

Descriptions and validation of the names of some high-rank syntaxa in the European *Asplenetia trichomanis* and *Polypodietea*

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Abstract: Mucina, L. & Theurillat, J.-P. *Descriptions and validation of some high-rank syntaxa in the European Asplenetia trichomanis and Polypodietea. Lazaroa 36: 75-78 (2015).*

The paper presents the description of one new order (*Asplenetalia septentrionalo-cuneifolii*) and two new alliances (*Arenarion bertolonii* and *Physoplexido comosae-Saxifragion petraeae*). In addition, the syntaxon *Asplenetalia lanceolato-obovati* is here formally raised to the order level and the name *Hypno-Polypodietalia vulgaris* is validated.

Keywords: alliance, *Asplenetia trichomanis*, chasmophytic vegetation, order, phytosociology, *Polypodietea*, Southern Alps, syntaxonomy, validation, Western Europe.

Resumen: Mucina, L. & Theurillat, J.-P. *Descripciones y validaciones de algunos sintaxa de alto rango de Asplenetia trichomanis y Polypodietea en Europa. Lazaroa 36: 75-78 (2015).*

En este trabajo se describe un nuevo orden (*Asplenetalia septentrionalo-cuneifolii*) y dos nuevas alianzas (*Arenarion bertolonii* and *Physoplexido comosae-Saxifragion petraeae*) dentro de *Asplenetia*. Además *Asplenetalia lanceolato-obovati* es formalmente propuesto como orden y el nombre *Hypno-Polypodietalia vulgaris* es validado.

Palabras clave: alianza, *Asplenetia trichomanis*, vegetación casmofítica, orden, fitosociología, *Polypodietea*, Alpes del sur, sintaxonomía, validación, oeste de Europa.

INTRODUCTION

Although the European chasmophytic (rock-crevice) vegetation of the *Asplenetia trichomanis* and the *Polypodietea* does not occupy large areas, it is yet one of the most diverse vegetation types in Europe, comprising plant communities of low diversity, but showing high levels of local/regional endemism. Biogeography and geology play a major role in structuring of the *Asplenetia trichomanis* as reflected in 13 orders and 61 alliances recognised as well-defined syntaxa for Europe (MUCINA & *al.*, submitted).

This paper was motivated by the synthetic assessment of the European vegetation to be shortly published as the EuroVegChecklist (Mucina & *al.*, submitted) and should serve to solve several nomenclatural and taxonomic issues in the *Asplenetia trichomanis*. References to articles of the International Code of Phytosociological Nomenclature (ICPN) follow WEBER & *al.* (2000). Nomenclature of the taxa follows the Euro+Med PlantBase (<http://www.emplantbase.org/home.html>) if not indicated otherwise.

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DESCRIPTION AND VALIDATION OF
THE NAMES OF SYNTAXA OF THE
ASPLENIETEA TRICHOMANIS

***Asplenietalia septentrionalo-cuneifolii* ord.
nov. hoc loco**

(*Asplenietea trichomanis*)

TYPE: *Holotypus hoc loco*: *Asplenion septentrionalis* Gams ex Oberd. 1938 (OBERDORFER, 1938: 163).

DIAGNOSTIC TAXA OF THE ORDER: *Asplenium cuneifolium*, *A. marinum*, *A. septentrionale*.

The vegetation of siliceous and ultramafic rock crevices at low altitudes of the temperate and boreal Europe has been in the past mostly classified within the *Androsacetalia vandellii* (e.g. OBERDORFER & al., 1967; MUCINA, 1993: 260; THEURILLAT & al., 1995; VALACHOVÌ & al., 1995) – the home of the high-altitude chasmophytic vegetation on siliceous substrates in cool-temperate (nemoral) and boreal Europe. The latter syntaxon is characterised by a high number of local and regional endemics, while the rock-crevice plant communities of lower altitudes are species-poor and usually dominated by widely distributed, yet ecologically specialised species such as *Asplenium septentrionale*. The name '*Asplenietalia septentrionalis*' for this syntaxon is not available since it has been suggested as a 'better name' (ICPN art. 29a) for the name *Androsacetalia vandellii* (OBERDORFER & al., 1967: 12; LOISEL, 1970: 170).

