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ANAPHYTO

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: Mercurialietosum perenni Rusco-Fagetum

Ruscus hyrcanus, Laurocerasus officinalis, Danae racemosa, Evonymus latifolia, Ilex spinigera, Frangula grandifolia, Symphandra odontosepala, Daphne mezereum, Hedera pastuchovii.

: Epimedietosum pinnatii Carpineto-Fagetum

Pteridium aquilinum, Lathyrus vernus, Sedum stoloniferum, Primula heterochroma, Carex remota, Polygonatum oriental, Paeonia wittmanniana.

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Braun -

() Elenberg () Blanquet)

Register

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Taxonomy

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(Cragg)

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(Ellenberg, Muller – Dombois

(Nested Plots)

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A.F.C

Anaphyto

C.A.H

Braun- Blanquet

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Dominance) -)

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((Syntaxonomic Units

Frequency (Abundance -

) Socioability

(Stratification Vitality

(Fidelity)

(Autecology)

(Companion) Indicator

(Syntaxa) (Accidental)

(Correspondence Factor

(Analysis

Barkman) (Classification Ascendante Hierarchique)

(Briane) Anaphyto

C.A.H

A.F.C

(dendrogram)

C.A.H

A.F.C

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C.A.H

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(Partial)

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Partial

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A, B, C

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II

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III

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II

III

139	<i>Acer cappadocicum</i>	4458	<i>Laurocerasus officinalis</i>
148	<i>Acer velutinum</i>	4718	<i>Matteuccia struthiopteris</i>
449	<i>Alnus subcordata</i>	4784	<i>Mentha aquatica</i>
804	<i>Asperula odorata</i>	4797	<i>Mercurialis perennis</i>
816	<i>Asplenium adiantum nigrum</i>	4802	<i>Mespilus germanica</i>
1524	<i>Athyrium filix-femina</i>	5203	<i>Oplismenus undulatifolius</i>
1658	<i>Brachypodium sylvaticum</i>	5339	<i>Paeonia wittmanniana</i>
1814	<i>Calystegia silvestris</i>	5515	<i>Phyllitis scolopendrium</i>
1880	<i>Cardamine impatiens</i>	5642	<i>Polygonatum orientale</i>
1941	<i>Carex remota</i>	5682	<i>Polypodium vulgare</i>
1950	<i>Carex sylvatica</i>	5687	<i>Polystichum aculeatum</i>
1956	<i>Carpinus betulus</i>	5779	<i>Primula heterochroma</i>
2083	<i>Cephalanthera longifolia</i>	5786	<i>Prunella vulgaris</i>
2217	<i>Circaea lutetiana</i>	5788	<i>Prunus divaricata</i>
2293	<i>Clinopodium umbrosum</i>	5824	<i>Pteridium aquilinum</i>
2710	<i>Crataegus microphylla</i>	5825	<i>Pteris cretica</i>
2832	<i>Cyclamen caucasicum</i>	5890	<i>Quercus castaneifolia</i>
2898	<i>Danae racemosa</i>	6108	<i>Rubus hyrcanus</i>
2900	<i>Daphne mezereum</i>	6120	<i>Rumex sanguineus</i>
3046	<i>Diospyrus lotus</i>	6147	<i>Ruscus hyrcanus</i>
3099	<i>Dryopteris filix- mass</i>	6232	<i>Salvia glutinosa</i>
3251	<i>Epimedium pinnatum</i>	6279	<i>Sambucus ebulus</i>
3387	<i>Euphorbia amygdaloides</i>	6291	<i>Sanicula europaea</i>
3458	<i>Evonymus latifolia</i>	6512	<i>Scutellaria tourneforti</i>
3473	<i>Fagus orientalis</i>	6537	<i>Sedum stoloniferum</i>
3565	<i>Fragaria vesca</i>	6757	<i>Solanum kieseritzkii</i>
3569	<i>Frangula grandifolia</i>	6845	<i>Stachys sylvatica</i>
3572	<i>Fraxinus excelsior</i>	6936	<i>Symphandra armena</i>
3729	<i>Geranium platypetalum</i>	6971	<i>Tammus communis</i>
3734	<i>Geranium robertianum</i>	7160	<i>Tilia platyphyllos</i>
3746	<i>Geum urbanum</i>	7413	<i>Ulmus glabra</i>
3907	<i>Hedera pastuchovii</i>	7428	<i>Urtica urens</i>
4160	<i>Hypericum androsaemum</i>	7606	<i>Vicia creaca</i>
4182	<i>Ilex spinigera</i>	7649	<i>Vincetoxicum scandens</i>
4390	<i>Lamium album</i>	7659	<i>Viola odorata</i>
4444	<i>Lathyrus vernus</i>		

Asplenium adiantum – nigrum, Athyrium filix–femina, Brachypodium sylvaticum, Calystegia silvestris, Cardamin impatiens, Carex remota, Carex sylvatica, Carpinus betulus, Cephalanthera longifolia, Circaea lutetiana, Clinopodium umbrosum, Dryopteris filix–mass, Fagus orientalis, Fragaria vesca, Geranium robertianum, Hedera pastuchovii, Hypericum androsaemum, Matteuccia struthiopteris, Mentha aquatica, Oplismenus undulatifolius, Paeonia wittmanniana, Phyllitis scolopendrium, Polygonatum orientale, Polysticum aculeatum, Prunus divaricata, Quercus castaneifolia, Rubus hyrcanus, Salvia glutinosa, Scutellaria tourneforti, Sedum stoloniferum, Solanum kieseritzkii, Ulmus glabra, Urtica urens, Vincetoxicum scandens.

II

C.A.H A.F.C

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IIa

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Brachypodium sylvaticum, Clinopodium umbrosum, Crataegus microphylla, Cyclamen caucasicum, Danae racemosa, Epimedium pinnatum, Evonymus latifolia, Geum urbanum, Hedera pastuchovii, Laurocerasus officinalis, Mentha aquatica, Oplismenus undulatifolius, Ruscus hyrcanus.

Ia

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Ilex spinigera, Daphne mezereum, Epimedium pinnatum, Frangula grandifolia, Danae racemosa, Mercurialis perennis, Vicia creaca, Tilia platyphyllos, Ruscus hyrcanus, Diospyrus lotus, Fraxinus excelsior, Cyclamen caucasicum.

