoliatum*:** In sylvula Lipicensi; s.d.; Herb. D.H. Hoppe (GZU-065025).- Fiume; 04.-06.; Herb. Ettingshausen (GZU-300952).- Tersato bei Fiume; 19.05.1887; Herb. K. Fritsch (GZU-300923).- Fiume, Monte Tersatto; 05.1896; leg. Pistl (GZU-300953, GZU-300983).- Flora Istriaca, Abbazia, in einem Weingarten bei Castua; 05.[18]98; leg. L. Richter (GZU-295394, GZU-300922).- Istria, Chersano prope lacum Čepić, in pratis dumetosis; 08.05.1898; leg. Evers (GZU-295455).- Fiume, in silvis sub castello Frangipanorum Tersato; 13.04., 18.05.1898; leg. Evers (GZU-295366, GZU-295396).- Fiume Orehovica; 18.05.1903; leg. Vončina (GZU-116800).- Istrien, Wachsenstein am Čepić-See; buschige Orte; 04.[1]913; leg. Arbesser (GZU-027155).- Istrien, Chersano; schattige, buschige Orte; 04.[1]913; leg. Arbesser (GZU-027156).- Slowenien, Istrien, Čičarija/Cicceria/Tschitschenboden, S Kozina/Cosina, N Rakitovec/Aquaviva dei Vena, NW-Hang vom Berg Lipnik/M. dei Tigli, 730 m alt.; *Cory-*

lus-Gebüsch; 11.06.2004; leg. H.P. Meister, O. Rainer, U. & W. Starmühler (GZU-285446).- Kroatien, Istrien, Riječki zaljev/Golfo di Fiume/Golf von St. Veit, NE Labin/Albona, am Weg von Plomin/Fianona zum Rt Mašnjak/Punta del Gatto/Paxtecum, N 45° 08,008', E 14°11,222', 160 m alt.; Schibliaksaum; 13.04.2006; leg. W. Mucher sen. & W. Starmühler (GZU-303236).

***Tordylium apulum* Linnaeus:** Istrien; 09.06.1857; leg. … (GZU-118807).- Pola, Amphitheater; 06.1858; Herb. J. Kerner (GZU-298899).- Pola; 21.05.1887; Herb. K. Fritsch (GZU-298922).- Gehänge des Monte Ossero und auch bei Ossero selbst gemein (Lussin und Cherso); 21.05.1887; Herb. K. Fritsch (GZU-298952).- Istrien, Pola, S^{glio} Franz; 11.04.1891; leg. Vončina (GZU-116595).- Steiniger Grund bei Pola; 25.05.[1]891; Herb. P. v. Troyer (GZU-298931).- An steinigen Abhängen bei Lussin piccolo; 04.1895; Herb. P. v. Troyer (GZU-298751).- Flora von Istrien, Pola, Grasplätze bei Maria Louise; 16.05.1895; leg. K. Untchj (GZU-298721).- Flora von Istrien, Pola, Grasplätze bei Fisella; 08.05.1897; leg. K. Untchj (GZU-118336).- Istria, Pola, ad viam Fasanensem; 05.06.1898; leg. Evers (GZU-298781, GZU-298930).- Fiume, Martinšciča, ad vias; 19.06.1898; leg. Evers (GZU-298921, GZU-298982).- Pirano (Küstenl.); 29.04.1900; Herb. M. Salzmann (GZU-060351).- Flora von Istrien, Pola, Scoglio Pietro; 08.04.1902; leg. K. Untchj (GZU-298953, GZU-298870).- Pola, Val di Pucca, in locis graminosis; 23.05.1902; leg. Evers (GZU-298752, GZU-298782).- Istrien, Pola; 28.04.1906; leg. K. Fritsch (GZU-298722).- Flora von Istrien, Lussinpiccolo; 05.1907; leg. A. Wilkoszewski (GZU-298960).- Auf Lussin bei Cigale; 04.1908; leg. J. Nevole (GZU-298869).- Auf Lussin beim Kalkofen; 04.1908; leg. J. Nevole (GZU-298900).- Istrien, Ins. Lussin; kultiv. Orte; 04.[1]912; leg. Arbesser (GZU-027123).- Istrien, Umgebung v. Pola; wüste Orte; 05.[1]914; leg. Arbesser (GZU-027124).- Österreich, Küstenland, Rovigno; 24.03.[19]16; leg. Litschauer (GZU-298839).- Istrien, Weg- und Wiesenränder bei Rovigno; 28.05.1927; leg. F.J. Widder (GZU-298951).- Monte San Giovanni, Lussinpiccol[o], 100 mt s.m.; 05.1935; Herb. F. Stippl (GZU-298983).- Yugoslawien, Istrien, Pola; 17.04.1960; leg. J. Brunner (GZU-298601).- Rovinj, Istrien; 06.06.1965; leg. G. Heinrich (GZU-218842).- Kroatien, Istrien (Istria, Istra), Süd-Istrien (Istria meridionale), SSE Pola (Pula), SW Promontore (Premantura), 35 m alt.; *Pinus halepensis*-Wald; 17.05.1997; leg. U. & W. Starmühler (GZU-232658).- Kroatien, Istrien, Insel Cres/Cherso, W-Hang zum Vrana-See, 200 m alt.; Schibliaksaum; 30.04.2003; leg. H.P. Meister, U. & W. Starmühler (GZU-285447).- Kroatien, Istrien, Zapadna obala, Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, E vom Hotel „Diamant", 30 m alt.; Trockenrasen, Terra rossa; 13.05.2004; leg. P. Vergörer (GZU-285448).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SE Rovinj/Rovigno/Rofein, am Weg von der Uvala Cisterna/Valle Cisterna/Zisternen-Bucht zum Palud-/Palù-See, N 45°02,086', E 13°41,747', 5 m alt.; Macchiensaum; 29.04.2006; leg. U. & W. Starmühler (GZU-303224).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, E Rovinj/Rovigno/Rofein, N-Ortsrand von Rovinjsko Selo/Villa di Rovigno, N 45°06,701', E 13°42,627', 145 m alt.; Wegrand; 17.04.2011; leg. M. Fellner, W. Mucher sen., E. Schalk & W. Starmühler (GZU-316300).

***Tordylium maximum* Linnaeus:** Flora von Istrien, Pola, Hecken beim Marine Friedhof sehr selten !!; 24.06.1896; leg. K. Untchj (GZU-298923).- Österreich, Küstenland, Canfanaro; 18.07.[19]15; leg. Litschauer (GZU-298924).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, ENE Novigrad/Cittanova/Neuenburg, S Nova Vas/Villanova, Srbani/Serbani, N 45°20'36,30", E 13°38'40,24", 105 m alt.; Ödland; 05.06.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316297).- Kroatien, Istrien, Unutrašnja Istra/ Istria interna/Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo, entlang der Eisenbahnstrecke, N 45°22'45,29", E 14°04'31,24", 389 m alt.; Bahnböschung; 02.07. 2011; leg. H. Mucher, W. Mucher sen. & W. Starmühler (GZU-316284).

***Torilis africana* C.P.J.Sprengel var. *africana* [= *T. arvensis* (W.Hudson) J.H.F. Link subsp. *purpurea* (M.Tenore) A. von Hayek var. *purpurea*]:** Kroatien, Istrien, Quarner Bucht, otok Krk/isola Veglia/Insel Vögls, Njivice, Sidrište Beli Kamik/Rado Sasso Bianco/Weißenfels-Bucht, beim Hotel „Beli Kamik“, N 45°10,153’, E 14°32,944’, 22 m alt.; Schibliaksaum; 15.07.2006; leg. U. & W. Starmühler (GZU-303235). **!!New for the island Krk/Veglia/Vögls, Istria and Croatia!!**

***Torilis africana* C.P.J.Sprengel var. *heterophylla* (G.Gussone) J.-P.Reduron [= *T. arvensis* (W.Hudson) J.H.F.Link subsp. *heterophylla* (G.Gussone) A.Thellung]:** Flora von Istrien, Pola, Kaiserwald; 09.04.1894; leg. K. Untchi (GZU-300806).- Flora von Istrien, Pola, Kaiserwald; 09.06.1894; leg. K. Untchj (GZU-300805).- Istria, Vallis Rabaz, in locis graminosis et lapidosis ad ruinas turris; 06.06.1899; leg. Evers (GZU-300835, GZU-300836).- Rovinj, Istrien; 06.06.1965; leg. G. Heinrich (GZU-218843).- Kroatien, Kvarner Inseln, Insel Cres, Steig von Lubenice zur Bucht von Lubenice, 140 m, ca. 44°55’N/ 14°18’E; verebneter Mittelhang, Schafweide über Kalk; 30.05.1997; leg. M. Magnes (GZU-216942).- Kroatien, Istrien (Istria, Istra), Golf von St. Veit (Golfo di Fiume, Riječki zaljev), SE Albona (Labin), am Weg von Porto di Albona (Rabac) nach Danzabella (Gondolić), N 45°04,58’, E 14°09,12’, 55 m alt.; Macchiensaum; 12.05.2000; leg. U. & W. Starmühler (GZU-238676).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, SE Vrsar/ Orsera, beim Flughafen N vom Limski kanal/Canale di Leme/Leme-Kanal, 30 m alt.; Wegrand, Kalk; 05.2002; leg. P. Vergörer (GZU-238739).- Kroatien, Istrien, Insel Cres/ Cherso, SW Belej/Bellei, am Weg zur Kirche Sv. Martin/S. Martino, N 44°46,39’, E 14° 25,10’, 140 m alt.; Trockenrasen; 19.05.2002; leg. U. & W. Starmühler (GZU-238740).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, W Buzet/Pinguente, Bračana-/ Brazzana-Tal bei Opatija/Opatia, auf der Burg Pietrapelosa/Rauenstein, N 45°24,372’, E 13°53,910’, 110 m alt.; Schibliaksaum; 01.06.2006; leg. H.P. Meister, U. & W. Starmühler (GZU-303225).- Kroatien, Istrien, Quarner Bucht, otok Cres/isola Cherso/Insel Kherscher, an der Straße von Cres/Cherso/Kherscher nach SE zum Einstieg auf den Berg Garbujev/Gherbuie, N 44°57,467’, E 14°24,944’, 39 m alt.; Steinmauer; 22.05.2009; leg. E. Schalk & W. Starmühler (GZU-303229).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/ Inner-Istrien, SE Poreč/Parenzo, zwischen Delići/Delich und Bralići/Bralich, 40 m alt.; Brache, Kalk; 24.05.2009; leg. P. Vergörer (GZU-303226).

***Torilis arvensis* (W.Hudson) J.H.F.Link:** Croatia, Tersatto bei Fiume; 08.1906; leg. M. Heider (GZU-298819).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-küste, S Poreč/Parenzo, Zelena Laguna/Val Sessola, 30 m alt.; Terra rossa, Brache; 12.06.2003; leg. P. Vergörer (GZU-285449).

***Torilis arvensis* (W.Hudson) J.H.F.Link subsp. *arvensis*:** Istrien; s.d.; Herb. Huber & Dietl (GZU-120191).- Pola; 20.06.[18]86; Herb. F. Krašan (GZU-300962).- Istria, Abbazia, ad vias; 26.08.1897; leg. Evers (GZU-300931, GZU-300991).- Flora von Istrien, Pola, Kaiserwald; 07.11.1897; leg. K. Untchi (GZU-300834).- Küstenland, Servola; 27.06. 1906; leg. K. Fritsch (GZU-300735, GZU-300992).- Istrien, Pola, Kaiserwald; 07.1915; leg. Vončina (GZU-116590).- Jugoslawien, Istrien, nördlich Novigrad bei Mareda nächst Dajla; 07.1989; leg. Melzer (GZU-300961).- Jugoslawien, Istrien, nördlich Novigrad bei Mareda im Gebüsch; 22.07.1989; leg. Melzer (GZU-300930).- Kroatien, Istrien (Istria, Istra), Süd-Istrien (Istria meridionale), ESE Pola (Pula), zwischen Lisignano (Ližnjan) und Medolino (Medulin), N 44°49,64’, E 13°56,85’, 45 m alt.; Schuttplatz; 02.08.1997; leg. U. & W. Starmühler (GZU-232659).- Kroatien, Istrien, Insel Krk/Veglia/Vögls, N Krk/Veglia/Vögls, E oberhalb von Ponikve/Lago di Ponighe/Ponighe-See, N 45°04,40’, E 14°35,54’, 20 m alt.; Schibliaksaum; 15.06.2001; leg. U. & W. Starmühler (GZU-285480).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Poreč/Parenzo, bei Montižana/Montisana; Ruderal, Kalk; 05.2002; leg. P. Vergörer (GZU-238738).

***Torilis arvensis* (W.Hudson) J.H.F.Link subsp. *neglecta* A.Thellung:** Insel Lussin, Cigale; 25.06.1910; leg. Vončina (GZU-116592). **!!New for the island Lošinj/Lussino/Lussin and Istria!!**

***Torilis japonica* (M.Houttuyn) A.P.Candolle:** Flora von Istrien, Pola, Kaiserwald; 07.11.1897; leg. K. Untchj (GZU-298662, GZU-300804).

***Torilis nodosa* (Linnaeus) J.Gaertner subsp. *nodosa*:** Pola; 05.07.[18]86; Herb. F. Krašan (GZU-300807).- Pola, Kaiserwald; 23.05.1887; Herb. K. Fritsch (GZU-300705).- Steinige Gründe bei Pola; 25.05.[1]891; Herb. P. v. Troyer (GZU-300932).- Flora von Istrien, Pola, Raine bei Ovina; 19.05.1895; leg. K. Untchj (GZU-300838).- Tergestum, St. Andreae, in locis graminosis antiqui Campi Martii; 06.05.1902; leg. Evers (GZU-300808, GZU-300839).- Wegränder; Cigale, Lussin, Istrien; 06.1912; leg. E. Diettrich-Kalkhoff (GZU-300837).- Rovigno (Istrien); 20.05.1934; Herb. M. Salzmann (GZU-058297).

***Trinia glauca* (Linnaeus) B.C.J.Dumortier:** Flora von Triest, Kalkgeröll, Monte Spaccato, 1000'; 22.05.[18]87; leg. V. Cerouvé (GZU-117529).- Italien, nördliche Umgebung von Triest, Triestiner Karst ca. 2 km W Villa Opicina, 13°45'24''E, 45°41'38''N, 300-350 m; verbuschende Trockenrasen; 01.06.2001; leg. A.C. Drescher (GZU-253590).- Italien, Triestino/Territorium von Triest, NE Trieste/Triest, NNE Villa Opicina/Opčine/Optschina, am Weg von der Foiba Opicina zur Conca Percedo/Doline Percidol, N 45°42,01', E 13°48,29', 320 m alt.; Trockenrasen; 17.05.2004; leg. W. Starmühler (GZU-285478).- Slowenien, Istrien (Istria, Istra), Golf von Triest (Golfo di Trieste, Tržaški zaliv), SE Triest (Trieste), am Weg von Ospo (Osp) nach Castelz (Kastelec), SW-Hang vom Fünfenberg (M. Carso, Kras), N 45°34,49', E 13°51,72', 275 m alt.; Karstheide; 04.05.2000; leg. U. & W. Starmühler (GZU-285479).- Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, N Buzet/Pinguente, an der Straße von Martin/S. Martino/St. Martin nach Brest/Olmeto di Pinguente, etwa 2 km N Počikaj, N 45°26,588', E 13°58,264', 500 m alt.; Karstheide; 21.05.2011; leg. V. Mikoláš, W. Mucher sen. & W. Starmühler (GZU-316291).- Kroatien, Istrien, Ćićarija/Cicceria/Tschitschenboden, N Buzet/Pinguente, an der Straße von Martin/ S. Martino/St. Martin, nach Brest/Olmeto di Pinguente, etwa 2 km N Počikaj, N 45°26,588', E 13°58,264', 500 m alt.; Karstheide; 21.05.2011; leg. V. Mikoláš, W. Mucher sen. & W. Starmühler (GZU-316263).

***Trinia glauca* (Linnaeus) B.C.J.Dumortier subsp. *glauca*:** Barcola (Trieste), s.d.; Herb. F. Krašan (GZU-298898).- Flora von Istrien, Wiesen – Monte Slavnik; 24.06.1894; leg. K. Untchj (GZU-298837).- Carso tergestinus, in pratis prope Opčina; 06.05.1902; leg. Evers (GZU-298838).- Carso tergestinus, in pratis prope Opčina etc. frequentissima; 06.05.1902; leg. Evers (GZU-298868).- Istrien, Podgorje b. Triest; Wiesen; 05.[1]911; leg. Arbesser (GZU-027035).- Istrien, Slaunig; Wiesen; 09.06.1912; leg. Vončina (GZU-116585).- Istrien, Sbevnica b. Rakitović; Bergwiesen; 06.[1]914; leg. Arbesser (GZU-027036).

***Turgenia latifolia* (Linnaeus) G.F.Hoffmann:** Pola; s.d.; leg. Pelikan (GZU-298836, GZU-298897).- Fiume; 06.1858; Herb. J. Kerner (GZU-115945).- Istrien, Pola, Getreidefelder gegen den Kaiserwald; 01.06.1896; leg. Vončina (GZU-116581).- Flora von Istrien, Pola, Aecker zw. Prato grande u. P. Vincurian; 04.06.1899; leg. K. Untchj (GZU-298834).- Österreich, Küstenland, San Vincenti; 03.06.[19]16; leg. Litschauer (GZU-298894).

