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On Some Species of the Genus *Alectoria* A c h. from North America

O niektórych gatunkach rodzaju *Alectoria* A c h. z Północnej Ameryki

O некоторых видах рода *Alectoria* A c h. из Северной Америки

In the *Bryologist* 67,1 (1964) I described several species of the genus *Alectoria* A c h. from North America, in English only, what according to the International Rules of Plant Nomenclature, is considered invalid. I intended to publish them in a monograph of the genus *Alectoria* which, because of various reasons, has not been finished. As these names are discussed in lichenological literature, I hitherto publish their Latin diagnoses.

Alectoria bicolor (E h r h.) N y l. var. *subbicolor* M o t.

Bryologist 67,1:9 (1964) nomen invalidum

Thallus sicut in var. *bicolor*, sed multo validior et rigidior, bene evolutus usque ad 7—10 cm longus et latus, parte inferiore late nigratus, opacus, parte superiore sepiaceo-fuscus et fere nitidus, ramulis lateralibus minus multis, saepius fertilis.

Apothecia sat frequentia, lateralialia, geniculationem ramorum provocantia, usque ad 1,5 mm lata, fere rotunda, iuniora concava, adulta convexa. Amphithecium thallo concolor, protinus fere cupuliforme, in apotheciis adultis reflectum et fere evanescens. Discus luteolo- vel rubente-fuscus, nudus, opacus. Hymenium ca. 70 μm altum. Asci clavati, ca. 45 \times 15 μm . Sporae in ascis 8-nae, subellipsoideae vel ellipsoideae, 7—9,5 \times 5—7 μm , episporio ca. 1 μm crasso.

Pycnidia non inventa.

Thallus et medulla K⁻, C⁻, medulla Pd⁺ sanguineo-rubescens.

Brodo and D. Hawksworth placed this variety in *Bryoria tenuis* (Dahl), undoubtedly incorrect. This variety differs from *A. tenuis* in the whole habit, in rather distinct lateral branches and in the absence of pseudocyphellae. Till now, *A. tenuis*, has always been found without apothecia.

On earth. USA, Alaska. Eastern Pacific Coast District, Ketchikan, Deer Mt. lower part, 3. 9. 1957 H. Krog 6252 (0).

Alectoria nana Mot.

Bryologist 67,1 : 16 (1964) nomen invalidum

Thallus parvus, in typo ca. 1 cm longus et latus, irregulariter caespitosus, basi brevissima, paulum incrassata substrato affixus, erectus vel possibiliter divergens, parte inferiore intense fuscus, superiore obscurior, passim fere nigro-fuscus, subnitidus, sat abundanter, dense, dichotomicè vel fere monopodialiter ramosus, angulis inter ramis sat angustis. Rami primarii basi ca. 0,3 mm crassi, superne sat abrupte attenuati et fere subulati, irregulariter curvati et saepius ± tortuosi, teretes vel paululum deformatuli, laterales oblique vel ± perpendiculares, primariis similes, acute terminati.

Cortex 27—32 µm crassus, interne decolor, externe ca. 3,5 µm crasse obscure fuscus, ex hyphis parallelis, conglutinatis. Medulla 170—220 µm crassa, laxa, paraplectenchymatica, ex hyphis 3,5 µm crassis, leptodermaticis. Algae pallide virides, sat magnae, 11—14 µm in diametro, sat crebre sub cortice aggregatae.

Apothecia et pycnidia non inventa.

Soralia minus numerosa, aut fissuralia, elongata vel deformia, aut nonnulla sat brevia et lata, inacute limitata. Soredia granulosa, albida vel ± obscurata, in medulla oriunda, post corticem disruptam efflorescentia.

Cortex et medulla K⁻, C⁻, Pd⁻, tantum soralia Pd⁺ rubescentia.

Alectoria nana aspectu externo sat similis est *A. simplicior* (Vain.) Lyngé, differt vero ab ea colore fusco et praecipue soralibus Pd⁺ rubescentibus. A simili *A. furcellata* (= *nidulifera*) diversa thallo minore, magis caespitoso, sine spinulis prope soralia nec non forma soraliorum. In collectione ampliore investigandum, sinon cum *A. furcellata* confluat.