Ib

:

Lathyrus vernus, Geranium plathypetalum, Crataegus microphylla, Pteridium aquilinum, Prunella vulgaris, Mespilus germanica, Tammus communis, Sanicula europaea, Rumex sanguineus.

Ic

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:

Acer cappadocicum, Acer velutinum, Alnus subcordata, Asperula odorata,

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Rubus hyrcanus , *Sanicula europaea* ,
Solanum kieseritzkii, *Stachys sylvatica*,
Tammus communis , *Tilia platyphyllos* ,
Ulmus glabra, *Viola odorata*.

IIb

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Partial

IIIa

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:
Acer cappadocicum, *Acer velutinum*,
Alnus subcordata, *Athyrium filix- femina*,
Calystegia silvesteris, *Circaea lutetina*,
Daphne mezereum, *Dryopteris filix-mass*,
Euphorbia amygdaloides, *Geranium*
platypetalum, *Geranium robertianum*,
Hypericum androsaemum, *Lamium album*,
Matteuccia struthiopteris, *Mercurialis*
perennis, *Mespilus germanica*, *Polysticum*
aculeatum, *Prunus divaricata*, *Rubus*
hyrcanus, *Salvia glutinosa*, *Sanicula*
europaea , *Solanum kieseritzkii* , *Stachys*
sylvatica , *Vicia creaca* , *Viola odorata*.

:
Crataegus microphylla, *Epimedium*
pinnatum, *Lathyrus vernus*, *Pteridium*
aquilinum , *Quercus castaneifolia*.

IIc

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IIIb

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:
Alnus subcordata, *Asplenium adiantum*
nigrum, *Athyrium filix - femina*,
Brachypodium sylvaticum, *Calystegia*
silvestris, *Carex sylvatica*, *Carpinus*
betulus, *Cephalanthera longifolia*, *Danae*
racemosa, *Euphorbia amygdaloides*, *Fagus*
orientalis, *Fragaria vesca* , *Geranium*

:
Acer cappadocicum , *Asperula odorata* ,
Athyrium filix - femina , *Cardamine*
impatiens , *Carex sylvatica* , *Carpinus*
betulus , *Cephalanthera longifolia* ,
Circaea lutetiana , *Daphne mezereum* ,
Euphorbia amygdaloides , *Fagus orientalis*
, *Fragaria vesca* , *Hypericum*
androsaemum, *Phyllitis scolopendrium* ,
Polysticum aculeatum , *Prunus divaricata* ,

robertianum, Geum urbanum, Hypericum androsaemum, Lamium album, Mercurialis perennis, Oplismenus undulatifolius, Polypodium vulgare, Prunella vulgaris, Rubus hyrcanus, Rumex sanguineus, Salvia glutinosa, Sambucus ebulus, Scutellaria tournefortii, Tammus communis, Ulmus glabra, Vicia cracca, Vincetoxicum scandens, Viola odorata.

IIIc

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(, Ewald)

Athyrium filix-femina, Cardamine impatiens, Carex remota, Carpinus betulus, Cephalanthera longifolia, Cyclamen caucasicum, Diospyrus lotus, Euphorbia amygdaloides, Fagus orientalis, Fragaria vesca, Fraxinus excelsior, Geranium platypetalum, Hypericum androsaemum, Matteuccia struthiopteris, Oplismenus undulatifolius, Polygonatum orientale, Polystichum aculeatum, Primula heterochroma, Prunus divaricata, Rubus hyrcanus, Salvia glutinosa, Stachys sylvatica, Ulmus glabra, Vicia cracca, Vincetoxicum scandens, Viola odorata.

Rusco – Fagetum orientalis

Ruscus hyrcanus, Daphne mezereum, Hedera pastuchovii, Laurocerasus officinalis, Danae racemosa, Evonymus latifolia, Ilex spinigera, Frangula grandifolia, Symphandra odontosepala.

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Mercurialis perennis, Danae racemosa

Mercurialietosum Perenii

Mercurialis perennis :

IIIc IIIb

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Carpino – Fagetum orientalis

Rusco – Fagetum

:

Pteridium aquilinum, Lathyrus vernus, Sedum stoloniferum, Primula heterochroma, Carex remota, Polygonatum oriental, Paeonia wittmanniana.

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:

Geranium platypetalum, Prunella vulgaris, Epimedium pinnatum .

Epimeditosum pinnatii

Epimedium pinnatum :

(, Kingston)

Querco – Fagea

Querco – Fagea

Quercetea – Pubescentis

(, Kingston)

Fagetalia sylvatica

Rhododendro – Fagetalia orientalis

Carpinetalia orientalis

() Buxo – Staphyllion

Rhododendro – Fagetalia

:

Querco – Fagea

Querco – Fagetea

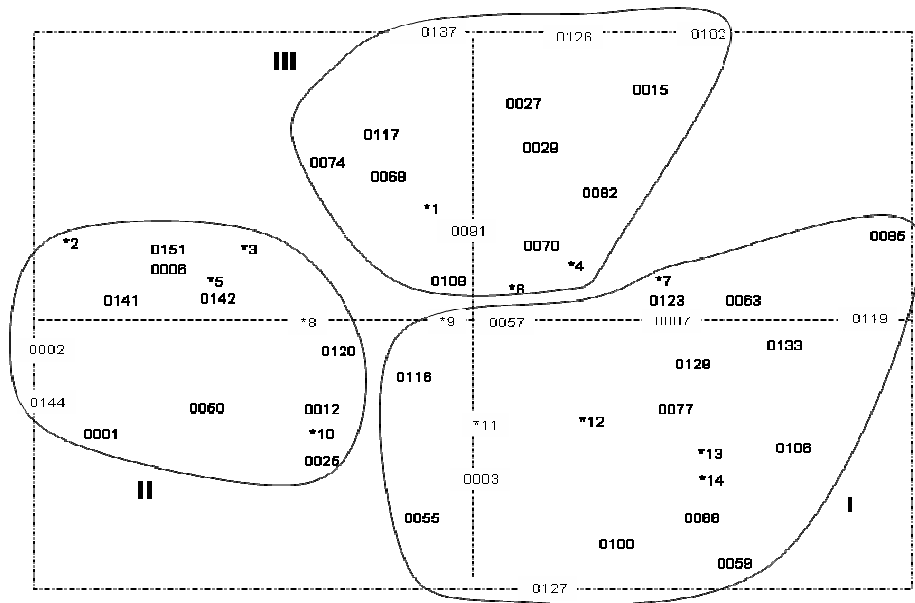
Fagetalia sylvatica

Rhododendro – Fagetalia

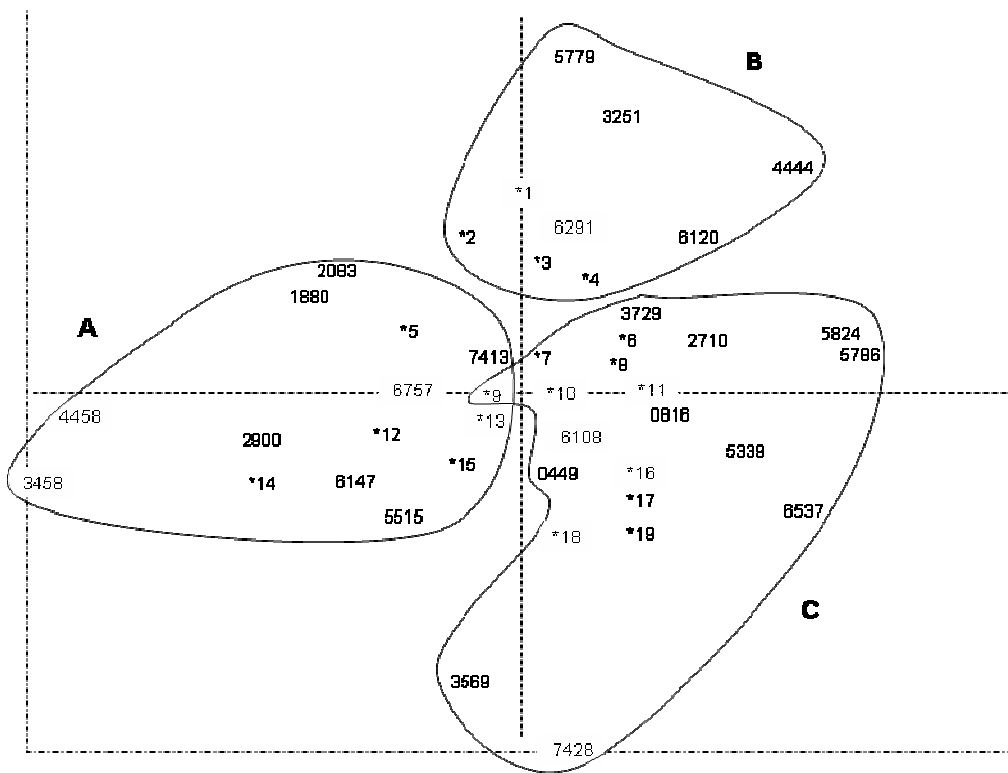
Rubo – Fagion orientalis

Rusco – Fagetum orientalis

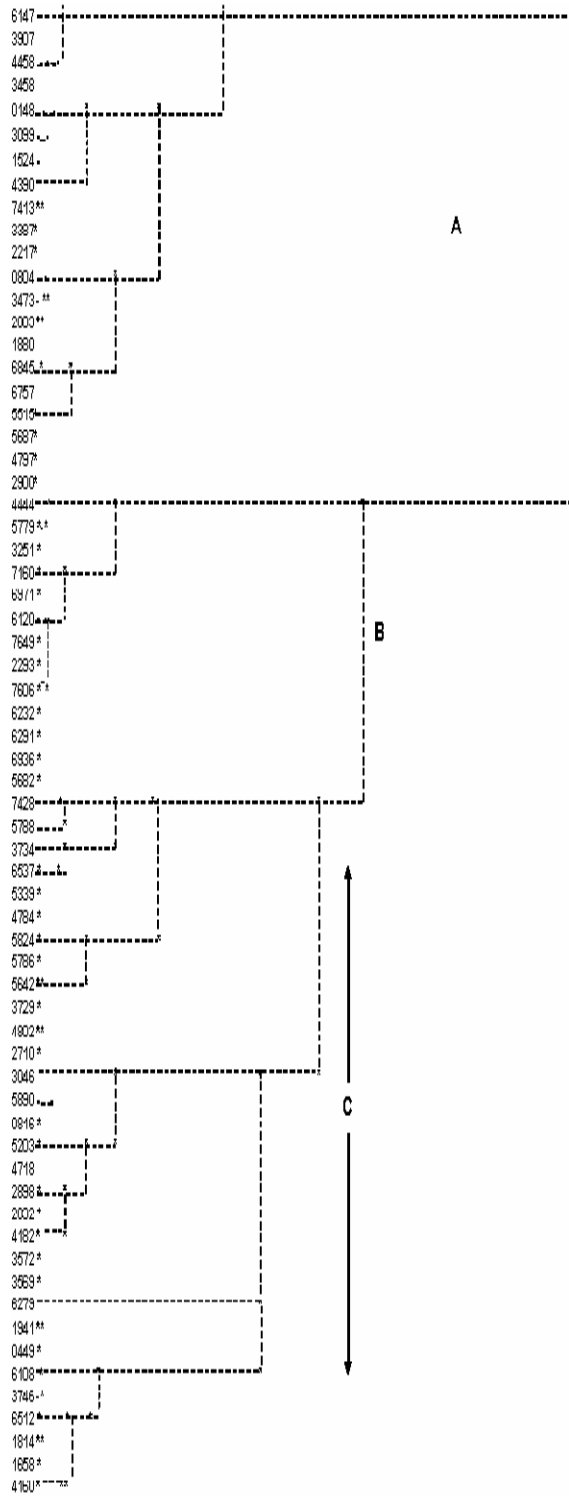
