



## Enumeration of plant species of few sacred groves of Ratnagiri district, Maharashtra, India

Sadhana H Jha, Sunita V Toro

Department of Botany, Rajaram College, Kolhapur, Maharashtra, India

### Abstract

Sacred groves are considered as virgin or protected ecosystems. Traditionally they are dedicated to specific diety and managed by local communities. Sacred groves are repository of many plant species which may be rare and endemic. They are rich in biodiversity. The species distribution of sacred groves is a result of interactions with various ecological factors. Hence in the present piece of work three selected sacred groves are enumerated for their floristic diversity.

**Keywords:** sacred groves, floristic biodiversity

### Introduction

Since from the starting of human civilization, the traditional Indian communities have been engaged in conservation of biodiversity using traditional norms (Gadgil and Vartak, 1973)<sup>[1]</sup>. One of the best examples of such traditional practices is 'Sacred Grove'. The biodiversity status of sacred groves is very high rated. They are rich in flora and fauna. Most of the rare, threatened and endemic plants are found in these sacred groves.

Sacred groves are the quality source of a variety of medicinal plants, food, fodder, fuel, timber, etc. According to Ray *et al.*, (2014)<sup>[2]</sup> Sacred Groves are considered as an important sources of ecosystem facility including biodiversity conservation.

### Materials and Methods

The selected sacred groves are Khanu (16°58.331'N and 73°30.190'E), Devdhe (16°15'45.32''N and 73°32'38.0''E) and Gavane (16°55'14.2''N and 73°29'04.3''E). Each sacred groves were sampled by using square quadrats of 10m x10m size for trees and shrubs and 1m x1m size of quadrat for herb species. Plant species in each quadrat were measured,

collected and identified. The plant material collected has been preserved and identified by using standard taxonomical tools and using Flora of Bombay Presidency (Cooke, 1905)<sup>[3]</sup>; Yadav and Sardesai; (2002)<sup>[4]</sup> www.Indianbiodiversity.com, etc). The nomenclature of plant species has been done and updated applying ICBN (Greuter *et al*; 2000)<sup>[5]</sup>.

### Results and Discussion

The sacred groves are relatively rich in floristic composition. As considered reference ecosystems, they provide good array of communities not only of plants but also animals, even microbes. Now a days they can be considered as the sites for in situ conservation. Sacred groves may provide a germplasm of rare, endemic as well as threatened plant species. They may serve as good potential sites to study species ecology. It requires an enumeration of plant species growing in sacred groves. Enumeration is helpful in comparing different sacred groves for planning conservation and eco-restoration programs. Therefore, an attempt has been made to enumerate the plant species growing in three different sacred groves of Ratnagiri district of Maharashtra state of India.

**Table 1:** Enumeration of plant species occurring in sacred groves.

| Serial No. | Name of Plant Species                                  | Family        | Sacred Groves |        |        |
|------------|--|---------------|---------------|--------|--------|
|            |  |               | Khanu         | Devdhe | Gavane |
| 1          | <i>Abelmoschus manihot</i> (L.) Med.                   | Malvaceae     |               | Y      |        |
| 2          | <i>Acacia catechu</i> (L.F.)Willd                      | Mimosaceae    | Y             | Y      |        |
| 3          | <i>Acacia concinna</i> (Willd.) DC.                    | Mimosaceae    |               |        | Y      |
| 4          | <i>Acacia pennata</i> (L.) Willd.                      | Fabaceae      |               | Y      |        |
| 5          | <i>Aegle marmelos</i> (L.) Correa.                     | Rutaceae      | Y             |        |        |
| 6          | <i>Aglaia lawii</i> (Wight.)                           | Meliaceae     | Y             |        |        |
| 7          | <i>Albizia procera</i> (Roxb.) Benth.                  | Mimosaceae    |               | Y      |        |
| 8          | <i>Allophylus cobbe</i> (L.) Raeush.                   | Sapindaceae   | Y             |        |        |
| 9          | <i>Alseodaphne semicarpifolia</i> Nees                 | Lauraceae     | Y             | Y      |        |
| 10         | <i>Amorphophallus commutatus</i> (Schott.) Engl.       | Araceae       | Y             | Y      |        |
| 11         | <i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson | Araceae       | Y             |        |        |
| 12         | <i>Anacardium occidentale</i> L.                       | Anacardiaceae | Y             | Y      |        |
| 13         | <i>Anodendron manubriatum</i> Merr.                    | Apocynaceae   | Y             |        |        |
| 14         | <i>Anogeissus latifolia</i> (Roxb. Ex Dc.) Wall.       | Combretaceae  |               | Y      |        |
| 15         | <i>Antiaris toxicaria</i> Lesch.                       | Moraceae      |               | Y      |        |
| 16         | <i>Antidesma bunius</i> (L.) Spreng.                   | Euphorbiaceae | Y             |        |        |
| 17         | <i>Apluda mutica</i> L.                                | Poaceae       | Y             |        |        |

