Table.

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| --- | --- | --- | --- | --- | --- |
| Sl. No | Name of the Lichen | Family | Class | Thallus | Class |
| 1 | Ahtiana\_spaerophorella | Parmeliaceae | 15 | Foliose | 1 |
| 2 | Arctoparmelia\_centrifuga | Parmeliaceae | 15 | Foliose | 1 |
| 3 | Arctoparmelia\_incurva | Parmeliaceae | 15 | Foliose | 1 |
| 4 | Baeomyces\_rufus | Baeomycetales | 1 | Fruticose | 2 |
| 5 | Caloplaca\_adnexa | Teloschistaceae | 24 | Crustose | 3 |
| 6 | Caloplaca\_coralloides | Teloschistaceae | 24 | Crustose | 3 |
| 7 | Caloplaca\_saxicola | Teloschistaceae | 24 | Crustose | 3 |
| 8 | Caloplaca\_trachyphylla | Teloschistaceae | 24 | Crustose | 3 |
| 9 | Candelariella\_rosulans | Candelariales | 3 | Crustose | 3 |
| 10 | Cetrelia\_cetrarioides | Parmeliaceae | 15 | Foliose | 1 |
| 11 | Cladonia\_bellidiflora | Cladoniaceae | 4 | Squamulose | 4 |
| 12 | Cladonia\_ecmocyna | Cladoniaceae | 4 | Squamulose | 4 |
| 13 | Cladonia\_kanewski | Cladoniaceae | 4 | Squamulose | 4 |
| 14 | Cladonia\_rangiferina | Cladoniaceae | 4 | Squamulose | 4 |
| 15 | Cladonia\_transcendens | Cladoniaceae | 4 | Squamulose | 4 |
| 16 | Cornicularia\_normoerica | Parmeliaceae | 15 | Fruticose | 2 |
| 17 | Dactylina\_beringica | Parmeliaceae | 15 | Fruticose | 2 |
| 18 | Dactylina\_ramulosa | Parmeliaceae | 15 | Fruticose | 2 |
| 19 | Dimelaena\_oreina | Caliciaceae | 2 | Placoidioid | 5 |
| 20 | Esslingeriana\_idahoensis | Parmeliaceae | 15 | Foliose | 1 |
| 21 | Flavocetraria\_cucullata | Parmeliaceae | 15 | Fruticose | 2 |
| 22 | Flavocetraria\_nivalis | Parmeliaceae | 15 | Fruticose | 2 |
| 23 | Fuscopannaria\_saubinetii | Pannariaceae | 15 | Squamulose | 4 |
| 24 | Hypogymnia\_apinata | Parmeliaceae | 15 | Foliose | 1 |
| 25 | Hypogymnia\_enteromorpha | Parmeliaceae | 15 | Foliose | 1 |
| 26 | Hypogymnia\_imshaugii | Parmeliaceae | 15 | Foliose | 1 |
| 27 | Hypogymnia\_inactiva | Parmeliaceae | 15 | Foliose | 1 |
| 28 | Hypogymnia\_occidentalis | Parmeliaceae | 15 | Foliose | 1 |
| 29 | Hypogymnia\_oceanica | Parmeliaceae | 15 | Foliose | 1 |
| 30 | Hypogymnia\_physodes | Parmeliaceae | 15 | Foliose | 1 |
| 31 | Hypotrachyna\_revoluta | Parmeliaceae | 15 | Foliose | 1 |
| 32 | Hypotrachyna\_riparia | Parmeliaceae | 15 | Foliose | 1 |
| 33 | Hypotrachyna\_sinuosa | Parmeliaceae | 15 | Foliose | 1 |
| 34 | Icmadophila\_ericetorum | Icmadophilaceae | 5 | Crustose | 3 |
| 35 | Lecanora\_argopholis | Lecanorineae | 7 | Placodioid | 5 |
| 36 | Lecanora\_bicincta | Lecanorineae | 7 | Placodioid | 5 |