Brodo and D. Hawksworth have placed this species in *Bryoria simplicior*, supposedly because of an admixture of *A. lanestris*. In the

introduction to my paper, they have probably overlooked the emphasized remarks concerning the most careful preparations of the specimens and the reliance on the description of holotypes. Surprisingly, they suggested that I had mistaken *A. lanestris* for *A. nana*. *A. lanestris* differs extremely from *A. nana* in a much longer thallus, different branching and the lack of the soralia.

Ad corticem arborum USA, Alaska, Alaska Range, Mt. McKinley National Park, Woder Lake, 14. 8. 1957 H. K r o g 4479 (0).

Alectoria subtilis M o t.

Bryologist 67,1 : 32 (1964) nomen invalidum

Thallus 10—15 cm longus, pendulus, totus tenuissimus, capillaceus sed sat rigidus, parte basali ca. 0,5 mm longa, nigrata substrato affixus, sat pallide sepiaceus, laevissimus, glaber ± nitidus, dichotomiter ramosus, angulis inter ramis latis. Rami divergenter arcuati, basi ca. 0,2 mm crassi, fere a basi ad 0,1 mm attenuati, teretes vel paululum deformatuli, sub lente observati subpellucidi et translucetes, eramulosi, sat regulariter pseudocyphellati, pseudocyphellis non elevatis neque impressis, minutis, albidis, tantum sub lente forte augende discernendis.

Cortex ca. 25 µm crassus, interne decolor, externe obscure olivaceus, ex hyphis parallelis, pachydermaticis, luminibus cellularum parvis. Medulla ca. 170 µm crassa, laxissima, ex hyphis 2,5—3 µm crassis. Algae intense virides, 7—8 µm in diametro, membranis tenuibus: verosimiliter ad *Trebouxia* pertinentes, in glomerulis crebris sub cortice sitae.

Apothecia rare formata, iuniora in ramis immersa, punctiformia, adulta lateralia, sessilia, usque ad 0,5 mm lata, matura plana vel paulo convexa, cum margine tenui, mox reflecto, nonnulla deformatata. Discus sordide fuscus, opacus, nudus. Asci et sporae non inventae.

Thallus et medulla K+rubescens, Pd+rubescens, coloratione tantum in effusione ad bibulam visibili, secundum H. K r o g acidum norsticticum producens.

A. subtilis distinguishes itself by a very tiny thallus, whitish pseudocyphellae. B r o d o and D. H a w k s w o r t h have placed this species, in *Bryoria pseudofuscescens* (G y e l n.) without any reason. It differs from this species in a lighter thallus, a very thin cortex, stained by K and Pd. They have not anatomically described *A. pseudofuscescens*, and therefore, the comparison of the two species is somewhat difficult.

Ad ramos *Piceae* sp. USA, Alaska, Central Pacific Coast District, Kenai Peninsula, 7. 8. 1958 H. K r o g 2164 (0).

Alectoria norstictica Mot.

Bryologist 67,1 : 33 (1964) nomen invalidum

Thallus pendulus, usque ad 15 cm longus, tenuis sed sat rigidus, ad basin anguste nigratus, opacus, fere totus olivaceo-sepiaceus, laevissimus, nitidus, sat abundanter dichotomiter ramosus, nonnullis ramis crassitudine paulo inaequalibus et uno apparente laterali, late divergentibus, angulis inter ramis latis. Rami primarii ad basin 0,3—0,35 mm crassi ± ± compressi, mox ad 0,2 mm attenuati, sub apicibus paulo crispatis, sine pseudocyphellis.

Cortex ca. 20 µm crassus, interne decolor, externe 2 µm rubente-fuscus. Medulla ca. 180 µm crassa, sub cortice crebra, interne laxissima, ex hyphis 2,5—5 µm crassis, mesodermaticis. Algae pallide virides, ca. 8 µm in diametro, aggregatae.

Apothecia et pycnidia ignota.

Thallus K+fuscescens, Pd+fusco-rubescens, coloratione tantum in effusione ad bibulam discernenda, secundum H. Krog acidum norsticticum producens.

The species is easily distinguishable for an experienced lichenologist of that genus, but the distinguishing traits are difficult to describe.