|    |  |                |   |   |   |
|----|--|----------------|---|---|---|
| 18 | <i>Aporosa lindleyana</i> Baill. (Kebella)               | Euphorbiaceae  | Y |   |   |
| 19 | <i>Argyrea involucrata</i> Clarke                        | Convolvulaceae | Y | Y | Y |
| 20 | <i>Arisaema serratum</i> (Thunb.)Schott                  | Araceae        | Y |   |   |
| 21 | <i>Arnicratea grahamii</i> (Wight) Halle                 | Celastraceae   | Y | Y |   |
| 22 | <i>Artocarpus heterophyllus</i> Lam.                     | Moraceae       | Y | Y |   |
| 23 | <i>Asplenium</i> sp.                                     | Aspleniaceae   |   |   | Y |
| 24 | <i>Atalantia racemosa</i> Wight.ex Hook                  | Rutaceae       | Y |   |   |
| 25 | <i>Baliospermum montanum</i> (Willd.) Mull               | Euphorbiaceae  | Y | Y |   |
| 26 | <i>Barleria terminalis</i> Nees                          | Acanthaceae    | Y | Y |   |
| 27 | <i>Bauhinia aureifolia</i> Larse.                        | Fabaceae       | Y | Y |   |
| 28 | <i>Bauhinia racemosa</i> Lam.                            | Fabaceae       |   | Y |   |
| 29 | <i>Begonia crenata</i> Dryand.                           | Begoniaceae    |   |   | Y |
| 30 | <i>Beilschmiedia dalzellii</i> (Meisn.) Kost.            | Lauraceae      |   |   | Y |
| 31 | <i>Biophytum sensitivum</i> (L.) DC.                     | Oxalidaceae    |   | Y |   |
| 32 | <i>Bombax ceiba</i> L.                                   | Bombaceae      | Y |   |   |
| 33 | <i>Bridelia retusa</i> (L.) Juss.                        | Phyllanthaceae | Y | Y | Y |
| 34 | <i>Bridelia scandens</i>                                 | Phyllanthaceae | Y | Y |   |
| 35 | <i>Bridelia squamosa</i> (Lam.) Gehrm.                   | Phyllanthaceae |   | Y |   |
| 36 | <i>Bulbophyllum neilgherrense</i> Wight.                 | Orchidaceae    |   |   | Y |
| 37 | <i>Butea superba</i> Roxb.                               | Fabaceae       | Y |   |   |
| 38 | <i>Butea frondosa</i> Roxb.                              | Fabaceae       | Y |   | Y |
| 39 | <i>Calamus pseudotenuis</i> Becc.                        | Arecaceae      |   | Y |   |
| 40 | <i>Calotropis gigantea</i> (L.) Dryand.                  | Asclepiadaceae | Y |   |   |
| 41 | <i>Calycopteris floibunda</i>                            | Combretaceae   | Y |   |   |
| 42 | <i>Capparis rotundifolia</i> Rottler                     | Capparaceae    |   | Y |   |
| 43 | <i>Carallia brachiata</i> (Lour.) Merr.                  | Rhizophoraceae |   | Y | Y |
| 44 | <i>Caralluma fimbriata</i> Wall.                         | Asclepiadaceae | Y |   | Y |
| 45 | <i>Careya arborea</i> Roxb.                              | Lecythidaceae  | Y | Y | Y |
| 46 | <i>Carissa carandus</i> L.                               | Apocynaceae    |   | Y | Y |
| 47 | <i>Caryota urens</i> L.                                  | Arecaceae      | Y |   | Y |
| 48 | <i>Casearia graveolens</i> Dalzell                       | Flacourtiaceae |   |   | Y |
| 49 | <i>Cassia fistula</i> L.                                 | Caesalpinaceae | Y | Y | Y |
| 50 | <i>Cassia siamea</i> Lamk.                               | Caesalpinaceae | Y |   |   |
| 51 | <i>Cassia tora</i> L.                                    | Caesalpinaceae | Y | Y | Y |
