

INDEX

- Acidic humus, 55, 56
 Acidic soils, 37
 Afforestation, 211
 Alder, 49, 70
 Alder societies in woods, 70
 Alder-willow thickets, 58
 Alkaline soils, 37
 Alluvial fen, 105
 Alluvium, River, 10
 Altitude, Effect of, 174
 Altitudinal limit of aquatic plants, 154,
 156, 159
 grassland, 103, 104
 scrub, 88
 trees, 88, 88
 trees, past and present, 88
 woodland, 44
 wheat cultivation, 205
 Aquatic associations, Marsh and, 144
 Aquatic plants, Altitudinal limits of,
 154, 156, 159
 Arable land, 204
 Ash (see also Willow), 52, 69
 Cultivation of, 67
 Germination of seeds of, 67
 Mountain, 50
 Ash Woods, Absence of oak from, 70
 Damp places in the, 72
 Dry places in the, 72
 of *Fraxinus excelsior*, 65
 Ground vegetation of the, 71
 Herbaceous vegetation of the, 71
 Trees and Shrubs of the, 69
 Aspects of associations, Seasonal, 20
 Associations, Aquatic and Marsh, 144
 Chief, 21
 Closed, 20, 21
 Culture, 199
 Facies of, 20
 Grassland, 103
 Intermediate, 20, 125
 Mixed, 21
 Moorland, 163
 Open, 20
 Passage, 125
 Plant, 19
 Progressive, 20
 Pure, 21
 Retrogressive, 21
 of rocks and screes, 134
 Scrub, 88
 Seasonal aspects of, 20
 Siliceous and calcareous soils, 133
 Siliceous soils, 133, 215
 Stable, 20
 Subordinate, 21
 Succession of, 20, 94
 Transitional, 183, 186
 Unstable, 20
 Woodland, 38
 Atmosphere, Humidity of the, 34
 Temperature of the upper, 28
 Upper, 27
 Bare peat, 191
 Barley, Cultivation of, 205
 Basalt, 9
 Basic soils, 37
 Beech, 49, 68, 70
 Germination of seeds of, 49
 Betula (see Birch)
Betuletum pubescentis, 61
 Bilberry, 52
 Bilberry moors, 166, 182
 Birch, Common, 48, 70
 Birch and Oak woods, 60
 Birch forest, Primitive, 63
 Birch societies in oak woods, 49
 Birch, White, 49, 70
 Birch woods of *Betula pubescens*, 59
 Birch woods, Ground vegetation of, 62
 Scots pine in the ancient, 48, 64
 Birdcherry, 51
 Blackberry, 51
 Blackthorn, 51
 Bleaklow Hill, 104, 193
 Bog moss (Sphagnum), 166, 184
 Bogs (see Moors)
 Bog xerophytes, 145, 174
 Boulder clay, 9
 Bracken, Requirements of, 108
 Bramble, 51
 Brier, 51
 British moors, 166, 220
 British plant formations and associa-
 tions, Summary of, 218