SYNTAXONOMY: Alliances included in the *Asplenietalia septentrionalo-cuneifolii*:

Asplenion marini Rivas-Martínez et Izco in Rivas-Martínez et al. 2002 (RIVAS-MARTÍNEZ & al., 2002: 47)

Asplenion septentrionalis Gams in Oberd. 1938 (OBERDORFER, 1938: 163–165)

Asplenion serpentina Br.-Bl. et Tx. ex Egglér 1955 (EGGLER, 1955: 66)

Pohlion crudae-Asplenion septentrionalis Brullo et Siracusa in Brullo et al. 2001 (BRULLO & al., 2001: 173)

Thalictro foetidi-Asplenion Onipchenko et Gorbachevskaya in Onipchenko 2002 (ONIPCHENKO, 2002a: 44, 2002b: 89).

***Asplenietalia lanceolato-obovati* (Loisel 1970)
Theurillat et Mucina ord. nov. hoc loco**
(*Asplenietea trichomanis*)

ORIGINAL SYNTAXONOMIC CONCEPT: 'Sous-ordre des *Asplenietalia lanceolato-obovati*' (Loisel, 1970: 170–171).

TYPE: *Holotypus*: *Asarinion rupestre* Br.-Bl. in Meier et Br.-Bl. 1934 (see below).

Diagnostic taxa of the order: *Allosurus pteridoides* (syn. *Cheilanthes fragrans*), *Bufonia macropetala* subsp. *willkommiana*, *Phagnalon saxatile*.

Here the name *Asplenietalia lanceolato-obovati* Loisel 1970 (originally described in the rank of suborder) is raised at the order level. It includes the plant communities of rock faces on siliceous substrate at low elevation in the Central and Western Mediterranean region.

We select the name *Asarinion rupestre* Br.-Bl. in Meier et Br.-Bl. 1934 (Meier & Braun-Blanquet, 1934: 41; ICPN art. 34) as the lectotype (lectotypus hoc loco) of the name *Asplenietalia lanceolato-obovati* Loisel 1970, the correct name for the alliance being the name *Asarinion rupestre* (Br.-Bl. in Meier et Br.-Bl. 1934) Br.-Bl. in Br.-Bl. et al. 1952.

Alliances included in the *Asplenietalia lanceolato-obovati*:

Antirrhinion asarinae (Br.-Bl. in Meier et Br.-Bl. 1934) Br.-Bl. in Br.-Bl. et al. 1952 (BRAUN-BLANQUET & al., 1952: 30–31)

Cheilanthion hispanicae Rivas Goday et al. 1956 (RIVAS GODAY & al., 1956: 341–344)

Linarion caprariae Foggi et al. 2006 (FOGGI & al., 2006: 29–31, Tab. 14)

Dianthion rupicolae Brullo et Marcenò 1979 (BRULLO & MARCENÒ, 1979: 133, 139).

***Arenarion bertolonii* Gamisans all. nov. hoc loco**
(*Asplenietalia glandulosi*, *Asplenietea trichomanis*)

SYNONYM: *Arenarion bertolonii* Gamisans 1991 (ICPN art. 8).

TYPE: *Holotypus hoc loco*: *Asplenio rutaemurariae-Arenarion bertolonii* Gamisans 1975 (GAMISANS, 1975: 37–38).

DIAGNOSTIC TAXA OF THE ALLIANCE: *Arabis collina*, *Arenaria bertolonii*, *Asplenium rutaemuraria*, *Sesleria insularis* subsp. *insularis*.

In GAMISANS (1991: 357), the new alliance ‘*Arenarion bertolonii*’ includes two associations, such as the *Asplenio ruta-murariae-Arenarietum bertolonii* Gamisans 1975 and the new association ‘*Elymo corsici-Ptychotetum saxifragae* (Litard. 1928) Gamisans 1991’, (see GAMISANS, 1991). Since no diagnostic species were listed for the alliance, the original diagnosis of the name remained insufficient (ICPN art. 8). Therefore, we validate the syntaxon name by listing those diagnostic species mentioned above.