***Xanthoselinum alsaticum* (Linnaeus) P.J.F.Schur subsp. *venetum* (C.P.J. Sprengel) J.-P.Reduron, A.Charpin & M.G.Pimenov:** Im Boschetto bei Triest; ist im Bezirke sehr gemein u. außerordentlich varirend; 07., 08.; leg. M. Prihoda (GZU-298796).- Flora von Istrien, Pola, Kaiserwald; 29.09.1892; leg. K. Untchj (GZU-298715).- Istria, Abbazia, in dumetis; 09. et 10.1897; leg. Evers (GZU-298716, GZU-298746).- Istria, Volosca, in dumetis et vinetis; 15.10.1898; leg. Evers (GZU-298717, GZU-298747).- Tergestum, Monte Grisa, ad pedes rupium perpendicularium; 15.11.1901; leg. Evers

(GZU-298718, GZU-298748).- Küstenland, Grignano; 28.09.1906; leg. K. Fritsch (GZU-298719, GZU-298749).- Triest, Gartenränder in Chiampore; 02.08.1953; leg. Höpflinger (GZU-150479).- Jugoslawien, Lovran bei Abbazia; 13.09.1958; leg. J. Brunner (GZU-298750).- Kroatien, Istrien, ca. 4 km NNW von Rovinj, kurz oberhalb des *Quercus ilex*-Niederwaldes an der Bucht „Faborsa“, 45°07’03’’N, 13°27’00’’E, ca. 5-10 m; Brachflächen mit zahlreichen Archaeophyten; 06.09.2001; leg. C. Scheuer (GZU-230778).- Kroatien, Istrien, Zapadna obala/Costa occidentale/Westküste, S Poreč/Parenzo, Zelena Laguna/ Valle Dolini, 20 m alt.; Gebüschsaum, Terra rossa; 10.2001; leg. P. Vergörer (GZU-236933).- Slowenien, Istrien, Tržaški zaliv/Golfo di Trieste/Golf von Triest, WSW Izola/ Isola, Strunjan/Strugnano, beim Hotel „Krka“, 3 m alt.; Wegrand, Flysch; 02.11.2003; leg. P. Vergörer (GZU-285471).- Kroatien, Istrien, Zapadna obala/Costa occidentale/West-Küste, S Poreč/Parenzo, Plava Laguna/Val Tedole, beim Hotel „Diamant“, 20 m alt.; Schibliaksaum, Terra rossa; 26.09.2004; leg. P. Vergörer (GZU-286210).- Kroatien, Istrien, Unutrašnja Istra/Istria interna/Inner-Istrien, SE Buzet/Pinguente, Ročko Polje/Polie di Rozzo/Rotzfeld, entlang der Eisenbahnstrecke, N 45°22’53,94”, E 14°04’28,62”, 385 m alt.; Schutt; 30.07.2011; leg. W. Mucher sen. & W. Starmühler (GZU-316257).

Fig. 5: *Laserpitium latifolium* L. f. *macrophyllum* BOLZON, new for Istria und Croatia!

Fig. 6: *Oenanthe silaifolia* M.Bieb., new for Friuli-Venezia Giulia!

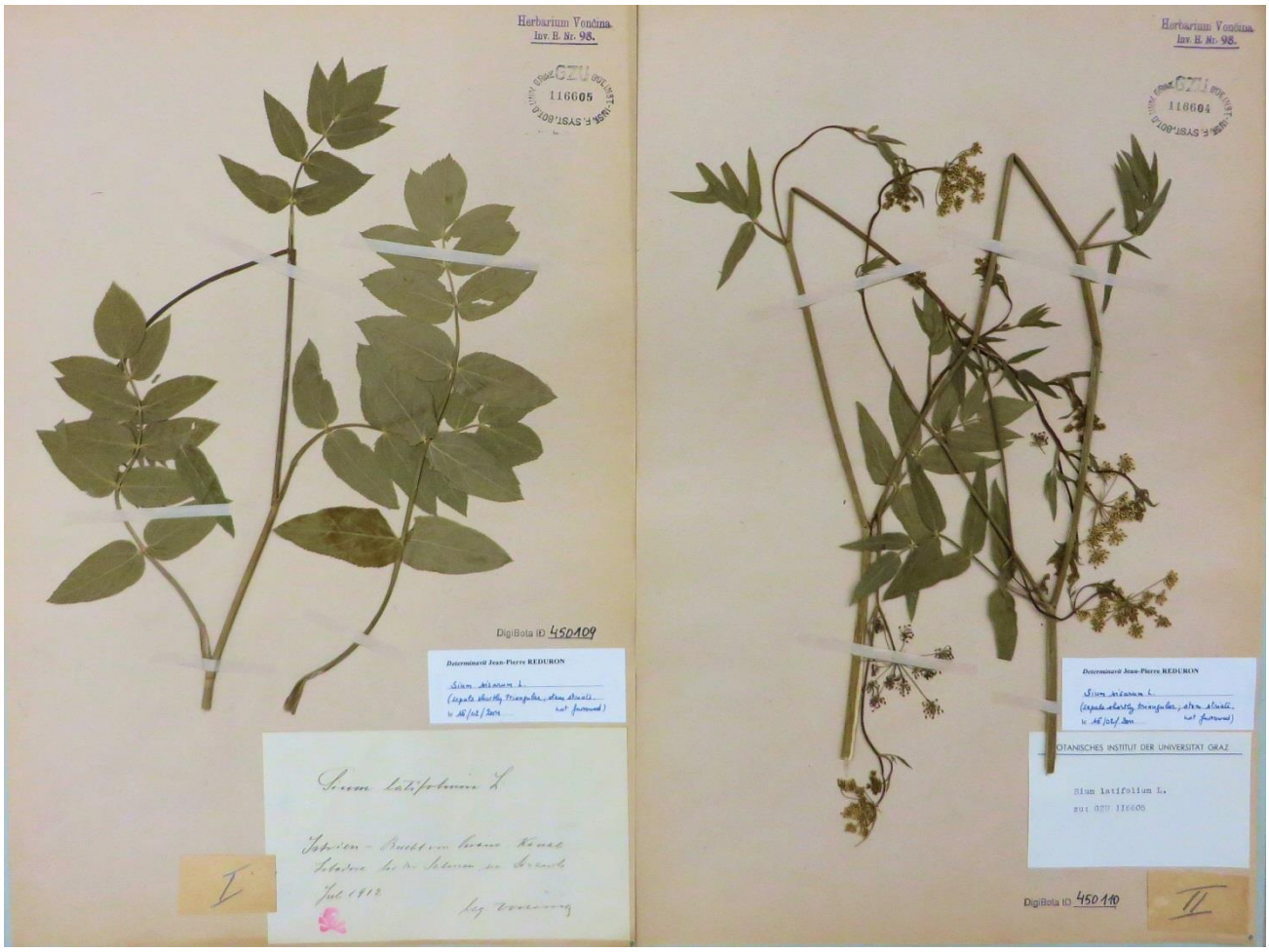


Fig. 7: *Sium sisarum* L., new for Istria, Croatia and Slovenia!

Fig. 8: *Torilis arvensis* (HUDS.) LINK subsp. *neglecta* (SCHULT.) THELL., new for Istria!

4. References

LOSER A. 1860a: Specielles Verzeichnis der in der Umgebung von Capodistria einheimischen Pflanzen. Mit einem Vorworte von M. Tommasini. I. – Österreichische Botanische Zeitschrift 10(8): 241-247.

LOSER A. 1860b: Specielles Verzeichnis der in der Umgebung von Capodistria einheimischen Pflanzen. Mit einem Vorworte von M. Tommasini. II. – Österreichische Botanische Zeitschrift 10(9): 273-301.

MARCHESETTI C. 1896-1897. Flora di Trieste e de'suoi dintorni. – Trieste: Museo civico di storia naturale, 727 pp.

REDURON J.-P. 2002a: Checklist für die Apiaceae: 547-550. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil V. - Carinthia II: 192./112.: 545–602.

REDURON J.-P. 2002b: Revidierte Belege aus dem "Herbarium Istriacum": 578-587. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil V. - Carinthia II: 192./112.: 545–602.

REDURON J.-P. 2003: Belege zur "Flora von Istrien" aus anderen Herbarien: 624. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil VI. - Carinthia II: 193./113.: 579–658.

REDURON J.-P. 2004: Revidierte Belege aus dem "Herbarium Istriacum": 631-638. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil VII. - Carinthia II: 194./114.: 591–651.

REDURON J.-P. 2008: Corrigenda: 592. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil XI. - Carinthia II: 198./118.: 543–618.

REDURON J.-P. 2011: Revidierte Belege aus dem "Herbarium Istriacum": 557-564. In: STARMÜHLER W., Vorarbeiten zu einer "Flora von Istrien", Teil XIV. - Carinthia II: 201./121.: 543–612.

REDURON J.-P. 2012a: Revidierte Belege aus dem "Herbarium Istriacum": 629-634. In: ROTTENSTEINER W.K., Vorarbeiten zu einer "Flora von Istrien", Teil XV. - Carinthia II: 202./122.: 601–662.

REDURON J.-P. 2012b: Corrigenda: 643. In: ROTTENSTEINER W.K., Vorarbeiten zu einer "Flora von Istrien", Teil XV. - Carinthia II: 202./122.: 601–662.

REDURON J.-P. 2012c: Belege zur "Flora von Istrien" aus anderen Herbarien: 648. In: ROTTENSTEINER W.K., Vorarbeiten zu einer "Flora von Istrien", Teil XV. - Carinthia II: 202./122.: 601–662.

REDURON J.-P. 2013: Belege zur "Flora von Istrien" aus anderen Herbarien: 624-628. In: ROTTENSTEINER W.K., Vorarbeiten zu einer "Flora von Istrien", Teil XVI. - Carinthia II: 203./123.: 575–632.

REDURON J.-P. 2014: APIACEAE LINDL. - Doldengewächse. In: ROTTENSTEINER W.K. (Hrsg.), Exkursionsflora für Istrien. - Naturwissenschaftlicher Verein für Kärnten, Klagenfurt: 159–190.

5. Distribution maps

Frequency of the taxa in Istria's 21 sections:

light grey = no occurrence/records
grey = rare (r)
dark grey = scattered (s)
black = frequent (f)

