



## ANALYSIS OF FAMILY BORAGINACEAE FROM CARL STUDNICZKA'S HERBARIUM

VLADOVIĆ Dalibor<sup>1\*</sup>, MITIĆ Božena<sup>2</sup>

**Abstract:** We analysed family Boraginaceae (order: Boragineen) with total of 115 herbarium sheets. According to the labels, the majority of herborized material was collected in the area of Austria (20 sheets). Most herbarium sheets belong to Flora Dalamtiens collection (28). In reference to the part of Studniczka's herbarium which has already been analysed, there are five collections which are mentioned for the first time. Following botanist or collectors of herbal material are mentioned for the first time, and there are: Bartholomatus, Csató, François, Haertel, Herbich, Menyhárth and Schrenk. Most herbarium sheets were collected by Studniczka himself (70).

**Key words:** Studniczka's herbarium, Natural History Museum Split, Croatia.

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### Introduction

As a botanist amateur, Carl Studniczka collected plants while he was traveling (1869-1904) and working as an officer (data are known from herbarium labels: wide surrounding area of Vienna and Wiener Neustadt in Austria, of Split in Croatia, of Celje in Slovenia, of Kotor in Montenegro, of Olomouc and Leitmeritz in the Czech Republic, of Przemysl in Poland and at last the wide 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.

### Material and methods

In this paper we analysed the herbarium sheet from family Lamiaceae. From the labels of the herbarium sheets first, 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 **Ay**-Ayasse, **B**-Baenitz, **Ba**-Barth, **Bo**-Bordère, **D**-Dieudonné, **E**-Eggert, **F**-Favrat, **Fr**-Frank, **Fy**-Freyn, **G**-Gandoger, **Ga**-Gautier, **Go**-Göth, **Gr**-Graf, **H**-Halácsy, **He**-Heldreich, **Hn**-Henser, **Ho**-Holuby, **Hu**-Huet A., **K**-Keck, **L**-Legrand, **Le**-Letourneux, **R**-Ressmann, **Re**-Reuterman, **Ri**-Richter, **Rv**-Reverchon, **S**-Studniczka, **St**-Strobl, **T**-Théveneau, **To**-Torrepano, **Z**-Zapfl, **Ze**-Zetterstedt) and the affiliation to the particular herbarium collection (FA-Flora Algeriensis exsiccata, FAE-Flora arveniae exsiccata, FB-Flora Böhmen /including Flora von Böhmen/, FC-Flora carniolica, FD-Flora Dalmatiens, FG-Flora Gallica exsiccata, FGr-Flora von Griechenland, FH-Flora

<sup>1</sup> Natural History Museum and Zoo, Kolombatovićevo šetalište 2, 21 000 Split, Croatia.

<sup>2</sup> Botanic Institute of PMF University of Zagreb, Marulićev trg 20/ II, 10 000 Zagreb, Croatia.

\* Correspondence: dalibor@prirodoslovni.hr

Hungarica, FI-Flora von Istrien, FN-Flora von N. Oesterreich /including Flora von Unt. Oesterreich/, FO-Flora von Obersteiermark, FOI-Flora von Olmütz, FP-Flora von oesterr. Polen /including Flora von Przemysl/, FT-Flora von Triest, FTr-Flora Transsilvaniae, FW-Flora von Wien, FWN-Flora von Wr Neustadt, HA-Eggert, Herbarium Americanum, HE-Baenitz, Herbarium Europaeum, HT-Herbier Thévenau Béziers, P-Plantes de la Loire, PS-Plantae Scandinavicae., S-Societas Helvetica /including: Société Helvétique and Societas Botanica Helvetica/, SV-Société Vogéso-Rhénane, U-unknown). 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 had been found with altitude data if available and listed the number of herbarium samples in brackets (for example, 2 h.s.).