| 52 | <i>Celtis timorensis</i> Span.                           | Ulmaceae       | Y |   |   |
| 53 | <i>Ceropegia oculata</i> Hook.                           | Asclepiadaceae |   |   | Y |
| 54 | <i>Chamaecrista mimosoides</i> (L). Greene               | Caesalpinaceae |   | Y |   |
| 55 | <i>Chrysopogon aciculatus</i>                            | Poaceae        | Y | Y | Y |
| 56 | <i>Cissampelos pareira</i> L.                            | Menispermaceae | Y |   |   |
| 57 | <i>Clematis hedysarifolia</i> DC.                        | Ranunculaceae  | Y |   |   |
| 58 | <i>Clerodendrum serratum</i> (L.) Moon.                  | Verbenaceae    |   | Y |   |
| 59 | <i>Cocculus hirsutus</i> (L.) Diels                      | Menispermaceae |   | Y |   |
| 60 | <i>Colebrookea oppositifolia</i> J.M. Smith              | Lamiaceae      |   | Y |   |
| 61 | <i>Combretum albidum</i> G. Don                          | Combretaceae   |   | Y |   |
| 62 | <i>Commelina benghalensis</i>                            | Commelinaceae  | Y |   |   |
| 63 | <i>Conchidium</i> sp                                     | Orchidaceae    |   |   | Y |
| 64 | <i>Costus speciosus</i> (Koen.) J.E. Smith               | Costaceae      | Y |   |   |
| 65 | <i>Curculigo orchioides</i> Gaertn.                      | Hypoxidaceae   | Y |   | Y |
| 66 | <i>Curcuma inodora</i> Blatt.                            | Zingiberaceae  | Y |   | Y |
| 67 | <i>Curcuma pseudomontana</i> J. Graham                   | Zingiberaceae  | Y |   | Y |
| 68 | <i>Cynodon dactylon</i> (L.) Pers.                       | Poaceae        | Y | Y |   |
| 69 | <i>Cyperus haspan</i> L.                                 | Cyperaceae     | Y | Y |   |
| 70 | <i>Cyperus iria</i> L.                                   | Cyperaceae     | Y | Y |   |
| 71 | <i>Daedalacanthus roseus</i> (Vahl) T. Anders.           | Acanthaceae    | Y | Y |   |
| 72 | <i>Dalbergia horrida</i> (Dennst.) Mabb.                 | Fabaceae       | Y |   |   |
| 73 | <i>Dalbergia volubilis</i> Roxb.                         | Fabaceae       |   | Y |   |
| 74 | <i>Delonix regia</i> (Hook.)Raf.                         | Fabaceae       | Y | Y | Y |
| 75 | <i>Desmodium triflorum</i> (L.)DC.                       | Fabaceae       | Y | Y |   |
| 76 | <i>Dichanthium filiculme</i> (Hook.f.) S.K.Jain & Deshp. | Poaceae        | Y |   |   |
| 77 | <i>Dillenia pentagyna</i> Roxb.                          | Dilleniaceae   | Y |   |   |
| 78 | <i>Dioscorea bulbifera</i> L.                            | Dioscoreaceae  | Y |   | Y |
| 79 | <i>Diospyros candolleana</i> Wright                      | Acanthaceae    | Y |   |   |
| 80 | <i>Diospyros montana</i> Roxb.                           | Ebenaceae      | Y | Y |   |
| 81 | <i>Diploclisia glaucescens</i> (Bl.) Diels               | Menispermaceae |   | Y |   |
| 82 | <i>Entada scandens sensu</i> Hook. F.                    | Fabaceae       | Y | Y |   |
| 83 | <i>Erythrina suberosa</i> Roxb.                          | Myrtaceae      | Y |   | Y |
| 84 | <i>Ficus benghalensis</i> L.                             | Moraceae       | Y | Y |   |
| 85 | <i>Ficus hispida</i>                                     | Moraceae       | Y | Y |   |