k = cultivated
? = occurrence doubtful
† = extinct

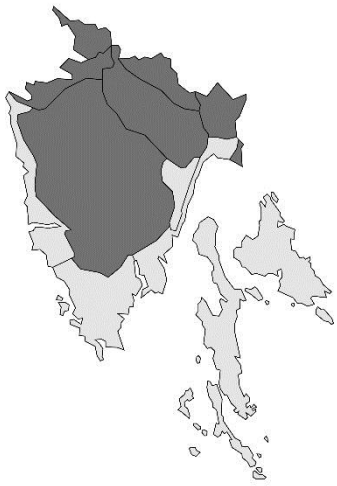


Fig. 9: *Aegopodium podagraria*

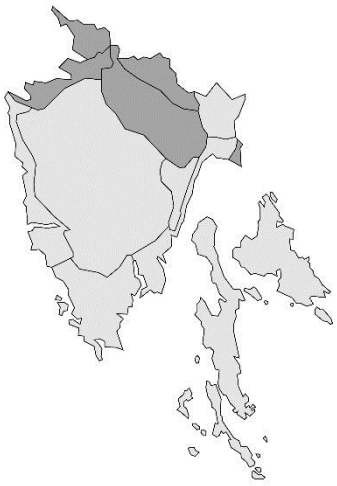


Fig. 10: *Aethusa cynapium*

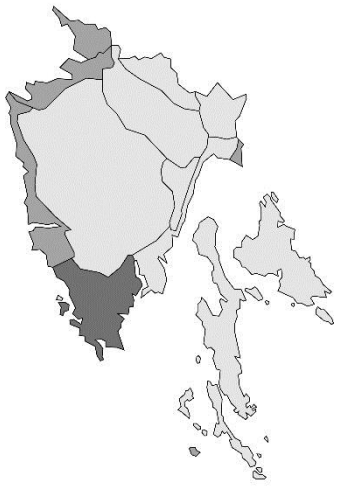


Fig. 11: *Ammi majus*

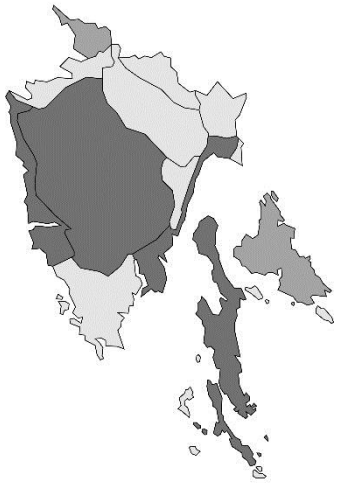


Fig. 12: *Ammoides pusilla*

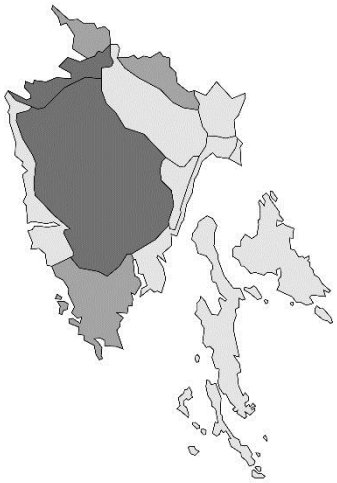


Fig. 13: *Anethum graveolens*

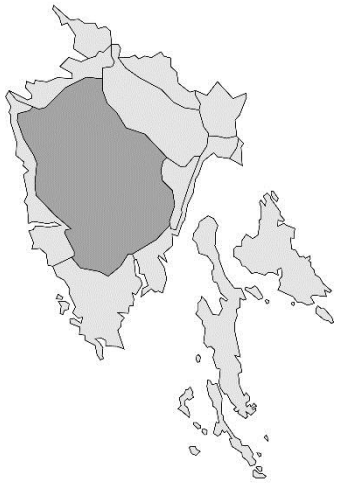


Fig. 14: *Angelica archangelica*

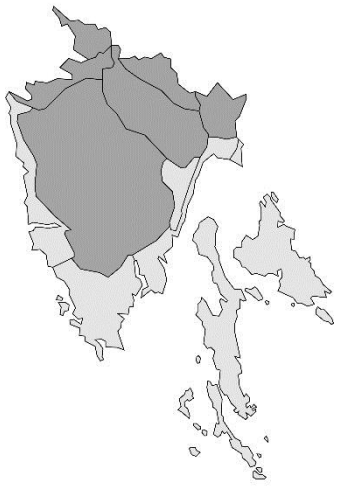


Fig. 15: *Angelica sylvestris*

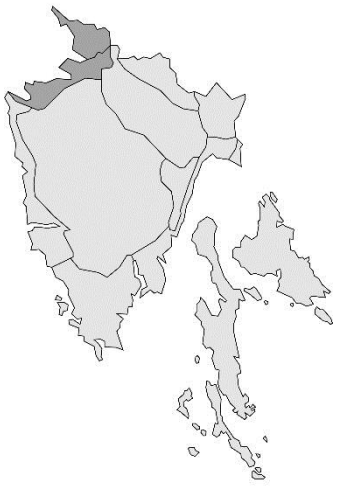


Fig. 16: *Angelica sylvestris* subsp. *sylvestris*

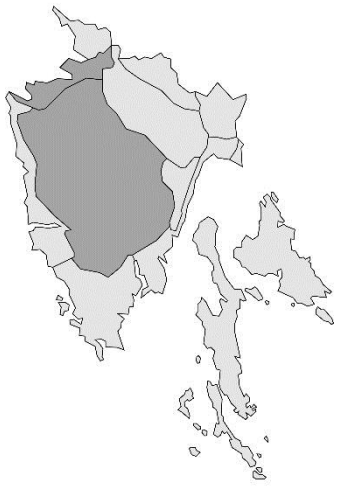


Fig. 17: *Anthriscus caucalis*

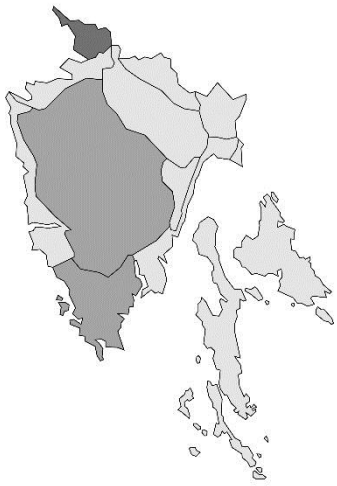


Fig. 18: *Anthriscus cerefolium*

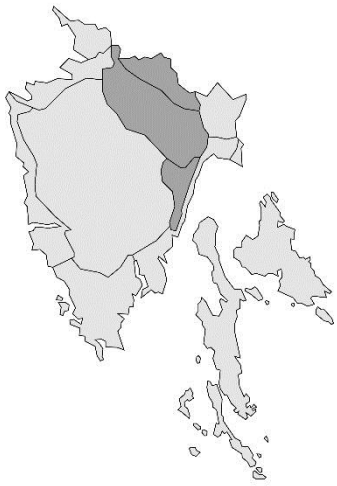


Fig. 19: *Anthriscus nitida*

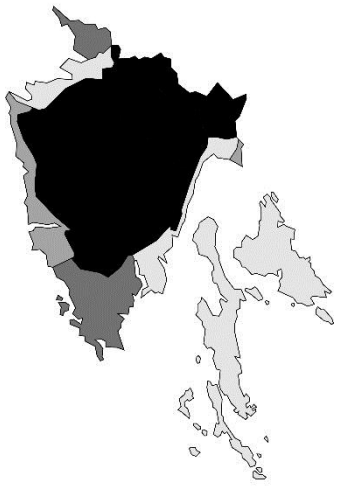


Fig. 20: *Anthriscus sylvestris*

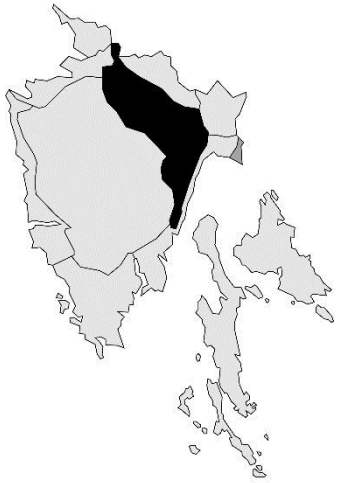


Fig. 21: *Anthriscus sylvestris* subsp. *fumarioides*

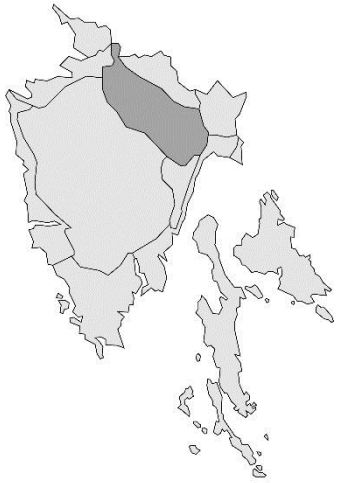


Fig. 22: *Anthriscus sylvestris* subsp. *nemorosa*

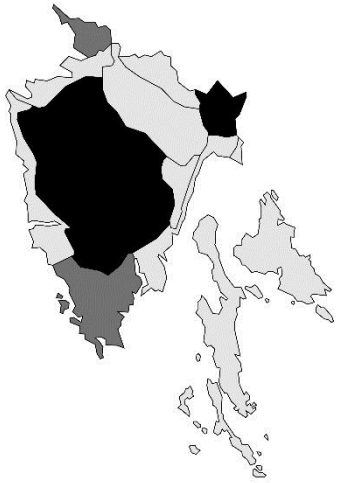


Fig. 23: *Anthriscus sylvestris* subsp. *sylvestris*

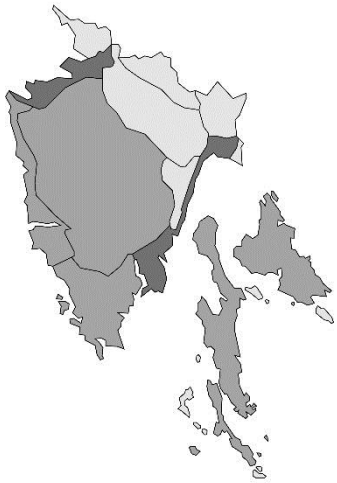


Fig. 24: *Apium graveolens* var. *graveolens*

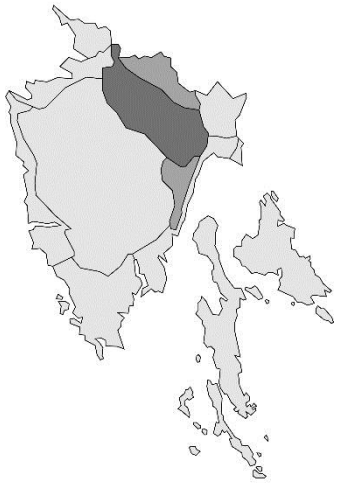


Fig. 25: *Astrantia major* subsp. *involucrata*

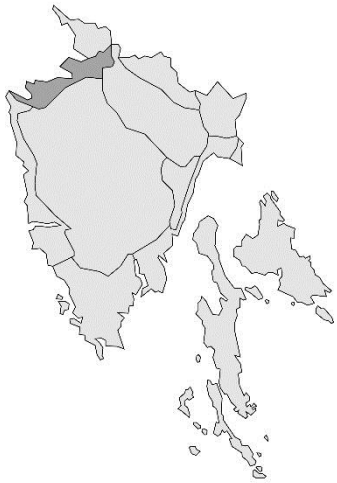


Fig. 26: *Astrodaucus orientalis*

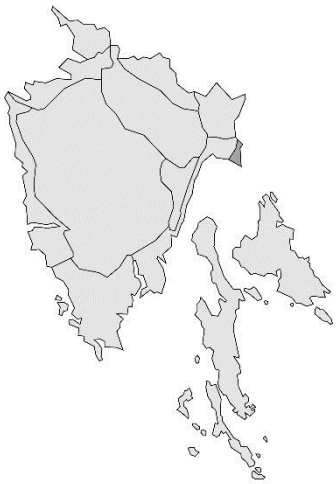


Fig. 27: *Athamanta cretensis*

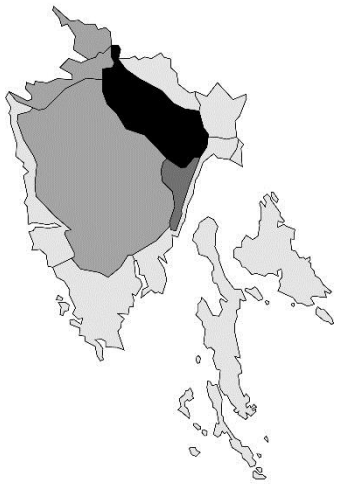


Fig. 28: *Athamanta turbith*

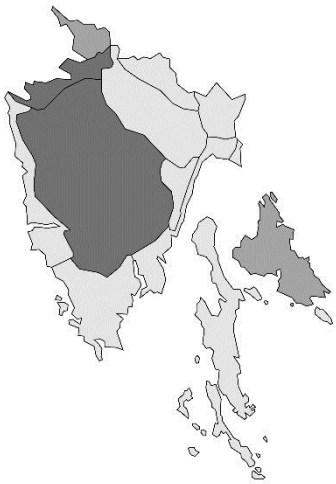


Fig. 29: *Berula erecta*

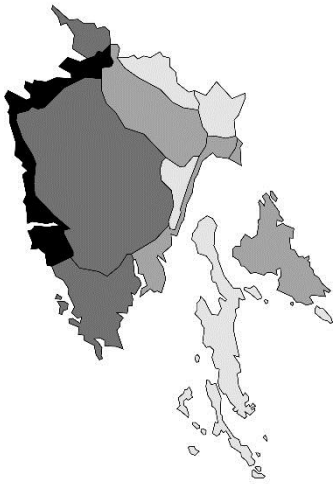


Fig. 30: *Bifora radians*

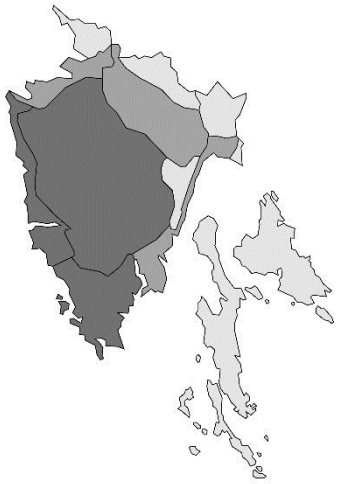


Fig. 31: *Bifora testiculata*

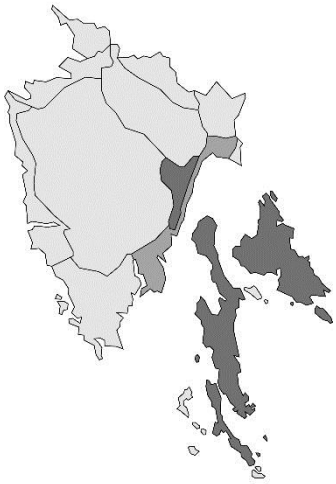


Fig. 32: *Bunium alpinum* subsp. *montanum*

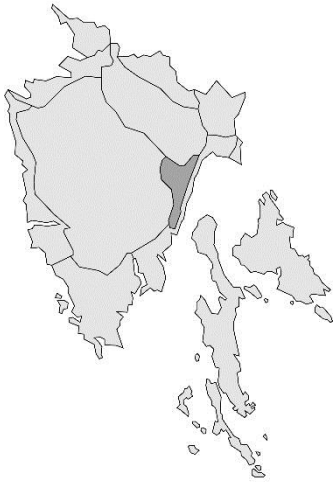


Fig. 33: *Bunium bulbocastanum*

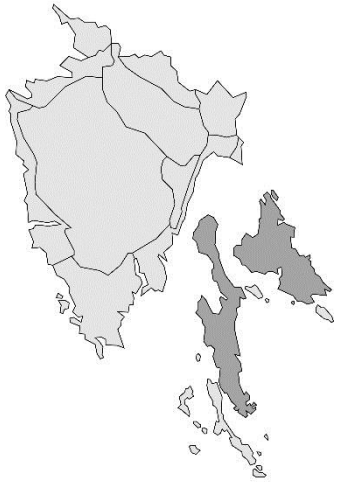


Fig. 34: *Bunium ferulaceum*

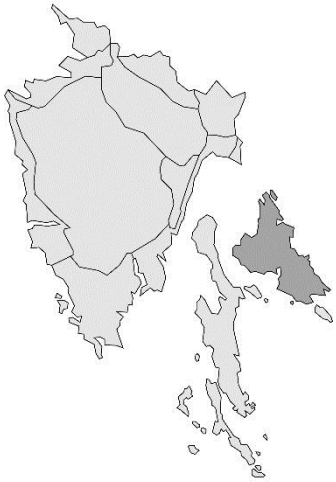


Fig. 35: *Bunium pachypodum*

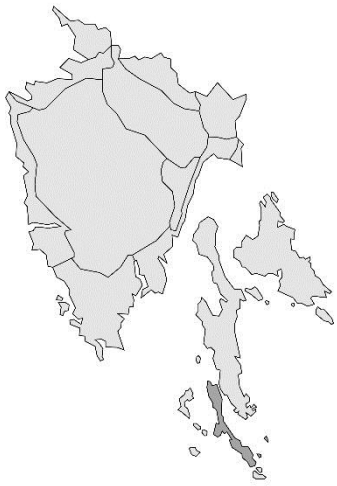


Fig. 36: *Bupleurum affine*

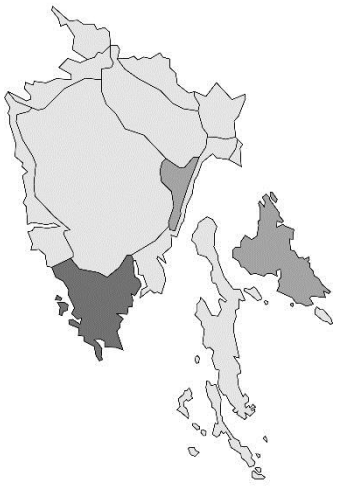


Fig. 37: *Bupleurum baldense*

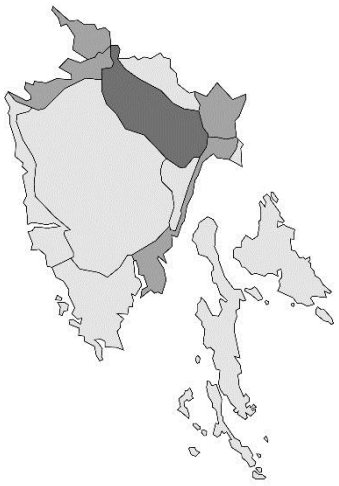


