

# De Hepaticis I : the genus *Alobiella* (Spruce) Schiffner emend. Stephani

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## De Hepaticis I

### The Genus *Alobiella* (Spruce) Schiffner emend. Stephani

by

C. E. B. BONNER

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Although STEPHANI only died in 1927, three years after the publication of his *Species Hepaticarum*, he himself was unable to take any part in the publication or the revision of the proofs of the last volume. For more than ten years before his death he was a very sick man. The manuscript was left in the hands of Dr. G. BEAUVERD, curator of the Boissier Herbarium, who, although he performed much valuable work in correcting the text, was unable to complete the task.

The purpose of these and subsequent notes will be to rectify errors and discrepancies which still exist in the publication and to provide additional information particularly with reference to the identity of the type specimens, the citing of which is generally rather vague, and to other materials represented in the Stephani collections.

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**Alobiella** (Spruce) Schiffner emend. Stephani *Spec. Hep.* **3** : 350. 1908 = *Alobiella* Spruce (as a subgen.) *On Cephalozia, its subgenera and some allied genera*. 1882 = *Alobiella* (Spruce) Schiffner in Engl. u. Pr. Nat. Pflanzenfam. I/**3**, 1. Hälfte : 98, 15 Jan. 1895 ; Spruce *Journ. Linn. Soc., Bot.* **30** : 354. 5 Feb. 1895.

The main diagnostic features of the genus *Alobiella* (Spruce) Schiffner emend. are :

- 1) A stem, biconvex in cross section,
- 2) The postical origin of the branches,
- 3) An almost lateral insertion of the stem leaves.

TYPE : *Alobiella husnoti* (Gottsche) Schiffner.

No type species was designated by SPRUCE for this genus. Of the three species retained by STEPHANI from the original subgenus, SPRUCE states that *Cephalozia macella* is a link between *Alobiella* and *eu-Cephalozia*. This leaves the choice between *Alobiella acroscypha* and *Alobiella husnoti*. *Alobiella acroscypha* was considered exceptional by SPRUCE as being the only acrocarpous species of the original four. *Alobiella husnoti* is therefore the only typical species of the subgenus. As SCHIFFNER has in fact cited only this species when establishing *Alobiella* as a genus it can therefore be regarded as the type species for the genus *Alobiella*.

In order to facilitate the use of the *Species Hepaticarum* when determining plants an artificial key has been devised, based on an analysis of Stephani's diagnoses.

*Artificial key to the species of Alobiella*

Leaves entire

Underleaves (amphigastria) present. Foliar cells various. Species all growing on soil.

Trigones present

Trigones well developed ; underleaves small ; basal foliar cells  $25 \times 50 \mu$

**borbonica**

Trigones small ; underleaves rudimentary ; basal foliar cells  $45 \times 72 \mu$

**heteromorpha**

Trigones absent

Underleaves large ; apical foliar cells  $36 \mu$  . . . . . **rufa**

Underleaves small ; apical foliar cells  $60 \mu$  . . . . . **acroscypha**

Underleaves absent ; foliar cells thin-walled.

Species corticolous. No flagelliform or stoloniferous branches.

Leaves lanceolate apiculate ; stems up to 0,5 cm. long ; foliar cells : apical  $18 \times 54 \mu$ ,  
basal  $18 \times 72 \mu$  . . . . . **campanensis**

Leaves rounded ; stems up to 2 cm. long ; foliar cells : apical  $14 \times 14 \mu$ , basal  
 $14 \times 36 \mu$  . . . . . **chevalieri**

Species growing on soil or decayed wood. Flagelliform or stoloniferous branches present.

Apical foliar cells large ( $60-80 \mu$ ) ; monoecious, stem up to 3 cm. long **macella**

Apical foliar cells less than  $60 \mu$  ; dioecious, stems under 2 cm. long

Apical foliar cells  $27 \mu$  ; basal foliar cells  $27 \times 72 \mu$  . . . . . **parvifolia**

Apical foliar cells  $36 \times 54 \mu$  ; basal foliar cells  $36 \times 54 \mu$  . . . . . **latiflora**

Leaves subdivided

Leaves bidenticulate

Underleaves absent

Plants of large dimensions ; stem up to 4 cm. long ; no flagelliform branches :  
foliar cells large : apical  $54\ \mu$ , basal  $54 \times 90\ \mu$  . . . . . **pulvinata**