### Results and discussion

#### List of species

1. *Alkanna tinctoria* Tausch. 13.4.1873. **Fy** U (*A. tinctoria* /L./ Tausch) Ungarn. Triften bei Pest. Sand 115 m (2 h.s.)
2. *Anchusa arvensis* M.Bieb. = *Lycopsis arvensis* L. 7.1881. **S** FB (*A. arvensis* /L./ M.Bieb.) auf sandäckern bei Skalitz nachst Leitmeritz (5 h.s.)
3. *A. italica* Retz 4.6.1872. **S** FN (*A. azurea* Mill.) üm Wien b. d. Marxer linie (1 h.s.)
4. *A. italica* Retz. 31.5.1878. **S** FD (*A. azurea* Mill.) auf Schutthaufen bei der Schießstätte nächst Trinita bei Cattaro (1 h.s.)
5. *A. officinalis* L. 5.6.1881. **S** FB (*A. officinalis* L.) wüste Plätze u. Gräben um Theresienstadt (2 h.s.)
6. *A. officinalis* L. 12.6.1885. **S** FP (*A. officinalis* L.) Raine u. Wiesenrdr um Przemysl (2 h.s.)
7. *A. officinalis* L.  $\beta$  *angustifolia* 3.6.1897. **S** FWN (*A. officinalis* L.) Leithasand bei Neudörfel (1 h.s.)
8. *A. variegata* Lehm 4.1875. **S** FD (*A. variegata* /L./ Lehm.) am Marian bei Spalato (3 h.s.)
9. *A. variegata* Lehm 4.1878. **S** FD (*A. variegata* /L./ Lehm.) auf den Abhängen des Vermacz (4 h.s.)
10. *A. variegata* Lehm 4.1879. **S** FD (*A. variegata* /L./ Lehm.) steinige Abhänge s Vermacz bei Cattaro (3 h.s.)
11. *Asperugo procumbens* (L.) 27.5.1878. **Ga** FAE (*A. procumbens* L.) Localité: Clermont-Ferrand Statio: Bords des fumiers au Salins (alluvions), à 380<sup>m</sup> (2 h.s.)
12. *A. procumbens* L. 6.6.1881. **S** FB (*A. procumbens* L.) Ackerränder bei Kopist nächst Theresienstadt (1 h.s.)
13. *Borago officinalis* L. 11.4.1873. **S** FD (*B. officinalis* L.) wüsten Plätzen nächst einem Hause bei Meligne (3 h.s.)
14. *B. officinalis* L. 21.6.1901. **S** FT (*B. officinalis* L.) werwild. überall Barcola (2 h.s.)
15. *Cerinth carthusianorum* Gdgr. 14.7.1874. **G** FG (*C. minor* L. ssp. *auriculata* /Ten./ Domac) No 72 Hab. in rupibus ad Bovinant supra La G<sup>de</sup> Chartreuse (Isère) 5000' (2 h.s.)
16. *C. minor* L.  $\beta$  *maculata* 6.1875. **S** FD (*C. minor* L. ssp. *auriculata* /Ten./ Domac) ausserhalb der Hptmaner des Castell Clissa gegen die Signaner stresse zu (2 h.s.)