Fig. 38: *Bupleurum falcatum*

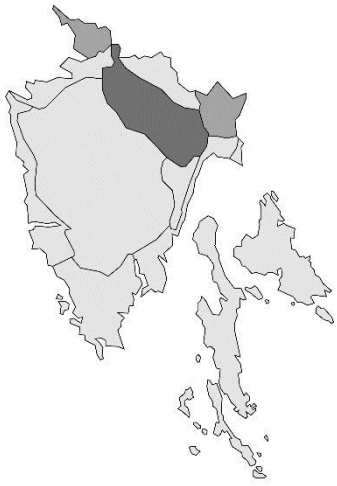


Fig. 39: *Bupleurum falcatum* subsp. *cernuum*

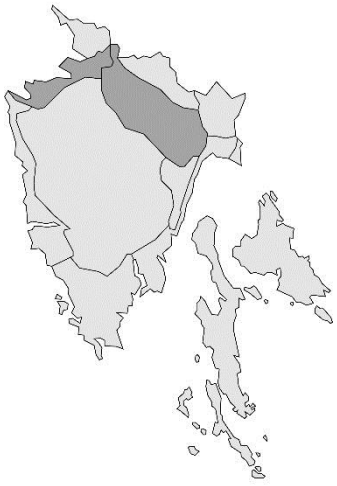


Fig. 40: *Bupleurum falcatum* subsp. *falcatum*

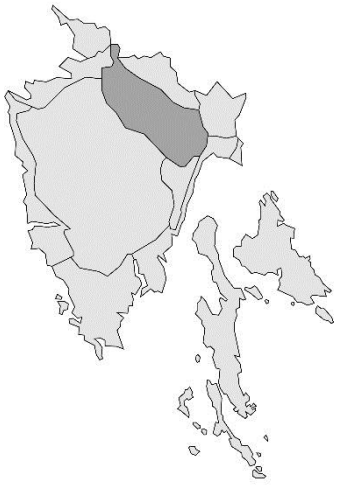


Fig. 41: *Bupleurum falcatum* subsp. *falcatum* var. *angustifolium*

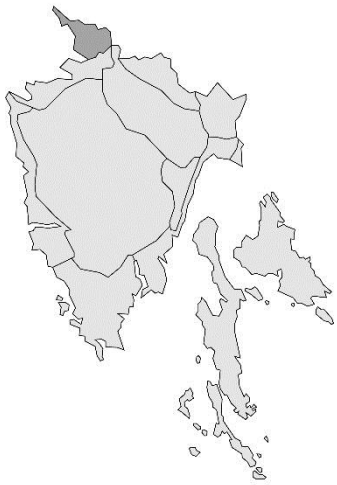


Fig. 42: *Bupleurum gerardi*

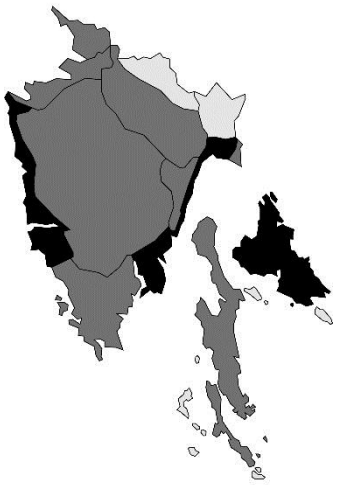


Fig. 43: *Bupleurum praealtum*

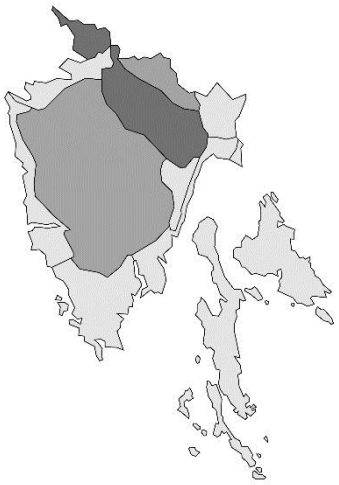


Fig. 44: *Bupleurum ranunculoides* subsp. *ranunculoides*

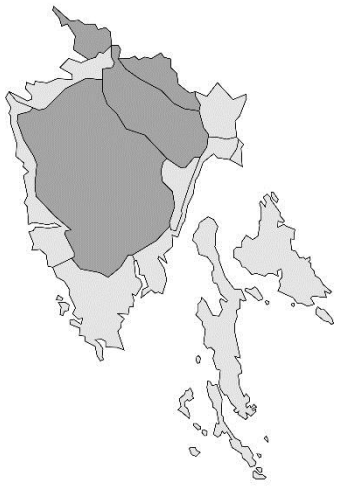


Fig. 45: *Bupleurum ranunculoides* subsp. *r.* var. *gramineum*

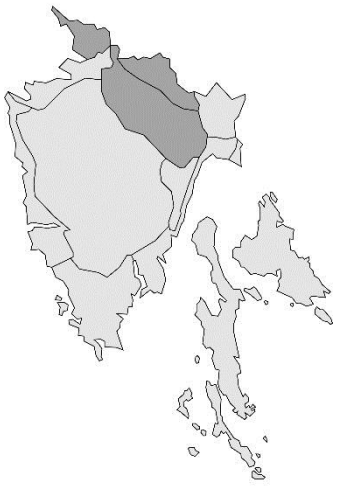


Fig. 46: *Bupleurum ranunculoides* subsp. *r.* var. *ranunculoides*

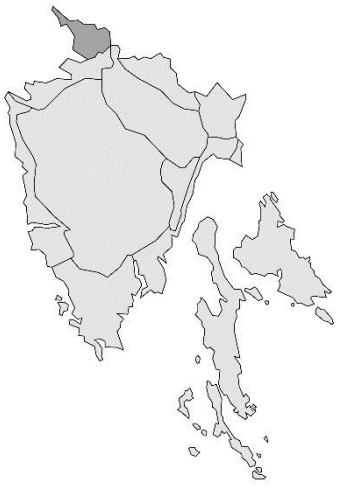


Fig. 47: *Bupleurum ranunculoides* subsp. *telonense*

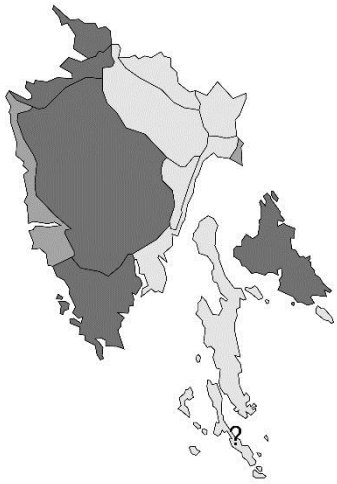


Fig. 48: *Bupleurum rotundifolium*

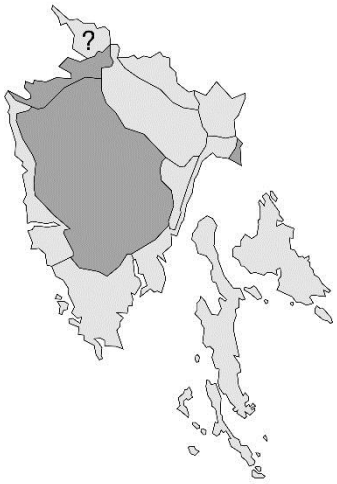


Fig. 49: *Bupleurum semicompositum*

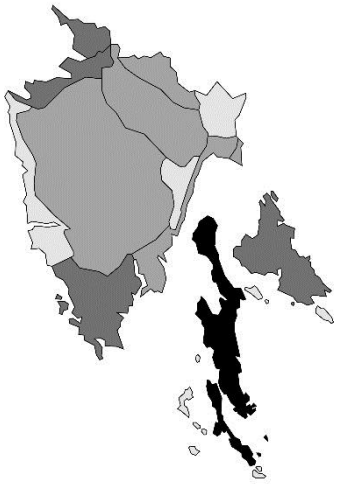


Fig. 50: *Bupleurum subovatum*

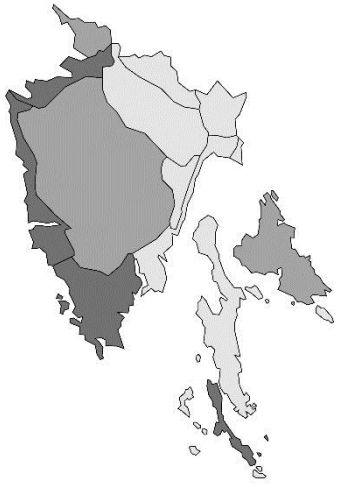


Fig. 51: *Bupleurum tenuissimum*

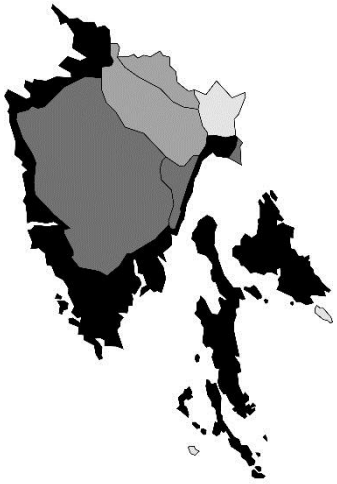


Fig. 52: *Bupleurum veronense*

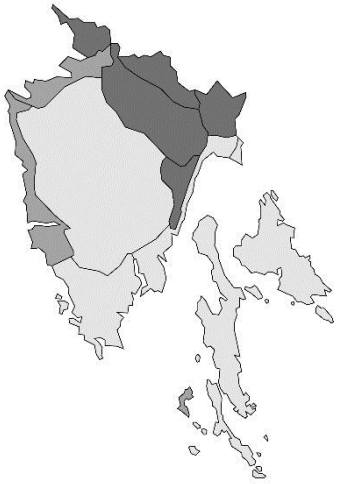


Fig. 53: *Carum carvi*

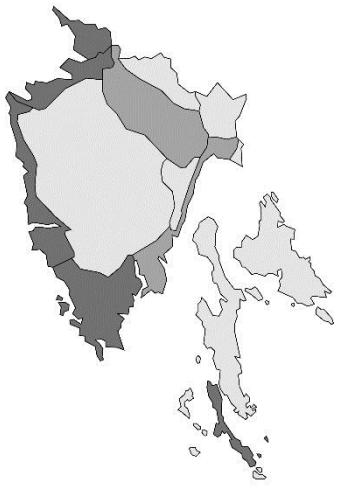


Fig. 54: *Caucalis platycarpos*

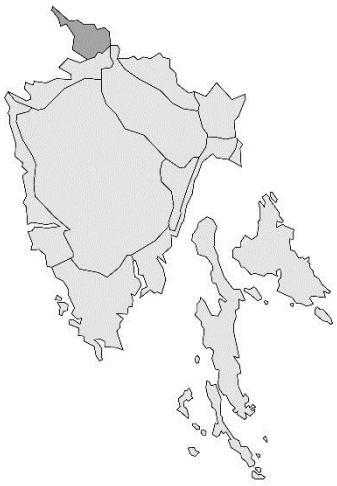


Fig. 55: *Caucalis platycarpos* var. *muricata*

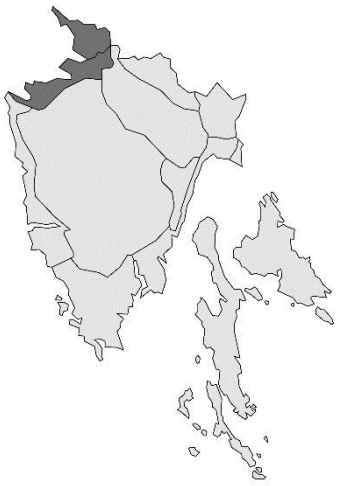


Fig. 56: *Caucalis platycarpos* var. *platycarpos*

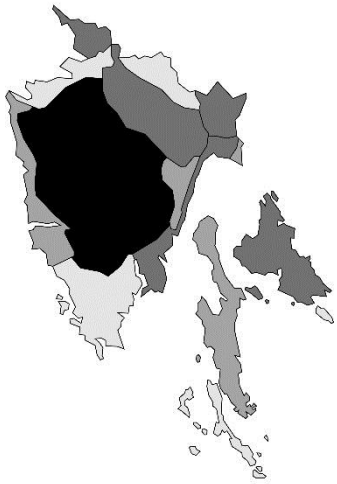


Fig. 57: *Cervaria rivini*

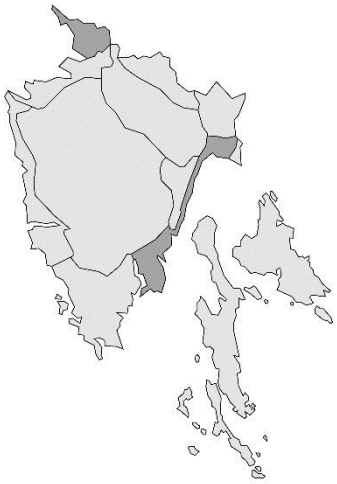


Fig. 58: *Cervaria rivini* var. *latifolia*

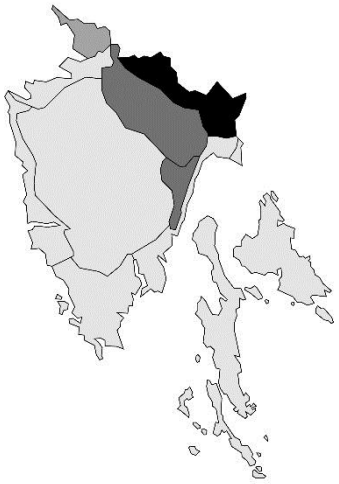


Fig. 59: *Chaerophyllum aureum*

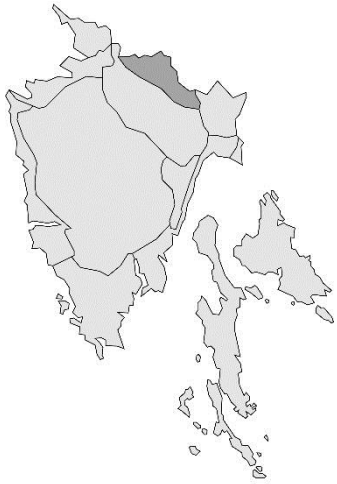


Fig. 60: *Chaerophyllum bulbosum*

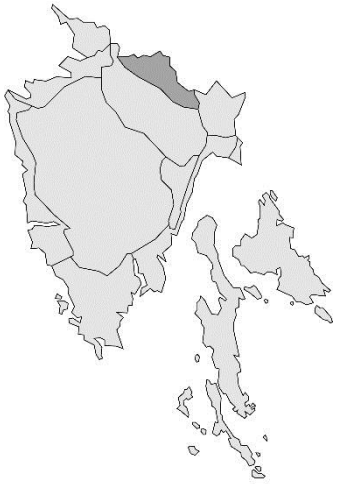


Fig. 61: *Chaerophyllum hirsutum*

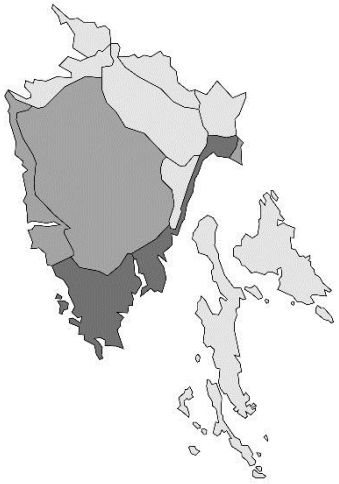


Fig. 62: *Chaerophyllum nodosum*

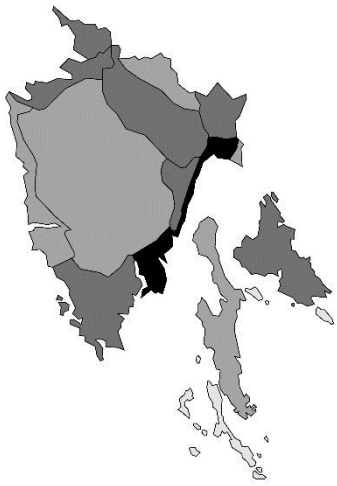


Fig. 63: *Chaerophyllum temulum*

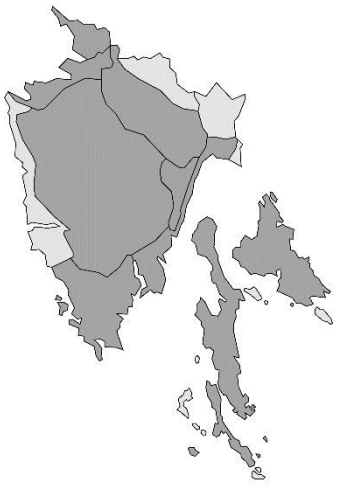


Fig. 64: *Conium maculatum* subsp. *maculatum*

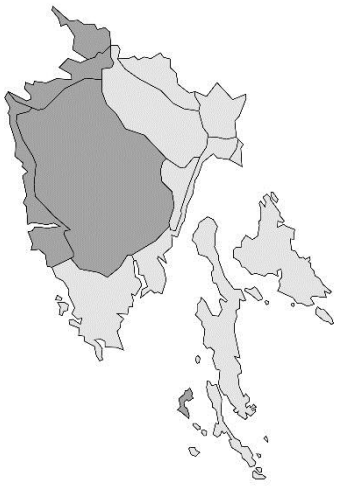


Fig. 65: *Coriandrum sativum*

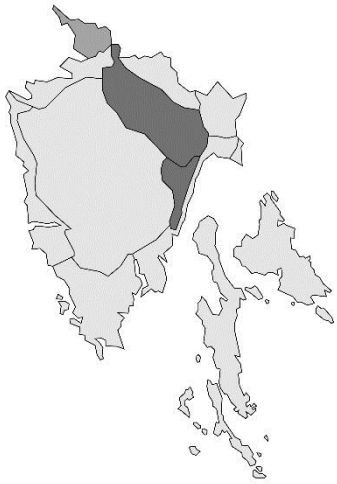


