Bab Berred

|  |
| --- |
| Table A.1 Morphological and cultural characteristics on a modified Melin Norkrans (MMN) medium of fungi isolated from Mediterranean ericaceous shrubs. |
| Characters | Isolates fungi |
| ER2M | ER28M | ER50M | ER37M | ER53M | ER55M |
| Mycelium color White margin (2−3 mm)Colony Appearance Exude dropletsGrowth rate (mm/day)* PDA
* MMN
* MA
 | Smokey-grey to blackDiffusing a light brown pigment in the medium YesDryNo  0.360.490.41 | Waxy colonies wrinkled in the central area, grey to green olive, olivaceous hyphae NoDryNo0.330.390.20 | Smokey-grey Fluffyhyaline hyphae  YesDryNo0.340.460.33 | Light brown to dark brownFluffyDiffusing a dark brown pigment in the medium NoDryYes0.750.500.70 | Olive to blackFluffyAppressed NoDryNo0.850.500.70 | Light creamAppressed NoDryNo0.800.700.73 |

* Potato dextrose agar
* Modified Melin−Norkrans
* Malt agar

Table A.2. Variables and abbreviations (MCA)

|  |  |
| --- | --- |
| Variable | Modalities |
| Region/site | **R1**: Bab Berred, **R2** : Ourika, **R3** : Melloussa, **R4** : Sahel, **R5**: Loge**B**: Bab Berred, **O**: Ourika, **M**: Melloussa, **S**: Sahel, **L:** Loge |
| Ericaceous species | **1**: *Arbutus undeo* L; **2**: *Calluna vulgaris* L; **3**: *Erica arborea* L; **4:** *Erica australis* L*.*; **5** : *Erica scoparia* L; **6** : *Erica multiflora* L; **7** : *Erica embellata;* **8** :*Vacinium corymbosum*; **9:** *Vaccinium mytillus L.,* |
|  |  |
| Fungi orders  | **eu** : Eurotiales ; **he** : Helotiales ; **mo** : Mortierellales; **mu** : Mucorales ; **hy** : Hypocreales ; **pl**: Pleosporales; **ca** : Capnodiales ; **rh** : Rhytismatales ; **un:** unknown. |

Table A. 3. Joint frequency distribution of fungal orders in different study regions

|  |  |
| --- | --- |
| Fungal orders | Region |
| R1 (B) | R2 (O) | R3 (M) | R4 (S) | R5(L) |  Total |
| Capnodiales (Ca) | 3 | 3 | 3 | 3 | 3 | 15 |
| Eurotiales (eu) | 3 | 3 | 27 | 3 | 3 | 39 |
| Helotiales (he) | 12 | 3 | 36 | 18 | 39 | 108 |
| Hypocreales (hy) | 6 | 3 | 6 | 3 | 0 | 18 |
| Mortierellales (mo) | 0 | 0 | 9 | 3 | 3 | 15 |
| Mucorales (mu) | 0 | 3 | 6 | 3 | 0 | 12 |
| Pleosporales (pl) | 0 | 3 | 6 | 0 | 0 | 9 |
| Unknown (un) | 3 | 3 | 3 | 0 | 6 | 15 |
| Rhytismatales (rh) | 0 | 0 | 3 | 0 | 0 | 3 |
| Total | 27 | 21 | 99 | 33 | 54 | 234 |

**B**: Bab Berred,

**O**: Ourika,

M: Melloussa,

**S**: Sahel,

**L**: Loge

Table A.4. Joint frequency distribution of fungal orders in different ericaceous species in different study regions

|  |  |
| --- | --- |
| Ericaceous shrubs  | Region |
|  (B) | (O) | (M) | (S) | (L) | Total |
| *E. australis* L. (4) | 0 | 0 | 15 | 0 | 0 | 15 |
| *E. arborea* L.(3) | 15 | 0 | 9 | 0 | 0 | 24 |
| *E. multiflora* L.(6) | 0 | 0 | 15 | 0 | 0 | 15 |
| *E. embellata* L.(7) | 0 | 0 | 18 | 0 | 0 | 18 |
| *V. corumbosum (8)* | 0 | 0 | 0 | 15 | 0 | 15 |
| *A. unedo* L.(1) | 12 | 21 | 0 | 0 | 0 | 33 |
| *C. vulgaris* L.(2) | 0 | 0 | 42 | 0 | 33 | 75 |
| *E. scoparia* L.*(5)* | 0 | 0 | 0 | 18 | 0 | 18 |
| *V. myrtillus* L.(9) | 0 | 0 | 0 | 0 | 21 | 21 |
| Total | 27 | 21 | 99 | 33 | 54 | 234 |

**B**: Bab Berred,

**O** : Ourika,

M: Melloussa,

**S** : Sahel,

**L**: Loge

Table A. 5. Joint frequency distribution of fungal orders in ericaceous species

|  |  |
| --- | --- |
| Fungal orders | Ericaceous species  |
| **1** | 2 | **3** | **4** | 5 | **6** | **7** | 8 | **9** | **Total** |
| Capnodiales (cp) | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 15 |
| Eurotiales (eu) | 3 | 3 | 6 | 9 | 3 | 9 | 3 | 0 | 3 | 39 |
| Helotiales (he) | 6 | 45 | 9 | 3 | 9 | 3 | 9 | 9 | 15 | 108 |
| Hypocreales (hy) | 6 | 3 | 6 | 0 | 3 | 0 | 0 | 0 | 0 | 18 |
| Mortierellales (mo) | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 0 | 15 |
| Mucorales (mu) | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 0 |  12 |
| Pleosporales (pl) | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Unkown (un) | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 15 |
| Rhytismatales (rh) | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Total | 33 | 75 | 24 | 15 | 18 | 15 | 18 | 15 | 21 | 234 |

**1**: *Arbutus undeo* L; **2**: *Calluna vulgaris* L; **3**: *Erica arborea* L; **4:** *Erica australis* L*;* **5**: *Erica scoparia* L; **6** : *Erica multiflora* L; **7** : *Erica embellata;* **8** :*Vacinium corymbosum*; **9:** *Vaccinium mytillus* L.

Table A. 6. Numerical results from MCA.

|  |  |  |  |
| --- | --- | --- | --- |
| Axis |  Inertia |  Percent |  Cumulative percent |
| 12345678 | 0.35174 0.28713 0.24191 0.10023 0.02926 0.02156 0.00845 0.00000  | 33.81 27.6023.259.632.812.070.810.01 | 33.8161.46.84.6794.3097.1199.19100.00100.00 |