17. *C. minor* L. 22.5.1881. **S** FB (*C. minor* L.) felsige Orte am Radobil bei Leitmeritz (1 h.s.)
18. *C. minor* L. 30.5.1885. **S** FP (*C. minor* L.) an Rainen u. wüsten Orten um Przemysl (2 h.s.)
19. *C. smithiae* Kern. 5.1879. **Gr** U (*C. glabra* Mill. ssp. *smithiae* /A. Kern./Domac) Istria. Scogl. St Marco (2 h.s.)
20. *Cynoglossum morisoni* DC. 12.8.1875. **E** HA (*C. virginianum* L.) Blüffs in Ill. (1 h.s.)
21. *C. officinale* L. 25.5.1872. **S** FW (*C. officinale* L.) Schanze beim Neugebäude (4 h.s.)
22. *C. pictum* Ait. 1875. **S** FD (*C. creticum* Mill.) unfruchtbaren Orten, Rainen, Wegen um Spalato (2 h.s.)
23. *C. pictum* Ait. = *C. creticum* Vill. 6.1880. **S** FD (*C. creticum* Mill.) um Cattaro (3 h.s.)
24. *C. pictum* Ait. 7.7.1902. **S** FT (*C. creticum* Mill.) am Hügel Pantalone bei Zaule (2 h.s.)
25. *C. virginicum* Pers. **Hn** U (*C. virginianum* L.) New Jersey (1 h.s.)
26. *Echinosperrum deflexum* (Wg.) 23.6.1870. **Ze** PS (*Lappula deflexa* /Wahlenb./ Garcke) Norge: Gudbrandsdalon, Ringeboe (5 h.s.)
27. *E. deflexum* Lehm. 24.7.1895. **S** FWN (*L. deflexa* /Wahlenb./ Garcke) auf dem Mariahilferberg bei Guttenstein (1 h.s.)
28. *E. lappula* Ait. 28.6.1880. **S** FD (*L. squarrosa* /Retz./ Dumort.) zwischen Gestein am montenegro Platz bei Cattaro (1 h.s.)
29. *E. lappula* Lehm. 9.1893. **S** FN (*L. squarrosa* /Retz./ Dumort.) Brachäcker b. Wr Neustadt (3 h.s.)
30. *Echium italicum* L. 7.6.1875. **S** FD (*E. italicum* L.) wüsten Plätzen um Spalato (2 h.s.)
31. *E. italicum* L. 11.7.1904. **S** FI (*E. italicum* L.) wüste Plätze gegen Isola (1 h.s.)
32. *E. parviflorum* Moench. 4.1875. **S** FD (*E. parviflorum* Moench) bei Toretta und Botticelli nächst Spalato (2 h.s.)
33. *E. plantagineum* L. 22.5.1875. **S** FD (*E. plantagineum* L.) wüsten Plätzen im kloster won Paludi nächst Spalato (2 h.s.)
34. *E. rubrum* Jcq. 22.5.1873. **Fy** U (*E. maculatum* L.) Siebenbürgen. Comitat: Kolas Bergwiesen bei Klausenburg Tert. Tegel 506 m (1 h.s.)
35. *E. vulgare* L. 22.6.1877. **S** FD (*E. vulgare* L.) nächst dem Fort Cerequize in der Krivošie (1 h.s.)
36. *E. vulgare* L. 25.6.1895. **S** FWN (*E. vulgare* L.) Wälder um Wöllersdorf (2 h.s.)
37. *E. vulgare* L. 12.6.1902. **S** FT (*E. vulgare* L.) Schutthaufen am Trstenik ober Barcola (1 h.s.)
38. *Eclipta erecta* L. **Frank** U (*E. prostrata* /L./ L.) Ohio (2 h.s.)
39. *Eritrichium nanum* Schrd. 2.8.1870. **St** FO (*E. nanum* /L./ Schrad. ex Gaudin) Auf dem Hochgolling Gl. Schiefer (2 h.s.)
40. *Heliotropium curassavicum* Lin. 6.1874. **T** HT (*H. curassavicum* L.) Sables maritimes Ile S<sup>t</sup> Lucie (Aude) (2 h.s.)
41. *H. europaeum* L. 8.1875. **S** FD (*H. europaeum* L.) auf Rainen und Aeckern der Halbinsel Lepad (3 h.s.)
42. *H. macrocarpum* Guss. 1.9.1874. **He** HE (*H. dolosum* De. Not) Athen. In campis arenosis halopedi Phaleri (2 h.s.)
43. *Lithospermum apulum* Vahl. 23.5.1875. **Fy** U (*Neatostema apulum* /L./ I.M.Johnst.) In siccis insulae S. Girolamo Istriae australis, solo calc. alt. 5m (3 h.s.)

