



Applied Biology Hub - Non-Profit

London, Olympia, Berlin, Bratislava, Prague, Warsaw, Przemysl, Vienna, Ljubljana, Toronto, Tokyo

Malet Street
London, UK

Biology

Equisetum variegatum - Short Notes Biology Communication

Cooperation with IEA Paper

International Equisetological Association | Equisetum, Equisetaceae, US, PL
World Equisetum Program, US, PL

License:

This work is licensed under a Creative Commons Attribution 4.0
International License.

How to cite:

Radoslaw Janusz Walkowiak. Equisetum variegatum - Short Notes. 2024.
Applied Biology Hub - Non-Profit. 0041-2024 & IEA Paper 2024.



© All rights are reserved

Winston Overby, Charles Kellogg, Kathryn Scanlon, Thomas Dance, Michael Jefferson, Sharon Pell, Charles Tate, Rebeca Whitfield, Linda Sheffield, Daniel McCoy, Samantha Starkey, Susan Gutierrez & Others.

The original text, reviews and final editing were created in the following locations: Przemysl, PL, EU / Malet Street, London, WC1E 7HU, UK / Malet Street, Bloomsbury, London WC1E 7HX, UK



Equisetum variegatum - Short Notes

Botanical Report
Scientific Data

Radoslaw Janusz Walkowiak, Poland
<https://orcid.org/0000-0002-4225-7985>
radekwalkowiak@tlen.pl

M. Sc., Hon. Dr.

Nature Lab | Communication, International Experts Group, Washington, D.C., US
Applied Biology Hub, London, UK
International Interdisciplinary Group of Experts, Bratislava, Slovakia, EU
PWiK Przemysl, Water Utility Company, Poland, EU
Educational Base for Plant Science, Beijing, China
International Equisetological Association | Equisetum, Equisetaceae, US, PL
World Equisetum Program, US, PL

Keywords: Equisetum, Equisetum variegatum, Equisetaceae, Horsetail, Botany, Plant Biology,
Plant Taxonomy, International Equisetological Association, World Equisetum Program

Abstract

Equisetum is the single surviving genus of a class of ancient vascular plants that dates back to the mid-Devonian period (350 + million years ago). Species (no hybrids): 15 (18), nearly worldwide. Plants with jointed stems and distinct nodes. Leaves small, fused into sheaths, tips remaining free, toothlike. Sporangia borne on peltate sporophylls aggregated in cones. Spores green, rather white in hybrids. Gametophytes green, terrestrial, unisexual, male gametophytes smaller than female.

Equisetum variegatum

Schleicher ex F. Weber & D. Mohr
Bot. Taschenbuch 60: 447 (1807)

variegated horsetail
variegated scouring rush
der Bunte Schachtelhalm

The first description of Equisetum variegatum was made in 1807 by Johann Christoph Schleicher in F. Weber and D. M. H. Mohr: Botanisches Taschenbuch, 60, p. 447. The specific epithet variegatum means “colorful” and refers to the contrast of the black leaf sheaths with white teeth against the green stem.

Equisetum variegatum [Schleich. ex F.Weber & D.Mohr] including ssp./var. *alaskanum* [A.A.Eat.] / [Christenhusz et al. 2019] Variegated horsetail, variegated scouring rush. 30-80 cm. It has a circumpolar distribution in the northern hemisphere (cool temperate zones), in the northern Europe, Asia, North America, Greenland, Iceland, Faroe Islands, in the Pyrenees, Apennines in Europe, Mongolia, Japan. It occurs in dune slacks, mountain flushes and beside lakes, rivers and canals.

<https://www.inaturalist.org/journal/radekwalkowiak/35873-equisetum-notebook>

Introduction

An evergreen, perennial herb. The internodes are green and have seven to nine ribs. The leaf sheaths are bell-shaped or funnel-shaped, slightly protruding, the lower ones are black, the upper ones are green with a wide black transverse stripe. The vaginal teeth stand upright, are free and do not fall out. The central cavity has a diameter of $\frac{1}{4}$ to $\frac{1}{3}$ of the stem diameter. The sporangia appear from April to August. Height ranging from 15-20 to over 30 cm, but there are specimens, ecotypes, from 40 to even 80 cm. It is a rare species in Poland - was under strict protection in Poland in 2012-2014. It occurs in northern Europe, Asia and North America, in Greenland, Iceland and the Faroe Islands. The range extends south to the Pyrenees and Apennines in Europe, recorded in Mongolia and Japan. They occur in wet areas, peat bogs, and also on river banks. It occurs on dunes, mountain plains near lakes, watercourses. Often a popular ornamental plant in ponds where it is sometimes confused with *E. scirpoides*. $2n = 216$. In Central Europe, it is especially widespread in the Alps and reaches a height of over 2,500 meters. It is a relic of the ice age and unfortunately it is disappearing in many areas. It is a pioneer plant, growing especially on sandy and gravel river silts, peat bogs, in gravel pits and in spring meadows.