Carpineto – Fagetum orientalis



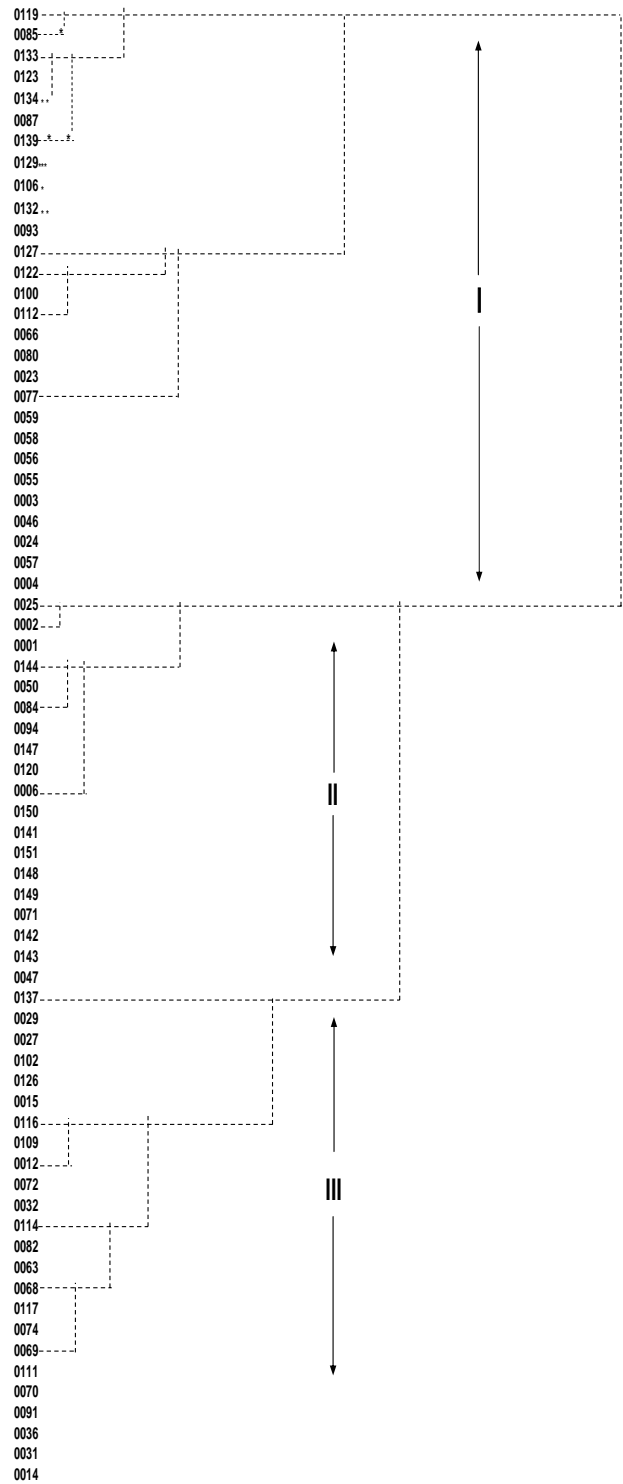
() AFC



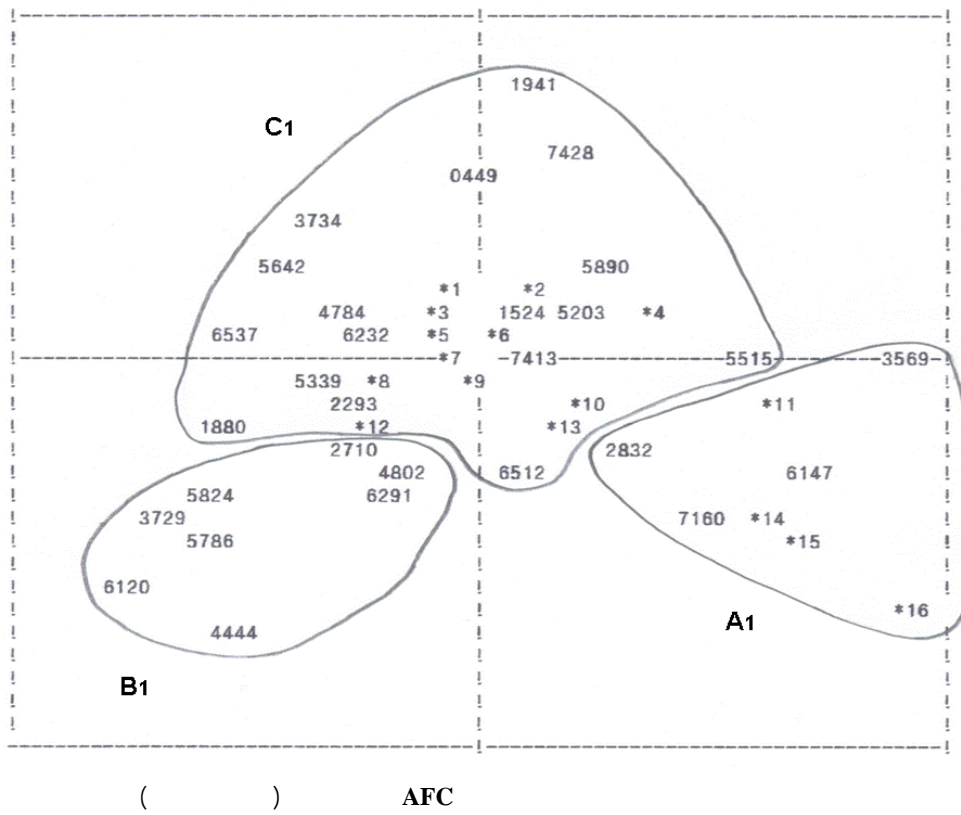
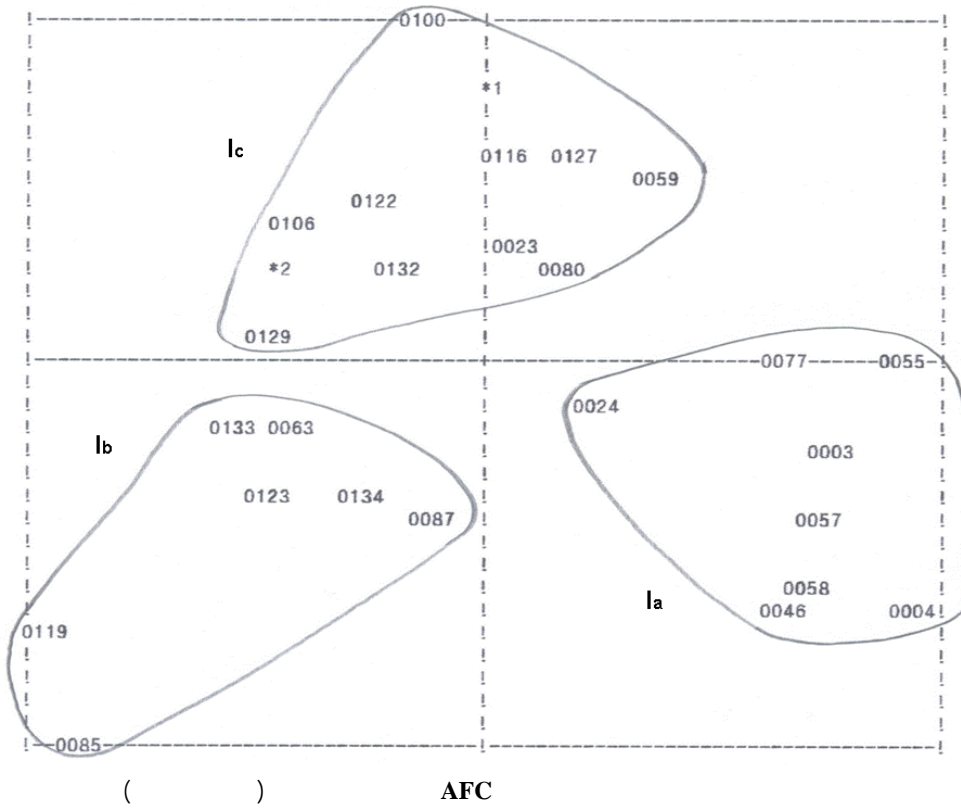
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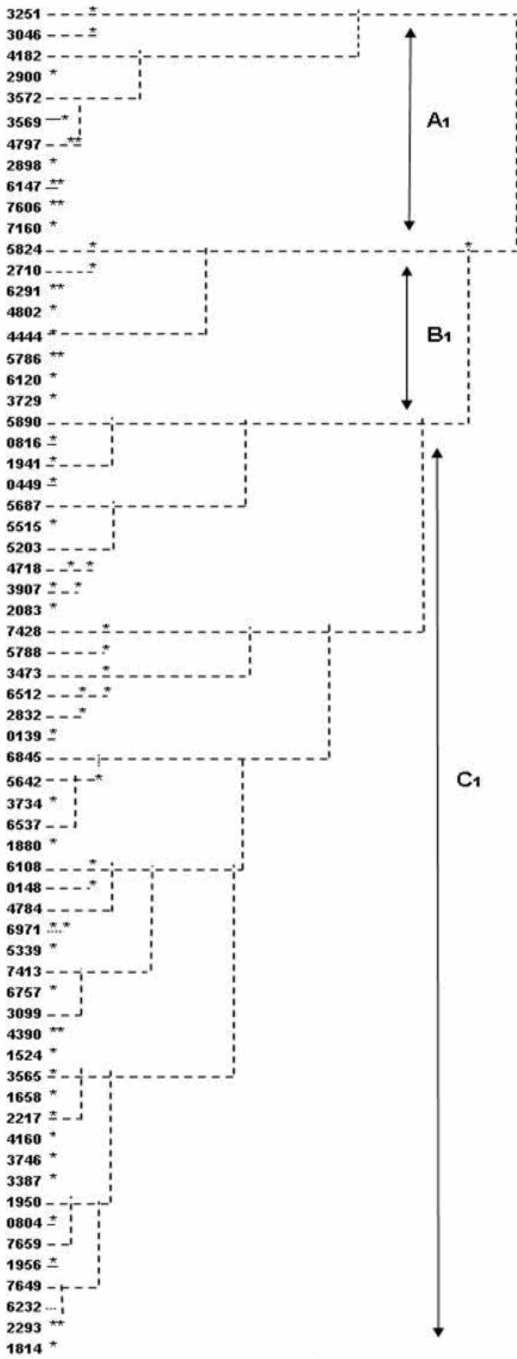