Brodo and D. Hawksworth (1) have placed this species in *A. pseudofuscescens*, without a word explaining their view. *A. norstictica* differs considerably from *A. pseudofuscescens* in its more delicate thallus, the absence of pseudocyphellae, a very thin cortex, externally reddish-brown, stained by K and Pd.

Ad ramos tenues *Piceae*. USA, Alaska, East Pacific Coast District, Juneau, Mindenhall Glacier Trail, 27. 8. 1957 H. Krog 5507 (0).

Alectoria delicata Mot.

Bryologist 67,1 : 34 (1964) nomen invalidum

Thallus pendulus, usque ad 10 cm longus, tenuissimus, capillaceus sed sat rigidus, viridulo-albidus, glaberrimus, nitidus, parte basali anguste obscurata substrato affixus, sat crebre, dichotomiter ramosus, ramis divergentibus, flexuosis, complectis, angulis inter eis latis, basi ca 0,2 mm crassis, sensim attenuiscentibus, eramulosis, sine pseudocyphellis.

Cortex ca. 20 µm crassus, interne decolor, externe 2 µm crasse olivaceus, superne glaber, ex hyphis pachydermaticis. Medulla ca. 60 µm crassa, laxa, ex hyphis 3—4,5 µm crassis, flexuosis. Algae pallidissime virides, chromatophore difficillime discernendo, ca. 9 µm in diametro, sub cortice aggregatae.

Apothecia bene evoluta non inventa, hinc illinc verosimiliter eorum initia sine margine et hymenio. Soralia nulla.

Thallus K+luteolus, Pd+aurantiacus.

This species differs from the similar *A. haynaldii* G y e l. in a lighter, shiny thallus and in the absence of lateral branches. B r o d o and H a w k s w o r t h 's attitude to this species is somewhat strange (1). At first they placed this species in the synonyms of *Bryoria pseudofuscescens*, but in the discussion they consider it a morphotype or subspecies of this species — "may perhaps represent an intraspecific taxon". At first they were inclined to consider it a distinct species because of its different distribution, but they have found both the species in New Foundland. In fact, *A. delicata* differs from *A. pseudofuscescens* in a light green colour, divergent branching, in the absence of pseudocyphaellae and soralia, as well as in staining with K and Pd.

Ad ramos arborum. USA, Alaska, Sitka National Monument, 1. 9. 1957
H. K r o g 6254 (0).

Alectoria cervinula M o t.

Bryologist 67,1 : 19 (1964) nomen invalidum

Thallus usque ad 12 cm longus, vulgo multo brevior, divergenter pendulus, rigidus, valde fragilis, colore sat variabili, vulgo cervino-fuscus, ad ramos crassiores obscurior, ad tenuiores pallidior, fere opacus, in tota longitudine subdichotomiter vel submonopodialiter ramosus, ramis valde divergentibus, axillis inter eis rectis vel paulo perviis. Rami primarii basi usque ad 0,5 mm crassi, inferne sensim attenuescentes, teretes vel minime deformatuli, arcuato flexuosi, laterales sat multi, 3—10 mm longi, maiores penduli, recti, minores fere perpendiculares, fere recti vel arcuati et crispatis, acute terminati. Sine pseudocyphellis.

Cortex ca 50 μ m crassus, interne decolor, externe fuscidulus, ex hyphis crassis, maxime conglutinatis. Medulla ca. 175 μ m crassa, laxa, et hyphis ca. 4 μ m crassis, laevibus vel tuberculatulis. Algae pallide virides, ca. 7 μ m in diametro, in glomerulis sub corticae sitae.

Apothecia et soredia ignota.

Thallus K- medulla K-, Pd+aurantiaco-rubescens (secundum B r o d o et D. H a w k s w o r t h acidum fumarprotetetraricum producens).

A very distinct species, distinguished by a rigid and fragile thallus, detached, perpendicular, pointed at their apexes, lateral branches, thick cortical layer and the whole aspect. It shows a relationship to certain Asiatic species.

Brodo and D. Hawksworth have translated my English description and validated this species as *Bryoria cervinula* Mot. ex Brodo et D. Hawksw.

Verosimiliter arboricola, ad ramulos arborum aciculosarum, secundum Brodo et D. Hawksworth etiam ad terram inter lapidibus. Forma plantarum potius pro substrato arboreo suadet. Nonnullae plantae hic allatae cum pseudocyphelis albidis vel brunneis, fusiformibus, depressis verosimiliter ad aliam pertinent speciem.

