

Analysis of some families from Carl Studniczka's herbarium

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Abstract: We analysed herbarium maps which mostly contain the following families: Amaranthaceae (Ord. Amaranthaceen, Salsoleen and Chenopodeen), Plumbaginaceae (Ord. Plumbagineen), Aristolochiaceae, Thymelaeaceae, Lauraceae, Eleagnaceae, and Santalaceae (Ord. Aristolochieen and Thymeleen) in Carl Studniczka's herbarium (herbarium code: NHMS). Most of the analysed herbal material (174 herbarium sheets, with 414 samples) in this part of the C. Studniczka's herbarium was collected in Europe (162 herbarium sheets). According to the labels, the majority of herborized material was collected in the area of Austria (36 herbarium sheets). Most herbarium sheets (25) belong to the Flora Dalmatiens collection and most herbarium sheets were collected by Studniczka himself (79). The oldest herbarium sheets dates to 1865, whereas the newest one dates to 1904. The exact year of collection is missing from 13 herbarium labels. In reference to the part of Studniczka's herbarium, which has already been analysed, the following botanists or collectors of herbal material are mentioned for the first time: Boller, Hülsen, Kühlewein, Kuhn, Tholin, and Uloth. Also, there are some collections which are mentioned for the first time: Flora n. Pritzerbe and Flora der Wetterau.

Key words: Natural History Museum in Split, historical plant collection

INTRODUCTION

Since 2005, we have been working on Carl Studniczka's herbarium which can be found in the Natural History Museum in Split. According to the available literature, there are only few facts about the life and work of this Austro-Hungarian officer. As a botanist amateur, Carl Studniczka collected plants while travelling (1869-1904) and working as an officer (data is known from herbarium labels: the wider surrounding area of Vienna and Wiener Neustadt in Austria; Split, Hvar, and Dubrovnik in Croatia; Celje, Koper, and Izola in Slovenia; Kotor and Herceg Novi in Montenegro; Olomouc and Leitmeritz in the Czech Republic; Przemysl in Poland, and finally the wider surrounding area of Trieste in Italy). The analysis has shown that this herbarium contains samples of the plants which were collected and sent to Studniczka by many botanists or collectors of that time. The main goal of this paper is to make available data regarding the time, place, and collectors of the plants collected in Studniczka's herbarium.

MATERIAL AND METHODS

In this paper, we analysed the herbarium maps which mostly contain the following families: Amaranthaceae (Ord. Amaranthaceen, Salsoleen and Chenopodeen), Plumbaginaceae (Ord. Plumbagineen), Aristolochiaceae, Thymelaeaceae, Lauraceae, Eleagnaceae, and Santalaceae (Ord. Aristolochieen and Thymeleen) in Carl Studniczka's herbarium. Each herbarium sheet has its own museum inventory number, so each is numbered separately in the list. From the labels of the herbarium sheets, we copied the Latin name of the genus and the species; then the date, month, and year of collection; followed by the collector (**A**-Alioth, **An**-Anthouard, **Ay**-Ayasse, **B**-Baenitz, **Bo**-Boller, **C**-Canby, **Ca**-Canut, **D**-Debeaux, **De**-Déséglise, **Di**-Dichtl, **E**-Eggert, **En**-Engelmann, **F**-Freyn, **G**-Gandoger, **Gl**-Glastier, **Gr**-Graf, **Gro**-Groves, **Gru**-Grundl, **H**-Halácsy, **Ha**-Hansen, **Har**-Harbord, **He**-Heiland, **Hu**-Huet, **Hü**-Hülsen, **J**-Jabornegg, **Ja**-Janka, **K**-Körnicke, **Kr**-Krenberger, **Ku**-Kühlewein, **Kuh**-Kuhn, **M**-Matz, **Mo**-Mohr, **My**-Moyer, **O**-Oertel, **P**-Paillot, **R**-Rauscher, **Ri**-Richter, **Ru**-Ruhmer, **S**-Studniczka, **Si**-Siegfried, **So**-Sommier, **T**-Tauscher, **Th**-Tholin, **Tr**-Trémols, **U**-Uloth, **V**-Vandrely, **W**-Wolf) and the affiliation to the particular herbarium collection (F-Flora Austriae inf., FA-Flora Algeriensis exsiccata, FB-Flora Böhmens, FBr-Flora Brandenburgia, FD-Flora Dalmatiens, FG-Flora Gallica exsiccata, FH-Flora hungarica, FI-Flora von Istrien, FN-Flora aus Nieder Österreich, FP-Flora Prussiae orientalis, FPo-Flora von oesterr. Polen, FPr-Flora n. Pritzerbe, FR-Flora rhenana, FS-Flora von Schleswig, FSü-Flora Süddalmatiens, FT-Flora Thuringiana, FvB-Flora von Böhmen, FvN-Flora von N. Oesterreich, FvT-Flora von Triest, FW-Flora von Wr Neustadt, FWe-Flora der Wetterau, FWi-Flora von Wien, HA-Eggert, Herbarium Americanum, HD-Herbier De O. Debeaux, HE-C. Baenitz, Herbari-

um Europaeum, HH-Herbarium Dr. E. Halácsy, HK-Herb. Dr de Kühlewein, HP-Herbier du pensionnat des Frères Avignon, HT-Herb. F. Tremols, HV-Herbier X. Vendrely, HW-Herbarium E. O. Wolf, PO-J. Freyn Pflanzen aus Oesterreich-Ungarn, S-Société helvétique, SH-Soc. Helvetica, SV-Soc. Vog. Rhénane). According to The Plant list and USDA plants Database, we listed the name of the species in brackets; from the label, we copied the numeric sign, name of the place where the plant was found with altitude data if available, and listed the number of herbarium samples in brackets.

