**Appendix I. Phytosociological tables**

Table I. *Mentho pulegii-Cyperetum badii* ass. nova hoc loco

(*Molinio-Arrhenatheretea, Plantaginetalia majoris, Potentillion aserinae*)

**No. of reference 123467**

**Altitude (m.s.m)** 221111

661055

442651

**Area (m2)** 111111

666666

**No. of species** 111238

12010

**Characteristic combination**

*Cyperus badius* 555555

*Mentha pulegium*  1++2+2

*Poa trivialis* 11.21.

*Rumex conglomeratus* ..3311

*Holcus lanatus* 2...2.

*Mentha suaveolens* ...3.1

*Trifolium resupinatum* ...1+.

*Plantago lanceolata* ....+.

**Characteristics of *Juncion acutiflori* and *Molinietalia caeruleae***

*Juncus rugosus* 2..12.

*Lotus pedunculatus* +.....

**Characteristics of *Molinio arundinacea-Holoschoenion vulgaris* and *Brizo minoris-Holoschoenenion vulgaris***

*Scirpoides holoschoenus* ...+2.

*Ranunculus aleae* ...2..

**Characteristics of *Paspalo***

***distichi-Polypogonenion viridis***

*Paspalum paspalodes .*+...3

**Characteristics of *Trifolio fragiferi-Cynodontion*** ***dactyli***

*Cynodon dactylon* ...41.

**Other species**

*Apium nodiflorum* 23+2..

*Eleocharis palustris* 22..22

*Polypogon monspeliensis* .2+12.

*Gaudinia fragilis* ++.+..

*Alisma lanceolatum* ..++..

*Bromus hordeaceus* +...+.

*Lotus hispidus* ..+1..

*Myosotis discolor* +..+..

*Oenanthe crocrata* ..12..

*Polygonum persicaria* ..3..+

*Pulicaria paludosa* ..11..

**Species with one occurrence:** *Azolla filiculoides* 2: 2; *Galium palustre* 2: +; *Lythrum borysthenicum* 2: +; *Lythrum salicaria* 2: +; *Gastridium ventricosum* 4: +; *Juncus bufonius* 4: +; *Trifolium repens* 4: 2; *Schoenoplectus lacustris* 5: 2; *Alisma plantago-aquatica* 5: 1; *Avena barbata* 5: +; *Bolbochoenus glaucus* 5: 1; *Brachypodium phoenicoides* 5: +; *Campanula rapunculus* 5: 1; *Dactylis hispanica* 5: 1; *Daucus maximus* 5: +; *Festuca ampla* 5: +; *Geranium dissectum* 5: +; *Lolium multiflorum* 5: +; *Medicago polymorpha* 5: +; *Myosostis caespitosa* 5: +; *Phalaris minor* +;5: 1; *Torilis purpurea* 5: +; *Trifolium dubium* 5: +; *Trifolium striatum* 5: 1; *Polypogon maritimus* 7: 1.

**Localities:** 1 and 2 - Ponsul River (Idanha-a-Velha); 3 and 4 - Ardila River (Alentejo); 5 - stream near of Castro Verde; 6 - Ocreza River (Castelo Branco).

Table II. *Trifolio resupinati-Menthetum suveolentis* S. Ribeiro, Ladero, Aguiar & Espírito-Santo ass. nova hoc loco

(*Molinio-Arrhenatheretea, Plantaginetalia majoris, Potentillion aserinae*)

**No. of reference 123456789**

**Altitude (m.s.m)** 221012011

028655755

541968098

**Area (m2)** 111111111

666666666

**No. of species** 110111220

409432129

**Characteristic combination**

*Cyperus badius* 11232+122

*Mentha suaveolens* 555445555

*Rumex conglomeratus .*....3+21

*Trifolium resupinatum* ...22.1.1

*Holcus lanatus*  2.....1..

*Lolium perenne* ...1...1.

*Verbena officinalis* .......12

*Crepis capillaris* 1........

*Poa trivialis* 1........

*Prunella vulgaris* .1.......

**Characteristics of *Holoschoenetalia vulgaris* and *Molinio arundinacea-Holoschoenion vulgaris***

*Cyperus eragrostis* +.1..2...

*Ranunculus adscendens*  ......+1.

**Characteristic of *Paspalo distichi-Polypogonenion viridis***

*Paspalum dilatatum ...*2..2..

*Paspalum paspalodes* ..12.....

**Characteristic of *Trifolio fragiferi-Cynodontion dactyli***

*Cynodon dactylon* ....2..3.

**Characteristic of *Agrostion stoloniferae***

*Festuca arundinacea .*.3..2...

