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 droplets  Growth rate (mm/day)   * PDA * MMN * MA | Smokey-grey to black  Diffusing a light brown pigment in the medium  Yes  Dry  No    0.36  0.49  0.41 | Waxy colonies wrinkled in the central area, grey to green olive, olivaceous hyphae  No  Dry  No  0.33  0.39  0.20 | Smokey-grey Fluffy  hyaline hyphae  Yes  Dry  No  0.34  0.46  0.33 | Light brown to dark brown  Fluffy  Diffusing a dark brown pigment in the medium  No  Dry  Yes  0.75  0.50  0.70 | Olive to black  Fluffy  Appressed  No  Dry  No  0.85  0.50  0.70 | Light cream  Appressed  No  Dry  No  0.80  0.70  0.73 |

* 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 |
| 1  2  3  4  5  6  7  8 | 0.35174 0.28713 0.24191 0.10023 0.02926 0.02156 0.00845 0.00000 | 33.81  27.60  23.25  9.63  2.81  2.07  0.81  0.01 | 33.81  61.46.  84.67  94.30  97.11  99.19  100.00  100.00 |