Fig. 66: *Coristospermum lucidum* subsp. *seguieri*

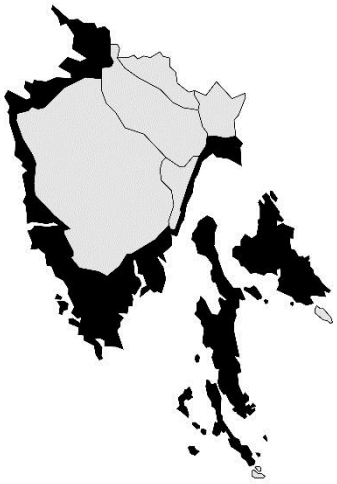


Fig. 67: *Crithmum maritimum*

Fig. 68: *Daucus carota*

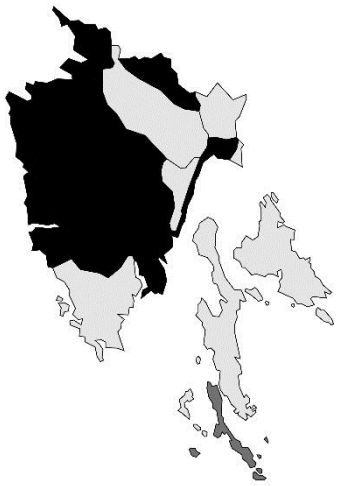


Fig. 69: *Daucus carota* subsp. *carota*

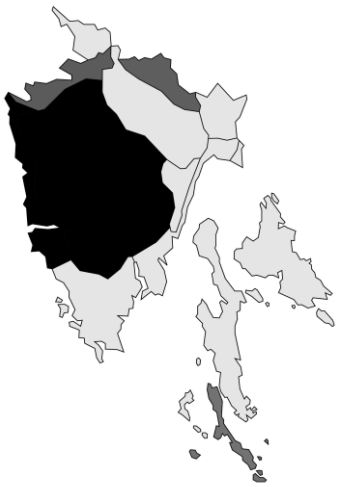


Fig. 70: *Daucus carota* subsp. *carota* var. *carota*

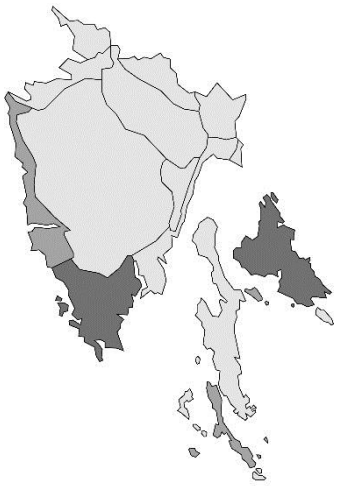


Fig. 71: *Daucus carota* subsp. *maritimus*

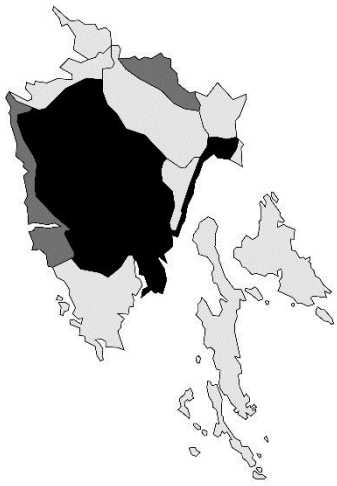


Fig. 72: *Daucus carota* subsp. *maximus* var. *mauritanicus*

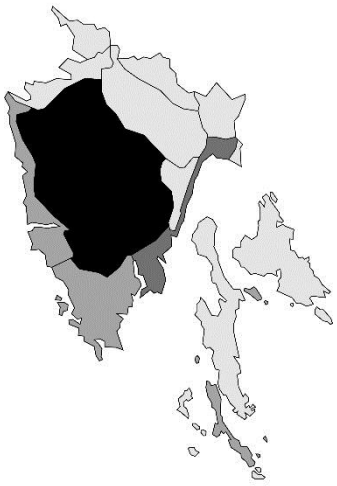


Fig. 73: *Daucus carota* subsp. *maximus* var. *maximus*

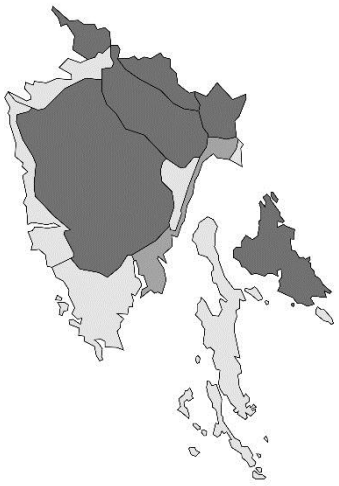


Fig. 74: *Dichoropetalum carvifolia*

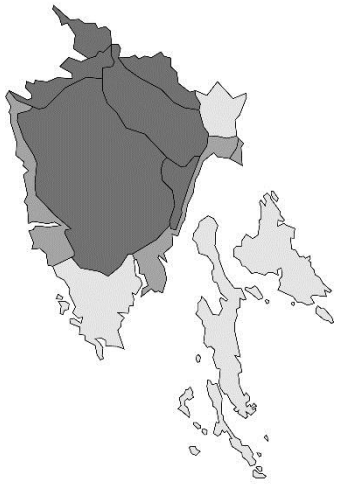


Fig. 75: *Dichoropetalum schottii*

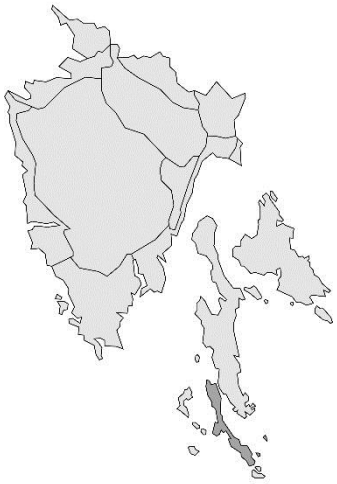


Fig. 76: *Echinophora spinosa*

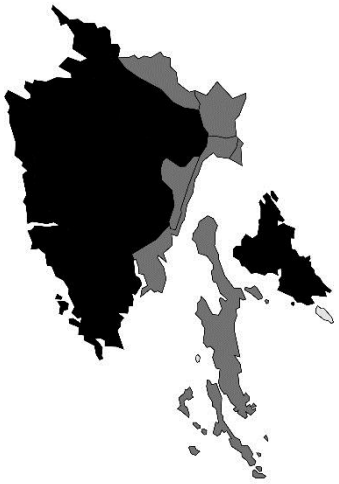


Fig. 77: *Eryngium amethystinum*

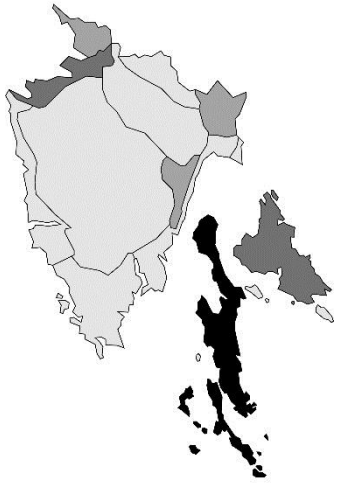


Fig. 78: *Eryngium campestre*

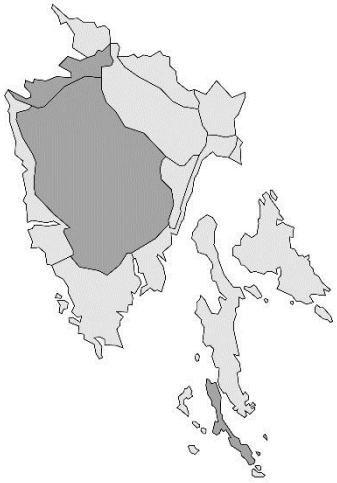


Fig. 79: *Eryngium creticum*

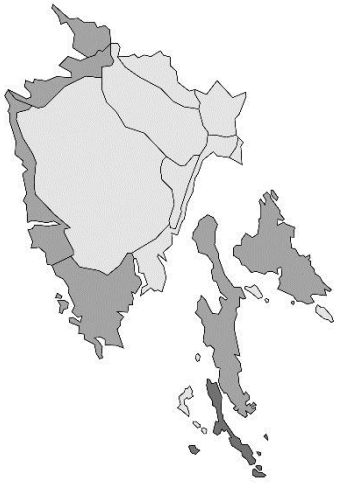


Fig. 80: *Eryngium maritimum*

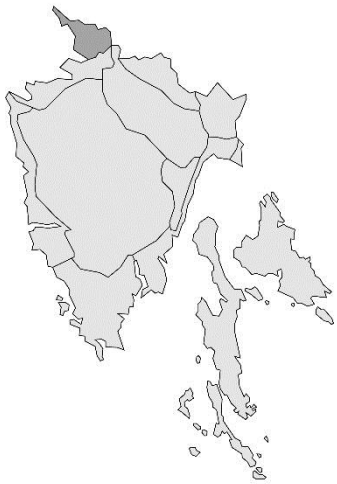


Fig. 81: *Ferula glauca*

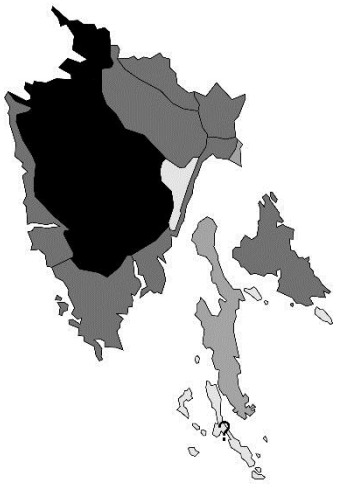


Fig. 82: *Ferulago campestris*

Fig. 83: *Foeniculum vulgare*

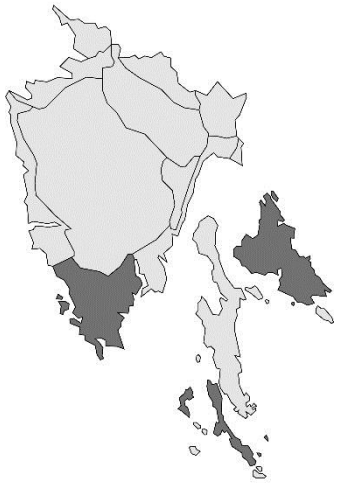


Fig. 84: *Foeniculum vulgare* subsp. *piperitum*

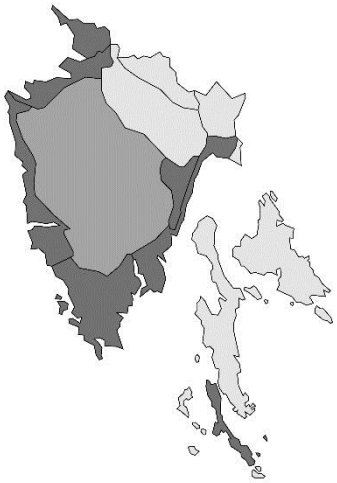


Fig. 85: *Foeniculum vulgare* subsp. *vulgare*

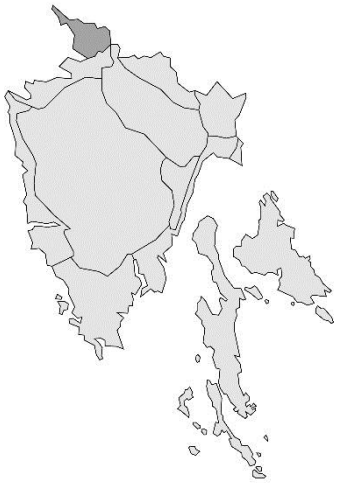


Fig. 86: *Grafia golaka*

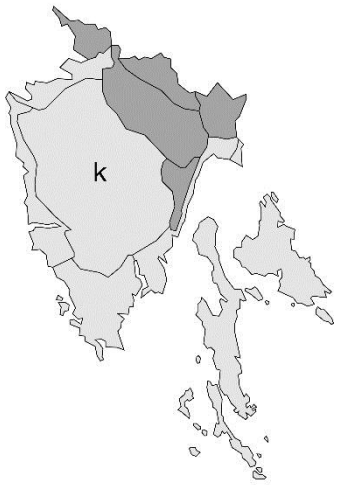


Fig. 87: *Hacquetia epipactis*

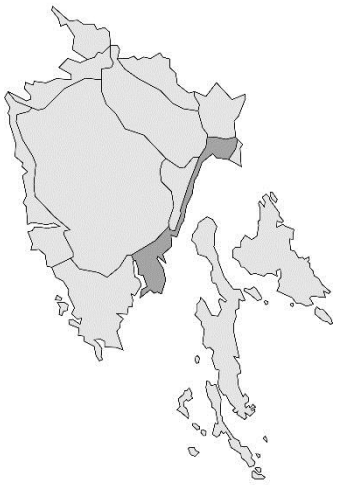


Fig. 88: *Helosciadium nodiflorum*

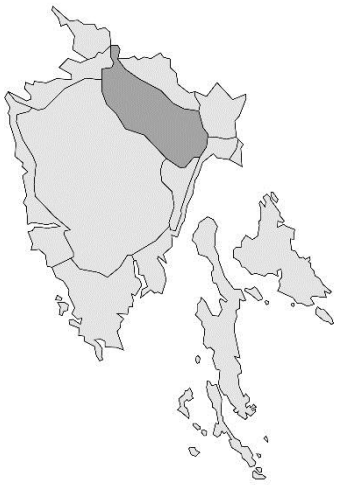


Fig. 89: *Heracleum* group *pyrenaicum*

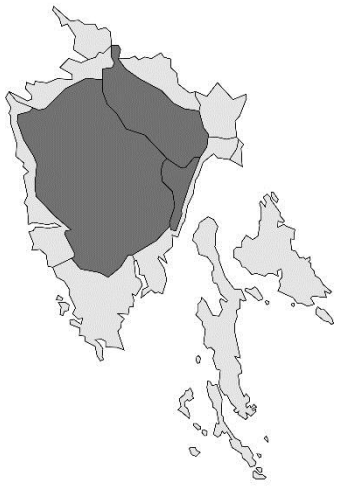


Fig. 90: *Heracleum sibiricum* subsp. *ternatum*

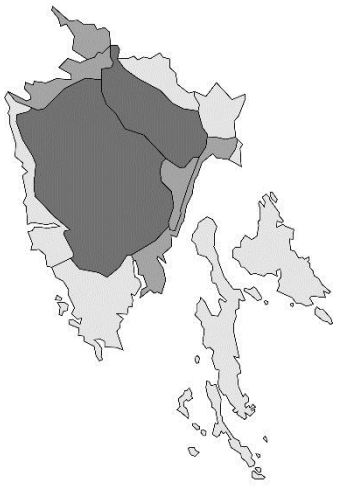


Fig. 91: *Heracleum sphondylium*

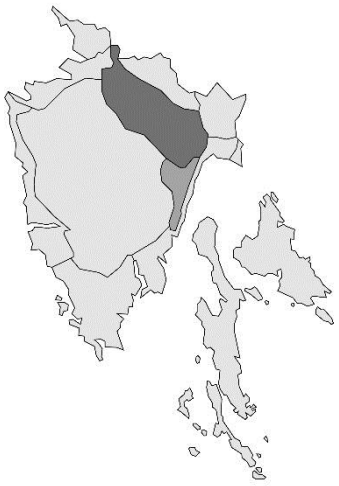


Fig. 92: *Heracleum sphondylium* subsp. *elegans*

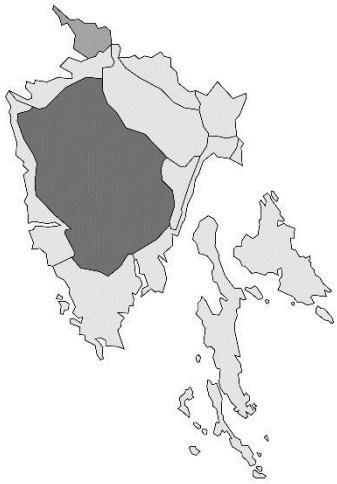


Fig. 93: *Heracleum sphondylium* subsp. *sphondylium*

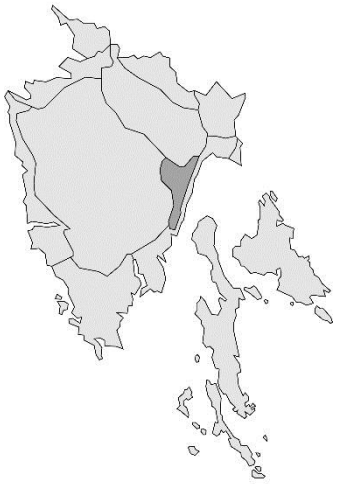


Fig. 94: *Huetia cynapioides*

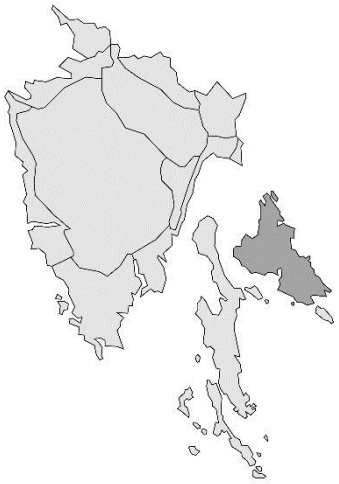


Fig. 95: *Hydrocotyle vulgaris* (ARALIACEAE)