**Characteristics of *Juncion acutiflori***

*Lotus pedunculatus* 22......

*Hypericum undulatum* .1......

**Other species**

*Scirpoides holoschoenus* +.2..2.11

*Polypogon monspeliensis* ....2.+12

*Pulicaria paludosa* ....1++..

*Bromus hordeaceus .*.....1+.

*Bromus madritensis .*...+.+..

*Convolvulus arvensis .*......++

*Dittrichia viscosa* +1.......

*Fumaria capreolata* 1....1...

*Gnaphalium uliginosum* .......+2

*Hordeum leporinum* ...+..1..

*Lycopus europaeus* .2.1.....

*Lythrum junceum* ...2..+..

*Matricaria chamomilla .*...+.1+.

*Mentha pulegium* .1..1....

*Phyla filiformis*  ......12.

*Polygonum persicaria* ..+.2....

*Ranunculus muricatus* ....+.+..

*Trifolium campestre* ...1..2+.

*Vulpia geniculata* ...1..1..

**Species with one occurrence:** *Avena barbata* 1: +;*Polypogon maritimus* 1: +; *Centranthus calcitrapae* 1: +; *Chamaemelum mixtum* 1: +; *Galium helodes* 2: 2; *Oenanthe crocrata* 2: 2; *Bidens aurea* 3: 1; *Eleocharis palustris* 3: 2; *Apium repens* 4: 1; *Lythrum salicaria* 4: 1; *Ranunculus paludosus* 4: +; *Apium nodiflorum* 5: 2; *Spergularia purpurea* 5: +; *Carex laevigata* 6: 1; *Hypericum perforatum* 6: +; *Lotus hispidus* 6: +; *Torilis recta* 6*: +; Anagallis arvensis* 7: 1; *Campanula erinus* 7: +; *Daucus crinitus* 7: 1; *Blackstonia perfoliata* 8: 2; *Briza minor* 8: +; *Carlina racemosa* 8: +; *Centaurium pulchellum* 8: 2; *Exaculum pusilum* 8: 2; *Lythrum hyssopifolia* 8: 1; *Phalaris coerulescens* 8: 1.

**Localities**: 1 - Ocreza river (Pereiros, Castelo Branco); 2 and 7 - Tripeiro river (Barbaído and Camões, Castelo Branco); 3 - Ponsul river (Castelo Branco); 4 and 7 - Guadiana river (Pedrógão, Beja); 5 - Ardila river (Amareleja, Barrancos); 8 and 9 - Guadiana river (Juromenha).

Table III. *Mentho suaveolentis-Holcetum lanati* ass. nova hoc loco

(*Molinio-Arrhenatheretea*, *Plantaginetalia majoris*, *Potentillion aserinae*)

**No. of reference 12345678911111**

**01234**

**Altitude (m.s.m)** 22222211128375

68665566664194

40563478800480

**Area (m2)** 22222222222222

40440044440044

**No. of species** 12001122211002

51897584060880

**Characteristic combination**

*Holcus lanatus*   55455535345545

*Mentha suaveolens*  213222+++31112

*Cyperus badius* 1122112221+1+.

*Crepis capillaris* 11.1.11111+1.1

*Rumex conglomeratus* 111121...1.1..

*Hypochaeris radicata* 1........1...1

*Poa trivialis* ......++..+...

*Rumex obtusifolius* ......122.....

*Trifolium resupinatum* ......112.....

*Rumex acetosa* ....11........

*Anthoxanthum odoratum* ..........2...

*Plantago lanceolata* ..........2...

*Prunella vulgaris* .............1

**Characteristics of *Holoschoenetalia vulgaris, Molinio arundinaceae-Holoschoenion vulgaris* and *Brizo minoris-Holoschoenenion vulgaris***

*Scirpoides holoschoenus* ......211.....

*Ranunculus adscendens* ..........1..+

*Cyperus eragrostis* ........+.....

**Characteristic of *Trifolio fragiferi-Cynodontion dactyli***

*Cynodon dactylon* ....22.......+

**Characteristic of *Agrostion stoloniferae***

*Festuca arundinacea* ......111.....

**Characteristics of *Juncion acutiflori***

*Juncus rugosus* ......111.....

*Lotus pedunculatus* ......1.....32

*Carum verticillatum* ............2.

*Hypericum undulatum* ........1....2

**Other species**

*Agrostis castellana* 2211121.21.111

*Bromus hordeaceus* ++....11111...

*Gaudinia fragilis* 121...111..2..

*Chamaemelum mixtum* 1...+111.+....

*Briza minor* 1.+...++.+...+

*Pulicaria paludosa* ....22111.....