| 37 | Lecanora\_pacifica | Lecanorineae | 7 | Placodioid | 5 |
| 38 | Lecanora\_pringlei | Lecanorineae | 7 | Placodioid | 5 |
| 39 | Lecanora\_tessellata | Lecanorineae | 7 | Placodioid | 5 |
| 40 | Lecanora\_tessellata | Lecanorineae | 7 | Placodioid | 5 |
| 41 | Lecidea\_auriculata | Lecideaceae | 8 | Crustose | 3 |
| 42 | Lecidea\_syncarpa | Lecideaceae | 8 | Crustose | 3 |
| 43 | Lecidea\_tessellata | Lecideaceae | 8 | Crustose | 3 |
| 44 | Leprocaulon\_microscopicum | Leprocaulaceae | 9 | Fruticose | 2 |
| 45 | Leptogium\_corniculatum | Leprocaulaceae | 9 | Fruticose | 2 |
| 46 | Lobaria\_hallii | Lobariaceae | 10 | Foliose | 1 |
| 47 | Lobaria\_linita | Lobariaceae | 10 | Foliose | 1 |
| 48 | Lobaria\_oregana | Lobariaceae | 10 | Foliose | 1 |
| 49 | Lobaria\_pulmonaria | Lobariaceae | 10 | Foliose | 1 |
| 50 | Lobaria\_scrobiculata | Lobariaceae | 10 | Foliose | 1 |
| 51 | Loxosporopsis\_coralifera | Pertusariaceae | 17 | Crustose | 3 |
| 52 | Masonhalea\_richardsonii | Parmeliaceae | 15 | Foliose | 1 |
| 53 | Melanelia\_hepatizon | Parmeliaceae | 15 | Foliose | 1 |
| 54 | Menegazzia\_terebrata | Parmeliaceae | 15 | Foliose | 1 |
| 55 | Mycoblastus\_sanguinarius | Mycoblastaceae | 11 | Crustose | 3 |
| 56 | Neofuscelia\_verruculifera | Parmeliaceae | 15 | Foliose | 1 |
| 57 | Nephroma\_arcticum | Nephromataceae | 12 | Foliose | 1 |
| 58 | Nephroma\_laevigatum | Nephromataceae | 12 | Foliose | 1 |
| 59 | Nephroma\_resupinatum | Nephromataceae | 12 | Foliose | 1 |
| 60 | Niebla\_cephalota | Ramalinaceae | 20 | Fruticose | 2 |
| 61 | Normandina\_pulchella | Incertae sedis | 6 | Squamulose | 4 |
| 62 | Ochrolechia\_frigida | Lecanorineae | 7 | Crustose | 3 |
| 63 | Ochrolechia\_oregonensis | Lecanorineae | 7 | Crustose | 3 |
| 64 | Ochrolechia\_subpallescens | Lecanorineae | 7 | Crustose | 3 |
| 65 | Ophioparma\_lapponica | Ophioparmaceae | 13 | Crustose | 3 |
| 66 | Parmelia\_hygrophylla | Parmeliaceae | 15 | Foliose | 1 |
| 67 | Parmelia\_saxatilis | Parmeliaceae | 15 | Foliose | 1 |
| 68 | Parmeliopsis\_ambigua | Parmeliaceae | 15 | Foliose | 1 |
| 69 | Parmotrema\_arnoldii | Parmeliaceae | 15 | Foliose | 1 |
| 70 | Parmotrema\_crinitum | Parmeliaceae | 15 | Foliose | 1 |
| 71 | Peltigera\_britannica | Peltigeraceae | 16 | Foliose | 1 |
| 72 | Peltigera\_collina | Peltigeraceae | 16 | Foliose | 1 |
| 73 | Peltigera\_malacea | Peltigeraceae | 16 | Foliose | 1 |
| 74 | Phaeorrhiza\_sareptana | Physciaceae | 18 | Squamulose | 4 |
| 75 | Physcia\_aipolia | Physciaceae | 18 | Foliose | 1 |
| 76 | Physcia\_caesia | Physciaceae | 18 | Foliose | 1 |