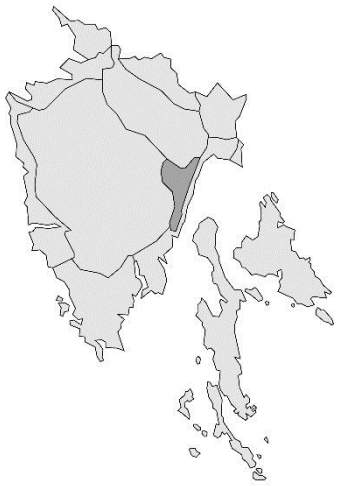


Fig. 96: *Imperatoria ostruthium*

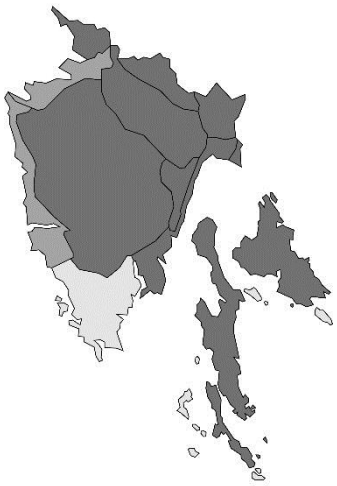


Fig. 97: *Katapsuxis silaifolia*

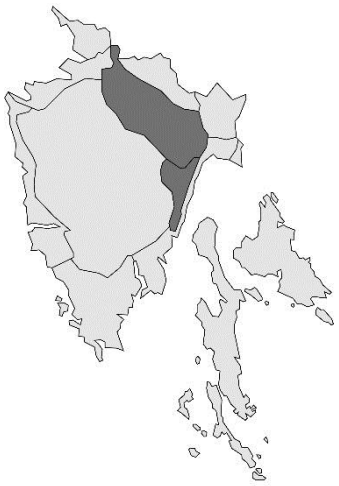


Fig. 98: *Laserpitium krapfii* subsp. *krapfii*

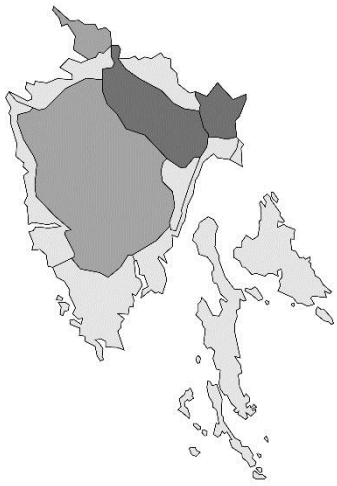


Fig. 99: *Laserpitium latifolium*

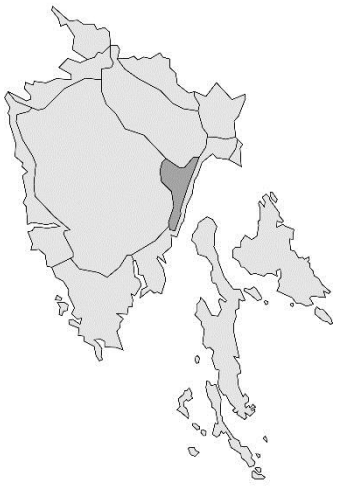


Fig. 100: *Laserpitium latifolium* f. *macrophyllum*

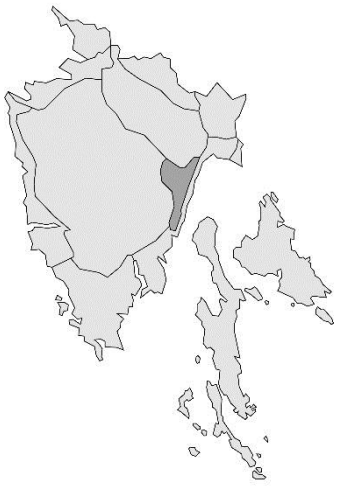


Fig. 101: *Laserpitium peucedanoides*

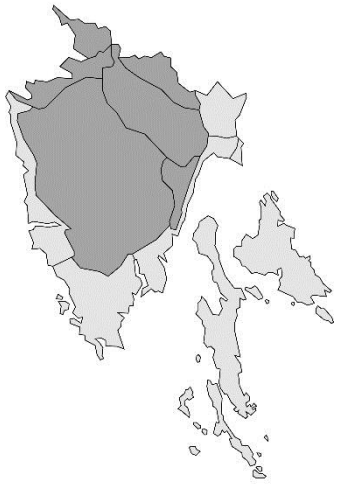


Fig. 102: *Laserpitium prutenicum*

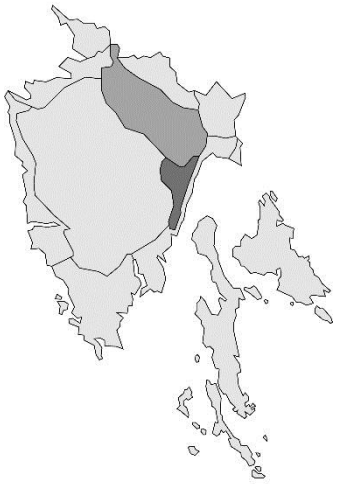


Fig. 103: *Laserpitium prutenicum* var. *ligulatum*

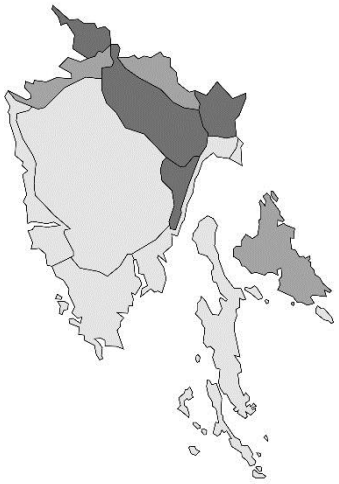


Fig. 104: *Laserpitium siler*

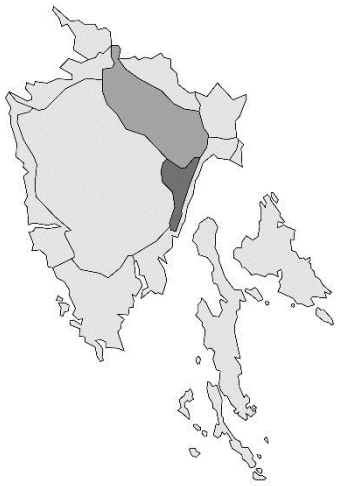


Fig. 105: *Laserpitium siler* var. *latissimum*

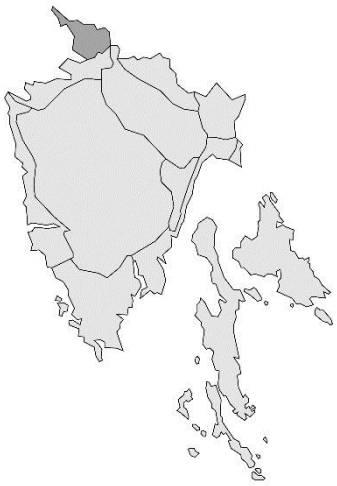


Fig. 106: *Levisticum officinale*

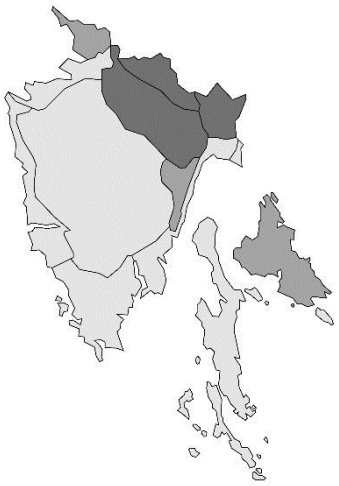


Fig. 107: *Libanotis pyrenaica* subsp. *pyrenaica*

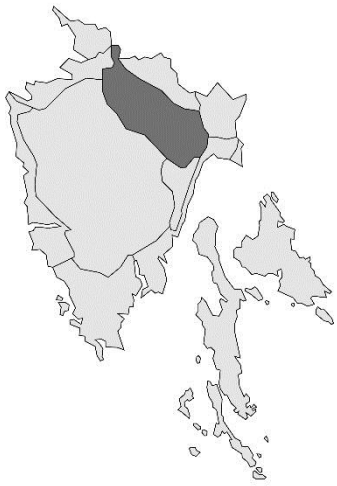


Fig. 108: *Libanotis pyrenaica* subsp. *pyrenaica* var. *libanotis*

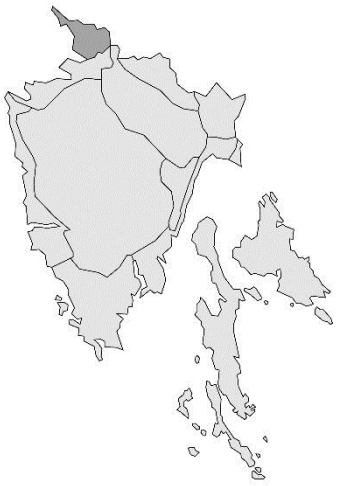


Fig. 109: *Molopospermum peloponnesiacum* subsp. *bauhinii*

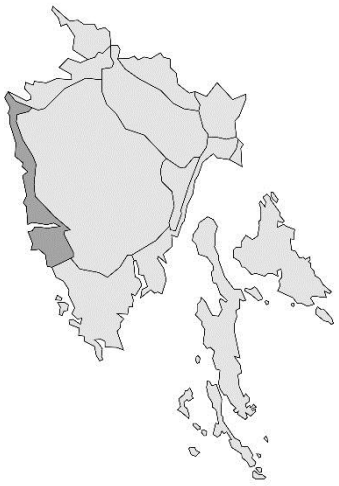


Fig. 110: *Oenanthe aquatica*

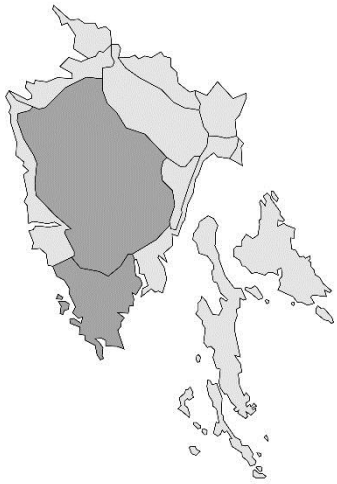


Fig. 111: *Oenanthe fistulosa* var. *fistulosa*

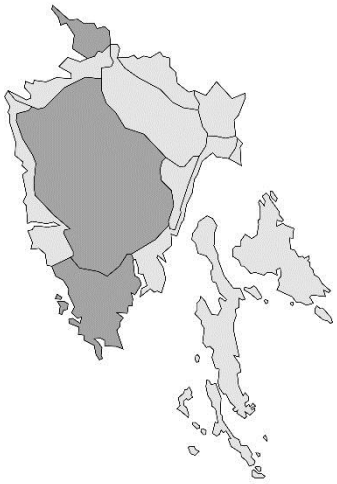


Fig. 112: *Oenanthe lachenalii*

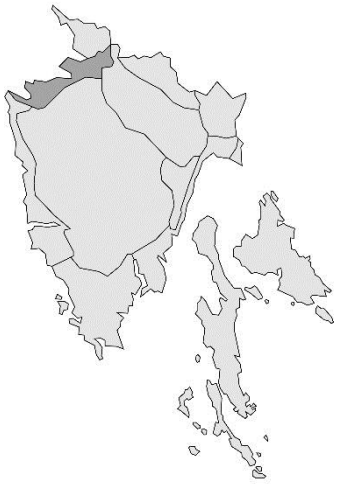


Fig. 113: *Oenanthe peucedanifolia*

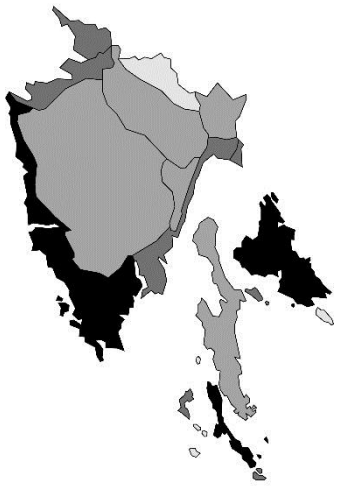


Fig. 114: *Oenanthe pimpinelloides*

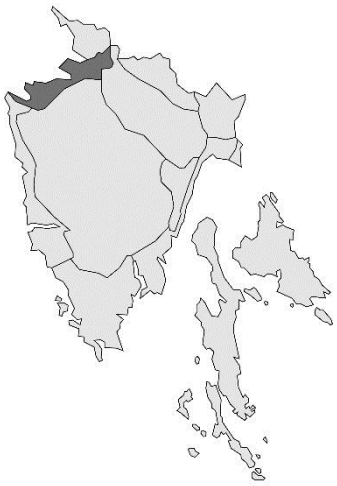


Fig. 115: *Oenanthe pimpinelloides* var. *fallax*

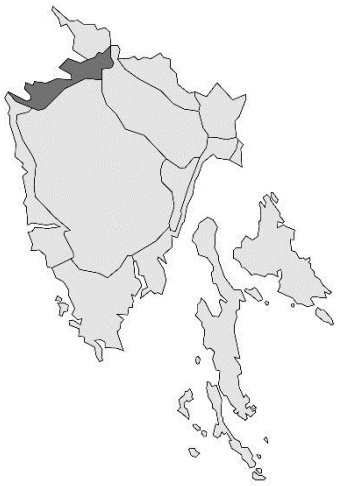


Fig. 116: *Oenanthe pimpinelloides* var. *pimpinelloides*

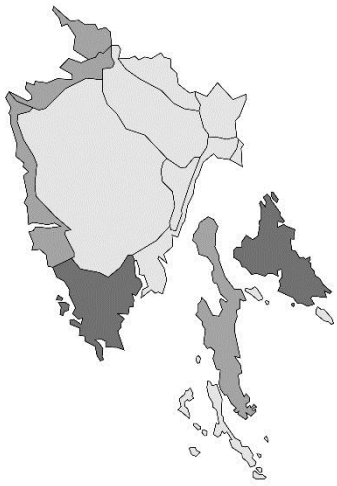


Fig. 117: *Oenanthe silaifolia*

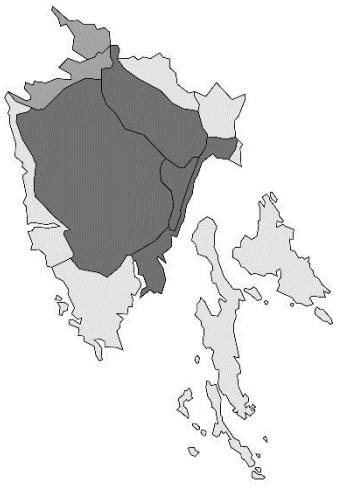


Fig. 118: *Opopanax chironium*

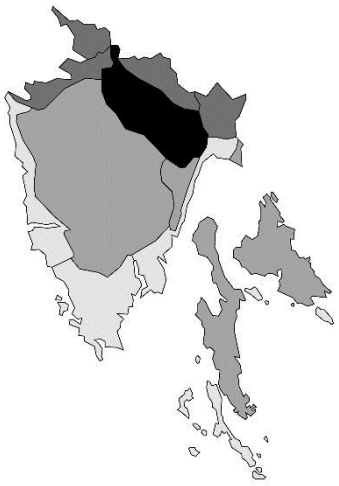


Fig. 119: *Oreoselinum nigrum*

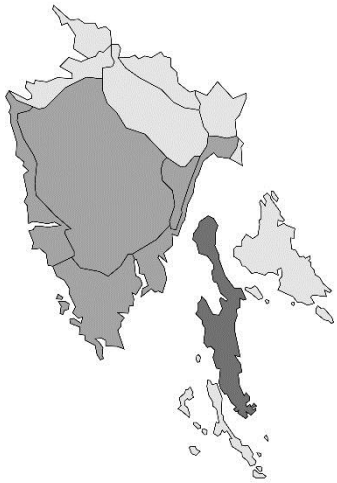


Fig. 120: *Orlaya daucorlaya*

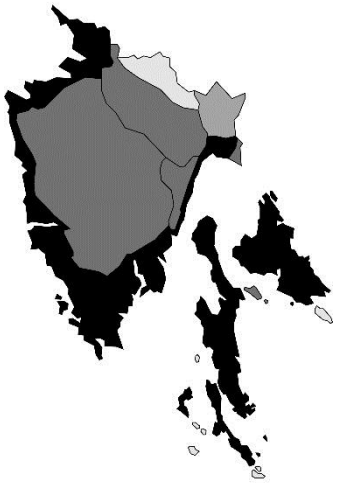


Fig. 121: *Orlaya grandiflora*

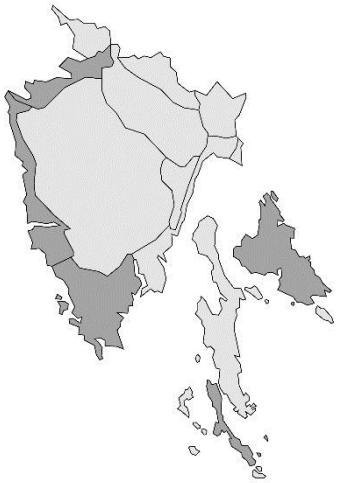


Fig. 122: *Orlaya platycarpos*

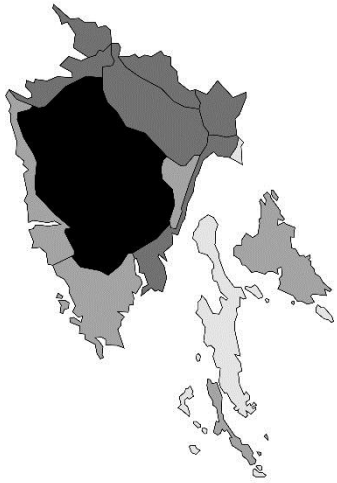


Fig. 123: *Pastinaca sativa*

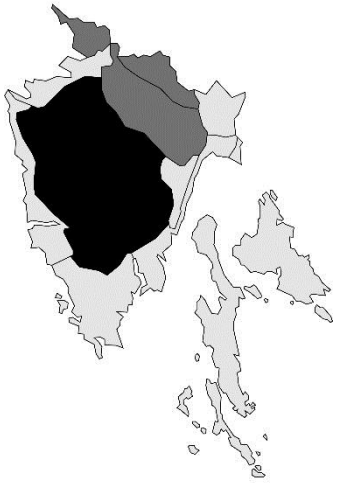


Fig. 124: *Pastinaca sativa* subsp. *sativa*

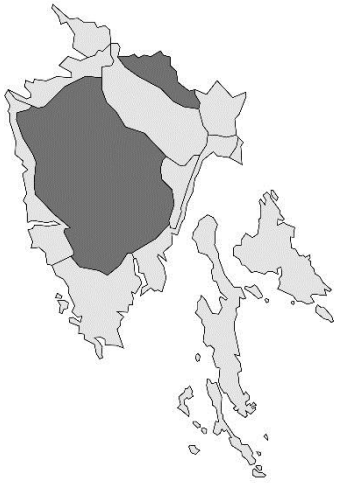


Fig. 125: *Pastinaca sativa* subsp. *sativa* var. *arvensis*

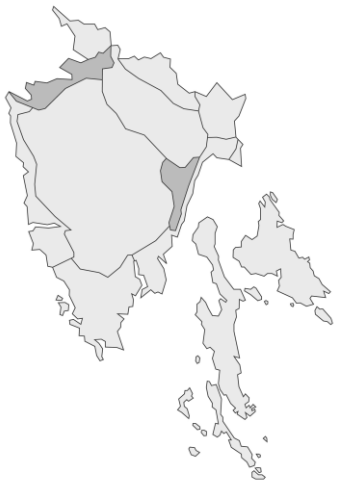


Fig. 126: *Pastinaca sativa* subsp. *sativa* var. *pratensis*

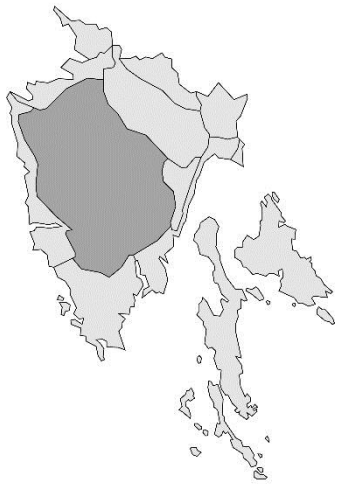


Fig. 127: *Pastinaca sativa* subsp. *sativa* var. *sativa*

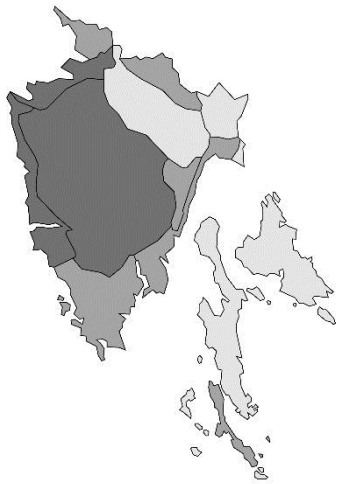


Fig. 128: *Pastinaca sativa* subsp. *urens*

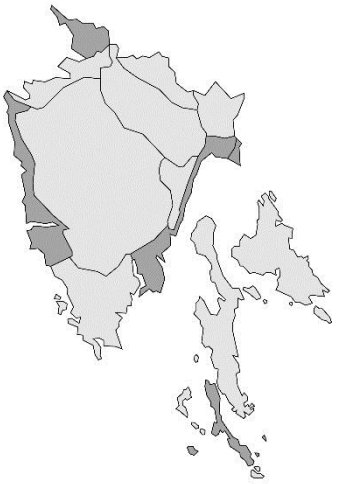


Fig. 129: *Petroselinum crispum*

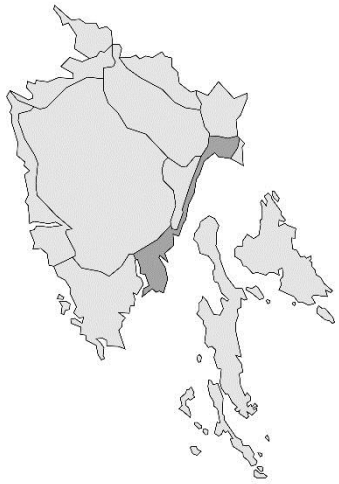


Fig. 130: *Petroselinum crispum* var. *angustifolium*

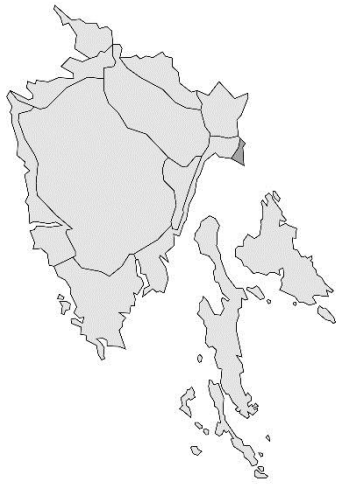


Fig. 131: *Petroselinum crispum* var. *petroselinum*

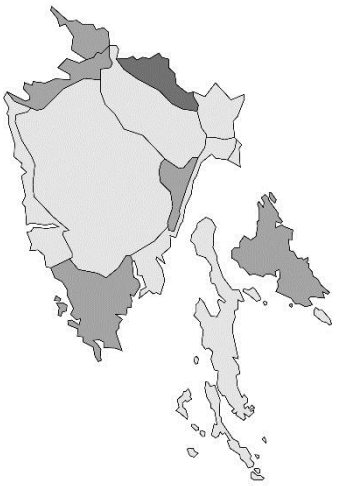


Fig. 132: *Peucedanum coriaceum*

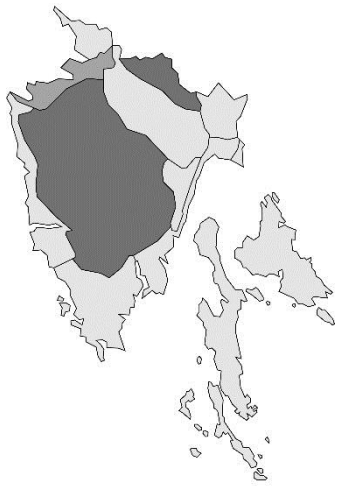


Fig. 133: *Peucedanum coriaceum* subsp. *coriaceum*

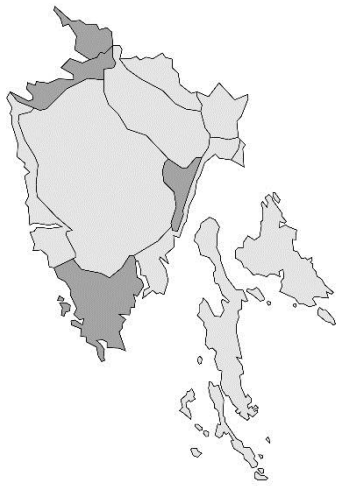


Fig. 134: *Peucedanum coriaceum* subsp. *pospichalii*

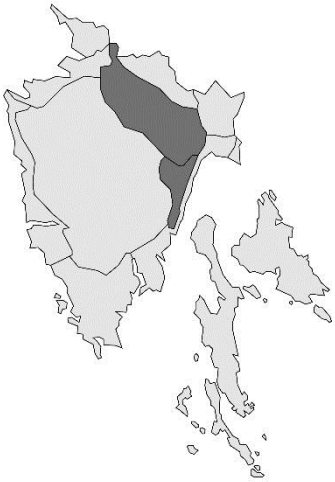


Fig. 135: *Physospermum verticillatum*

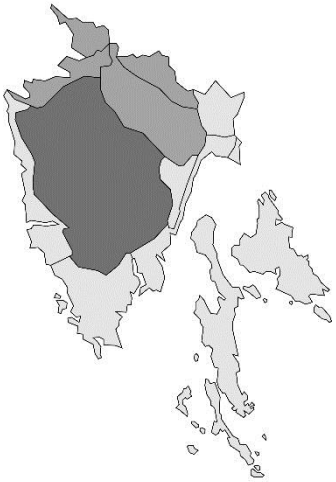