Plants small ; stem up to 1,5 cm. long ; flagelliform branches present ; foliar cells  
thick walled, apical  $40\ \mu$ , basal  $80\ \mu$  . . . . . **dominicensis**

Underleaves present

Plants of large dimensions ; stem up to 3 cm. long ; underleaves large ; foliar cells  
large, apical  $18 \times 63\ \mu$ , basal  $36 \times 90\ \mu$  . . . . . **husnoti**

Plants small ; stem up to 1 cm. long ; underleaves small ; foliar cells small, not  
exceeding  $55\ \mu$

Underleaves equal in size to the leaves, no wider than the stem ; foliar cells  
uniformly  $23 \times 54\ \mu$  . . . . . **dusenii**

Underleaves very small, bifid or rudimentary ; foliar cells : apical  $8\ \mu$ , basal  
 $12 \times 18\ \mu$  . . . . . **stephanii**

Leaves bilobed (incision of at least  $\frac{1}{4}$  length of the leaf) ; underleaves always present.

Plants of large dimensions ; stems up to 6 cm. long ; underleaves large ; foliar cells  
small : apical  $4 \times 10\ \mu$ , basal  $10 \times 25\ \mu$  . . . . . **armata**

Plants of small dimensions ; stems well under 6 cm. long.

Underleaves equal in size and shape to the leaves ; foliar cells uniformly  $23 \times 54\ \mu$   
**dusenii**

Underleaves small, deeply bi- or trifold ; foliar cells smaller, uniformly  $18 \times 36\ \mu$   
**bifida**

1. **A. acroscypha** (Spruce) Steph. *Sp. Hep.* **3** : 354, 1908. = *Cephalozia acroscypha* Spruce *On Cephalozia* : 30. 1882.

TYPE : PERU, « Terrestres in Andibus Peruvianis. Alt. 1000 m. », *Spruce*. Not represented in the Stephani collection.

Other specimens : PERU : Andes, in monte Guayrapurina, *Spruce*.

2. **A. armata** Steph. *Sp. Hep.* **6** : 443, 1924.

TYPE : NEW GUINEA, s.l., *Ledermann*. Missing in the Stephani collection.

Other specimens : None.

3. **A. bifida** Steph. *Sp. Hep.* **3** : 356, 1908 ; Stephani in Urban *Symbolae Antillanae* **2** : 470, 1901.

LECTOTYPE : GUADELOUPE, Saut de Bouillante, 710 m., *Duss 242*.

Other specimens : GUADELOUPE, In terra, Bois de Sofaga, 460 m., *Duss 49* ; Morne Metelzane, 830 m., *Duss 256*. — MARTINIQUE, Morne de la Calebasse, 670 m., *Duss. 215*.

4. **A. borbonica** Steph. *Sp. Hep.* **3** : 351, 1908 = *Lembidium borbonicum* Steph. *Bull. Soc. bot. Belgique* **32**, 2 : 35, 1893 (cited in *Sp. Hep.*, in error, as page 106).

TYPE : BOURBON, Entre Deux, *Rodriguez 337* (jam sub No. 276 missum et *Lembidium madagascarense* Steph. nov. sp. denominatum).

Other specimens : None.

5. **A. campanensis** Steph. *Sp. Hep.* **6** : 443, 1924.

TYPE : PERU, « in monte Campana », *Spruce s.n.* (inter *Lepidoziam*).

Other specimens : None.

6. **A. chevalieri** Steph. *Sp. Hep.* **3** : 351, 1908.

TYPE : CONGO, Brazzaville, 20 July, 1902, *Chevalier s.n.* (hb. Corbière No. 57).

Other specimens : None.

7. **A. dominicensis** Spruce *Journ. Linn. Soc., Bot.* **30** : 355. 1895, Icon. (Not *Journ. of Bot.* as cited by Stephani in 1908) ; Steph. *Sp. Hep.* **3** : 355. 1908.

TYPE : DOMINICA, Laudat, Valle Roseau, ad terram. Junio 1892. *Elliott 67, 81 & 82*. Not in the Stephani collection.

Other specimens : DOMINICA, *Elliott 1181 & 1220* (ex British Museum).

8. **A. dusenii** Steph. *Bihang till K. Sv. Vet.-Akad. Handl.* **26**, 3 : 48. 1900 ; non *Sp. Hep.* **3** : 355, 1908.

The species was completely overlooked by Stephani in his *Species Hepaticarum*. The diagnosis is therefore republished.