| 77 | Physcia\_phaea | Physciaceae | 18 | Foliose | 1 |
| 78 | Physcia\_stellaris | Physciaceae | 18 | Foliose | 1 |
| 79 | Pilophorus\_clavatus | Cladoniaceae | 4 | Crustose | 3 |
| 80 | Pilophorus\_nigricaulis | Cladoniaceae | 4 | Crustose | 3 |
| 81 | Platismatia\_glauca | Parmeliaceae | 15 | Foliose | 1 |
| 82 | Protoparmelia\_badia | Parmeliaceae | 15 | Crustose | 3 |
| 83 | Pseudocyphellaria\_anomola | Lobariaceae | 10 | Foliose | 1 |
| 84 | Pseudocyphellaria\_anthraspis | Lobariaceae | 10 | Foliose | 1 |
| 85 | Pseudocyphellaria\_perpetua | Lobariaceae | 10 | Foliose | 1 |
| 86 | Pseudocyphellaria\_rainierensis | Lobariaceae | 10 | Foliose | 1 |
| 87 | Psora\_cerebriformis | Psoraceae | 19 | Squamulose | 4 |
| 88 | Psora\_nipponica | Psoraceae | 19 | Squamulose | 4 |
| 89 | Psora\_tuckermanii | Psoraceae | 19 | Squamulose | 4 |
| 90 | Psoroma\_hypnorum | Pannariaceae | 14 | Squamulose | 4 |
| 91 | Punctelia\_subrudecta | Parmeliaceae | 15 | Foliose | 1 |
| 92 | Ramalina\_menziesii | Ramalinaceae | 20 | Fruticose | 2 |
| 93 | Ramalina\_subleptocarpa | Ramalinaceae | 20 | Fruticose | 2 |
| 94 | Rhizocarpon | Rhizocarpaceae | 21 | Crustose | 3 |
| 95 | Rhizocarpon\_disporum | Rhizocarpaceae | 21 | Crustose | 3 |
| 96 | Rhizocarpon\_geographicum | Rhizocarpaceae | 21 | Crustose | 3 |
| 97 | Rhizoplaca\_chrysoleuca | Lecanorineae | 7 | Foliose | 1 |
| 98 | Rhizoplaca\_melanophthalma | Lecanorineae | 7 | Foliose | 1 |
| 99 | Rhizoplaca\_peltata | Lecanorineae | 7 | Foliose | 1 |
| 100 | Sphaerophorus\_fragilis | Sphaerophoraceae | 22 | Fruticose | 2 |
| 101 | Sphaerophorus\_globosus | Sphaerophoraceae | 22 | Fruticose | 2 |
| 102 | Squamarina\_lentigera | Stereocaulaceae | 23 | Squamulose | 4 |
| 103 | Stereocaulon\_sterile | Stereocaulaceae | 23 | Fruticose | 2 |
| 104 | Thelomma\_occidentale | Caliciaceae | 2 | Crustose | 3 |
| 105 | Toninia\_ruginosa\_subsp.\_pacifica | Ramalinaceae | 20 | Squamulose | 4 |
| 106 | Umbilicaria\_Krascheninnikovii | Umbilicariaceae | 25 | Foliose | 1 |
| 107 | Umbilicaria\_phaea | Umbilicariaceae | 25 | Foliose | 1 |
| 108 | Umbilicaria\_phaea\_var.\_cocinea | Umbilicariaceae | 25 | Foliose | 1 |
| 109 | Usnea\_hirta | Parmeliaceae | 15 | Fruticose | 2 |
| 110 | Usnea\_sphacelata | Parmeliaceae | 15 | Fruticose | 2 |
| 111 | Usnea\_filipendula | Parmeliaceae | 15 | Fruticose | 2 |
| 112 | Usnea\_longissima | Parmeliaceae | 15 | Fruticose | 2 |
| 113 | Vulpicida\_canadensis | Parmeliaceae | 15 | Foliose | 1 |
| 114 | Vulpicida\_tilesii | Parmeliaceae | 15 | Foliose | 1 |