Fig. 136: *Pimpinella major* var. *major*

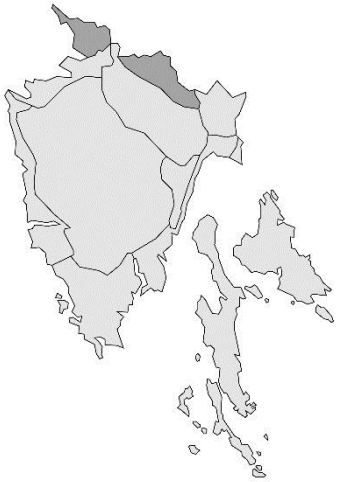


Fig. 137: *Pimpinella major* var. *major* f. *major*

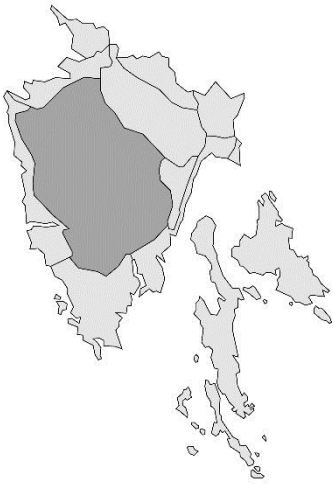


Fig. 138: *Pimpinella major* var. *major* f. *orientalis*

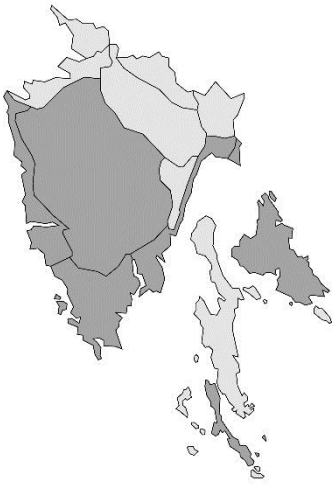


Fig. 139: *Pimpinella peregrina*

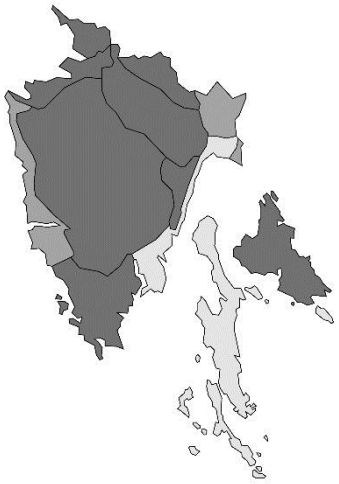


Fig. 140: *Pimpinella saxifraga*

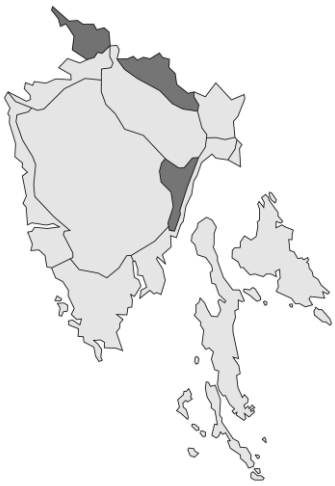


Fig. 141: *Pimpinella saxifraga* var. *saxifraga*

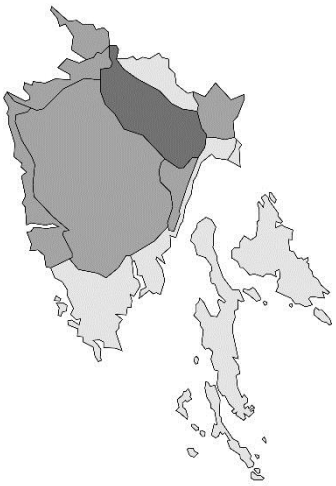


Fig. 142: *Pteroselinum austriacum*

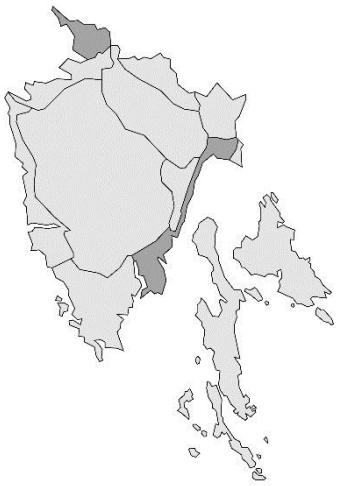


Fig. 143: *Ridolfia segetum*

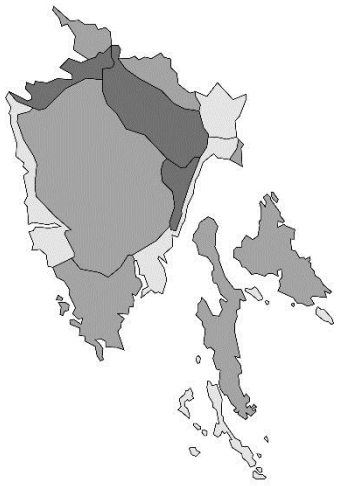


Fig. 144: *Sanicula europaea*

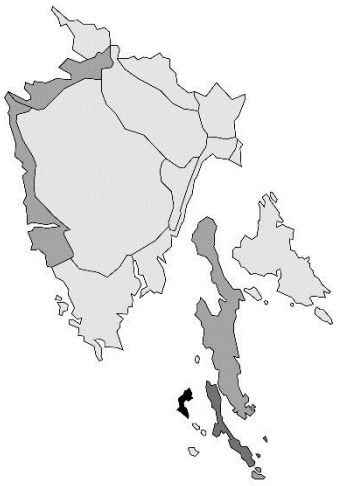


Fig. 145: *Scandix australis*

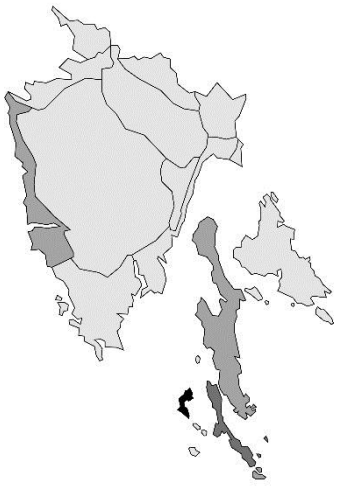


Fig. 146: *Scandix australis* subsp. *australis*

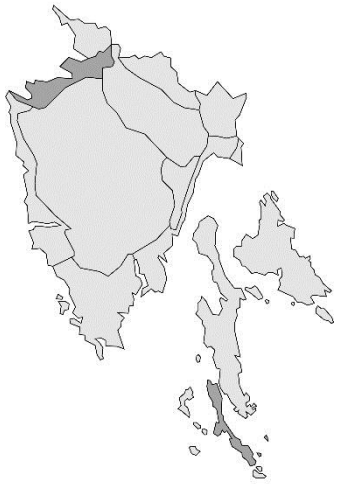


Fig. 147: *Scandix australis* subsp. *grandiflora*

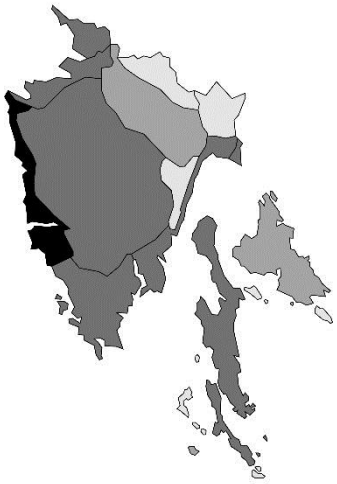


Fig. 148: *Scandix pecten-veneris* subsp. *pecten-veneris*

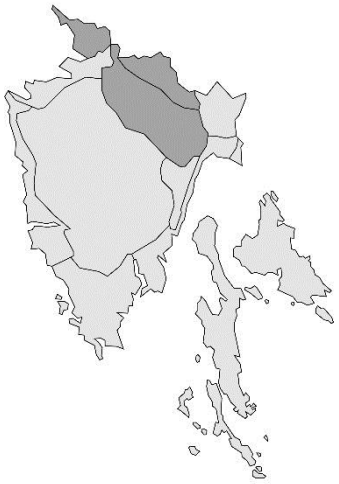


Fig. 149: *Selinum carvifolia*

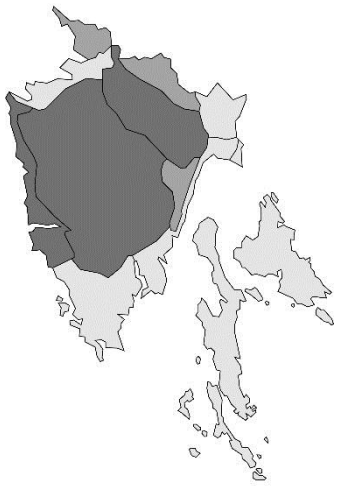


Fig. 150: *Seseli annuum*

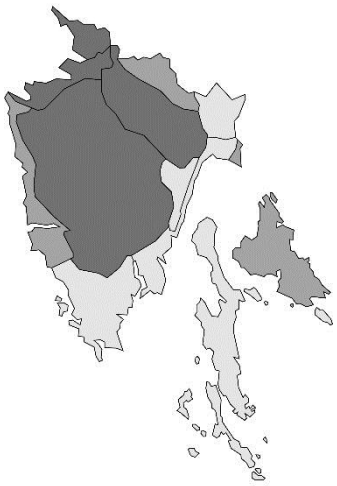


Fig. 151: *Seseli kochii*

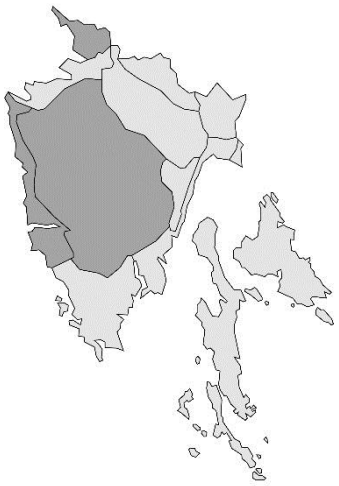


Fig. 152: *Seseli longifolium* subsp. *longifolium*

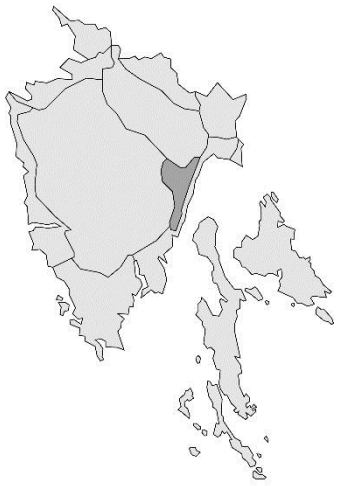


Fig. 153: *Seseli montanum*

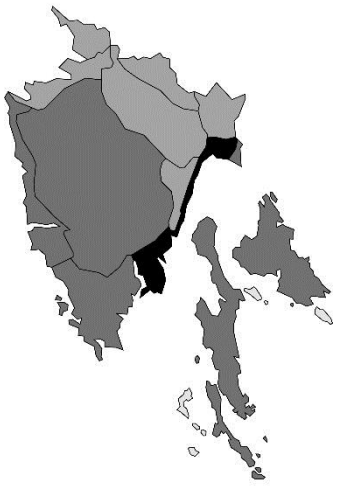


Fig. 154: *Seseli tommasinii*

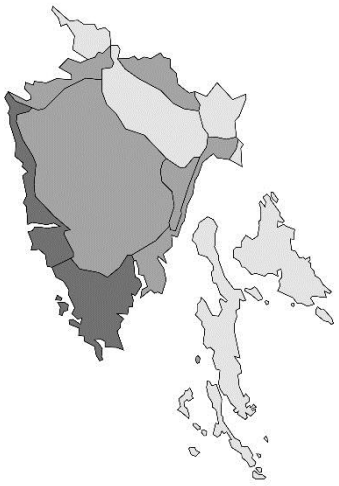


Fig. 155: *Seseli tortuosum*

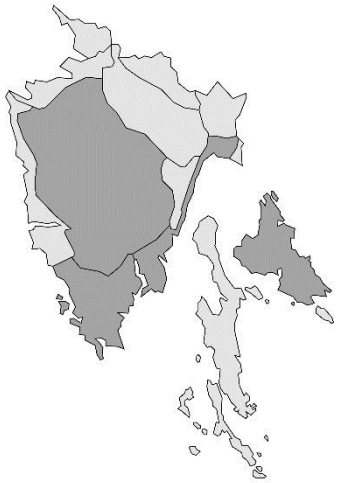


Fig. 156: *Sison amomum*

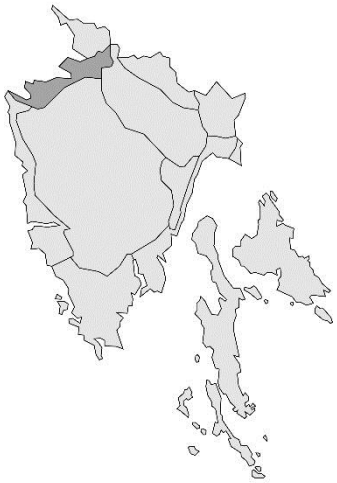


Fig. 157: *Sium latifolium*

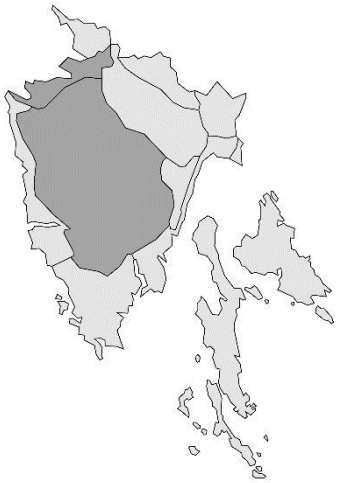


Fig. 158: *Sium sisarum*

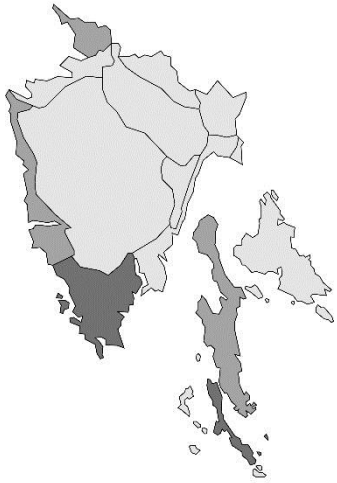


Fig. 159: *Smyrnium olusatrum*

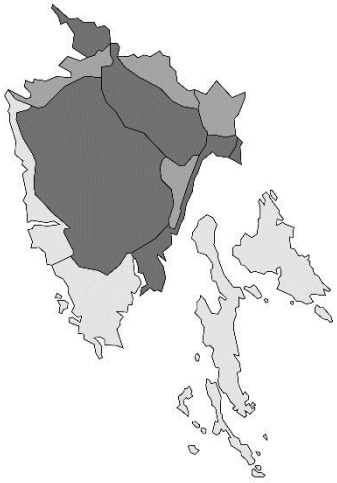


Fig. 160: *Smyrnium perfoliatum*

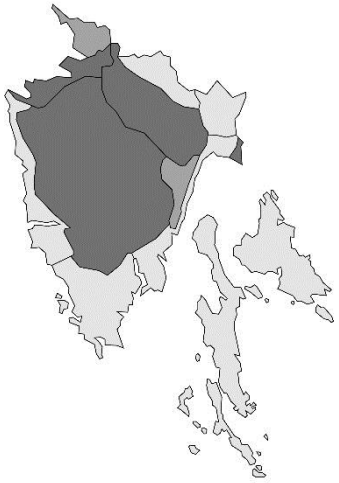


Fig. 161: *Smyrnium perfoliatum* subsp. *perfoliatum*

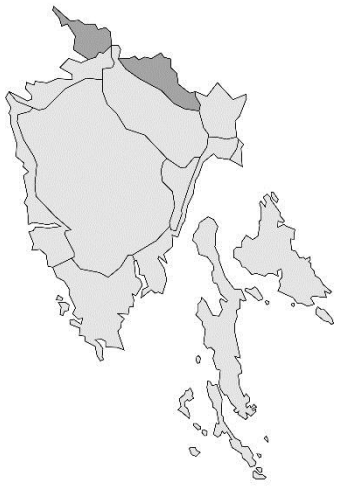


Fig. 162: *Thysselinum palustre*

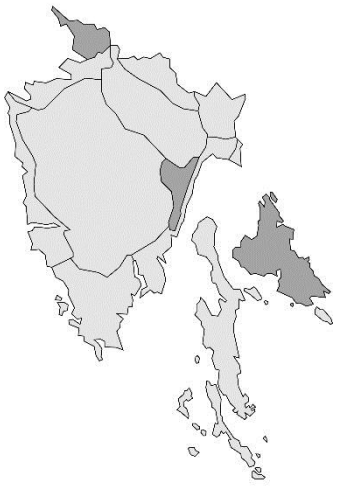


Fig. 163: *Tommasinia altissima*

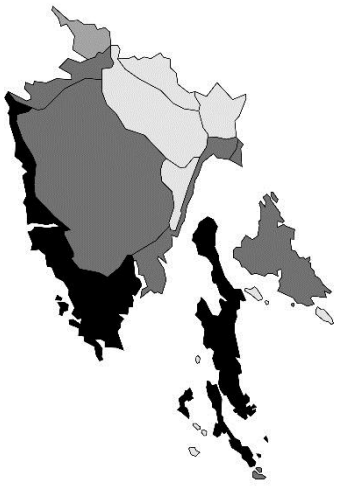


Fig. 164: *Tordylium apulum*

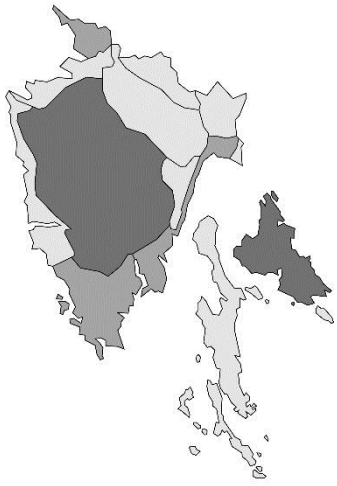


Fig. 165: *Tordylium maximum*

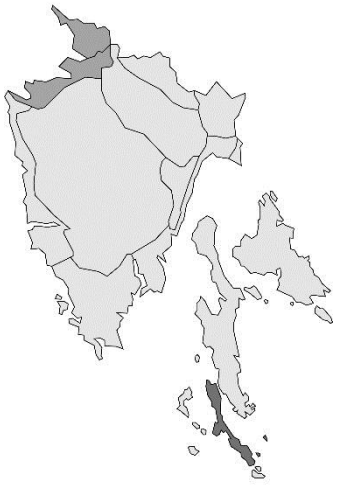


Fig. 166: *Tordylium officinale*

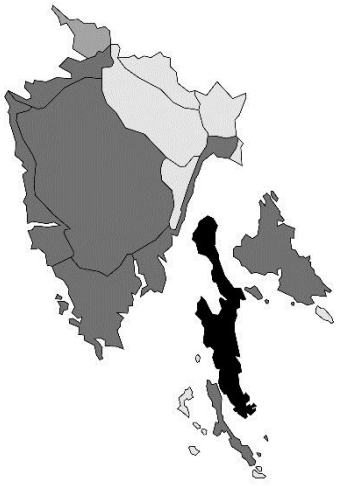


Fig. 167: *Torilis africana*

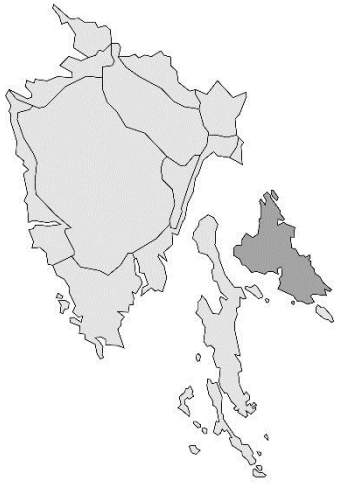


Fig. 168: *Torilis africana* var. *africana*

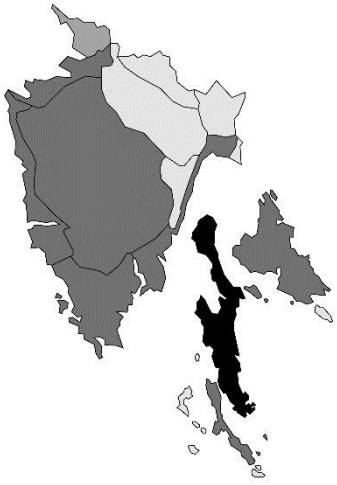


Fig. 169: *Torilis africana* var. *heterophylla*

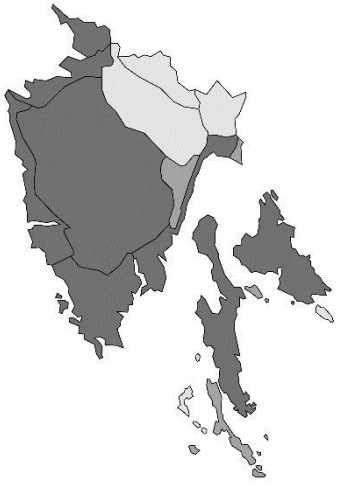


Fig. 170: *Torilis arvensis*

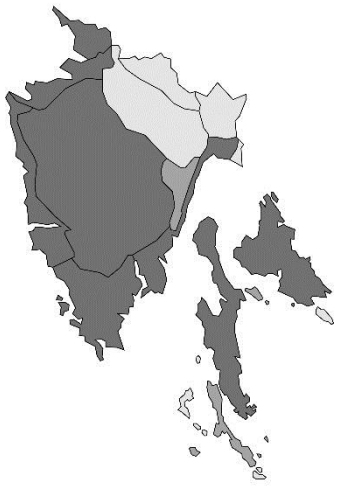


Fig. 171: *Torilis arvensis* subsp. *arvensis*

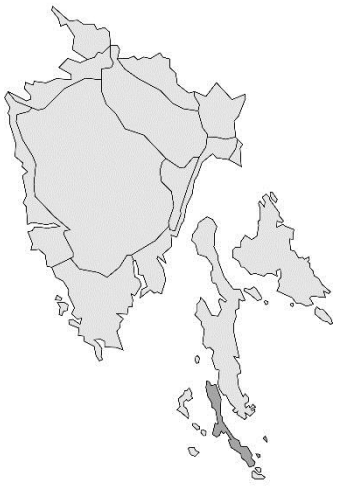


Fig. 172: *Torilis arvensis* subsp. *neglecta*

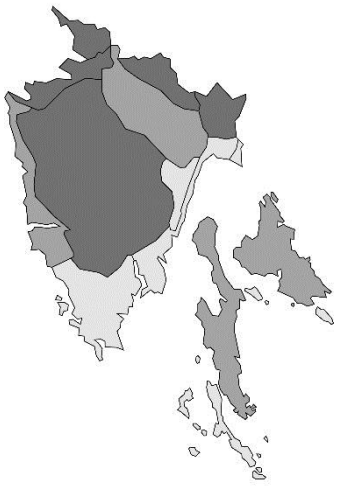


Fig. 173: *Torilis japonica*

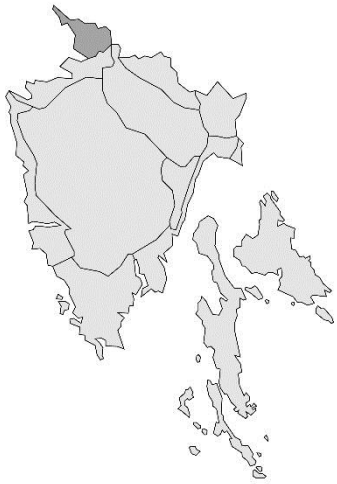


Fig. 174: *Torilis leptophylla*

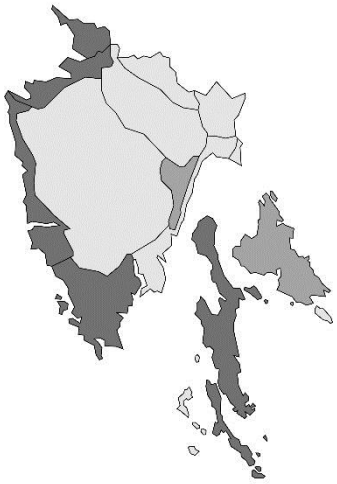


Fig. 175: *Torilis nodosa* subsp. *nodosa*

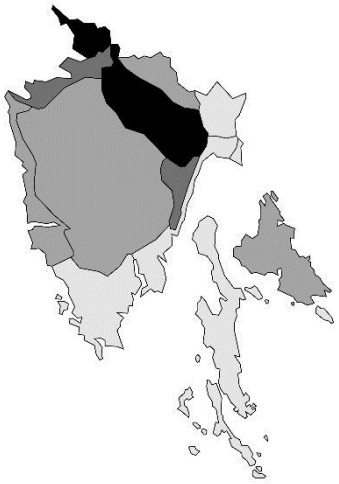


Fig. 176: *Trinia glauca* subsp. *glauca* var. *glauca*

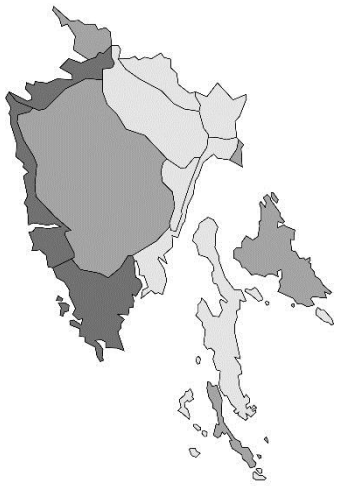


Fig. 177: *Turgenia latifolia*

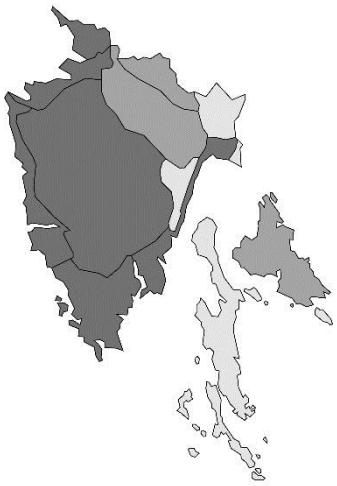
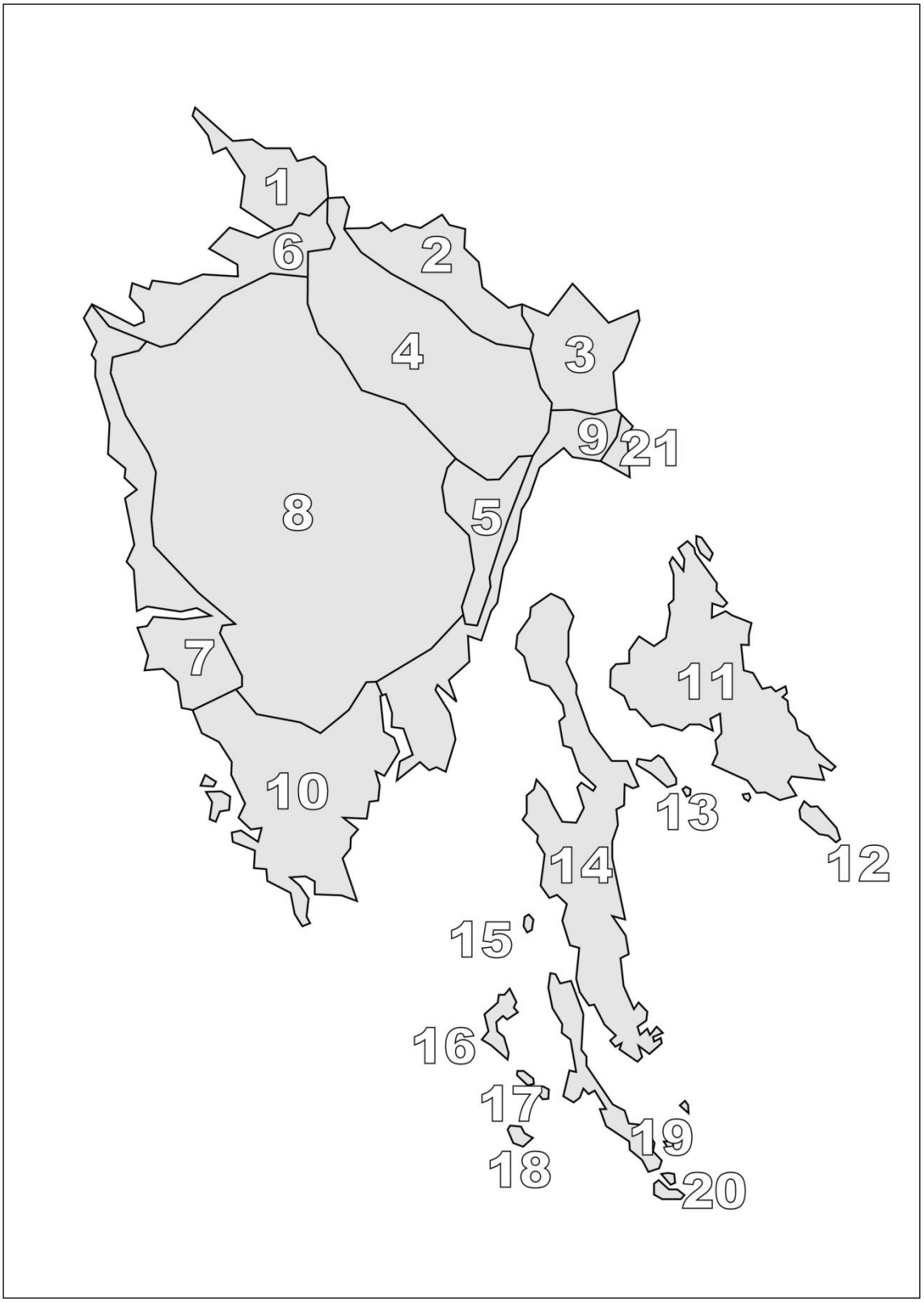


Fig. 178: *Xanthoselinum alsaticum* subsp. *venetum*