CAH

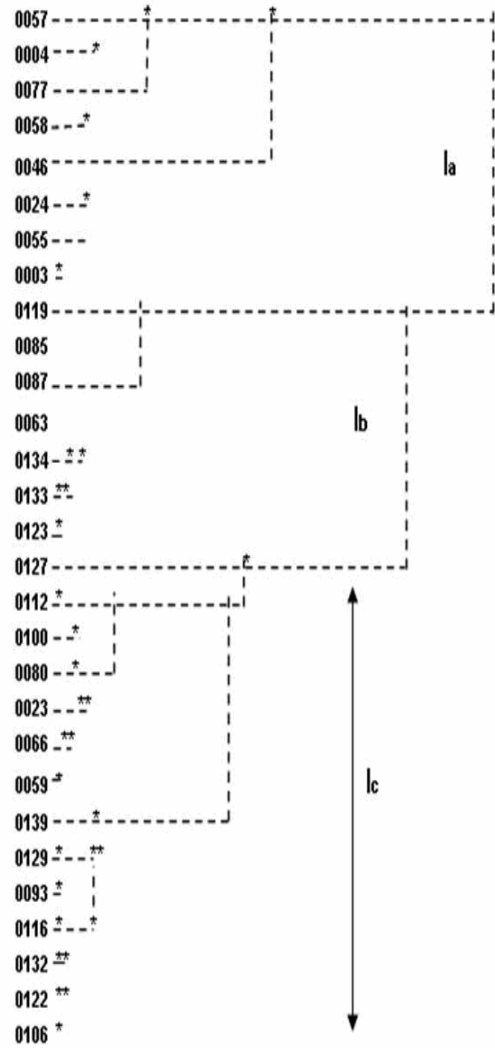


CAH

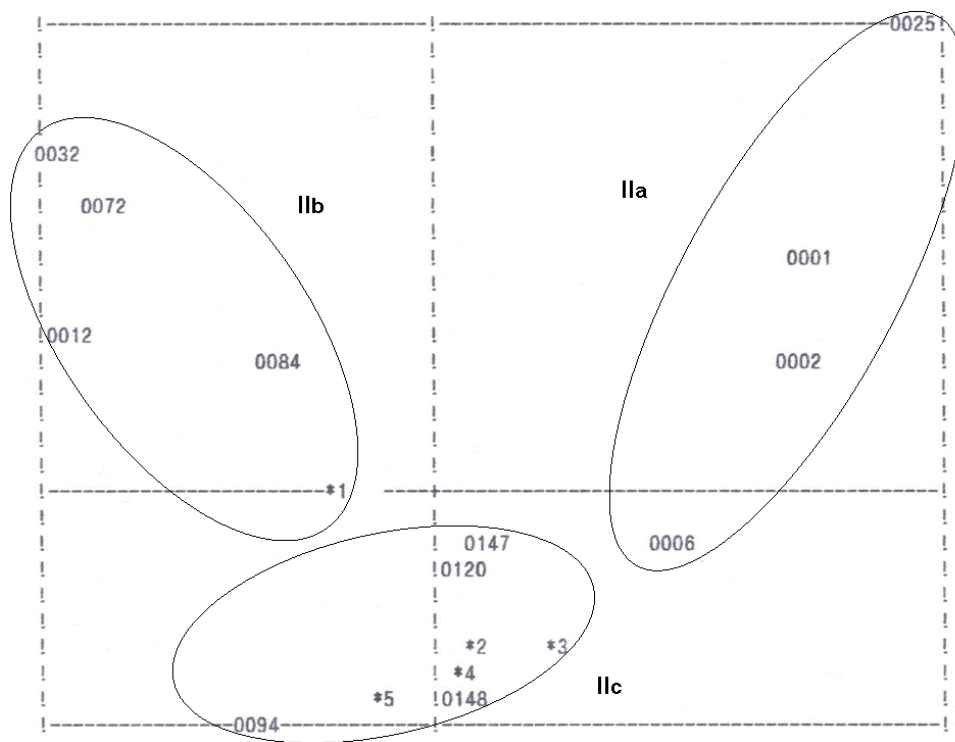




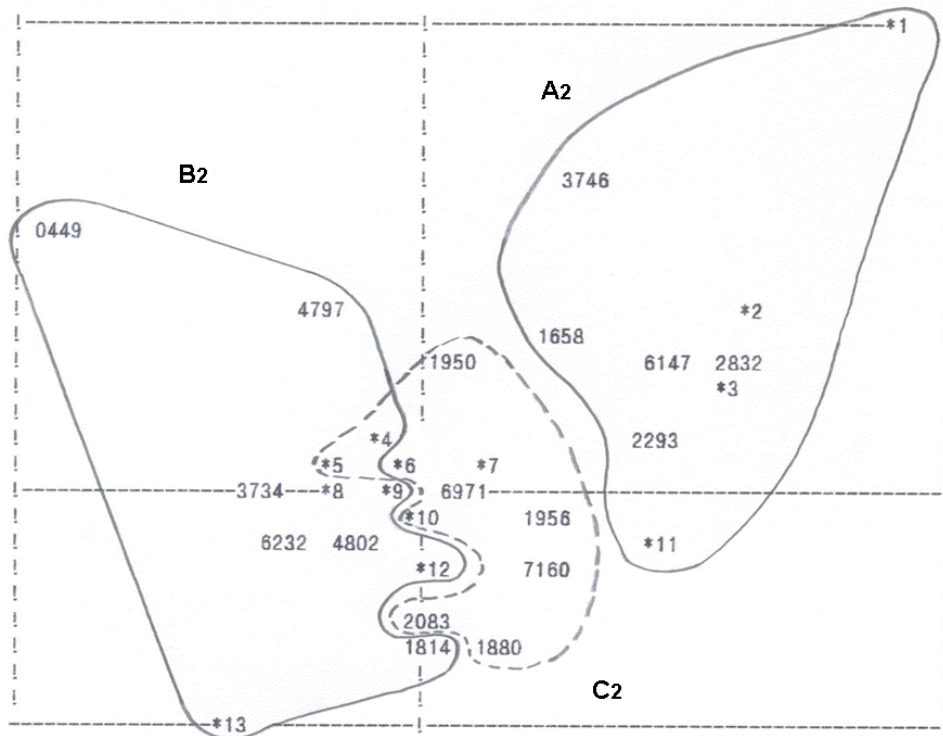