*Agrostis pourretii* 1...11...1....

*Avena barbata*  +.....11.1....

*Briza maxima* .1....1.1....+

*Bromus madritensis* .+....+++.....

*Dittrichia viscosa* ...1111.......

*Echium plantagineum* .+.+.....+...+

*Anthoxanthum aristatum* ....11.......+

*Galium palustre*  2.2.....2.....

*Daucus maximus* ......11.....1

*Mentha pulegium* .+....11......

*Equisetum ramosissimum* ......1.1.....

*Geranium dissectum* +........+....

*Hypericum perforatum* .+....1.......

*Juncus bufonius ....*11........

*Polygonum persicaria* .+.2..........

*Tolpis barbata* ......++......

*Vulpia bromoides* ....11........

**Species with one occurrence:** *Aegilops triuncialis* 2: 1; *Andryala integrifolia* 2: +; *Convolvulus arvensis* 2: +; *Galium parisiense* 2: +; *Geranium sanguineum* 2: +; *Secale cereale* 2: +; *Silene gallica* 2: +; *Rumex woodsii* 5: 1; *Senecio jacobaea* 5: 1; *Spergula arvensis* 5: +; *Jasione gracilis* 7: +; *Sanguisorba verrucosa* 7: +; *Brachypodium distachyon* 8: +; *Taeniatherum caput-medusae* 8: 1; *Torilis recta* 8: +; *Vulpia muralis* 8: 1; *Trifolium repens* 9: 1; *Galium erectum* 10: 1; *Lythrum salicaria* 10: +; *Arrhenatherum baeticum*11: 1; *Lotus hispidus* 12: +; *Festuca ampla* 13: 1; *Holcus mollis* 13: 1; *Arrhenatherum elatius* 14: +; *Danthonia decumbens* 14: +; *Digitalis x coutinhoi* 14: +; *Hypericum undulatum* 14: 2; *Vicia nigra* 14: +.

**Localities**: 1, 3, 4, 10 and 12 - near Cafede (Castelo Branco); 2 - near Toulões (Idanha-a-Nova); 5 and 6 - near Escalos (Castelo Branco); 7, 8 and 9 - Ponsul river (alluvial plain margins) near Castelo Branco; 11 - near Vale de Espinho (Guarda); 13 - near Vila Mendo (Guarda); 14 - Near Bigas (Viseu).

Table IV. *Festuco amplae-Brachypodietum phoenicoidis* ass. nova hoc loco

(*Molinio-Arrhenatheretea*, *Holoschoenetalia* *vulgaris*, *Molinio arundinaceae-Holoschoenion vulgaris*, *Brizo minoris-Holoschoenenion vulgaris*)

**No. of reference 123456789111111111122222**

**012345678901234**

**Altitude (m.s.m)** 222122122222222222222202

111524522222224220040280

234155040540125485655570

**Area (m2)** 222222222222222222222222

000400444444444444444400

**No. of species** 011021111211111011102212

600927428324209918792070

**Characteristic combination**

*Brachypodium phoenicoides* 554355335455555555455454

*Festuca ampla* 3224425432223222234235.4

*Scirpoides holoschoenus* .......32222221313322131

*Crepis capillaris* ...2.+2.++..+.+..+1.+...

*Plantago lanceolata* 11.1.+2......+1........1

*Holcus lanatus* .....+++..+...2.2.......

*Prunella vulgaris* .......+......1......+..

*Ranunculus adscendens* .........11..........1..

*Thalictrum speciosissimum* .........2.......1..1...

*Rumex acetosa .....................*1.*.*

*Trifolium resupinatum* .......................1

**Characteristics of *Plantaginetalia majoris***

*Hypochaeris radicata* ....+..........1+.......

*Rumex conglomeratus* ...1..2.................

**Characteristic of *Agrostion stoloniferae***

*Festuca arundinacea*  ................1.......

**Other species**

*Agrostis castellana* ...22121.2122221212.12.2

*Briza maxima* ..1.....+.111...+11.+..1

*Aristolochia paucinervis* ..+.+....2.......11.1+++

*Dactylis lusitanica* ....1..+.2.+.2...2..1+.2

*Dittrichia viscosa* ....+.2+2.+.2..+1.......

*Arrhenatherum album* ..+.1............1+.1+.1

*Bromus hordeaceus* ......+.++.++.+..+......

*Fumaria capreolata* ....+...11.11+.........1

*Mentha suaveolens* ......21..1.1..+......1+

*Dactylis hispanica* .22..............1+.1.1.