6. Map of Istria with its 21 sections (including islands)



Names of the 21 sections of Istria

	Croatian	Slovenian	Italian	German	
1		Tržaško	Triestino	Territorium von Triest	TT
2	Brkini	Brkini	Berchinia	Berkin	BE
3	Zaledje Rijeke	Zaledje Reke	Entroterra di Fiume	Hinterland von St. Veit	HV
4	Ćićarija	Čičarija	Cicceria	Tschitschenboden	TS
5	Učka gora		Territorio del Monte Maggiore	Gebiet des Monte Maggiore	MM
6	Tršćanski zaljev	Tržaški zaliv	Golfo di Trieste	Golf von Triest	GT
7	Zapadna obala		Costa occidentale	West-Küste	WK
8	Unutrašnja Istra	Notranja Istra	Istria interna	Inner-Istrien	II
9	Riječki zaljev		Golfo di Fiume	Golf von St. Veit	GV
10	Južna Istra		Istria meridionale	Süd-Istrien	SI
11	otok Krk		isola di Veglia	Insel Vögls (Velger)	IVÖ
12	otok Prvić		isola di Pervicchio	Insel Prewig	IPE
13	otok Plavnik		isola di Plauno	Insel Plaunig	IPL
14	otok Cres		isola di Cherso	Insel Kherscher	IKH
15	otok Zeča		isola di Levrera	Insel Levrera	ILE
16	otok Unije		isola di Unie	Insel Niä	IUN
17	otok Srakane		isola di Canidole	Insel Kanidol	ICA
18	otok Susak		isola di Sansego	Insel Sansig	ISA
19	otok Lošinj		isola di Lussino	Insel Lötzing (Lussin)	ILU
20	otok Ilovik		isola di Asinello	Insel Nebe	IAS
21	Rijeka	Reka	Territorio del Fiume	Territorium von St. Veit	TV

Fig. 179: *Petroselinum crispum* (MILL.) FUSS var. *petroselinum* (L.) REDURON, new for Istria and Croatia!

Fig. 180: *Petroselinum crispum* (MILL.) FUSS var. *angustifolium* (HAYNE) REDURON, new for Istria and Croatia!

Fig. 181: *Torilis africana* SPRENG. var. *africana*, new for Istria and Croatia!

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OBERMAYER W. 2013: Dupla Graecensia Lichenum (2013, numbers 801–960). - Fritschiana (Graz) 76: 1–45.

HAFELLNER J. 2013: Lichenicolous Biota (Nos 151–180). - Fritschiana (Graz) 76: 47–68.

ROTTENSTEINER W.K. 2014: Beiträge zur Flora von Istrien IV: Neue und seltene Taxa für Istrien, Kroatien und Slowenien. - Fritschiana (Graz) 77: 1–61.

OBERMAYER Walter 2014: Lichenotheca Graecensis, Fasc. 22 (Nos 421–440). - Fritschiana (Graz) 78: 1–7.

HAFELLNER Josef 2014: Lichenicolous Biota (Nos 181–200). - Fritschiana (Graz) 78: 9–24.

HAFELLNER Josef 2014: Distributional and other data for some *Agonimia* species (Verrucariales, lichenized Ascomycota). - Fritschiana (Graz) 78: 25–46.

BILOVITZ Peter Othmar & MAYRHOFER Helmut 2014: Lichenized and lichenicolous fungi from the valley 'Ochsental' (Eastern Alps, Vorarlberg, Austria). - Fritschiana (Graz) 78: 47–51.

SCHEUER Christian 2015: Mycotheca Graecensis, Fasc. 25 (Nos 481–500). - Fritschiana (Graz) 79: 1–9.

SCHEUER Christian 2015: Schedae emendatae for fungal collections published in Mycotheca Graecensis, Dupla Graecensia Fungorum, and Reliquiae Petrakianae. - Fritschiana (Graz) 79: 10–16.

SCHEUER Christian 2015: Alphabetical index and substrate index to fungal taxa mentioned in Mycotheca Graecensis. - Fritschiana (Graz) 79: 17–44.

SCHEUER Christian 2015: Weitere Pilzfunde aus dem Botanischen Garten Graz. Ergänzungen zu SCHEUER & BECHTER (2012). - Fritschiana (Graz) 79: 45–47.

OBERMAYER Walter 2015: Dupla Graecensia Lichenum (2015, numbers 961–1020). - Fritschiana (Graz) 80: 1–20.

HAFELLNER Josef 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana (Graz) 80: 21–41.

HAFELLNER Josef 2015: Distributional and other data for some species of *Didymocyrtis* (Dothideomycetes, Pleosporales, Phaeosphaeriaceae), including their *Phoma*-type anamorphs. - Fritschiana (Graz) 80: 43–88.

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