- British woodlands, 39
 Broom, 51
 Bryophytes of Calcareous waters, 157
 limestone rocks, 135
 moors, 172
 non-calcareous waters, 157
 sandstone rocks, 141
 streams, 157
 woods, 86, 87
 Buried timber in the peat, 90
 Calcareous grassland, 105, 116
 grassland, Mixed, 121
 heath, 122
 heath, Pseudo-, 126
 soils, 8, 12, 14
 waters, 150
 Calcarion, 214
 Calluna (see heather)
 Callunetum vulgaris, 176
 Carboniferous (or Mountain) Limestone, 8, 12, 66
 Changes in the moorland habitat, 175
 Chasmochomophytes, 143
 Chemical nature of the soil, 43
 Cherry, 51
 Chert, 9, 10, 12
 Chestnut, 59
 Chief associations, 21
 Chomophytes, 143
 Classification of grassland associations, 104
 moorland associations, 166
 scrub associations, 99
 woodland associations, 40
 Cliffs, Limestone, 134
 Sandstone, 140, 182
 Climatic formations, 21
 grassland, 89
 scrub, 89
 Closed plant associations, 20, 21
 Clover, Cultivation of, 205
 Coal measures, 7
 Communities, Plant, 17, 19
 Comparison of woodland species, 74, 79
 Complimentary society, 73
 Conifers, 47, 69
 Construction of Vegetation Maps, 18
 Cotton-grass moors, 166, 167, 183
 Species of, 186
 Cowberry, 52
 Crabapple, 50
 Cultivated land, 199
 Nature of, 199
 Origin of, 199
 Cultivation of Clover, 205
 Oats, 205
 Rye, 205
 Wheat, 206
 Culture associations, 199
 Damp places in the ash woods, 72
 oak woods, 54
 Degeneration of scrub to grassland, 94
 woodland, 91, 94
 Deposits, Glacial, 9
 Depth of soil, 43, 173
 Derelict plantations, 210
 Description of the Peak District,
 General, 1
 Dewberry, 51
 Direction of the wind, 30
 Distribution of aquatic and marsh
 associations, 144
 grassland, 103
 moorland, 163
 scrub, 93
 woodland, 38
 Dry places in ash woods, 72
 oak woods, 55
 Dysgeogynous soils, 73
 Ecological Factors, 24, 41, 53, 58,
 137, 140, 173
 and Phytogeographical Nomen-
 clature, 19, 61, 95
 Edge, Bilberry, 182
 Elder, 52
 Elm, 50, 69
 Germination of seeds of, 50
 Eriophoretum vaginati, 183
 Eriophorum (See Cotton-grass)
 Exochomophytes, 143
 Exposure, Effect of, 174
 Extent of plant formations, 21
 Facies of associations, 20
 grassland, 108
 Nardetum strictae, 108
 Factors, Ecological, 24, 41, 53, 58,
 137, 140, 173
 Federation, Plant, 110
 Fen formation, 168
 grassland, Alluvial or, 105
 peat, 168, 170
 Fens, Moors and, 170
 "Fettwiesen," 121
 Firing of the moors, 178
 "Flachmoor," 168
 Flora and Vegetation, 16
 Floristic maps, Vegetation and, 22
 Forest (see also woods and wood-
 lands), 95
 Fog, 26
 Formations and Associations of the
 Peak District, Summary and
 relations of, 214
 Climatic, 21
 Extent of plant, 21
 Fen, 168
 Life history of plant, 21

- Plant, 19
 Species of the moor, 197
 Fraxinus (see Ash)
 Fresh waters, Plant formation of, 217, 218
 Furze, 51
 Dwarf, 51
- General description of the Peak District, 1
 Geological Strata of the District, 12
 Geology of the Peak District, 5
 Germination of seeds, Difficulties of, 92, 93
 of ash, 67
 of beech, 49
 of elm, 50
 of heather, 179
 Glacial deposits, 9
 Glaciation of the Peak District, 9
 Gorse, 51
 Grassland, Alluvial, 105
 Artificial (see Permanent Pasture)
 Associations of, 103
 Altitudinal limit of, 103, 104
 Calcareous, 105, 116
 Climatic, 89
 Distribution of, 103
 Facies of, 108
 Fen, 105
 Mixed Calcareous, 121
 Mixed Siliceous, 112
 Molinia, 114
 Nardus, 106
 Neutral, 105
 of the Sandstones and Shales, 106
 Siliceous, 104, 105, 106
 Species of the, 127
 Species of the Mixed Siliceous, 112
 Sub-Alpine, 104, 105, 193
 Transitional Calcareous, 122
 Transitional Siliceous, 186
 Types of, 104
 Gravels, River, 13
 Grazing, 105
 Ground Vegetation of ash woods, 71
 birch woods, 62
 oak woods, 53
 woods and its relation to degenerate scrub, 97
 Group of associations, 22
 Grouse, 213
 Guelder rose, 52
- Habitat, 19
 of the moorland, changes in the, 93, 175
 Hawthorn, 50, 69
 Hazel, 48, 70
 Heath, 95, 179
- Heather, 52
 Germination of seeds of, 179
 moor, 166, 176
 moor, Species of, 179, 180, 197
 on limestone, Occurrence of, 122, 125
 Heaths, 219
 Heath, Calcareous, 122
 Heath, Pseudo-calcareous, 126
 Hedgerows, 200
 Herbaceous vegetation of ash woods, 71
 oak woods, 53
 Highest elevations of the Peak District, 1, 2
 "Hochmoor," 168
 Holly, 51
 Honeysuckle, 52
 Humidity of the atmosphere, 34
 Humus, 8
 Acidic, 55, 56
 Mild, 54
- Igneous Rocks, 9
 Influence of Shade, 58
 Injurious effects of Smoke, 26
 Intermediate associations, 20, 125
 Ivy, 52
- Junceta, 148
 Juncetum effusi, 148
 Juncus facies of Siliceous grassland, 108
 swamps, 149
 Juniper, 69
- Larch, 68, 70
 Lianas, 52
 Life history of plant formations, 21
 Limestone, 65
 Carboniferous (or mountain), 8, 12, 66
 cliffs, 134
 Grassland of the, 116
 heath, 122
 Occurrence of heather on, 122, 125
 rocks, Bryophytes, 135
 rocks, 134
 scree, 137
 scrub, 99
 slopes, Semi-natural woods and plantations on the, 68
 Swamps (or marshes) of the, 152
 Ling, 52
 Lithophytes, 142, 143
- Maple, 51
 Maps, Floristic and Vegetation, 22
 Marsh and Aquatic associations, 144
 Marshes of the limestone, 152
 sandstones and shales, 146