44. *L. apulum* Vahl. 2.5.1877. **To** S (*N. apulum* /L./ I.M.Johnst.) Habitat in collibus Regionis submontanae (600 m) Lecta prope Madrid (5 h.s.)
45. *L. arvense* L. 5.1880. **S** FD (*Buglossoides arvensis* /L./ I.M.Johnst.) uncult. Orte ober Scagliari bei Cattaro (1 h.s.)
46. *L. arvense* L. 5.1885. **S** FP (*B. arvensis* /L./ I.M.Johnst.) Aecker um Przemysl (4 h.s.)
47. *L. incrassatum* Guss. 5.1875. **S** FD (*B. incrassata* /Guss./ I.M.Johnst.) am Monte Marian; im grösserer Ansehl auf dem Hügel gegenüber der Eremitage (2 h.s.)
48. *L. incrassatum* Guss. 5.1880. **S** FD (*B. incrassata* /Guss./ I.M.Johnst.) am Monte Sella oberhalb Cattaro /:1. monteng. Dorf:/ (4 h.s.)
49. *L. officinale* L. 5.1878. **S** FD (*L. officinale* L.) bei Scagliari nächst Cattaro (1 h.s.)
50. *L. officinale* L. 1893. **S** FWN (*L. officinale* L.) hügel um Fischau (2 h.s.)
51. *L. petraeum* DC. 5.1880. **S** FD (*Moltkia petraea* /Tratt./ Griseb.) auf Felsen am Giovanni di Cattaro (10 h.s.)
52. *L. petraeum* A.DC. 6.1880. **S** FD (*M. petraea* /Tratt./ Griseb.) auf Felsen am Vermacz oberhalb Mulla rechts von den serpentinweg zum Fort Vermacz (6 h.s.)
53. *L. purpureo-coeruleum* L. 6.1873. **Ri** FH (*Buglossoides purpureocaerulea* /L./ I.M.Johnst.) Ofen Wälder (2 h.s.)
54. *L. p.-coeruleum* L. 4.1874. **S** FD (*B. purpureocaerulea* /L./ I.M.Johnst.) zwischen Gesträuch bei Salona (2 h.s.)
55. *L. purpureo-coeruleum* L. 5.1894. **S** FN (*B. purpureocaerulea* /L./ I.M.Johnst.) auf der Malleiten bei Fischau (2 h.s.)
56. *Mertensia maritima* Don. 23.6.1875. **U** (*M. maritima* /L./ Gray) Nova Anglia (1 h.s.)
57. *Myosotis alpestris* Hopp. 23.6.1875. **S** FD (*M. alpestris* F.W.Schmidt) am Bikovo /:höchste Spitze Sveti Juro 5587:/ (2 h.s.)
58. *M. alpestris* Schult. 5.7.1874. **Ay** **U** (*M. alpestris* F.W.Schmidt) Paturages rocaillieux du Jura an Recuilét (Ain) (1 h.s.)
59. *M. balbisiana* Jord. 22.5.1873. **L** **P** (*M. balbisiana* Jord.) du cour lapidosis montium supra Montbrison alt. 900 m (6 h.s.)
60. *M. caespitosa* Schultz 5.1891. **S** FOI (*M. laxa* Lehm. ssp. *caespitosa* /Schultz/ Hyl. ex Nordh.) sumpfwiesen bei Kloster Hradisch (4 h.s.)
61. *M. hispida* Schlecht. 5.1894. **S** FN (*M. ramosissima* Rochel) auf der Malleiten b. Fischau (13 h.s.)
62. *M. intermedia* Link var. *dumetorum* Crepin. 5.1874. **D** **SV** (*M. arvensis* /L./ Hill) Station: Bois humide Localite: Eegenhoven près de Louvain (Brabant) Altitude: 25 mètres (3 h.s.)
63. *M. intermedia* Lk. 19.5.1880. **S** FD (*M. arvensis* /L./ Hill) steinige Hügel u. Abhänge um Cattaro (2 h.s.)
64. *M. intermedia* Link 17.6.1895. **S** FWN (*M. arvensis* /L./ Hill) im Föhrenwald beim Dillmanhof (2 h.s.)
65. *M. laxiflora* Rchb 6.8.1876. **G** **FG** (*M. scorpioides* L.) No 1002 Hab. in paludis et fossis as Arnas (2 h.s.)
66. *M. palustris* Withering 6.1882. **S** **FB** (*M. scorpioides* L.) sumpfige Gräben um die Festung Theresienstadt (2)
67. *M. palustris* Withering 16.5.1885. **S** **FP** (*M. scorpioides* L.) an Bächen v. r. der strasse nach Buda b. Premysl (2 h.s.)

