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Studia Geobotanica, Vol. 2: 7-14 (1982)

**DIE BEDEUTUNG DER HOPFENBUCHEN - OSTRYA CARPINIFOLIA SCOP. FÜR DIE PFLANZENGEOGRAPHISCHE BEGRENZUNG DER MEDITERRAN-MONTANEN VEGETATIONSSTUFE AUF DEN ADRIATISCHEN INSELN**

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Ivo TRINAJSTIĆ

**Keywords:** *Ostrya carpinifolia* Scop., phytogeography, mediterranean region, vegetation, adriatic Islands

**Abstract:** *THE SIGNIFICATION OF OSTRYA CARPINIFOLIA SCOP. FOR THE PHYTOGEOGRAPHICAL LIMITATION OF THE MEDITERRANEAN-MOUNTAIN VEGETATION GIRDLE ON THE ADRIATIC ISLANDS.* The mediterranean-mountain girdle of the Vegetation on the Adriatic Islands is delimited by *Ostrya carpinifolia*. On the islands of Quarnero *O. carpinifolia* builds the ass. *Ostryo-Quercetum pubescentis* and on the islands of Dalmatia the ass. *Ostryo-Quercetum ilicis*.

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**Studia Geobotanica, Vol. 2: 15-19 (1982)**

## **DIE WARMELIEBENDEN HOPFENBUCHEN-BUCHENW ÄLDER (OSTRYO-FAGETUM WRABER) IN NORDWEST-KROATIEN**

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Zinka PAVLETIĆ, Ivo TRINAJSTIĆ, Ivan ŠUGAR

**Keywords:** *Ostrya carpinifolia*, Vegetation of Croatia, Thermophilus woods

**Abstract:** *THE THERMOPHILOUS BLACK HORNBEAM-BEECH WOODS (Ostryo-Fagetum Wraber) IN NORD- WEST CROATIA.* In this paper the floristic structure of the ass. *Ostryo-Fagetum* in the area of Samobor- and Žumberak mountains (nord-west Croatia) is described. These woods belong to the subass. *aceretosum obtusati*.

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**Studia Geobotanica, Vol. 2: 21-23 (1982)**

## **CHARAKTERISTIK DER OSTRYA CARPINIFOLIA BESTÄNDE IM KVARNER BUCHT**

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Nedeljka ŠEGULIA, Valentina GAŽI-BASKOVA

**Keywords:** *Ostrya*, Vegetation

**Abstract:** *SOME CHARACTERISTICS OF OSTRYA CARPINIFOLIA - STANDS IN KVARNER BAY.* The species *Ostrya carpinifolia* was investigated in deciduous and evergreen vegetation of Kvarner

Bay. The new subassociation *Ostryo-Quercetum pubescentis cotinetosum* and ecological variant with *Vitex agnus-castus* are described.

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**Studia Geobotanica, Vol. 2: 25-32 (1982)**

## **DIE ÖKOLOGISCHE UND WIRTSCHAFTLICHE BEDEUTUNG DER OSTRYA CARPINIFOLIA SCOP. IN SLOWENIEN**

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Ivo PUNCER, Mitja ZUPANČIČ

**Keywords:** *Ostrya*, Slovenia

**Abstract:** *ECOLOGICAL AND ECONOMICAL IMPORTANCE OF OSTRYA CARPINIFOLIA IN SLOVENIA.* The paper treats of the spread of *Ostrya carpinifolia* Scop., its appearance in various phytocenoses, its ecology, and its forestry problems in Slovenia.

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**Studia Geobotanica, Vol. 2: 33-40 (1982)**

## **MOSAIKKOMPLEX DER REALEN PHYTOCÖNOSEN UND IHRE SYNDINAMISCHE BEZIEHUNGEN AUF DEM STANDORT DER POTENTIELL-NATÜRLICHEN ASSOZIATION OSTRYO-FAGETUM**

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Lojze MARINČEK, Andrej SELIŠKAR

**Keywords:** *Ostryo-Fagetum*, Potential-natural habitat, Vegetation succession

**Abstract:** *SYNDINAMICAL RELATIONS BETWEEN REAL VEGETATION UNITS ON POTENTIAL-NATURAL HABITAT OF COMMUNITY OSTRYO-FAGETUM.* Successional development starts from grassland *Bromo-Brachypodietum pinnati*, through stadia with *Juniperus communis*, *Corylus avellana*, *Fraxinus ornus* and *Carpinus betulus*, to the wood *Ostryo-Fagetum*.