RESULTS

LIST OF SPECIES

(Ord.: Amaranthaceen, Salsoleen and Chenopodeen) In this map, besides herbarium samples for the family Amaranthaceae, we found samples from the families Compositae, Plantaginaceae, and Rubiaceae (marked at the end in the brackets).

1. *Albersia blitum* Kuth. 3.9.1880. **F** /*Amaranthus blitum* L./ Bohemia. Opočno. In hortis frequens (3)
2. *Amaranthus albus* L. 19.7.1874. **E** HA /*A. albus* L./ Wüste Plätze (3)
3. *A. deflexus* L. 15.9.1872. **Ay** /*A. deflexus* L./ A Carouge près Genève (1)
4. *A. prostratus* Balb. 31.7.1875. **S** FD /*A. deflexus* L./ auf Wegen um Spalato (3)
5. *A. retroflexus* L. 11.10.1872. **S** FD /*A. retroflexus* L./ wüsten Plätzen bei Punta d'Ostro (1)
6. *A. retroflexus* L. 13.9.1902. **S** FvT /*A. retroflexus* L./ Schutthaufen bei Barcola (2)
7. *A. silvestris* Desf. 11.8.1902. **S** FvT /*A. graecizans* L. subsp. *silvestris* (Vill.) Brenan/ wüste platze um Barcola Miramarstrasse (Schutt) (1)
8. *A. strictus* Ten. 18.8.1876. **G** FG /*A. retroflexus* L./ No 1056 Hab. in cultis prope Arnas (Rhône) (1)
9. *Atriplex angustifolia* Sm. β *inappendiculata* 1897. **S** FW /*A. patula* L./ um Wr Neustadt (1)
10. *A. angustifolia* Sm. γ *tatarica* 14.9.1893. **S** FW /*A. patula* L./ um die Stadt (1)
11. *A. babingtonii* Woods. 16.9.1876. **Har** /*A. glabriuscula* Edmondston/ River shore S. of Lpool (8)
12. *A. campestris* Koch & Z. 9.1878. **R** S /*A. tatarica* L./ Budapest, Hungaria. In locis incultis ad fontem Hunyadi Janos (2)
13. *A. campestris* W & Z. = *tatarica* L. 23.8.1882. **S** FvB /*A. tatarica* L./ auf der Wöllen von Theresienstadt (2)
14. *A. hastatum* L. (p.p.) 16.9.1877. **F** PO /*A. prostrata* Boucher ex DC. subsp. *calotheca* (Rafn) M.A.Gust./ Süd-Istrien. Gegend von Pola. Klippen von Levano piccolo 3 m (3)