- Marshy places in the ash woods, 72
 oak woods, 53
 Meso-pteridetum, 57
 Mild humus, 54
 Millstone grit, 7, 13
 Mineral Salts, 7, 8
 to flora and vegetation, Relation
 of, 161
 Mixed calcareous grassland, 121
 plant associations, 21
 siliceous grassland, 112
 Molinia grassland, 114, 215, 216, 219
 Moliniëtum caeruleae, 114, 215, 216, 219
 Moor formation, Species of the, 197
 Moorland associations, 163
 Classification of, 166
 Moorland, Changes in the habitat of
 the, 93, 175
 plants, Roots of, 174
 Moors and fens, 170
 Bilberry, 166, 182
 British, 166, 220
 Bryophytes of the, 172
 Cotton-grass, 166, 167, 183
 Firing of the, 178
 Heather, 166, 176
 Moss, 183
 Origin of the, 94, 98, 181, 186, 194
 Rainfall of the, 175
 Reservoirs on the, 213
 Retrogressive, 166, 188
 Rhacomitrium, 167
 Scirpus, 167
 Species of the heather, 179, 180, 197
 Sphagnum, 166
 Transitional, 166
 Mountain or Carboniferous limestone,
 8, 12, 66
 Nardetum strictae, 108
 facies of, 108
 Nardus grassland, 106
 Nature of cultivated land, 199
 Neutral grassland, 105
 Nomenclature, Ecological and Phyto-
 geographical, 19, 61
 Non-calcareous or siliceous soils, 8,
 12, 14
 waters, 146
 Oak and birch woods, 60
 Pedunculate, 47
 Sessile-fruited, 47
 Oaks from the Ash woods, Absence
 of, 70
 Oak woods, Damp places in the, 54
 Dry places in the, 55
 Ground vegetation of, 53
 Herbaceous vegetation of, 53
 of *Quercus Robur*, 44
 Quercus sessiliflora, 46, 61, 215
 Transitional, 45
 Trees and shrubs of the, 47
 Variation of Vegetation in, 53
 Oats, Cultivation of, 205
 Open plant associations, 20
 Origin of the cultivated land, 199
 moors, 94, 98, 181, 186, 194
 peat, 8
 scrub, 91, 94, 98
 Oxodion, 167, 216, 217
 Passage associations, 125
 Past and present upper altitudinal
 limit of trees, 88
 Pasture, Permanent, 105, 202
 Peak District, General Description of
 the, 1
 Geology of the, 5
 Peak of Derbyshire, 1, 189
 Derbyshire, Vegetation of the sum-
 mit of the, 189
 Peat and Geological Maps, 12
 Bare, 191
 Buried timber in, 90
 Depth of, 173
 Fen, 168, 170
 moors, 168, 170
 moors, Altitude of, 174
 Origin of, 8
 Pine in the, 47, 89, 91
 Sand and Humus of, 173
 Utilization of the, 213
 Pendleside (or Yoredale) rocks, 7, 13
 Permanent pasture, 105, 202
 Petrophytes, 143
 Phytogeographical nomenclature, Eco-
 logical and, 19, 61, 95
 Pine, 70
 in the ancient birch woods, Scots,
 48, 64
 in the peat, 47, 89, 91
 Plant associations, 19
 communities, 17, 19
 federation, 110
 formations, 19
 extent of, 21
 life history of, 21
 societies, 19
 Plantations, 209
 Derelict, 210
 Poplars, 48, 70
 Primitive birch forest, 63
 Progressive associations, 20
 and retrogressive scrub, 97, 98
 Pseudo-calcareous heaths, 126
 Pure plant associations, 21
 Quercetum roboris, 44, 220
 sessiliflora, 61, 46, 219