CAH



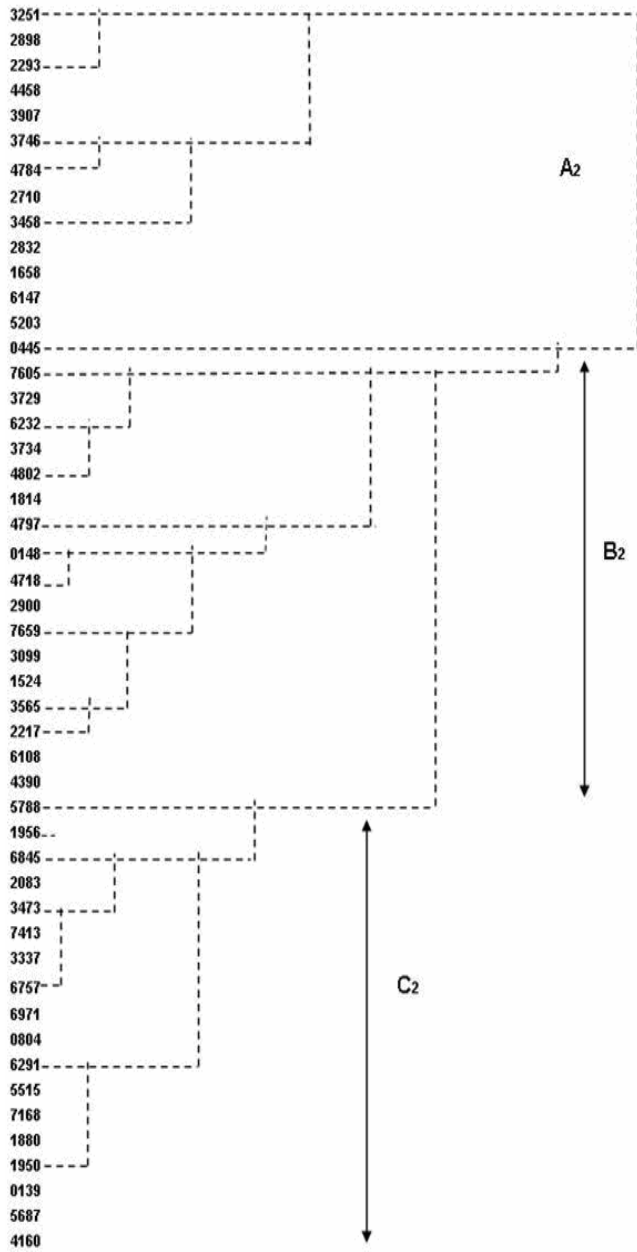
CAH



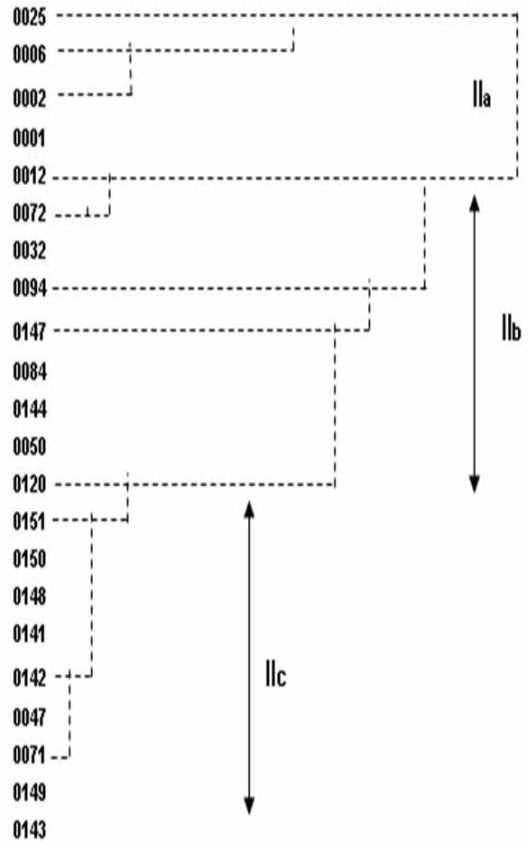
() AFC



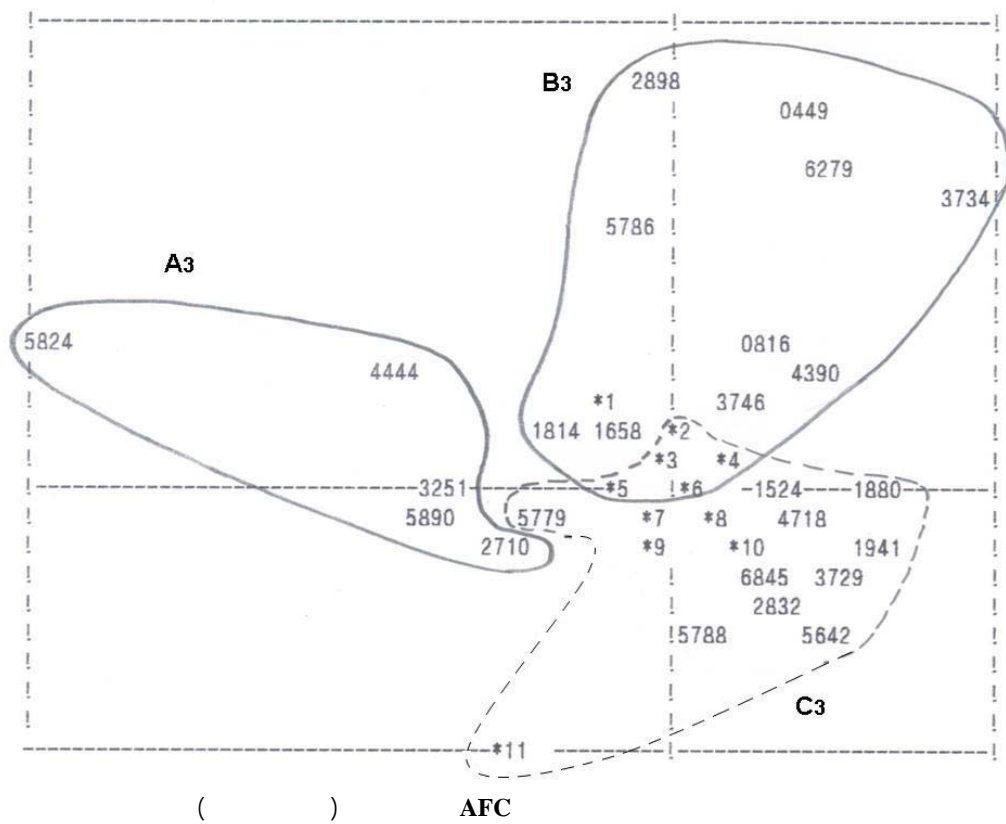