15. *A. hortensis* L. 9.1875. **S** FD /*A. prostrata* Boucher ex DC. subsp. *latifolia* (Wahlenb.) Rauschert/ wüste Orte um Clissa (1)
16. *A. laciniata* L. 9.1878. **H** F /*A. laciniata* L./ in ruderatis ad Döbling prope Viennam (2)
17. *A. laciniata* L. 9.1897. **S** FW /*A. laciniata* L./ wüste Plätze um Wr N. (2)
18. *A. latifolia* Wahlbg. 2.9.1881. **S** FB /*A. prostrata* Boucher ex DC. subsp. *latifolia* (Wahlenb.) Rauschert/ Gemüse gärten um Theresienstadt (1)
19. *A. latifolia* Wahlbg. 1897. **S** FW /*A. prostrata* Boucher ex DC. subsp. *latifolia* (Wahlenb.) Rauschert/ um die Stadt (3)
20. *A. latifolia* Wahlbg. & *salinas* 11.8.1902. **S** FvT /*A. prostrata* Boucher ex DC. subsp. *latifolia* (Wahlenb.) Rauschert/ an der Miramarstrasse bei Barcola (1)
21. *A. latifolium* Wahlbg. = *A. hastatum* L. 1902. **S** FvT /*A. prostrata* Boucher ex DC. subsp. *latifolia* (Wahlenb.) Rauschert/ längst der Miramarstrasse (1)
22. *A. nitens* Rebert. 3.8.1882. **S** FB /*A. sagittata* Borkh./ sandige Egerufer b. Theresienstadt (1)
23. *A. nitens* Rebert. 9.1897. **S** FW /*A. sagittata* Borkh./ wüste Plätze um Wr N. (1)
24. *A. patula* L. 11.10.1872. **S** FD /*A. patula* L./ Gärten der Halbinsel Punta d'Ostro (1)
25. *A. rosea* L. 21.8.1869. **Hu** S /*A. rosea* L./ décombres à Toulon (Var) (1)
26. *A. rosea* L. 8.1901. **S** FvT /*A. rosea* L./ bei Miramare (1)
27. *Beta maritima* L. 13.6.1875. **F** /*B. vulgaris* L./ Istrien. Meeresstrand bei Pola /:Brioni:/ Kalk 2 m (1)
28. *B. vulgaris* L. 21.7.1871. **S** FWi /*B. vulgaris* L./ bei Gutenhof (1)
29. *Blitum glaucum* Koch. 9.1871. **H** /*Chenopodium glaucum* L./ an Häusern in Tribuswinkel nächst Baden in N. Östr. (4)
30. *B. glaucum* Koch. 13.9.1882. **S** FB /*C. glaucum* L./ sandufer der Elbe bei Leitmeritz (4)
31. *B. virgatum* L. 1903. **S** FvT /*Beta vulgaris* L./ wüste Plätze bei Cedras (Miramarstrasse) (2)
32. *Camphorosma monspeliaca* L. 4.8.1875. **S** FD /*C. monspeliaca* L./ Meeresufer bei St. Stefano nächst Spalato auf Felsen (1)
33. *C. monspeliacum* L. 30.8.1904. **S** FI /*Suaeda maritima* (L.) Dumort./ an den Salinen von Capo d'Istria (2)
34. *Chenopodium acutifolium* Kit. 7.9.1876. **G** FG /*C. polyspermum* L./ No 356. Hab. In pratis udis ad Arnas (Rhône) (1)
35. *C. album* L. 9.1873. **Ay** /*C. album* L./ Auteur des fumiers à Genève (3)
36. *C. album* L. var. 20.8.1875. **Kr** /*C. album* L./ An mauern bei Raabs, NOestr. (1)
37. *C. album* L. var. 13.9.1902. **S** FvT /*C. album* L./ an der Miramarstrasse bei Barcola (1)
38. *C. ambrosioides* L. 20.10.1872. **S** FD /*Dysphania ambrosioides* (L.) Mosyakin & Clemants/ an Mauern, auf Wegen nächst dem Fort auf Punta d'Ostro (Castelnuovo) (1)
39. *C. bonus henricus* L. 28.5.1882. **S** FB /*C. bonus-henricus* L./ wüste Plätze im Dorfe Kamaik b. Leitmeritz (2)
40. *C. botrys* L. 19.7.1872. **S** FWi /*Dysphania botrys* (L.) Mosyakin & Clemants/ auf wüsten Plätzen auf der Turken-schanze (1)
41. *C. botrys* L. 7.1878. **H** HH /*Dysphania botrys* (L.) Mosyakin & Clemants/ In collibus arenosis Türkenschanze, ad Viennam Austriae inf. (2)
42. *C. ficifolium* Sm. 30.8.1872. **O** FT /*C. ficifolium* Sm./ Kartoffelacker bis Artern Heuboden (6)
43. *C. gracilicaule* Gdgr! 20.8.1870. **G** FG /*C. ficifolium* Sm./ No 323 Hab. In campis ad St Julien Rhône (5)
44. *C. hybridum* L. 7.6.1872. **S** FWi /*C. hybridum* L./ Brachäcker am Laerberg (1)
45. *C. hybridum* L. 29.9.1880. **F** /*C. hybridum* L./ Böhmen Opočno Gärten (1)
46. *C. murale* L. var. 2.11.1870. **G** FG /*C. murale* L./ No 348. Hab. Circa Frang (Ain) in ruderatis (1)
47. *C. murale* L. 18.7.1877. **V** HV /*C. murale* L./ Localité Champagne Station Bords des rues Altitude 380 m (2)
48. *C. opulifolium* Schrad. 8.1873. **A** /*C. opulifolium* Schrad. ex W.D.J.Koch & Ziz/ Stalden bei Visp, Vallis (1)
49. *C. opulifolium* Schr. 4.8.1878. **Gl** /*C. opulifolium* Schrad. ex W.D.J.Koch & Ziz/ Bords des chemins Limagne (1)
50. *C. polyspermum* L. 8.1882. **S** FB /*C. polyspermum* L./ Elbeufer b. Theresienstadt (2)
51. *C. polyspermum* L. 14.7.1885. **S** FPo /*C. polyspermum* L./ wüste Plätze Zeughaus in Przemyśl (3)
52. *C. rubrum* L. 6.8.1867. **P** HV /*C. rubrum* L./ Localité Chauvort (Saône et Loire) Station Bords desséchés des marais (2)
53. *C. rubrum* L. 9.1874. **He** FBr /*C. rubrum* L./ 31. Lychen aus getrockneten des Blasswg in Rutenberg (2)
54. *C. urbicum* L. 29.7.1872. **S** FN /*C. urbicum* L./ 591. Laerbg, Weingarten & heide (1)
55. *C. vulvaria* L. 9.1885. **S** FPo /*C. vulvaria* L./ wüste Orte, lgst Wegen in Przemyśl (1)
56. *C. vulvaria* L. 1897. **S** FW /*C. vulvaria* L./ wüste Plätze um die Stadt (2)
57. *Corispermum hyssopifolium* L. 7.9.1873. **F** /*C. hyssopifolium* L./ Ungarn. Raine bei Neu-Pest. Sand 120 m (2)
58. *C. hyssopifol* L. 9.10.1878. **Ru** /*C. hyssopifolium* L./ Berlin: qu. sp. (2)
59. *C. intermedium* Schweigg. 4.9.1865. **K** FP /*C. intermedium* Schweigg./ Pillau in Dünensande (3)
60. *C. intermedium* Schwgg. 31.8.1873. **B** /*C. intermedium* Schweigg./ Königsberg: Aecker bei Alt-Pillau (3)
61. *C. nitidum* Kit. 18.9.1875. **R** FH /*C. nitidum* Kit./ Ort Pest Rákos Unterlage Sand (2)