68. *M. palustris* Roth.  $\alpha$  *grandiflora* Čelak 23.5.1878. **Fy** U (*M. scorpioides* L.) Böhmen. Mensegebirge. Sümpfwiesen (2 h.s.)
69. *M. palustris*  $\beta$  *laxiflora* = *M. laxiflora* Reichb 11.6.1885. **S** FP (*M. scorpioides* L.) in Birkenwäldern bei Kruhel (4 h.s.)
70. *M. palustris* Roth.  $\alpha$  *strigulosa* 16.6.1897. **S** FWN (*M. strigulosa* Rchb.) an der Fische bei Wr N. (2 h.s.)
71. *M. strigulosa* Rchb. 5.1878. **K** S (*M. strigulosa* Rchb.) In pratis. Aistersheim. Austria sup. (6 h.s.)
72. *M. pyrenaica* Pourr. 1878. **Bo** S (*M. alpina* Lepeyr.) Pâturages du Pic Blanc, Hautes-Pyrénées. Formation calcaire. Altitude 2500 mètres (13 h.s.)
73. *M. rehsteineri* Wartm. 2.5.1874. **Ay** U (*M. rehsteineri* Wartm.) Gravieres, humides du lac Léman a Bellerive près Genève (7 h.s.)
74. *M. rehsteineri* Wartm. 23.5.1874. **F** SV (*M. rehsteineri* Wartm.) Versoix, Genève, Suisse. Grâves du Léman 375 m (7 h.s.)
75. *M. sicula* Guss. 20.5.1873. **Rv** U (*M. sicula* Guss.) Ribieres (5 h.s.)
76. *M. silvatica* Hoffm.  $\beta$  *alpestris* 9.5.1878. **S** FD (*M. silvatica* Hoffm.) auf der neuen Strasse bei Scagliari (3 h.s.)
77. *M. silvatica* Hoffm. var: *grandiflora* 6.1882. **S** FB (*M. silvatica* Hoffm.) Wälder am Kreuzberg bei Leitmeritz (1 h.s.)
78. *M. sparsiflora* Mikan 5. **H** S (*M. sparsiflora* J.C.Mikan ex Pohl) In nemoribus Danubii (Prater) ad Viennam, Austriae inf. (2 h.s.)
79. *M. sparsiflora* Mikan 31.5.1882. **S** FB (*M. silvatica* Hoffm.) Wall von Theresienstadt (4 h.s.)
80. *M. stricta* Lk. forma *alpestris* 27.5.1875. **A** U (*M. stricta* Link ex Roem. & Schult.) Simplon (26 h.s.)
81. *M. stricta* Link 29.5.1881. **S** FB (*M. stricta* Link ex Roem. & Schult.) Sandäcker um Travčič bei Leitmeritz (3 h.s.)
82. *M. stricta* Link 11.5.1885. **S** FP (*M. stricta* Link ex Roem. & Schult.) sandige Getreidefelder unterhalb dem Laboratorium n Tatarenhügel b. Przemysl (4 h.s.)
83. *M. verna* Nutt. 10.8.1875. **E** HA (*M. verna* Nutt.) Wald an De Hodiamont Av. (2 h.s.)
84. *M. versicolor* Pers. 29.4.1874. **Ay** U (*M. discolor* Pers.) Champs à terrain liqu à Meyrin près Geneve (5 h.s.)
85. *Nonnea pulla* DC. 31.5.1881. **S** FB (*Nonnea pulla* /L./ DC.) Wall von Theresienstadt (2 h.s.)
86. *N. pulla* DC. 31.5.1892. **S** FWN (*N. pulla* /L./ DC.) Berge um Fischau (3 h.s.)
87. *N. ventricosa* Grieseb. 3.4.1874. **S** FD (*N. echioides* /L./ Roem. & Schult.) steinig Rainen bei Spalato /:gegen Almissa zu und Hügel bei Toretta:/ (3 h.s.)
88. *N. ventricosa* Griesb. 4.1879. **Le** FGr (*N. echioides* /L./ Roem. & Schult.) auf Corfü (4 h.s.)
89. *Omphalodes scorpioides* Lehm. 24.4.1872. **Z** U (*O. scorpioides* /Haenke/ Schrank) Würzberg bei Fernitza Stiria (3 h.s.)
90. *O. scorpioides* Lehm. 14.4.1875. **Ba** U (*O. scorpioides* /Haenke/ Schrank) In silvis prope pag. Blasendorf Transsilvaniae merid. (3 h.s.)
91. *O. verna* Mnch. 4.1876. **R** FC (*O. verna* Moench) Želimlje bei Laibach (6 h.s.)
92. *Onosma arenarium* W.K. 17.7.1873. **Fy** U (*O. arenaria* Waldst. et Kit.) Ungarn. Comitatus Pest. Wiesen der Rennbahn bei Pest flugsand 120 m (2 h.s.)