***Physoplexido comosae-Saxifragion petraeae*
all. nov. hoc loco**

(*Potentilletalia caulescentis*, *Asplenietea trichomanis*)

SYNONYMS: *Androsaco-Drabion tomentosae* Wraber 1970 (ICPN art. 29); *Phyteumato-Saxifragion petraeae* Mucina in Šilc et Čarni 2012 (ICPN arts. 2b & 5).

CORRESPONDING SYNTAXONOMIC CONCEPT: *Phyteumato-Saxifragion petraeae* Sutter 1969 (ICPN art. 3b); (see SUTTER, 1969).

CORRESPONDING SYNTAXON (SUBALLIANCE): *Physoplexido comosae-Saxifragion petraeae* Theurillat in Theurillat et al. 1995

TYPE: *Holotypus hoc loco*: *Phyteumato-Asplenietum seelosii* E. Pignatti et S. Pignatti 1961 (PIGNATTI & PIGNATTI, 1961: 698).

DIAGNOSTIC TAXA OF THE ALLIANCE: *Arenaria huteri*, *Asplenium ruta-muraria* subsp. *dolomiticum*, *Bupleurum petraeum*, *Campanula carnica*, *C. morettiana*, *C. raineri*, *Daphne alpina*, *Minuartia graminifolia*, *Moehringia dielsiana*, *M. glaucovirens*, *M. markgrafii*, *M. villosa*, *Paederota bonarotta*, *P. lutea*, *Physoplexis comosa*, *Phyteuma scheuchzeri* subsp. *columnae*, *Potentilla nitida*, *Primula spectabilis*, *P. tyrolensis*, *Saxifraga arachnoidea*, *S. crustata*, *S. facchinii*, *S. mutata*, *S. petraea*, *S. presolanensis*, *S. squarrosa*, *S. tombeanensis*, *S. vandellii*, *Silene saxifraga*, *S. veselskyi*, *Spiraea decumbens* subsp. *tomentosa* and *Xerolekia speciosissima*.

This alliance had to be described and the name introduced became necessary because of the illegitimacy of the name *Androsaco-Drabion tomentosae* that is a *nomen superfluum* since WRABER (1970) included the *Androsacetum*

helveticae (the holotype of an earlier valid syntaxonomic concept – the *Potentillion caulescentis* Braun-Blanquet in Br.-Bl. et Jenny 1926) into the protologue of the *Androsaco-Drabion tomentosae*. Here we designate the *Phyteumato-Asplenietum seelosii* E. Pignatti et S. Pignatti 1961 as the *holotypus* of the new alliance *Physoplexido comosae-Saxifragion petraeae*. The diagnostic species of the alliance are mentioned above.

VALIDATION OF THE NAME

HYPNO-POLYPODIETALIA VULGARIS
(POLYPODIETEA)

***Hypno-Polypodietalia vulgaris* Jurko et Peciar
ex Mucina et Theurillat ord. nov. hoc loco**

SYNONYMS: *Hypno-Polypodietalia vulgaris* Jurko et Peciar 1963 (ICPN arts. 2b & 8) (see JURKO & PECIAR, 1963); *Hypno-Polypodietalia vulgaris* Jurko et Peciar ex Brullo et al. 2001 (ICPN art. 5)

TYPE: *Holotypus hoc loco*: *Hypno-Polypodion* Mucina 1993 (MUCINA, 1993: 267)

DIAGNOSTIC TAXA OF THE ORDER: *Bartramia pomiformis* Hedw., *Dryopteris dilatata*, *Hypnum cupressiforme* L., *Oxalis acetosella*, *P. vulgare*

In JURKO & PECIAR (1963: 208), the name ‘*Hypno-Polypodietalia*’ is lacking a sufficient diagnosis (ICPN arts. 2b & 8) as no alliance was indicated to include the new, validly published association ‘*Hypno-Polypodietum* Jko. et Pec. ass. nov.’. Here we designate the *Hypno-Polypodion* Mucina 1993 as the *holotypus hoc loco* to validate the name *Hypno-Polypodietalia*. The diagnostic species of the alliance are mentioned above.

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