62. *Diotis candidissima* Desf. 20.7.1878. **So** SH /*Achillea maritima* (L.) Ehrend. & Y.P.Guo/ Migliarino - Prope Pisas in arenosis maritimis (2) (**fam. Compositae**)
63. *Halimocnemis volvox* C.A.M. **Ku** HK /*Petrosimonia triandra* (Pall.) Rech./ Rossia merid. (2)
64. *Halimus portulacoides* Wallr. 23.8.1874. **F** /*Atriplex portulacoides* L./ Istrien. Umgebung von Pola Meeresstrand Bodenunterlage Kalk Seehöhe 1 m (1)
65. *H. portulacoides* Wallr. 13.6.1901. **S** FvT /*A. portulacoides* L./ Sümpfe am Ufer bei St. Sabo (3)
66. *Haloepelis amplexicaulis* Vahl 7.1875. **Gro** HE /*H. amplexicaulis* (Vahl) Ung.-Sternb. ex Ces., Pass. & Gibelli/ In locis salsis prope Tarentum Saline di San Bruno (5)
67. *Kochia arenaria* Rth. 22.8.1877. **KFR**/K. *arenaria* (Maerkl.) Roth/ Rheingau: Sandige Wegränder bei Heidesheim (1)
68. *K. prostrata* Schrad. 7.1874. **S** FD /*Suaeda maritima* (L.) Dumort./ am Meeresufer bei Bodicelli nächst Spalato (2)
69. *K. prostrata* Schrad. 25.6.1879. **D** /*Bassia prostrata* (L.) Beck/ Italie. Vignes d'Torte (2)
70. *K. scoparia* Schrad 9.1871. **H** F /*B. scoparia* (L.) A.J.Scott/ Pottaschenfiederei von Grossenzersdorf (1)
71. *K. sedoides* Schrad. 15.9.1872. **F** /*Sedobassia sedoides* (Schrad.) Freitag & G.Kadereit/ Ungarn. Umgebung von Ofen-Pest Lehmige Stellen am Blocksberg Kalk 150 m (3)
72. *Litorella lacustris* L. f. *sterilis* 17.7.1874. **B** HE /*L. uniflora* (L.) Asch./ Danzig: Im espenkruger See (5) (**fam. Plantaginaceae**)
73. *Obione pedunculata* Moq. Tand. 16.8.1868. **K** /*Atriplex pedunculata* L./ Nordseeinsel Borkun: Westland an der Aufserweide (8)
74. *O. pedunculata* Moq. Tand. var. *minor* **Ha** FS /*A. pedunculata* L./ Husum, im Dock Koeg aus acker (4)
75. *Polycnemum arvense* L. 7.9.1871. **S** FWi /*P. arvense* L./ bei Fischau (1)
76. *P. heuffelii* Láng. 9.1872. **Gru** /*P. heuffelii* Láng/ In den sandigen Wäldern zü Dorogh nächst Gran in Ungarn (3)
77. *P. heuffelii* Láng. 9.1876. **Gru** HE /*P. heuffelii* Láng/ Nr 3073. Hungaria: Dorogh ad Strigonium /:Gran:/, In sylvis arenosis (4)
78. *P. heuffelii* Láng **Gr** /*P. heuffelii* Láng/ ung. Ins. Cepel (1)
79. *P. majus* A. Br. 14.9.1874. **Di** /*P. majus* A.Braun/ München-dorf bei Wien (1)
80. *P. verrucosum* Láng. 9.1872. **Gru** /*P. verrucosum* Láng/ Auf sandigen Hütweide zü Dorogh nächst Gran in Ungarn (4)
81. *P. verrucosum* Láng 9.1876. **Gru** HE /*P. verrucosum* Láng/ Nr 3075. Hungaria: Dorogh ad Strigonium /:Gran:/, In pascuis arenosis (5)
82. *Salicornia fruticosa* L. β *pachystachya* = *macrostachya* Moricaud 9.1875. **S** FD /*Arthrocnemum macrostachyum* (Moric.) K.Koch/ salzhalt. Stellen am Meeresufer bei Spalato (4)
83. *S. herbacea* L. 8.1878. **S** FD /*S. europaea* L./ auf salzigen Orten am Meeresufer der Insel St. Giorgio bei Perasto (2)
84. *S. herbacea* L. var. 5.9.1904. **S** FvT /*Arthrocnemum macrostachyum* (Moric.) K.Koch/ an Salinen bei Semedella Capo d'Istria (3)
85. *S. macrostachya* Moric. 16.6.1874. **F** /*A. macrostachyum* (Moric.) K.Koch/ Istrien. Umgebung von Pola felsiger Meeresstrand Bodenunterlage Kalk Seehöhe 2 m (2)
86. *S. patula* Duval Jouve **U** FWe /*S. patula* Duval-Jouve/ Wisselsheim (4)
87. *S. patula* Duv.-Jouve 9.1876. **Kuh** HE /*S. patula* Duval-Jouve/ Am salziger See b. Erdeborn (3)
88. *Salsola arenaria* W.K. 9.1872. **Gru** /*Bassia laniflora* (S.G.Gmel.) A.J.Scott/ Auf sandigen Hügeln zü Dorogh nächst Gran in Ungarn (5)
89. *S. kali* L. f. *simplex* 2.8.1872. **B** /*S. kali* L./ Danzig: Am Loch an der Westerplatte (14)
90. *S. kali* L. 1872. **S** FD /*S. kali* L./ Meeresufer bei Punta d'Ostro (1)
91. *S. kali* L. 1893. **S** FvN /*S. kali* L./ Brachen um Wr Neustadt (1)
92. *S. soda* L. 26.7.1870. **S** FvN /*S. soda* L./ am Laaerberg b. Wien (1)
93. *S. soda* L. 4.8.1875. **S** FD /*S. soda* L./ am Meeres ufer bei Toretta nächst Spalato (1)
94. *S. soda* L. 25.8.1893. **S** FW /*S. soda* L./ Aecker um Neustadt (3)
95. *S. soda* L. 10.10.1902. **S** FvT /*S. soda* L./ in Gräben an der Miramarstrasse bei Barcola (2)
96. *Schoberia maritima* Myr **T** /*Suaeda maritima* (L.) Dumort./ Csepel Ins. in Ungarn (1)
97. *Spinacia spinosa* L. 8.1872. **S** FWi /*S. oleracea* L./ cult. um Wien (1)
98. *S. spinosa* Mnch. 9.7.1878. **F** /*S. oleracea* L./ 242. Bohe-mia. Opočno In hortis frequens culta 265 m (1)
99. *Thelygonum cynocrambe* L. 20.3.1874. **S** FD /*Theligonum cynocrambe* L./ zwischen mäuern ü. auf sonnigen Rainen um Spalato (11) (**fam. Rubiaceae**)
100. *Theligonum cynocrambe* L. 4.1874. **So** SV /*T. cynocrambe* L./ Villa Herzen prope Florentiam (Italia) In muris vetustis (5) (**fam. Rubiaceae**)
101. *Thelygonum cynocrambe* 17.3.1876. **S** FD /*T. cynocrambe* L./ Rainen und steinig sonnigen Grasplätzen am Giovanni (6) (**fam. Rubiaceae**)
- (Ord. Plumbagineen)
102. *Armeria ararica* Gdgr. 7.9.1876. **G** FG /*A. canescens* /Host/ Boiss. subsp. *nebrodensis* /Guss./ P.Silva No 110 Hab. in arenosis ad Arnas (Rhône) (3)
103. *A. juncea* Gir. 3.6.1878. **An** S /*A. girardii* /Bernis/ Litard.) Localité: Fontaret près de Blandas (Gard) Station: Rochers dolomitiques calcaires Altitude: 250 m (2)