93. *O. echioides* L. 11.6.1895. **S** FWN (*O. echioides* L.) hügel bei Fischau (1 h.s.)
94. *O. stellulata* WK 1874. **S** FD (*O. stellulata* Waldst. et Kit.) auf der südseite des Monte Marian bei Spalato (3 h.s.)
95. *O. stellulata* Wldst & Kit 6.1880. **S** FD (*O. stellulata* Waldst. et Kit.) Monte Vermacz bei Cattaro (1 h.s.)
96. *O. stellulatum* W & Kit.  $\beta$  *angustifolium* 7.6.1900. **S** FTriest (*O. stellulata* Waldst. et Kit.) Barcola & Greta (3 h.s.)
97. *Pulmonaria angustifolia* L. 9.5.1872. **B** (*P. angustifolia* L.) Koenigsberg: Scherwitt bei Tapiau (4 h.s.)
98. *P. azurea* Bess. 16.5.1882. **S** FB (*P. angustifolia* L.) sumpfige Bäche bei Kamaik nächst Leitmeritz (3 h.s.)
99. *P. mollis* Wolff. 5.1873. **Ho** U (*P. mollis* Wulfen ex Hornem.) Gemein auf Weinbergtriften bei N. Podhrad. Ungarn (2 h.s.)
100. *P. mollis* Wolff. 30.5.1875. **A** U (*P. mollis* Wulfen ex Hornem.) Mayens de Sion, Wallis (2 h.s.)
101. *P. officinalis* Jord. 4.1871. **L** U (*P. officinalis* L.) Gallia. Montbrison (2 h.s.)
102. *P. officinalis* L. 13.4.1874. **Ay** U (*P. officinalis* L.) Dans une haie à Bellerive près Genève (2 h.s.)
103. *P. officinalis* L. 5.1875. **H** U (*P. officinalis* L.) in silvaticis ad Hainbach, Austriae inf. (3 h.s.)
104. *P. styriaca* Kern. 4.1870. **Gr** U (*P. styriaca* A.Kern.) Stiria.Stübing (1 h.s.)
105. *Solenanthus lanatus* DC 3.1879. **G** FA (*Pardoglossum cheirifolium* /L./ E. Barbier & Mathez) No 34 Hab. In ditone urbis Alger, loco dicto Kouba (2 h.s.)
106. *Stenhammaria maritima* Rchnb. 23.7.1875. **Re** U (*Mertensia maritima* /L./ Gray) West Finmarken, Lyngen in litore marino (1 h.s.)
107. *Symphytum bohemicum* Schmidt 15.5.1878. **Fy** U (*S. officinale* L.) 198. Böhmen. Opočno auf Wiesen häufig (1 h.s.)
108. *S. bohemicum* Schm. 6.1882. **S** FB (*S. officinale* L.) Auen u. Gräben um Theresienstadt (2 h.s.)
109. *S. cordatum* W. et K. 13.4.1873. **Göth** FTr (*S. cordatum* Waldst. et Kit. ex Willd.) In lucis Torda (2 h.s.)
110. *S. floribundum* Schuttleworth. 27.4.1874. **Hu** S (*S. × floribundum* Schuttlew. ex Buckn.) Bords des cour à Hyères (Var) dans la propriété de M le Comte de Beauregard (1 h.s.)
111. *S. officinale* L. 5.6.1881. **S** FB (*S. officinale* L.) sumpfwiesen an der Eger bei Theresienstadt (2 h.s.)
112. *S. officinale* L. 11.5.1885. **S** FP (*S. officinale* L.) sumpfige Wiesen um Przemysl /:Tatarenhügel:/ (1 h.s.)
113. *S. tuberosum* L. 15.5.1875. **S** FD (*S. tuberosum* L.) zwischen Gesträuch auf der Marchesina Gredda bei Clissa (3 h.s.)
114. *S. tuberosum* L. 5.1885. **S** FP (*S. tuberosum* L.) feuchte Wldr, Holzschlge bei Lipowitza n. Przemysl (2 h.s.)
115. *S. tuberosum* L. 9.5.1897. **S** FWN (*S. tuberosum* L.) Wälder auf der Malleiten bei Fischau (1 h.s.)
116. *S. tuberosum* L. 15.4.1902. **S** FT (*S. tuberosum* L.) im Wäldchen am Trstenik (2 h.s.)