Dioica, pusilla, dense caespitosa, in sicco flavescens. *Caulis* parum ramosus, arcte repens. *Folia* parva, caulis diametro vix latiora, remotiuscula vel contigua, nunquam imbricata nisi in apice ipso plantae, concavo-erecta, in plano ovata, brevissime bilobata. Cellulae folii rectangulae  $23 \times 54\mu$  marginales breviores.

*Amphigastria* foliorum magnitudine, iis simillima, transverse inserta, *Flores* fem. in caule terminalis, bracteis trijugis, confertis, liberis, quam folia caulina multo majoribus, valde concavis erectis, apice ad  $\frac{1}{4}$  incisobilobis, lobis inaequaliter emarginato bidenticulatis. *Amphigastria floralia* foliis simillima, saepe tantum bi- vel tridentata.

TYPE : WESTERN PATAGONIA, " In valle fluminis Aysan, in terra ". Januario 1897. *P. Dusén s.n.*

Other specimens : CHILE, s.l. *Dusén (228)*.

9. **A. heteromorpha** (Lehm.) Steph. *Sp. Hep.* **3** : 352. 1908. = *Jungermannia heteromorpha* Lehm. *Linnaea* **4** : 362. 1829 ; *Pug.* **3** : 48. 1831. = *Lembidium heteromorphum* Pears. *Hep. Nat.* : 11, 1886.

TYPE : CAPE OF GOOD HOPE, "Crescit locis umbrosis in latore boreali montis Tafelberg. Altitudo secunda" (viz. 500-1000 ft). *Ecklon s.n.* Not in the Stephani collection.

Other specimens : CAPE OF GOOD HOPE, *Coll. ? 359.*; Id., *Ecklon s.n.* (ex hb. Meissner); Id., "In Promont." *Ecklon s.n.* (ex hb. Meissner); Id., "Kunze dedit" (ex hb. Meissner); "Hepat. Capenses ex collectione Breutetii" sub *Jungermannia heteromorpha* L. L. (*Hohenacker 6*); Montague Pass, *Rehmann 182*.

10. **A. husnoti** (Gottsche) Schiffner. Engl. & Pr. *Pflanzenfam.* I/3. I. Hälfte : 98, 15 Jan. 1895; *Spruce Journ. Linn. Soc., Bot.* 30 : 354, 5 Feb. 1895. Steph. *Sp. Hep.* 3 : 355. 1908. = *Jungermannia husnoti* Gottsche in *Husnot Hep. Antillarum Exsicc.* 1874 = *J. lancifolia* Spruce MS. = *Cephalozia (Alobiella) husnoti* (Gottsche) Spruce "On Cephalozia" : 30. 1882.

TYPE : MARTINIQUE, *Husnot s.n.* Not in the Stephani collection.

Other specimens : GUADELOUPE, *Husnot 2293*; "Plantes des Antilles, 1863"; Rivière Rouge, alt. 700 m., *Husnot 242*; s.l. *Duss. 132; 138*; s.l., (*Duss. coll ?*) *221, 235, 255, 515, 546*; s.l. *L'Herminier s.n.* (ex Hb. Bescherelle). — MARTINIQUE, *Duss 92 pp.*; s.l. *Duss 327 & 585*. — DOMINICA, *Elliott 1225* (ex hb. Kew) & *2279*. — PERU, Andes, Mt. Guayrapurina, *Spruce s.n.*; "ad terram in Andibus Peruvianis", alt. 1000 m., *Spruce s.n.* Not in the Stephani collection. — Origin not stated: *Elliott 1798, 1823 & 1924 pp.* (ex hb. British Museum).

11. **A. latiflora** Steph. *Sp. Hep.* 3 : 353. 1908.

TYPE : JAPAN, Tsuraga, *Faurie s.n.* Not in the Stephani collection.

Other specimens : JAPAN : Aomori, Nov. 1904, *Faurie 1639*.

12. **A. macella** (Spruce) Steph. *Sp. Hep.* 3 : 354. 1908 = *Cephalozia (Alobiella) macella* Spruce On Cephalozia : 29. 1882.

TYPE : PERU, Andes, "Alt. 1000 m. haud superans", *Spruce s.n.* Not in the Stephani collection.

Other specimens : BRAZIL, Silva Amazonica, Santarem, *Spruce s.n.*

13. **A. parvifolia** Steph. *Sp. Hep.* 3 : 352. 1908.

TYPE : JAPAN, Kumemura, Tyo, March 1900, *Okudaira*.