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**Studia Geobotanica, Vol. 2: 41-58 (1982)**

# SYNTAXONOMY OF THE *OSTRYA CARPINIFOLIA* WOODS IN THE SOUTHERN ALPS (N-ITALY) BASED ON NUMERICAL METHODS

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Duilio LAUSI, Renato GERDOL, Filippo PICCOLI

**Keywords:** Ecology, Numerical classification, *Ostrya carpinifolia* woods, phytosociology, Similarity measures, Southern Alps, Submediterranean vegetation, Syntaxonomy

**Abstract:** The syntaxonomy of the *Ostrya carpinifolia* woods in the Southern Alps has been studied by means of phytosociological relevés carried out in the area extended from the Trieste Karst westwards to the Lombard Praealps. Syntaxonomic levels have been defined on the basis of similarity measures obtained by application of formal methods of numerical classification. The ecological conditions of the resulting vegetation types have been discussed. Five associations can be distinguished, all belonging to the alliance *Ostryo-Carpinion orientalis* (order: *Quercetalia pubescenti-petraeae*, class. *Quercu-Fagetea*): *Ostryo-Quercetum pubescentis*, *Buglossoido-Ostryetum*, *Orno-Ostryetum*, *Melica uniflora-Ostrya carpinifolia* association, *Seslerio variae-Ostryetum*. Two suballiances, essentially of chorological significance, can be distinguished within *Ostryo-Carpinion orientalis*: *Ostryo-Carpinion orientalis* in the Illyric region and *Orno-Ostryenion* in the Praealps.

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**Studia Geobotanica, Vol. 2: 59-68 (1982)**

## OSTRYA CARPINIFOLIA-GESELLSCHAFTEN IN SÜDTIROL

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Thomas PEER

**Keywords:** *Ostrya*, South Tyrol, Vegetation

**Abstract:** *OSTRYA CARPINIFOLIA - ASSOCIATIONS IN SOUTH TYROL*. The article describes the floristic variation of *Ostrya*-stands in South Tyrol, in relation with soil types and human action.

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**Studia Geobotanica, Vol. 2: 69-122 (1982)**

## OSTRYA CARPINIFOLIA- REICHE WÄLDER UND GEBÜSCHE VON JULISCH-VENEZIEN (NO-ITALIEN) UND NACHBARGEBIETEN

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Livio POLDINI

**Keywords:** *Ostrya carpinifolia*, sociology, Northeastern Italy

**Abstract:** *OSTRYA CARPINIFOLIA* RICH WOODS AND BUSHES OF FRIULI- VENEZIA GIULIA (NE-ITALY) AND NEIGHBOURING TERRITORIES. This paper deals with the *Ostrya carpinifolia* woods and bushes of Friuli-Venezia Giulia (NE-Italy). There are distinguished fourteen communities, some of which quite new, where *Ostrya* is more or less abundant. From this adaptive sociological behaviour a very large ecological plasticity of the species may be argued.

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Studia Geobotanica, Vol. 2: 123-140 (1982)

## L'INQUADRAMENTO SINTASSONOMICO DEI BOSCHI A QUERCUS CERRIS ED OSTRYA CARPINIFOLIA DEL FLYSCH NELL'APPENNINO MARCHIGIANO SETTENTRIONALE

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Davide UBALDI, Maria SPERANZA

**Keywords:** Apennines, Marche region, *Ostrya* woods syntaxonomy

**Abstract:** SYNTAXONOMY OF QUERCUS CERRIS AND OSTRYA CARPINIFOLIA WOODS IN THE NORTHERN APENNINES OF THE MARCHE REGION (ITALY). The AA. discuss the syntaxonomy of *Quercus cerris* and *Ostrya carpinifolia* woods in the northern Apennines of Marche region (Pesaro-Urbino province), with special reference to communities growing on flysch soils. According to cluster analysis by average linkage, the following types are recognized: a) *Aceri (obtusati)-Quercetum cerris* (Ubaldi 1979) em, colline-submontane association, including mixed woods with *Quercus cerris*, *Ostrya carpinifolia*, *Acer obtusatum* and *Fraxinus ornus*; b) *Seslerio (italicae) Ostryetum* (Ubaldi 1974) em., including *Ostrya carpinifolia* woods on little deep soils of marl-calcareous flysch; this type lies in the montane belt, in the *Cephalanthero-Fagetum* zone; c) *Ostrya carpinifolia Fagus sylvatica-Calamagrostis varia* community; mountain woods near to *Cephalanthero-Fagetum* sociology; d) *Arisaro (proboscidei)-Carpinetum* ass. nova, including *Quercus cerris-Carpinus betulus Fagus sylvatica* woods, occurring in the *Aceri (obtusati)-Quercetum cerris* belt.

These types may be included in a *Orno-Ostryon*, floristically delimited by *Lilium croceum*, *Laburnum anagyroides*, *Ostrya carpinifolia* and *Acer obtusatum*. Compared to *Orno-Ostryon* of Yugoslav Authors, and particularly to *Ostryo-Carpinion orientalis*, it is more mesophilous and near to *Carpinion betuli*. According to our present knowledges, this *Orno-Ostryon* lies in the central and northern

Apennines and in the central Pre-Alps too. For this vegetation Ubaldi (1981) has suggested the name *Laburno-Ostryon carpinifoliae*.