| 115 | Xanthoparmelia\_chlorochroa | Parmeliaceae | 15 | Foliose | 1 |
| 116 | Xanthoparmelia\_conspersa | Parmeliaceae | 15 | Foliose | 1 |
| 117 | Xanthoparmelia\_cumberlandia | Parmeliaceae | 15 | Foliose | 1 |
| 118 | Xanthoparmelia\_wyomingica | Parmeliaceae | 15 | Foliose | 1 |
| 119 | Xanthoria\_elegans | Teloschistaceae | 24 | Foliose | 1 |

Table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl.No | Eigenvalue | % of variance | PC1 | PC2 | Color component |
| 1 | 6.5792 | 43.86% | 0.15909 | -0.31878 | mR |
| 2 | 4.99184 | 33.28% | -0.28511 | 0.39914 | mC |
| 3 | 4.50452 | 30.03% | 0.21532 | -0.34598 | mG |
| 4 | 4.23508 | 28.23% | 0.33524 | -0.08161 | mH |
| 5 | 3.5166 | 23.44% | 0.06386 | -0.40133 | mY1 |
| 6 | 3.5141 | 23.43% | 0.13082 | -0.29931 | mL |
| 7 | 3.18444 | 21.23% | -0.26797 | 0.38131 | mS |
| 8 | 3.05118 | 20.34% | 0.07934 | -0.35532 | mY |
| 9 | 2.94404 | 19.63% | 0.38502 | 0.1076 | mM |
| 10 | 2.79984 | 18.67% | 0.31488 | -0.06498 | mI |
| 11 | 2.68582 | 17.91% | -0.36105 | 0.0508 | mCb |
| 12 | 2.58902 | 17.26% | 0.05772 | -0.09516 | mA |
| 13 | 2.38232 | 15.88% | -0.07519 | -0.12872 | mV |
| 14 | 2.28036 | 15.20% | -0.06323 | -0.05816 | mQ |
| 15 | 2.15174 | 14.34% | 0.30924 | -0.01216 | mCr |
| 16 | 2.08357 | 13.89% | 0.36277 | 0.06521 | mY2 |
| 17 | 2.05669 | 13.71% | -0.15985 | -0.39789 | vY |
| 18 | 2.04201 | 13.61% | 0.30185 | 0.03269 | mB1 |
| 19 | 2.02908 | 13.53% | 0.34444 | -0.05035 | vH |
| 20 | 1.66742 | 11.12% | -0.16138 | -0.38984 | vY1 |
| 21 | 1.53944 | 10.26% | -0.28373 | 0.43174 | vL |
| 22 | 1.50309 | 10.02% | -0.18704 | -0.06015 | mK |
| 23 | 1.44561 | 9.64% | 0.23723 | -0.25852 | mB |
| 24 | 1.43258 | 9.55% | 0.3659 | 0.03314 | vCb |
| 25 | 1.39142 | 9.28% | 0.32338 | 0.09951 | vA |
| 26 | 1.38934 | 9.26% | 0.44443 | -0.00255 | vI |
| 27 | 1.11394 | 7.43% | 0.25574 | 0.29778 | vR |
| 28 | 1.10857 | 7.39% | 0.31098 | 0.34662 | vB1 |
| 29 | 1.10817 | 7.39% | 0.32021 | 0.15904 | vQ |
| 30 | 1.07528 | 7.17% | -0.20293 | 0.4773 | vC |
| 31 | 1.05383 | 7.03% | 0.29089 | 0.03934 | vCr |
| 32 | 0.91081 | 6.07% | -0.16533 | -0.38816 | stdY1 |
| 33 | 0.87445 | 5.83% | 0.2217 | 0.39291 | vS |
| 34 | 0.86406 | 5.76% | -0.29064 | 0.43053 | stdL |
| 35 | 0.82791 | 5.52% | 0.25691 | 0.31119 | vM |
| 36 | 0.74771 | 4.98% | 0.21802 | 0.27779 | vV |
| 37 | 0.68681 | 4.58% | -0.16364 | -0.39433 | stdY |
| 38 | 0.62859 | 4.19% | 0.29986 | 0.2705 | vY2 |
| 39 | 0.623 | 4.15% | 0.37697 | -0.06602 | stdH |
| 40 | 0.54775 | 3.65% | 0.35383 | 0.13144 | stdA |
| 41 | 0.51216 | 3.41% | 0.45512 | 0.00274 | stdI |