Other specimens : JAVA : Salan, *Zollinger s.n.* (sub *Jungermannia heteromorpha*).

14. **A. pulvinata** Steph. *Sp. Hep.* 3 : 356. 1908.

LECTOTYPE : DOMINICA, s.l. *Elliott 2000*.

Other specimens : DOMINICA, s.l. *Elliott 2100, 2117 pp., 2302*. Origin not stated (Dominica?) *Elliott 1632, 1676, 1682, 1711, 1712*.

15. **A. rufa** Steph. *Sp. Hep.* **3** : 353. 1908.

TYPE : JAPAN, Aomori, Oct. 1899, *Faurie 504* (olim *Cephalozia rufa* Steph.)

Other specimens : None.

16. **A. stephanii** Bonner nom. nov. = *Cephaloziella dusenii* Steph. *Bihang till K. Sv. Vet.-Akad. Handl.* **26**, 3 : 49. 1900 = *Alobiella dusenii* Steph. nom. nov. *Sp. Hep.* **3** : 355. 1908 = *Cephalozia (Cephaloziella) dusenii* Steph. *Sp. Hep.* **3** : 336. 1908. Non *Alobiella dusenii* Steph. *Bihang till K. Sv. Vet.-Akad. Handl.* **26**, 3 : 48. 1900.

Stephani appears to have made the transfer of this species from *Cephaloziella* to *Alobiella* without removing it from his list of *Cephalozia*; an oversight. However an *A. dusenii* existed already, a fact he also completely overlooked. In order that both species may be retained in the same genus, a new name has been given to the former and, to prevent confusion, the diagnosis is republished here below.

Dioica, pusilla, viridis vel rufescens, dense pulvinata. *Caulis* ad 5 mm. longus, tenuis, superne subfasciculatim multiramosus. *Folia* majuscula, caulis diametro breviora, superne parum latiora, remotiuscula, subverticaliter inserta, ad  $\frac{1}{2}$  conduplicatim biloba, carina a caule oblique divergente, lobis triangulatis acuminatis incurvis, quasi cornutis. Cellulae foliorum apice 8  $\mu$ , medio  $12 \times 17 \mu$ , basi vix majores, parietibus validis, cuticula laevi.

*Amphigastria* minuta, profunde bifidula, saepe desunt. *Perianthia* purpurea, in ramis longioribus terminalia innovata, linearia, triquetra, apice truncata, ore breviter fisso cellulisque prominentibus crenulata. *Folia floralia* 5-juga, intima cum amphigastrio parum breviora alte connata, perianthio appressa, ad  $\frac{1}{2}$  bifida, excipulum 5-lobatum formantia, laciniis late lanceolatis acutis, paucidenticulatis. *Androecia* in apice ramorum innovata, bracteis 5-6-jugis, foliis simillimis, sed confertioribus.

LECTOTYPE : SOUTHERN CHILE, Corral, in rupibus, 15 June 1896, *Dusen 94*.

Other specimens : CHILE, Valdivia, *Hahn, s.n.*; *Dusen 288, 318, 411, 413*. — FALKLAND ISLES : Port Stanley, 1907, *Skottsberg 22*; Rio Warrah, in rupibus, 1907, *Skottsberg 39*. — WESTERN PATAGONIA, Puerto Bueno, 31 May 1896, *Dusen 42*; in insulis Guaitecao, May 1897, *Dusen s.n.*

#### *Species rejected*

17. *A. cynosurandra* Spruce = *Zoopsis cynosurandra* (Spruce) Steph. *Sp. Hep.* **3** : 283, 1908.

18. *Cephalozia (Alobiella) integrifolia* Spruce = *Zoopsis integrifolia* (Spruce) Steph. *Sp. Hep.* **3**: 284. 1908.

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It is interesting to note Dr. Sinske HATTORI's observations (*Bot. Mag. Tokyo* **64**: 200. 1951) regarding the three species *A. latiflora*, *A. parvifolia* and *A. rufa*. Having examined some of Stephani's material he concludes:

- 1) That all three species should be transferred to the genus *Nardia* or to a related genus.
- 2) That all three are very closely related and may prove to be conspecific.
- 3) That the genus *Alobiella* is therefore not represented in Japan.

Such conclusions, if well founded, cast some doubt on the validity of *Alobiella* as a genus. Further detailed study, and, if possible, on fresh material, is required in order to establish or disestablish *Alobiella* as a coherent group.