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**Studia Geobotanica, Vol. 2: 141-147 (1982)**

## **L'OSTRYA CARPINIFOLIA SCOP. SUL LITORALE DELLE MARCHE (ITALIA CENTRALE)**

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Edoardo BIONDI

**Keywords:** Vegetation, Coastal woodlands with *Ostrya carpinifolia*, Marche region

**Abstract:** *THE OSTRYA CARPINIFOLIA SCOP. ON THE COASTAL ZONE OF THE MARCHE (CENTRAL ITALY).* *Ostrya carpinifolia* has been found along the coast of the Marche, this species is present in the appice at Monte Conero in the southern part of Ancona and in a few wood formations in the vicinity of the coast. These wood formations in this particular work belong to the *Ostryo-Quercetum ilicis* Trinajstić and the *Asparago (acutifolii) - Ostryetum carpinifoliae* as a new association. In the North-Eastern part of Monte Conero, the *Ostryo-Quercetum ilicis* association is present in a new sub-association known as *aceretosum obtusati*. Among the species that differentiate this new subassociation are: *Acer obtusatum*, *Cephalanthera longifolia* and *Melittis melissophyllum*. It has also been noted that above the altitude of 300m a variant that is particularly mesophilous with *Hepatica nobilis* and *Mercurialis perennis* is found.

The *Asparago (acutifolii) - Ostryetum carpinifoliae* is a new association in the order Quercetalia pubescentis and the local characteristic species are *Asparagus acutifolius*, *Buglossoides purpureo-coerulea* and *Smilax aspera*; a large number of these species that belong to the class of Quercetalia ilicis and constantly found in these forest formations assume a differential significance in respect of the association Scutellario-Ostryetum Pedrotti, Ballelli and Biondi of the internal zone of the Appennini.

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**Studia Geobotanica, Vol. 2: 149-153 (1982)**

## **LO SCUTELLARIO-OSTRYETUM IN UMBRIA**

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Carlo FRANCALANCIA, Ettore ORSOMANDO

**Keywords:** *Ostrya*, Vegetation, Umbria

**Abstract:** *THE SCUTELLARIO-OSTRYETUM IN THE TERRITORY OF UMBRIA.* A phytosociological study has been carried out on the *Ostrya carpinifolia* wood formations in the territory of Umbria, where this vegetation is particularly developed in the hilly parts and along the foothills of the mountain relief.

This vegetation on the basis of the examination of the table is attributed to the *Scutellario-Ostryetum* association already described for the Marche.

Apart from the typical aspect of the vegetation, a variant with *Buxus sempervirens* that develops in the parts more exposed to the north has been observed.

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**Studia Geobotanica, Vol. 2: 155-167 (1982)**

## **DUE NUOVE ASSOCIAZIONI DEI QUERCETALIA PUBESCENTIS DELL'APPENNINO CENTRALE**

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Carlo BLASI, Enrico FEOLI, Gian Carlo AVENA

**Keywords:** *Ostrya carpinifolia*, Appennines, Phytosociology

**Abstract:** *TWO NEW QUERCETALIA PUBESCENTIS ASSOCIATIONS IN CENTRAL APENNINES.* Two new associations of *Quercetalia pubescentis* are presented and discussed. One. *Cytiso sessilifolii-Quercetum pubescentis*, belongs to *Quercion pubescenti-petraeae*, the other *Corno-Ostryetum carpinifoliae* belongs to *Ostryo-Carpinion orientalis*.

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**Studia Geobotanica, Vol. 2: 169-191 (1982)**

## **THE EPIPHYTIC LICHEN VEGETATION OF THE TRIESTE PROVINCE (NORTH EASTERN ITALY)**

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Pier Luigi NIMIS

**Keywords:** Epiphytes, Lichens, Phytosociology, Trieste

**Abstract:** On the basis of a numerical classification of 85 phytosociological relevés, 11 unions of epiphytic lichen vegetation are described for the Province of Trieste. Their ecology and dynamics are discussed. The results confirm the transitional character of the study area from the phytogeographical and phytosociological points of view.