| 42 | 0.49364 | 3.29% | 0.3322 | 0.34655 | stdB1 |
| 43 | 0.45409 | 3.03% | 0.38242 | 0.07303 | stdCb |
| 44 | 0.42746 | 2.85% | -0.08126 | -0.00538 | vK |
| 45 | 0.418 | 2.79% | 0.34634 | 0.14276 | stdQ |
| 46 | 0.39525 | 2.64% | 0.32679 | 0.058 | stdCr |
| 47 | 0.377 | 2.51% | -0.10153 | 0.2852 | skeL |
| 48 | 0.36497 | 2.43% | 0.2223 | 0.40172 | stdS |
| 49 | 0.36457 | 2.43% | 0.30146 | 0.151 | vG |
| 50 | 0.35773 | 2.38% | -0.22391 | -0.11212 | skeA |
| 51 | 0.34163 | 2.28% | -0.06529 | 0.40973 | skeY1 |
| 52 | 0.3222 | 2.15% | 0.21849 | 0.27243 | stdV |
| 53 | 0.30046 | 2.00% | -0.06831 | 0.35383 | skeY |
| 54 | 0.29443 | 1.96% | 0.30894 | 0.25737 | vB |
| 55 | 0.24631 | 1.64% | 0.25678 | 0.30027 | stdR |
| 56 | 0.24383 | 1.63% | -0.20834 | 0.20331 | skeI |
| 57 | 0.21836 | 1.46% | 0.21457 | -0.23162 | skeCb |
| 58 | 0.21502 | 1.43% | -0.24706 | 0.45354 | stdC |
| 59 | 0.18849 | 1.26% | 0.31046 | 0.25756 | stdG |
| 60 | 0.13529 | 0.90% | 0.30123 | 0.1452 | stdB |
| 61 | 0.10904 | 0.73% | 0.30183 | 0.28259 | stdM |
| 62 | 0.10106 | 0.67% | -0.21437 | 0.11121 | skeB1 |
| 63 | 0.0903 | 0.60% | -0.41453 | 0.10479 | skeH |
| 64 | 0.08561 | 0.57% | 0.30768 | 0.26924 | stdY2 |
| 65 | 0.07794 | 0.52% | 0.16585 | -0.26131 | skeQ |
| 66 | 0.07001 | 0.47% | -0.23682 | 0.13008 | skeCr |
| 67 | 0.06782 | 0.45% | -0.16319 | 0.35298 | skeR |
| 68 | 0.06732 | 0.45% | 0.1903 | -0.37392 | skeS |
| 69 | 0.06601 | 0.44% | 0.06686 | 0.49056 | kurY1 |
| 70 | 0.05266 | 0.35% | 0.10776 | 0.12419 | skeV |
| 71 | 0.05207 | 0.35% | 0.0639 | 0.43909 | kurY |
| 72 | 0.05144 | 0.34% | -0.08308 | -0.00682 | stdK |
| 73 | 0.04572 | 0.30% | 0.19568 | -0.33551 | kurL |
| 74 | 0.03426 | 0.23% | -0.1989 | 0.35696 | skeG |
| 75 | 0.03202 | 0.21% | -0.28125 | 0.17617 | kurCb |
| 76 | 0.03173 | 0.21% | 0.15782 | -0.1462 | skeC |
| 77 | 0.02369 | 0.16% | -0.23377 | -0.07541 | kurA |
| 78 | 0.02104 | 0.14% | -0.24734 | 0.20567 | skeM |
| 79 | 0.01913 | 0.13% | -0.27027 | 0.20172 | kurI |
| 80 | 0.01374 | 0.09% | -0.34652 | 0.05907 | kurH |
| 81 | 0.01116 | 0.07% | -0.2464 | 0.29465 | skeB |
| 82 | 0.00949 | 0.06% | -0.27118 | -0.08862 | kurR |
| 83 | 0.00893 | 0.06% | 0.07171 | -0.40373 | kurS |
| 84 | 0.00479 | 0.03% | -0.29547 | -0.19128 | kurB |
| 85 | 0.00434 | 0.03% | -0.24575 | 0.04022 | skeY2 |
| 86 | 0.00402 | 0.03% | -0.24164 | 0.19582 | kurQ |
| 87 | 0.00391 | 0.03% | -0.29564 | 0.04514 | kurG |
| 88 | 0.00384 | 0.03% | -0.23465 | 0.10994 | kurCr |
| 89 | 0.0038 | 0.03% | -0.1034 | -0.15694 | kurV |
| 90 | 0.001 | 0.01% | -0.28179 | 0.08849 | kurB |