Taxonomy

Equisetum variegatum

Schleicher ex F. Weber & D. Mohr

Bot. Taschenbuch 60: 447 (1807)

spp. variegatum

Schleicher ex F. Weber & D. Mohr

Bot. Taschenbuch 60: 447 (1807)

Distribution: Iceland, N-Europe, C-Europe, south to, Pyrenees, N-Appennines, Spain, France, N-Italy, Austria, Hungary, former Yugoslavia, asiatic Turkey (Anatolia), Greenland, St. Pierre & Miquelon, Canada (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Labrador, Nunavut, N.W.Territories, Ontario, Prince Edward Isl., Quebec, Saskatchewan, Yukon), Alaska, Aleutes, USA (Colorado, Connecticut, Idaho, Illinois, Indiana, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New York, Oregon, South Dakota, Utah, Vermont, Washington, Wisconsin, Wyoming), N-European Russia, Baltic States, C-European Russia, Belarus, Urals, Caucasus/Transcaucasus, W-Siberia, C-Siberia, E-Siberia Amur / Ussuri, Japan, Kamchatka.

Remarks	:	Subgen. Hippochaete
= Equisetum variegatum		Schleich. ex F. Weber & D. Mohr Christenhusz et al. 2019
= Hippochaete variegata		(Schleicher) Bruhin Verh. K. K. Zool. Bot. Ges. Wien 18: 758 (1868)
= Equisetum hyemale variegatum		(Schleich. ex Web. & Mohr) A. Braun Wahlenb. (1812)
= Equisetum reptans variegatum		Vauch. (1821)
= Equisetum multiforme variegatum		A. Br. (1839)
= Equisetum hiemale variegatum		(Schleich.) Newm. (1843)
= Equisetum variegatum wilsoni		Newm. (1844)
= Equisetum arenarium		Newm. (1841)
= Equisetum variegatum reptans		(Wahlenb.) A. Br. (1844)
= Equisetum variegatum elatum		Rabenh. (1848)
= Equisetum variegatum arenarium		Babington (1851)

= Equisetum variegatum caespitosum	Doell (1857)
= Equisetum variegatum concolor	Doell (1857)
= Equisetum variegatum virgatum	Doell (1857)
= Equisetum variegatum huefleri	Milde (1864)
= Equisetum variegatum anceps	Milde (1864)
= Equisetum variegatum alpestre	Milde (1864)
= Equisetum tenellum	Krok. (1889)
= Equisetum variegatum caespitosa	(Doell) Luer. (1889)
= Equisetum variegatum virgata	(Doell) Luer. (1889)
= Equisetum variegatum alpestris	(Milde) Luer. (1889)
= Equisetum variegatum elata	(Rabenh.) Luer. (1889)
= Equisetum variegatum huefleri	(Milde) Luer. (1889)
= Equisetum variegatum anceps	(Milde) Luer. (1889)
= Equisetum variegatum arenaria	(Milde) Luer. (1889)
= Equisetum variegatum wilsoni	(Newm.) Luer. (1889)
= Hippochaete variegata	(Schleich.) Farw. (1916)
= Hippochaete variegatum	(Schleich.) Boern. (1912)
= Hippochaete variegata anceps	(Milde) Farw. (1916)
= Equisetum variegatum wilsoni	Rosend. (1916)
= Equisetum variegatum wilsoni tortuosum	Rosend. (1917)
= Equisetum variegatum wilsoni ramosissimum	Rosend. (1917)
= Equisetum variegatum anceps	(Milde) Broun (1938)
= Equisetum variegatum geminatum	S.F. Blake Rhodora 15(177): 156 (1913)
= Equisetum variegatum multirameum	S.F. Blake Rhodora 15(177): 156-157 (1913)
ssp. alaskanum	(A. A. Eat.) Hulten; Acta Univ. Lund. 37(1): 59 (1941)

Distribution: W-Canada (British Columbia, Yukon), Alaska, Aleutes, NE-USA (Washington).

= Equisetum variegatum	Schleich. ex F.Weber & D.Mohr Christenhusz et al. 2019
-------------------------------	---

= *Equisetum variegatum alaskanum*

= *Hippochaete hyemalis alaskana*

= *Equisetum alaskanum*

A. A. Eat.; Merriam,
Harriman Alaska Exped.

5: 390 (1904)

(A. A. Eat.) Farw. (1916)

(A. A. Eat.) Anderson

(1943)

E. variegatum Schleich. ex Weber & Mohr

Przemysl, Poland

© IEA, 2023

© Scientific data, All rights reserved,

394 m above sea level, 2023; ATPOL

Association and World Equisetum



Przemysl-Wapielnica, by the watercourse,

FF9938; The International Equisetological

Program, Research Service

E. variegatum Schleich. ex Weber & Mohr
Przemyśl, Poland
© IEA, 2023



© Scientific data, All rights reserved, Przemyśl-Wapielnica, by the watercourse, 394 m above sea level, 2023; ATPOL FF9938; The International Equisetological Association and World Equisetum Program, Research Service