*Avena barbata* .....+..+.....+.......+1

*Cynosurus echinatus*  .....+...1....+...+....1

*Andryala integrifolia* ........+..+....+....+..

*Campanula rapunculus* .+1...................+1

*Carduus tenuiflorus* .........+.......11...+.

*Digitalis x coutinhoi* ....+....2.....2.....+..

*Oenanthe crocrata* .2.....+.............+.1

*Tolpis barbata* ......2.+..++...........

*Chamaemelum mixtum* ...2..1........+........

*Clinopodium vulgare* ....+..............2.+..

*Daucus maximus* ..................2.+..1

*Iris pseudacorus* .................++.+...

*Leontodon longirostris* +...+...+...............

*Lepidium heterophyllum* .....+.....+........+...

*Mentha pulegium* ...+..2................1

*Pimpinella villosa* .....+........+....+....

*Pseudoarrhenatherum longifolium* .....+........1....+....

*Sedum forsterianum* .................11.1...

*Sherardia arvensis* .........+....+....+....

*Vulpia bromoides* ........2....+......+...

*Allium sphaerocephalon* ........+............+..

*Anarrhinum bellidifolium* ....+..............+....

*Asphodelus aestivus* .22**....................**.

*Bromus madritensis* .................+....1.

*Cerastium glomeratum* ....+...........+.......

*Coleostephus myconis* +.........+.............

*Cynodon dactylon* ..................1.+...

*Digitalis thapsi* .......+..2.............

*Foeniculum vulgare* ..............1.......2.

*Galactites tomentosa* ...........2..+.........

*Galium mollugo* .........1...........1..

*Geum sylvaticum* ....+................+..

*Hyacinthoides hispanica* ....+................+..

*Holcus annuus* ...........+..+.........

*Malva tournefortiana* ....+....+..............

*Chamaemelum nobile* ....+................1..

*Montia amporitana* .....1........1.........

*Phlomis purpurea* .22.....................

*Romulea bulbocodium* +2......................

*Scilla peruviana* .2+.....................

*Scrophularia scorodonia* .......2..+.............

*Torilis purpurea* .........+............+.

*Torilis recta* .....+.............+....

*Vulpia geniculata* ...+..1.................

**Species with one occurrence:** *Anograma leptophylla* 5: +; *Linum bienne* 5: +; *Origanum virens* 5: +; *Rhagadiolus edulis* 5: +; *Carlina racemosa* 6: +; *Jasione gracilis* 6: +; *Polycarpon tetraphyllum* 6: +; *Silene gallica* 6: +; *Bituminaria bituminosa* 9: +; *Ornithopus compressus* 9: +; *Plantago coronopus* 9: +; *Trifolium angustifolium* 9: +; *Trifolium repens* 9: 1; *Carex laevigata* 10: 1; *Clematis campaniflora* 10: +; *Holcus mollis* 10: +; *Myosotis debilis* 10: 1; *Pteridium aquilinum* 10: 1; *Silene nutans* 11: +; *Petrorhagia nanteuilii* 12: +; *Elaeoselinum gummiferum* 13: +; *Aegilops geniculata* 14: +; *Tuberaria guttata* 14: 1; *Geranium dissectum* 15: +; *Galium aparine* 18: +; *Silene latifolia* 18: 1; *Hypericum perfoliatum* 19: +; *Sanguisorba verrucosa* 19: +; *Allium ampeloprasum* 21: +; *Carex divisa* 21: +; *Molineriella laevis* 21: +; *Muscari commosum* 21: +; *Teesdalia nudicaulis* 21: +; *Lotus pedunculatus* 22: +; *Andryala laxiflora* 23: 1; *Carthamus lanatus* 23: 1; *Cyperus badius* 23: +; *Hedypnois cretica* 23: 1; *Hordeum leporinum* 23: +; *Piptatherum miliaceum* 23: +; *Torilis recta* 24: 1; *Trifolium campestre* 24: 1.

**Localities:** 1 to 3 - Ervidel (Beja); 4, 7 - Ocreza river (Bugios, Vila Velha de Ródão); 5, 10 and 22 - Ocreza river (Poço da Sombra, Castelo Branco); 9, 12, 13 and 14 - Ocreza river (Taberna Seca, Castelo Branco); 6, 15 and 20 - Stream near Sobraínho da Ribeira (Castelo Branco); 8 and 11 - Ocreza river (Padrão, Castelo Branco); 16 - Ocreza river (Camões, Castelo Branco); 17 - Tripeiro river (Serrasqueira, Castelo Branco); 18 and 19 - Ocreza river (Pereiros, Castelo Branco); 23 - Moura (Barrancos); 24 - Monte do Trigo (Évora) .