- Quercus* (see Oak)
- Rainfall, 24
 of the moors, 175
- Rakes, 12, 119
- Raspberry, 50
- Reclamation of uncultivated land, 201
- Reed swamps, 154
- Refuse heaps of lead mines and gravel mines, 12, 119
- Reservoirs on the moors, 213
- Retrogressive associations, 21
 moors, 166, 188
 scrub, 97, 98
- Rhacomitrium moors, 167
- River alluvium, 10
 gravels, 13
- Rocks and screes, 134, 137
 and soils, 5
 Limestone, 134
 Sandstone, 140
- Rocky Knolls in ash woods, 74
- Roots, 205
 of moorland plants, 174
- Rose, Wild, 51
- Rowan, 50
- Ruderal marsh species, 153
- Rye, Cultivation of, 205
- Salts, Mineral, 7, 8
- Sand and Humus of peat, 173
- Sandstone cliffs, 140, 182
 rocks and screes, 140
- Sandstones and shales, 8, 13
 Grassland of the, 106
 Swamps or marshes of the, 146
 Scrub of the, 99
 Woods of the, 46
- Sandstone rocks, Bryophytes of, 141
- Sandy soils, 9, 13, 44, 45
- Scenery, Types of, 3
- Scirpus moors, 167
- Screes, Limestone, 137
 Rocks and, 134
 Sandstone, 140
- Scrub, Altitudinal limit of, 88
 Associations, 88
 Climatic, 89
 Distribution of, 93
 Edaphic, 97
 in other districts, 96
 Kinetic, 97
 Limestone, 97
 to grassland, Degeneration of, 94
 of sandstone and shales, 99
 Origin of, 91, 94, 98
 Progressive, 97, 98
 Retrogressive, 97, 98
 Static, 97
- Types of, 95, 97
- Seasonal aspects of associations, 20
- Seeds, Difficulties of germination of, 92, 93
 of Ash, Germination of, 67
 beech, Germination of, 49
 elm, Germination of, 50
 heather, Germination of, 179
- Shade on the ground vegetation, Influence of, 58
- Shale, 8, 13
- Shrubs of ash woods, Trees and, 69
 oak woods, Trees and, 47
- Siliceous grassland, 104, 105, 106
 and moorland, Relationships of, 187
- Siliceous soils, 8
 Associations of, 133, 215
 Relationships of the plant formations of, 196
- Silicic, 217
- Sloe, 51
- Smoke, 25
 Injurious effects of, 26
- Society, Complimentary, 73
- Societies, Plant, 19
- Soil, Acidic, 37
 Alkaline, 37
 Basic, 37
 Chemical nature of the, 43
 Depth of the, 43, 173
- Soils and their characteristic plants, 13
 associations of siliceous and calcareous, 133
 and Vegetation, 12, 13
 Dyseogynous, 73
 non-calcareous or siliceous, 8, 12, 14
 of the district, 12
 of the sandstones and shales, 43
 Rocks and, 5
- Species of acidic peaty soils, 14
 alder-willow thickets, 59
 arable land, 207
 ash woods, 79
 bilberry moors, 182, 197
 birch woods, 62
 calcareous soils, 14
 calcareous grassland, 127
 calcareous waters, 157, 160
 cotton grass moor, 186, 197
 Heather moors, 179, 180, 197
 Juncus swamps, 149
 mixed siliceous grassland, 112
 moor formation, 197
 non-calcareous waters, 157, 160
 oak woods of *Quercus sessiliflora*, 79
- Species of permanent pasture, 202, 203
 reed swamps, 155
 scrub on limestone, 99