104. *A. plantaginea* Willd. 8.1874. **W** HW (*A. arenaria* /Pers./ Schult. St. Rémy (3))
105. *A. rumelica* Boiss. **Ja** (*A. cariensis* Boiss. var. *rumelica* / Boiss./ Boiss.) Balkan (1)
106. *A. vulgaris* W. syn. *elongata* Hoffm. 30.5.1875. **S** FD (*A. maritima* /Mill./ Willd.) auf den grasigen Abhängen des Forts Clissa (1)
107. *A. vulgaris* W. = *Statice elongata* Hoffm. 29.5.1881. **S** FB (*A. maritima* /Mill./ Willd.) sandige Waldblößen um Theresienstadt (2)
108. *Plumbago europaea* L. 9.1875. **S** FD (*P. europaea* L.) Feldrainen u. wüsten Plätzen um Spalato (1)
109. *P. europaea* L. 7.9.1877. **Ca** (*P. europaea* L.) Lieux incultes et pierreux à Nice (Alp. Maritimes) (3)
110. *P. larpentae* Lindl. 4.10.1870. **G** FG (*Cerastostigma plumbaginoides* Bunge) No 336 Hab. ad muros subspont. prope Arnas (Rhône) (1)
111. *Statice alpina* Willd. 13.7.1897. **S** FW (*Armeria alpina* / DC./ Willd.) am Waxriegel das Schneeberges (2)
112. *S. alpina* Willd. 8.8.1899. **S** FW (*A. alpina* /DC./ Willd.) am-Schneeberg 1800 met. (3)
113. *S. cancellata* Bernh. 9.1872. **S** FD (*Limonium cancellatum* /Bernh. ex Bertol./ Kuntze) Auf Felsen der Halbinsel Punta d'Ostro bei Castelnuovo (3)
114. *S. confusa* G G 8.1874. **Tr** (*L. ramosissimum* /Poir./ Maire subsp. *confusum* /Gren. & Godr./ Pignatti) Ile Ste Lucie france Prairies salées (2)
115. *S. diffusa* Pourr. 7.1873. **F** (*L. diffusum* /Pourr./ Kuntze) France. Ile Ste Lucie près Narbonne Aude (2)
116. *S. gmelini* Willd. 9.1873. **F** (*L. gmelinii* /Willd./ Kuntze) Ungarn. Salzwiesen bei Ofen. Alluv. 120 m (1)
117. *S. incana* L. 7.1875. **S** FD (*Goniolimon dalmaticum* /C.Presl/ Rchb.) längst dem Meeresufer auf der Nordseite des Marian bei Spalato (2)
118. *S. limonium* L. 8.1875. **S** FD (*Limonium vulgare* Mill.) am salzigen Meeres ufer bei Spalato (2)
119. *S. limonium* L. 13.8.1901. **S** FI (*L. vulgare* Mill. subsp. *serotinum* /Rchb./ Gams) in Meeressümpfen bei St. Sabo (2)
120. *S. limonium* L. 30.8.1904. **S** FI (*L. vulgare* Mill. subsp. *serotinum* /Rchb./ Gams) an den Salinen von Capo d'Istria (1)
121. *S. lychnidifolia* Gir. 7.1874. **Tr** HT (*L. auriculae-ursifolium* /Pourr./ Druce) Hab. Prairies salés de l'Île de Ste Lucie près Narbone (France) (2)
122. *S. monopetala* L. *Limoniasrum* Boiss. 7.1873. **F** (*Limoniasrum monopetalum* /L./ Boiss.) France. Ile Ste Lucie près Narbonne Aude (2)
123. *S. sinuata* L. 4.1874. **Gr** (*Limonium sinuatum* /L./ Mill.) Algerie. Cap. Matifou (1)
124. *S. virgata* Willd. 7.1874. **Tr** HT (*L. oleifolium* Mill.) Hab. Prairies salés de l'Île de Ste Lucie près Narbone (France) (2)

(Ord. Aristolochieen) In this map, besides herbarium samples for the family Aristolochiaceae and Lauraceae, we found samples from the families Araceae and Myricaceae (marked at the end in the brackets).