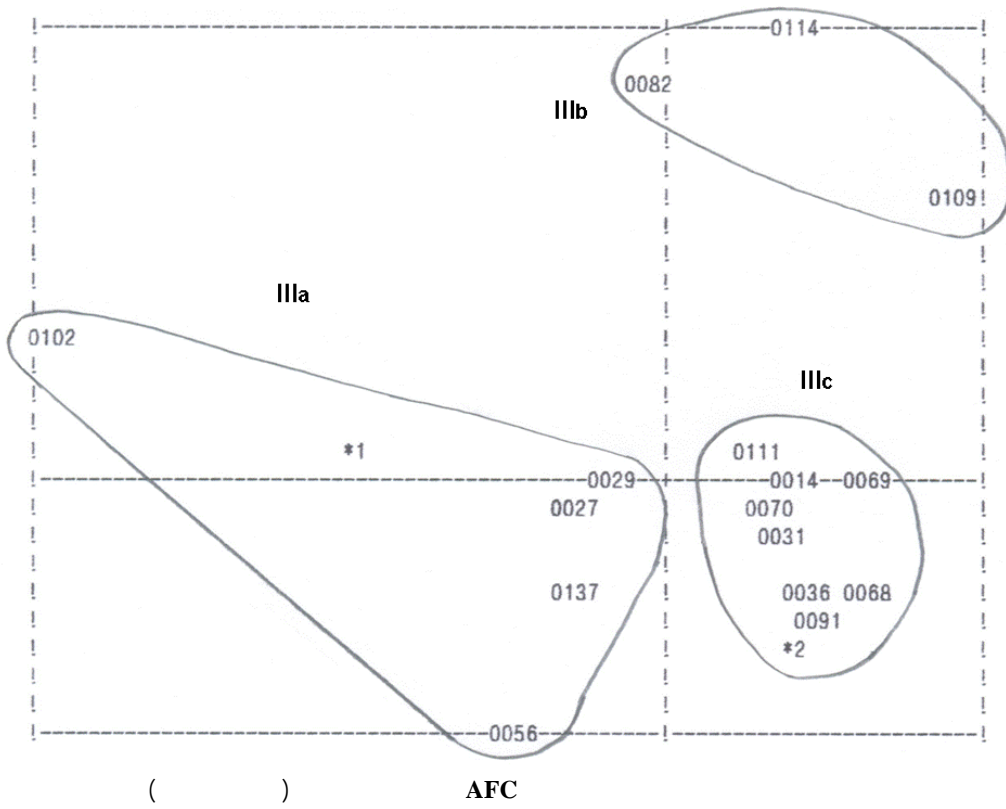
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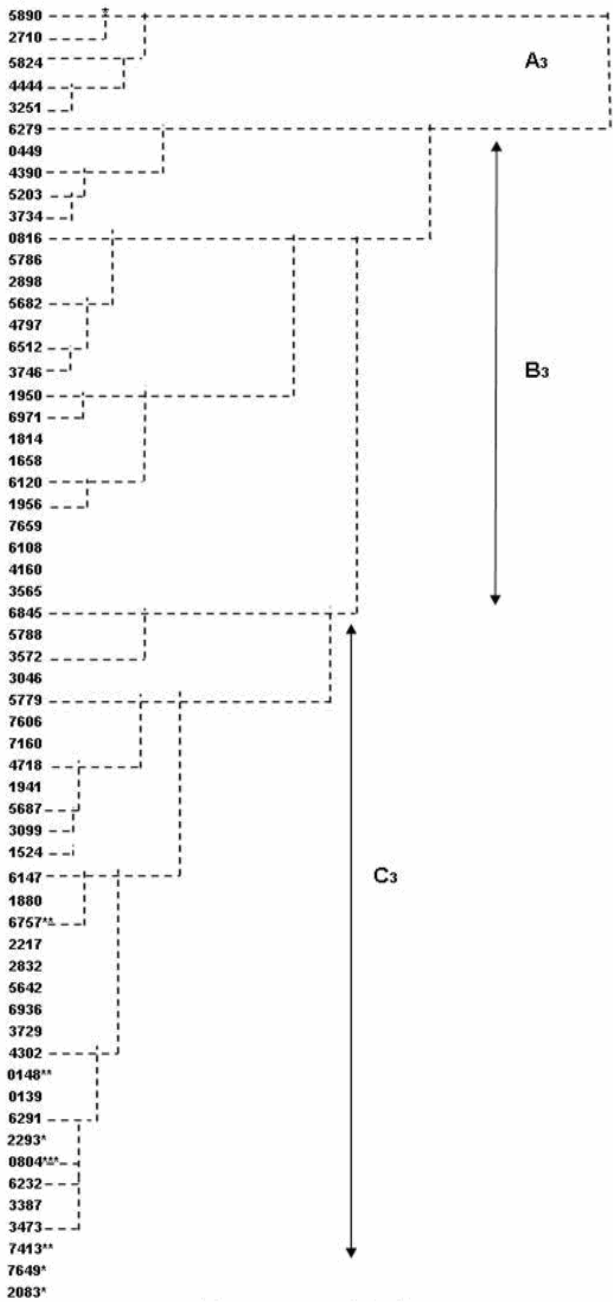