- scrub on sandstone, 99
 scrub on shale, 99
 siliceous grassland, 127
 siliceous soils, 14
 sub-Alpine grassland, 193
 swamps on limestone, 152
 transitional moors, 187
 transitional moorland and grassland, 181
 Sphagnum (see also Bog Moss), 184
 Moors, 166
 in peat, 184
 Stable plant associations, 20
 Strata of the District, Geological, 12
 Streams, Bryophytes of, 157
 Vegetation of quickly flowing, 155
 Structure of moorland plants, 145, 174
 Sub-alpine grassland, 104, 105, 193
 Sub-associations of plants, 19
 Subformations of plants, 19
 Subordinate plant associations, 21
 Succession, 20, 94, 193
 Succession of forest to scrub, 91, 94
 grassland to heath, 122, 214
 grassland to moorland, 94, 114, 115, 181, 217
 moorland to grassland, 186, 193, 217
 moorland plant associations, 188, 217
 scrub to grassland, 94, 115, 133, 217
 woodland to grassland, 114, 217
 woodland to scrub, 94, 97, 115, 133, 214, 217
 Summary of British plant formations and associations, 218
 Summary and relations of plant communities of the Peak District, 214
 Swamp xerophytes, 145, 174
 Swamps, *Juncus*, 149
 Swamps or marshes of the limestone, 152
 sandstones and shales, 146
 Swamps, Reed, 154
 Sycamore, 51, 68
 Temperature, 26, 28
 Thickets, Alder-willow, 58
 Toadstone, 9
 Transitional associations, 183, 186
 calcareous grassland, 122
 grassland and moorland, 181, 186
 moors, 166, 187
 moorland associations, 183, 187
 siliceous grassland, 186
 woods of *Quercus Robur* and *Q. sessiliflora*, 45
 Trees, altitudinal limit of, 38, 88
 Trees and shrubs of ash woods, 69
 oak woods, 47
 Tufa, 13
 Turnips, 205
 Types of grassland, 104
 scenery, 3
 "Übergangsmoor," 170
 Universal names in phytogeography, 19, 61, 95
 Unstable associations, 20
 Uncultivated land, Reclamation of, 201
 Upper atmosphere, 27
 Utilization of the peat moors, 213
 waste land, 23
 Vacciniëtum myrtilli, 182, 216
 Vaccinium edges, 182
 Myrtilus (see Bilberry)
 ridges, 182
 Value of Vegetation Maps, 22
 Variation of vegetation in oak woods, 53
 Vegetation and soils, 12, 13
 Flora and, 16
 Vegetation maps, 18
 and floristic maps, 22
 Construction of, 18
 Value of, 22
 Vegetation units, 17
 Velocity of the wind, 32
 Vernacular names in plant geography, 95
 Volcanic rocks, 9, 12
 Water in the peat, 173
 Water of the moors, 173
 Waters, Acidic, 37, 39
 Alkaline, 37, 39
 Basic, 37, 39
 Calcareous, 150
 Non-calcareous, 146
 Plant formation of fresh, 217, 218
 Weeds of arable land, 207
 Wheat cultivation, Altitudinal limits of, 205
 Willows, 48, 70
 Wind, Velocity of the, 32
 Woodland associations of Great Britain, 39
 of the Southern Pennines, 40
 Woodland, Altitudinal limit of, 44
 Degeneration of, 91, 94
 Distribution of, 38
 Woodland plants, Comparison of, 74, 79
 Woodland species, 79

INDEX

235

- Woods and plantations on limestone slopes, Semi-natural, 68
 Woods, Ash, 65
 Birch and oak, 49, 60
 Bryophytes of, 86, 87
 Distribution of the, 38
 Ground vegetation of, 53, 62, 71, 97
 Oak (*Quercus Robur*), 47
 Oak (*Quercus sessiliflora*), 47
 on calcareous soils, 40
 on non-calcareous soils, 39
 on very wet soils, 39
 of the Sandstones and Shales, 46
 Xero-Pteridetum, 56, 57
 Yew, 69
 Yoredale or Pendleside rocks, 7, 13
 Zonation of the moorland and grassland associations, 194