125. *Arisaema dracontium* Schott. 3.6.1875. **E** HA /*A. dracontium* (L.) Schott/ Wald an Olive straße (1) (**fam. Araceae**)
126. *Aristolochia clematitis* L. 2.5.1873. **S** FD /*A. clematitis* L./ an Ackerrändern in der Suttolina bei Topla (1)
127. *A. clematitis* L. 13.6.1900. **S** FvT /*A. clematitis* L./ Gebüsche Greta & Barcola (1)
128. *A. fontanesii* B.R. 3.1879. **G** FA /*A. fontanesii* Boiss. & Reut./ No 230 Hab. in ditone urbis Alger, loco dicto Birmandreis (2)
129. *A. longa* L. 13.4.1877. **D** HD /*A. fontanesii* Boiss. & Reut./ Perpignan (Pyr. Orient) River de la Tét, parmi les rochers (3)
130. *A. pallida* Willd. 5.1880. **S** FD /*A. pallida* Willd./ zwischen Felsen am Monte Sella bei Trinita nächst Cattaro (1)
131. *A. pallida* Willd. 5.6.1902. **S** FvT /*A. pallida* Willd./ Gebüschrand nächst der Wiese am Trstenik (6)
132. *A. rotunda* L. 15.6.1875. **S** FD /*A. rotunda* L./ zwischen Gesträuch um Clissa /:Fort:/ (3)
133. *A. rotunda* L. 5.1878. **S** FD /*A. rotunda* L./ an Feldmauern bei Stoliko (2)
134. *A. siphon* L. **My** /*A. macrophylla* Lam./ Quakertown Pa. (1)
135. *A. tomentosa* Sims. 28.5.1875. **E** HA /*A. tomentosa* Sims/ Forest Park (2)
136. *A. tomentosa* Mx. **Mo** /*A. tomentosa* Sims/ Mobile, Alabama (1)
137. *Asarum canadense* L. 14.5.1875. **E** HA /*A. canadense* L./ Forest Park (2)
138. *A. canadense* L. **C** /*A. canadense* L./ Delaware (1)
139. *A. europaeum* L. **B** /*A. europaeum* L./ Förthofers flucht bei Krems (3)
140. *Laurus nobilis* L. 24.4.1901. **S** FvT /*L. nobilis* L./ Barcola (5)
141. *Myrica cerifera* L. **C** /*Morella cerifera* (L.) Small / Delaware (1) (**fam. Myricaceae**)
142. *Sassafras officinalis* Nees. 5.8.1875. **E** HA /*S. albidum* (Nutt.) Nees/ Old Bonhomme Wegg (3)

(Ord. Thymeleen) In this map, besides herbarium samples for the family Thymelaeaceae, we found samples from the families Eleagnaceae, Santalaceae, and Rutaceae (marked at the end in the brackets).

143. *Daphne alpina* L. 5.1872. **Gr** /*D. alpina* L./ Istria. M. santo pr. Görz (4)
144. *D. blagayana* Freyer **F** /*D. blagayana* Freyer/ Lorenzberg bei Billichgrätz in Krain (2)
145. *D. cneorum* L. 21.5.1875. **A** /*D. cneorum* L./ Monte Salvatore bei Lugano, Tessin (5)

146. *D. cneorum* L. 5.1893. **S** FvN /*D. cneorum* L./ Malleiten bei Wollersdorf (9)
147. *D. gnidium* Lin. 8.1874. **Th** HP /*D. gnidium* L./ Bois Avignon (2)
148. *D. laureola* L. 1870. **S** FWi /*D. laureola* L./ Berge um Döbling (3)
149. *D. laureola* L. 5.1878. **H** F /*D. laureola* L./ in silvis mont. ad Gissühel (2)
150. *D. mezereum* L. 11.4.1872. **S** FWi /*D. mezereum* L./ Wälder bei Maüerbach, Gablitz & Pürkersdorf (4)
151. *D. mezereum* L. 3.1885. **S** FPo /*D. mezereum* L./ in Waldern bei Buda nächst Przemysl (5)
152. *D. striata* Tratt. 1869. **J** /*D. striata* Tratt./ Alpe Ortazha nächst dem Loibl, Kärnthen (3)
153. *Dirca palustris* L. **En** /*D. palustris* L./ Louisiana (3)
154. *Passerina annua* Wick. 7.1873. **S** FD /*Thymelaea passerina* (L.) Coss. & Germ./ Brachäcker & Rainen bei Punta d'Ostro & bei Paludi nächst Spalato (2)
155. *P. annua* L. 18.9.1876. **G** FG /*T. passerina* (L.) Coss. & Germ./ No 1067 Hab. in arvis circa Arnas (Rhône) (3)
156. *P. annua* Wigstr. 8.8.1902. **S** FvT /*T. passerina* (L.) Coss. & Germ./ am Trstenik ober Barcola (1)
157. *P. hirsuta* L. 6.9.1876. **Hu** S /*T. hirsuta* (L.) Endl./ coteaux schisteux du bord delamer à la Grotte Tour près de Toulon (Var) (2)
158. *Cneorum tricoccon* L. 6.1874. **F** /*C. tricoccon* L./ La Clappe près Narbonne (1) (**fam. Rutaceae**)
159. *Osyris alba* L. 29.4.1879. **S** FD /*O. alba* L./ überall auf felschen um Cattaro (Giovanni) (2)
160. *O. alba* L. 7.1902. **S** FvT /*O. alba* L./ Gebüsche am Trstenik u. gegen Contovello ober Barcola (2)
161. *Thesium alpinum* L. 6.1867. **Hü** FPr /*T. alpinum* L./ Kützkow: an der Linkerner Spitze (2)
162. *T. alpinum* L. 13.6.1897. **S** FW /*T. alpinum* L./ am Grässenberg bei Muthmannsdorf (2)
163. *T. divaricatum* Jan. 14.5.1874. **S** FSü /*T. divaricatum* Jan ex Mert. & W.D.J.Koch/ auf steinig Triften am Marian (1)
164. *T. divaricatum* Jan. 7.1900. **S** FvT /*T. divaricatum* Jan ex Mert. & D.J.Koch/ Greta (2)
165. *T. humile* Vahl 5.1871. **M** /*T. humile* Vahl/ Auf Brachen im Marchfeld (2)
166. *T. intermedium* Schrd. 5.1878. **H** F /*T. linophyllum* L./ In pratis montanis ad neuskift am Walde (2)
167. *T. intermedium* Schrad 4.6.1901. **S** FvT /*T. linophyllum* L./ am Trstenik (1)
168. *T. montanum* Ehrh. 25.6.1895. **S** FW /*T. bavarum* Schrank/ hügel bei Wöllersdorf (6)
169. *T. ramosum* Hayne. 6.1874. **H** F /*T. arvense* Horv./ In arvis montis Laaerberg ad Viennam (2)
170. *T. ramosum* Hayne 15.6.1897. **S** FW /*T. arvense* Horv./ am Eisenbachndamm b. Wr N. (2)