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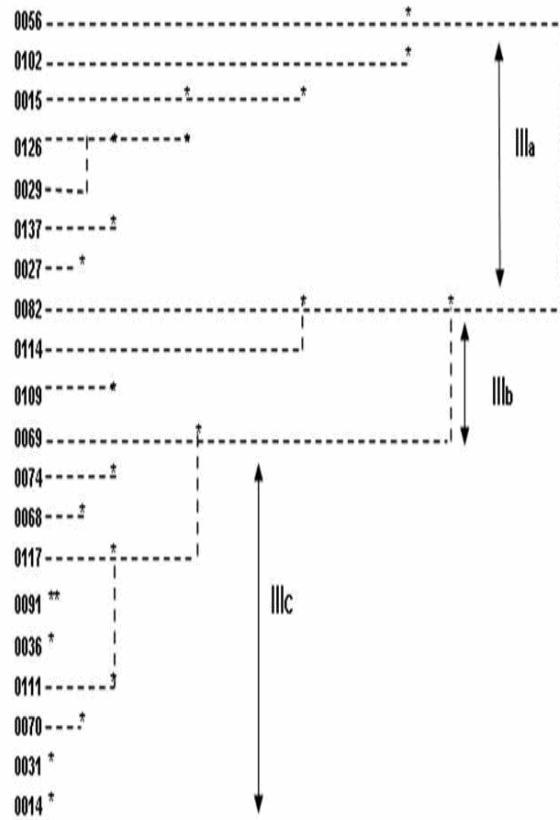


CAH





CAH



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Site classification based on plant associations in natural forests (Case study in Kheiroudkenar forest – Nowshahr)

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(Received 9 September 2003, Accepted 13 February 2006)

Abstract

Understanding laws of growth and development, the interaction between structures and natural factors, and evaluating potentials of ecosystems is the first step in providing a well-founded management to meet economic and social needs and help natural ecosystems to preserve their dynamism. Site classification, with respect to ecologic factors, can act as a criterion to assess the quality of forest ecosystems. This research is aimed at classifying sites based on plant associations, and has been carried out in the educational-research forest of the University of Tehran located in Kheiroudkenar, Noshahr. The Braun-Blanquet method was used to study the plant associations. The data on plant associations were analyzed by the ANAPHYTO software product. The associations existing in the region were determined. The associations were classified according to the species arranged in the phytosociology table. Results of the research show that two plant associations may be recognized in this region, while each includes a subassociation:

1. Rusco-Fagetum and its subassociation Mercurialietosum perenni and its distinguished species....
2. Carpinerto-Fagetum and its subassociation Epimeditosum pinnatii and its species named

Key words: Site classification, Plant associations, Phytosociology, ANAPHYTO