USA. Alaska, Sitka, Harbour Mt. 31. 8. 1957 H. Krog 6222 (0).

REMARKS ON OTHER SPECIES

Alectoria pellucida Mot. is a very distinct species, quite different from *A. fallacina* Mot. The specimen from Poland, Tatra Mnts, collected by J. Bystrek, mentioned by Brodo and D. Hawksworth, is not confirmed by myself as concordant with the type.

The varieties of *A. sarmentosa*, placed by Brodo and D. Hawksworth in *A. sarmentosa* var. *sarmentosa*, and considered invalid, differ significantly from the typical *A. sarmentosa*. The rejection of varieties and considering them to be nomina invalida are a sad symptom of a decline of systematics. The distinction of varieties and forms plays, in serious research, not less important a role than the distinction of species and subspecies.

Alectoria fuscescens Gye l. is always stained distinctly red with Pd.

A. positiva Gye l. is a clear, distinct species. It differs from *A. fuscescens* in the shape of soralia, a very soft thallus amorphous after moistening. Both the species differ from *A. chalybeiformis* ad *A. vrangiana* in numerous traits, and are easily distinguishable. *A. positiva* is unknown to me from North American collections that I have examined.

Alectoria canadensis is undoubtedly a separate species, different from *Bryoria trichodes*. The lack of anatomical description of the thallus and apothecia in *B. trichodes*, the too superficial morphological description, make comparisons of the species impossible on the basis of these descriptions. The relation of both the species can only be explained after a detailed description of *B. trichodes*, and a direct comparison of the types. I have found no pseudocyphellae and soralia in the type of *A. canadensis*.

It is difficult to consider *Alectoria americana* Mot. a subspecies of *B. trichodes*. My diagnosis differs significantly from that given by Brodo and Hawksworth. Surprisingly, Brodo and D. Hawksworth have found in my diagnosis "no reference to the occurrence

of pseudocyphellae", whereas it is clearly mentioned there "sine pseudocyphellis". According to Brodo and D. Hawksworth *A. americana* "has pseudocyphellae, although these are of the slightly depressed, dark, easily overlooked type". And again: according to my observation Pd^- , and according to Brodo and D. Hawksworth, "the holotype reacts readily with Pd ". Have Brodo and D. Hawksworth really examined the holotype? A detailed comparison is also impossible in case of this species, as there is no anatomical description of *B. trichodes*. *A. americana* is distinguished by a thick cortex of the thallus. Probably there is also a difference in the structure of apothecia.

Alectoria ambigua Mot. is undoubtedly a separate species. It differs from other similar species in a shorter, uniformly olive-brown thallus, considerably thicker main branches at their base, and in the absence of pseudocyphellae. The structure of apothecia is characteristic of the species.

THE TYPIFICATION

In the description of *Alectoria canadensis* Mot. The Bryologist 67:34 (1964) the type is not indicated. This is: Canada. Ontario: Lake Superior, Slate Isls., Edmond Island, abundant on *Abies balsamea*, T. Ahti (H).

In *Alectoria ambigua* Mot. Bryologist 67:17 (1964) the type is indicated in the list of localities: Canada, Ferryland. NW of Cape Broyle. E side of Mt. Carmel Pond, boulder in upland heath, 10.7.1958 T. Ahti (H).

REFERENCES

1. I. M. Brodo and D. L. Hawksworth: *Alectoria* and allied genera in North America. Opera Botanica 42, (1977).
2. J. Motyka: The North American Species of *Alectoria*. The Bryologist 67, 1 (1964).

STRESZCZENIE

W pracy podano łacińskie diagnozy kilku gatunków rodzaju *Alectoria* A c h., opisanych uprzednio tylko w języku angielskim. W ten sposób stają się one ważnie ogłoszone, zgodnie z wymaganiami Międzynarodowego Kodeksu Botanicznej Nomenklatury.

РЕЗЮМЕ

Даются латинские диагнозы нескольких видов рода *Alectoria* A c h., до настоящего времени описанных только на английском языке. Таким образом, благодаря настоящей публикации они становятся официально оглашенными в соответствии с требованиями Международного кодекса ботанической номенклатуры.