171. *T. rostratum* M. & K. 8.6.1876. **Si** HE /*T. rostratum* Mert. & W.D.J.Koch/ No 3667 Helvetia: Uto bis Zürich (2)
172. *Eleagnus angustifolius* L. 12.6.1874. **A** /*Elaeagnus angustifolia* L./ Dans et bosquets à Genève (2)
173. *Elaeagnus angustifolia* L. 1897. **S** FW /*E. angustifolia* L./ cult. in Gärten (1)
174. *Hippophae rhamnoides* L. 8.1870. **R** /*E. rhamnoides* (L.) A.Nelson/ Wegen bei Urfahr nächst Linz (2)

DISCUSSION

The total number of the herbarium sheets (maps Ord. Amaranthaceen, Salsoleen and Chenopodeen) in the analysed family Amaranthaceae is 96 (with 218 samples excluding herbarium sheets under the ordinal number: 62 *Diotis candidissima* Desf. – which belongs to the family Compositae, 72. *Litorella lacustris* L. f. *sterilis* – Plantaginaceae, 99., 100. and 101. *Theligonum* /*Thelygonum*/ *cynocrambe* L. – Rubiaceae). The majority of the plants was collected in Europe (95 herbarium sheets), and one sheet originates from North America. Most of the herbarium samples were collected in the area of Austria (21 herbarium sheets) and Croatia (14), Italy (11), Hungary (11), Czech Republic (9), France (8), Germany (8), Poland (3), Russia (3), Switzerland (3), Slovenia (2). One herbarium sheet was collected in Montenegro, UK, and USA, respectively. According to the affiliation to a particular herbarium collection in the analysed family, the most represented is Flora Dalmatiens with 11 herbarium sheets. This is followed by other collections, such as: Flora von Triest (10), Flora von Wr Neustadt (7), Flora Böhmens (including Flora von Böhmen collection) (6), Flora von Wien (5), C. Baenitz Herbarium Europaeum (4), Flora Gallica exsiccata (4) and others. There are 26 herbarium sheets that are unmarked and therefore we do not know which herbarium collection they belong to. Most of the samples of herbarium plants were collected by Studniczka himself (45 herbarium sheets), while others were sent to him by Freyn (9), Grundl (5), Gandoger (4), Halácsy (4), Körnicke (3), Ayasse (2), Baenitz (2), Richter (2) and others. In the part of the herbarium which has already been analysed (compare with: Vladović et al, 2007, 2009, 2010, 2012, 2013a, 2013b, 2014a, 2014b, 2015; Mitić et al., 2008, 2010–2011, 2011, 2012, 2013; Vladović & Mitić 2016, 2017a, 2017b, Ževrnja et al, 2008, 2009a, 2009b, 2010a, 2010b, 2011, 2013a, 2013b, 2013c, 2014a, 2014b, 2015), there are botanists or collectors of the herbal material who are mentioned for the first time: Kuhn, Kühlewein, and Uloth. The oldest herbarium sheet dates to 1865, whereas the newest ones date to 1904. The vast majority of herbarium sheets (65), was collected during the period from 1870 to 1880. The exact year of collection from 5 herbarium labels is missing. According to Studniczka, within 96 herbarium sheets in the analysed family Amaranthaceae (orders: Amaranthaceen, Salsoleen, and Chenopodeen), there are 18

genera with 61 species, in terms of which 6 varieties were recorded.

The total number of the herbarium sheets (map Ord. Plumbagineen) in the analysed family Plumbaginaceae is 23 (with 44 samples). The majority of the plants was collected in Europe (22 herbarium sheets), and one sheet originates from Africa. Most of the herbarium samples were collected in the area of France (9 herbarium sheets) and Croatia (5) and Austria (2). One herbarium sheet was collected in Algeria, Bulgaria, the Czech Republic, Hungary, Italy, Slovenia, and Switzerland, respectively. According to the affiliation to a particular herbarium collection in the analysed family, the most represented is Flora Dalmatiens with 5 herbarium sheets. This is followed by other collections, such as: Flora von Wr. Neustadt (2 herbarium sheets), Flora Gallica exsiccata (2), Herb F. Trémols (2), and others. There are 7 herbarium sheets that are unmarked and therefore we do not know which herbarium collection they belong to. Most of the samples of herbarium plants were collected by Studniczka himself (10 herbarium sheets), while others were sent to him by Trémols (3), Freyn (3), Gandoger (2), Halácsy (4) and others. The oldest herbarium sheet dates to 1870, whereas the newest ones date to 1904. The vast majority of herbarium sheets (17) was collected during the period from 1870 to 1880. The exact year of collection is missing from one herbarium label. According to Studniczka, within 23 herbarium sheets there are 3 genera with 18 species. The most interesting herbarium samples are under number 117. *Statice incana* L. collected by Studniczka 7.1875. on the northern slopes of Marjan Hill near the town of Split. By new determination, it has been established that it is the species *Goniolimon dalmaticum* /C.Presl/ Rchb, which is endangered and endemic taxa.