The total number of the herbarium sheets in analysed family Boraginaceae is 115 (with 338 samples of herbal plants, excluding herbarium sheet *Eclipta erecta* L. with two samples of herbal plants, which belongs to family Compositae). The majority of the plants was collected in Europe (110 herbarium sheets), 4 sheets originate from North America and one herbarium sheet is from Africa.

Most of the herbarium samples were collected in the area of Austria (20 herbarium sheets) and: Montenegro -15, Czech Republic -15, Croatia -15, France -10, Poland -8, Switzerland -6, Italy -5, USA -4, Romania -3, Hungary -3, Slovenia -2, Greece -2, Norway -2. One herbarium sheet was collected in: Russia, Slovakia, Belgium, Algeria and Spain.

According to the affiliation to a particular herbarium collection in analysed families or their parts the most represented is Flora Dalmatiens with 28 herbarium sheets. This is followed by other collections, such as: Flora Böhmens -12 (including Flora von Böhmen collection), Flora von Wr. Neustadt -9, Flora von oesterr. Polen -8 (including Flora von Przemysl collection), Flora von Triest -5, Societas Helvetica -5 (including Societas Botanica Helvetica and Soci  t   Helv  tique collections), Flora von N. Oesterreich -4 (including Flora von Unt. Oesterreich collection), Flora Gallica exsiccata -2, Eggert Herbarium Americanum -2, C. Baenitz Herbarium Europaeum -1, and others. In the part of the herbarium which has already been analysed (compare with: Mitić et al. 2008a, 2008b, 2010-2011, 2011, 2012, 2013, Vladović et al. 2007a, 2007b, 2009b, 2010b, 2013b, 2014bc, Ževrnja et al. 2008b, 2009c, 2010b, 2011, 2013a, 2014ab), one new collection is mentioned and there is: Flora von Griechenland (1 herbarium sheet). There are 24 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 (70 herbarium sheets), while others were sent to him by: Freyn -6, Ayasse -4, Gandoger -3, Eggert -2, Halácsy -2, Graf -2, Legrand -2, Alioth -2. Studniczka received one herbarium sheet from 30 collectors or botanists.

The oldest herbarium sheet dates from 1870, where as the newest ones date from 1904. The vast majority of herbarium sheets, 70, was collected during the period from 1871 to 1880. The exact year of collection is missing from 3 herbarium labels.

According to Studniczka, within 116 herbarium sheets (order Boragineae) there are 20 genera with 71 species, and 10 varieties. According to The Plant list and USDA plants Database there are 22 genera with 51 species of plants and 3 subspecies.

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