E. variegatum Schleich. ex Weber & Mohr
Przemysl, Poland
© IEA, 2023

© Scientific data, All rights reserved, Przemysl-Wapielnica, by the watercourse, 394 m above sea level, 2023;
ATPOL FF9938; The International Equisetological Association and World Equisetum Program, Research Service



2023 , Habitat
Przemysl, Poland





Private Collection © Walkowiak R. J.
Date and place of collection: 2008, Poland-Slovakia
Equisetum variegatum Schleich. ex Weber & Mohr
– variegated horsetail, variegated scouring rush
Przemysl, Poland, 2008-2023

Private Collection © Walkowiak R. J.
Date and place of collection: 2008, Poland-Slovakia
Equisetum variegatum Schleich. ex Weber & Mohr
– variegated horsetail, variegated scouring rush
Przemysl, Poland, 2008-2023



Private Collection © Walkowiak R. J.
Date and place of collection: 2008, Poland-Slovakia
Equisetum variegatum Schleich. ex Weber & Mohr
– variegated horsetail, variegated scouring rush
Przemysl, Poland, 2008-2023



Private Collection © Walkowiak R. J.
Date and place of collection: 2008, Poland-Slovakia
Equisetum variegatum Schleich. ex Weber & Mohr
– variegated horsetail, variegated scouring rush
Przemysl, Poland, 2008-2023



References

- Husby Ch. E., Walkowiak R. J., An Introduction to the Genus *Equisetum* (Horsetail) and the Class Equisetopsida (Sphenopsida) as a whole, IEA Paper 2012
- Maarten J M Christenhusz, Lois Bangiolo, Mark W Chase, Michael F Fay, Chad Husby, Marika Witkus, Juan Viruel, Phylogenetics, classification and typification of extant horsetails (*Equisetum*, Equisetaceae), *Botanical Journal of the Linnean Society*, Volume 189, Issue 4, April 2019, Pages 311–352
- Walkowiak R. J., A Taxonomic Study of the Genus *Equisetum* (Horsetail), IEA Paper 2011
- Walkowiak R. J., *Equisetum* Taxonomy, IEA Paper 2008, Version of 2008-10-04, Retrieved 2011-11-07
- Walkowiak R. J., *Equisetum*, Przemysl, Poland, IEA Collection of *Equisetum* 2023, IEA Paper 2023
- Szafer W., Kulczyński S., Pawłowski B.: *Rośliny polskie*. Warszawa: Państwowe Wydawnictwo Naukowe, 1969
- Bolesław Broda, Jakub Mowszowicz, *Przewodnik do oznaczania roślin leczniczych, trujących i użytkowych*, Państwowy Zakład Wydawnictw Lekarskich, Warszawa 1973`
- Hutchinson, G. (1996) *Welsh Ferns*, National Museums and Galleries of Wales
- Page C. N. (1982) *The Ferns of Britain and Ireland*, Cambridge University Press
- Preston, C. D. & Pearman, D. A. (2002) *New Atlas of the British and Irish Flora*, Oxford University Press
- Tutin, T. G. et al. (1964) *Flora Europaea*, Volume 1. Cambridge University Press
- Josef Dostál: Equisetaceae. In: Karl Ulrich Kramer (Hrsg.): *Illustrierte Flora von Mitteleuropa*. Begründet von Gustav Hegi. 3., völlig neubearbeitete Auflage. Band I, Teil 1: Pteridophyta, Spermatophyta, Paul Parey, Berlin/Hamburg 1984

Useful links

<https://internationalequisetologicalassociation.yolasite.com/>

<https://equisetum-iea.wixsite.com/equisetum/>

<https://internationalequisetologicalassociation.yolasite.com/taxonomy.php/>

<https://internationalequisetologicalassociation.yolasite.com/links.php/>

Author info

Radoslaw Janusz Walkowiak, M. Sc., Hon. Dr.
Biologist, Biophysicist, International Expert
Poland, EU

Applied Biology Hub - Non-Profit; London, Olympia, Berlin, Bratislava,
Prague, Warsaw, Przemysl, Vienna, Ljubljana, Toronto, Tokyo / R. J.
Walkowiak - Research Expert / PL-EU-A11070822

International Equisetological Association | Equisetum, Equisetaceae, US, PL
World Equisetum Program, US, PL / R. J. Walkowiak - Executive President



Applied Biology Hub - Non-Profit. 0041-2024 & IEA Paper 2024



Applied Biology Hub

Malet Street
London, UK

Cooperation with IEA Paper

International Equisetological Association | Equisetum, Equisetaceae, US, PL
World Equisetum Program, US, PL

© 2024