## **EPIPHYTIC BRYOPHYTE VEGETATION IN THE OSTRYO-CARPINION ORIENTALIS REGION OF THE TRIESTE KARST(NORTHERN ITALY)**

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Renato GERDOL

**Keywords:** Bryophyte epiphytic communities, classification, ecology, ordination, phytosociology, Trieste Karst

**Abstract:** The bryophyte epiphytic vegetation in the part of the Trieste Karst comprised within the Italian national borders has been studied with the Braun-Blanquet method. The study region is mainly covered with *Ostrya carpinifolia*, *Fraxinus ornus* and *Quercus pubescens* coppices and has a submediterranean-subatlantic climate. Four main vegetation types could be distinguished by numerical classification of the relevés: *Tortuletum laevipilae*, *Leucodontetum sciuroidis*, *Hypnum cupressiforme*-community and *Neckero-Anomodontetum viticulosi*. The ecological requirements of these communities have been defined by measurement of abiotic parameters and by indirect gradient analysis performed through ordination of the relevés. It could be demonstrated that the main ecological factor conditioning the distribution of the bryophyte epiphytic synusiae in the study region is bark moisture which is directly controlled by light intensity.

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## **DIE BETEILIGUNG DER OSTRYA-GESELLSCHAFTEN IN DEN SUBMEDITERRANEN VEGETATIONSKOMPLEXEN**

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Sandro PIGNATTI

**Keywords:** *Ostrya*, Vegetationscomplexe, complexes of vegetation, landscape ecology, submediterranean vegetation

**Abstract:** *THE OSTRYA-ASSOCIATIONS IN THE SUBMEDITERRANEAN VEGETATION COMPLEXES.* In Italy and in the neighbouring countries, a dozen landscape systems have been described. Several of them including wood-associations with dominating *Ostrya carpinifolia*. The ecological optimum of *Ostrya* can be identified with the areas where *Ostrya* is most frequent i.e. SE-Alps and N-Apennines. *Ostrya* also appears in Southern Italy, but it is rare and segregated in



marginal habitats. It may be assumed that *Ostrya* associations are primary only in these last habitats, while the diffused *Ostrya* formations of SE-Alps and N-Apennines can be regarded as secondary.

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**Studia Geobotanica, Vol. 2: 217-223 (1982)**

## LA PRESENZA DEI CONSORZI FORESTALI DEL CARPINO NERO (OSTRYA CARPINIFOLIA SCOP.) IN ITALIA

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Alberto HOFMANN

**Keywords:** *Ostrya*, Italy

**Abstract:** *OSTRYA CARPINIFOLIA WOODS IN ITALY.* The article discusses the distribution of *Ostrya*-woods in Italy, with data on their extension within the various Italian regions and their economical importance.

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**Studia Geobotanica, Vol. 2: 225-232 (1982)**

## ZUM WASSERHAUSHALT DER HOPFENBUCHE (OSTRYA CARPINIFOLIA) - UND EINIGER ANDERER BAUM- UND STRAUCHARTEN IN WEITERER UMGEBUNG VON RIJEKA

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Ljudevit ILIJANIĆ, Jasenka TOPIĆ

**Keywords:** *Carpinetum orientalis*, Croatian Coast, *Seslerio Fagetum*, Transpiration, Water saturation deficit

**Abstract:** *INVESTIGATION OF THE WATER RELATIONS OF OSTRYA CARPINIFOLIA AND SOME OTHER TREES AND SHRUBS IN THE SURROUNDINGS OF RIJEKA.* This paper presents the results of investigations of transpiration ( $T_r$ ) and water saturation deficit ( $D_w$ ) of some tree and shrub species in the deciduous region of the Croatian Coast in wider surroundings of Rijeka. Leaves of deciduous shrub species in *Carpinetum orientalis* and *Seslerio-Fagetum* usually transpired more than leaves of investigated tree species. Among tree species in the association *Carpinetum orientalis*, *Ostrya carpinifolia*, and *Carpinus orientalis* had the lowest  $T_r$ -Values and the smallest daily and seasonal amplitudes as well as low water deficit and narrow amplitude at the same time. On the

opposite, *Fraxinus ornus* transpired much more intensively in convenient conditions, while it decreased transpiration very much with more severe drought and at the same time had a considerably increased water deficit, showing a high amplitude during the vegetational season. Consequently, *Fraxinus ornus* was more similar to the shrub species than to the investigated deciduous tree species..

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**Studia Geobotanica, Vol. 2: 233-242 (1982)**

## **SYN - UND AUTÖKOLOGISCHE STUDIEN IM FLAUMEICHEN- HOPFENBUCHENAREAL BEI BOZEN (SÜDTIROL/ITALIEN)**

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B. ERSCHBAMER, G. GRABHERR, H. REISIGL

**Keywords:** Ecology, Northern Italy

**Abstract:** SYN - AND AUTOECOLOGICAL STUDIES IN THE *OSTRYA CARPINIFOLIA*- AND *QUERCUS PUBESCENS* - AREA NEAR BOZEN (SÜDTIROL - ITALY). Measurements of leaf diffusion resistance, water saturation deficit and water potential were carried out on *Teucrium chamaedrys*, *Artemisia alba*, *Helianthemum nummularium* ssp. *ovatum* in a dry grassland community.

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