The total number of the herbarium sheets (maps: Ord Aristolochieen and Thymeleen) in analysed families Aristolochiaceae, Thymelaeaceae, Lauraceae, Eleagnaceae, and Santalaceae is 50 (with 123 samples), excluding herbarium sheets under the ordinal number: 125. *Arisaema dracontium* Schott. which belongs to the family Araceae, 141. *Myrica cerifera* L. – Myricaceae, and 158. *Cneorum tricocum* L. – Rutaceae). For the Aristolochiaceae family, it was recorded on 14 herbarium sheets, for the Thymelaeaceae 15, Santalaceae 13, Eleagnaceae 3, and Lauraceae 2 herbarium sheets. The majority of the plants was collected in Europe (39 herbarium sheets), North America (7), and one sheet originates from Africa. Most of the herbarium samples were collected in the area of Austria (13 herbarium sheets) and USA (7), Italy (7), France (4), Montenegro (4), Croatia (3), Slovenia (3), Switzerland (3). One herbarium sheet was collected in Algeria, Germany, and Poland, respectively.

According to the affiliation to a particular herbarium collection in the analysed families, the most represented is Flora Dalmatiens (including Flora Suddalmatiens collection)

and Flora von Triest with 7 herbarium sheets. This is followed by other collections, such as: Flora von Wr. Neustadt (4 sheets), Eggert Herbarium Americanum (3), Flora Austriae inf. (3), Flora von Wien (2), and others. In the part of the herbarium which has already been analysed, some new collections are mentioned for the first time and these are: Flora n. Pritzerbe and Herbar du pensionnat des Frères, Avignon. Most of the samples of herbarium plants were collected by Studniczka himself (22 herbarium sheets), while others were sent to him by Halácsy (3), Eggert (3), Freyn (2), Gandoger (2), and others. In the part of the herbarium which has already been analysed, there are botanists or collectors of the herbal material who are mentioned for the first time: Boller, Hülsen, and Tholin. The oldest herbarium sheet dates to 1867, whereas the newest ones date to 1902. The vast majority of herbarium sheets (26) was collected during the period from 1870 to 1880. The exact year of collection is missing from 7 herbarium labels. According to Studniczka, within 50 herbarium sheets in the analysed families Aristolochiaceae, Thymelaeaceae, Lauraceae, Eleagnaceae, and Santalaceae (maps: Ord Aristolochieen and Thymeleen), there are 11 genera with 31 species.

CONCLUSION

The total number of the analyzed herbarium sheets in this paper is 174 (with 414 samples). The majority of the plants was collected in Europe (162 herbarium sheets), North America (10), and two sheets originate from Africa. Most of the herbarium samples were collected in the area of Austria (36 herbarium sheets) and Croatia (23), France (22), Italy (21), Hungary (12), Czech Republic (10), USA (10), Germany (9), Switzerland (7), Montenegro (6), Slovenia (6), Poland (5), Russia (3), Algeria (2). One herbarium sheet was collected in UK and Bulgaria, respectively. Most of the samples of herbarium plants were collected by Studniczka himself (79 herbarium sheets), while others were sent to him by Freyn (14), Gandoger (8), Halácsy (7), Eggert (5), Grundl (5), Ayasse (3), Baenitz (3), Graf (3), Körnicke (3), Trémols (3), Alioth (2), Canby (2), Huet (2), Richter (2), Sommer (2). One herbarium sheet was collected by Anthouard, Boller, Canut, Debeaux, Déséglise, Dichtl, Engelmann, Glastier, Groves, Hansen, Heiland, Hülsen, Jabornegg, Janka, Krenberger, Kühlewein, Kuhn, Lewis Harbord, Matz, Mohr, Moyer, Oertel, Paillot, Rauscher, Ruhmer, Siegfried, Tauscher, Tholin, Uloth, Vandrely, and Wolf. The oldest herbarium sheet dates to 1865, whereas the newest ones date to 1904. The vast majority of herbarium sheets (110) was collected during the period from 1870 to 1880. The exact year of collection is missing from 13 herbarium labels.

So far 7346 herbarium sheets with 20121 samples have been registered for the Studniczka's herbarium.

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SAŽETAK

U radu je analiziran herbarijski biljni materijal iz porodica Amaranthaceae (Ord. Amaranthaceen, Salsoleen i Chenopodeen), Plumbaginaceae (Ord. Plumbagineen), Aristolochiaceae, Thymelaeaceae, Lauraceae, Eleagnaceae i Santalaceae (Ord. Aristolochieen i Thymeleen). Najveći dio od 174 herbarijska lista s 414 herbarijskih primjeraka sakupljen je u Europi (162 herbarijska lista). Prema herbarijskim etiketama najviše herbarijskog materijala sabrano je s područja današnje Austrije (36 herbarijskih listova). Prema pripadnosti pojedinim herbarijskim zbirkama najzastupljeniji su herbarijski listovi iz zbirke Flora Dalmatiens (25), a najviše herbarijskih listova sakupio je Studniczka (79). Najstariji herbarijski list je iz 1865. god., a najmlađi su iz 1904. god. Na 13 herbarijskih etiketa nije upisana godina sakupljanja.

Uvidom u dosada analizirani dio herbarija po prvi puta se spominju slijedeći sakupljači biljaka: Boller, Hülsen, Kühlewein, Kuhn, Tholin i Uloth kao i herbarijske zbirke: Flora n. Pritzerbe i Flora der Wetterau.

Ključne riječi: Prirodnački muzej u Splitu, istorijska zbirka biljaka