|     |  |                 |   |   |   |
|-----|--|-----------------|---|---|---|
| 86  | <i>Ficus racemosa</i> L.                           | Moraceae        | Y | Y |   |
| 87  | <i>Firmiana colorata</i> (Roxb.) R. Br.            | Sterculiaceae   | Y | Y |   |
| 88  | <i>Flacourtia montana</i> J. Graham                | Flacourtiaceae  | Y |   |   |
| 89  | <i>Flemingia strobilifera</i> (L.) W.T.Aiton       | Fabaceae        |   | Y |   |
| 90  | <i>Galinsoga parviflora</i>                        | Asteraceae      | Y |   |   |
| 91  | <i>Garcinia indica</i> Choisy,                     | Clusiaceae      | Y | Y | Y |
| 92  | <i>Garcinia talbotii</i> Raizada                   | Clusiaceae      |   | Y |   |
| 93  | <i>Genianthus laurifolius</i> Roxb.                | Asclepiadaceae  | Y | Y |   |
| 94  | <i>Girardinia diversifolia</i>                     | Urticaceae      |   | Y |   |
| 95  | <i>Gloriosa superba</i> L.                         | Liliaceae       | Y | Y | Y |
| 96  | <i>Gnetum ula</i> Brongn., nom. superfl.           | Gnetaceae       |   |   | Y |
| 97  | <i>Grewia nervosa</i> (Lour.) G.                   | Tiliaceae       | Y |   |   |
| 98  | <i>Grewia tiliifolia</i> Vahl                      | Tiliaceae       | Y | Y |   |
| 99  | <i>Habenaria grandifloriformis</i> Blatt. & McC.   | Orchidaceae     | Y |   |   |
| 100 | <i>Hemidesmus indicus</i> (L.) R.Br.               | Apocynaceae     | Y | Y |   |
| 101 | <i>Holarrhena pubescens</i> Wall. Ex G. Don        | Apocynaceae     | Y | Y | Y |
| 102 | <i>Hologarna grahamii</i> (Wt. Kurz.)              | Anacardiaceae   | Y |   |   |
| 103 | <i>Holoptelea integrifolia</i>                     | Ulmaceae        | Y |   |   |
| 104 | <i>Hoya wightii</i> Hook. f.                       | Asclepiadaceae  |   |   | Y |
| 105 | <i>Hydnocarpus pentandra</i> (Buch. -Ham)          | Flacourtiaceae  | Y |   |   |
| 106 | <i>Hyptis suaveolens</i> (L.) Poit.                | Lamiaceae       |   | Y |   |
| 107 | <i>Indigofera linifolia</i> (L.f.) Retz.           | Fabaceae        |   | Y |   |
| 108 | <i>Impatiens minor</i>                             | Balsaminaceae   | Y | Y |   |
| 109 | <i>Ixora brachiata</i> Roxb.                       | Rubiaceae       | Y | Y |   |
| 110 | <i>Ixora nigricans</i> R.Br. ex R. & S.            | Rubiaceae       |   | Y |   |
| 111 | <i>Justicia adhatoda</i> L.                        | Acanthaceae     | Y | Y |   |
| 112 | <i>Justicia procumbens</i> L.                      | Acanthaceae     | Y |   |   |
| 113 | <i>Kalanchoe pinnata</i>                           | Crassulaceae    | Y |   |   |
| 114 | <i>Knema attenuata</i> (Hook. fil. & Thoms.) Warb. | Myristicaceae   |   | Y |   |
| 115 | <i>Lagerstroemia parviflora</i> Roxb.              | Lythraceae      | Y | Y |   |
| 116 | <i>Lagerstroemia microcarpa</i> Wight              | Lythraceae      | Y |   |   |
| 117 | <i>Lannea coromandelica</i> (Houtt.) Merr.         | Anacardiaceae   | Y | Y | Y |
| 118 | <i>Lantana camara</i> L.                           | Verbeaceae      | Y | Y | Y |
| 119 | <i>Leea macrophylla</i> Roxb.                      | Leeaceae        | Y | Y | Y |
| 120 | <i>Leea sambucina</i> (L.) Willd.                  | Leeaceae        | Y | Y | Y |
| 121 | <i>Leea setuligera</i> C.B. Clarke                 | Leeaceae        |   | Y |   |
| 122 | <i>Lepidagathis cuspidata</i> Nees                 | Acanthaceae     | Y |   |   |
| 123 | <i>Lepisanthes tetraphylla</i> (Vahl) Radlk.       | Sapindaceae     | Y |   | Y |
| 124 | <i>Leucas aspera</i> (Willd.) Link.                | Lamiaceae       | Y | Y |   |
| 125 | <i>Loeseneriella ovata</i> (Lam.) M.R.Almeida      | Celastraceae    | Y |   |   |
| 126 | <i>Macaranga peltata</i> (Roxb.) Muell.            | Euphorbiaceae   | Y | Y |   |
| 127 | <i>Mallotus philippensis</i> (Lam.) Muell.         | Euphorbiaceae   | Y |   |   |
| 128 | <i>Mammea suriga</i> Kosterm.                      | Clusiaceae      | Y |   |   |
| 129 | <i>Mangifera indica</i> L.                         | Ancardiaceae    | Y | Y |   |
| 130 | <i>Melia azedarach</i> L.                          | Meliaceae       |   |   | Y |
| 131 | <i>Memecylon umbellatum</i> Burm.f.                | Melastomataceae | Y | Y | Y |
| 132 | <i>Mesua ferrea</i> L.                             | Clusiaceae      | Y |   |   |
| 133 | <i>Meyna laxiflora</i> Robyns                      | Rubiaceae       | Y |   |   |
| 134 | <i>Micromeria capitellata</i> Benth.               | Lamiaceae       |   | Y |   |
| 135 | <i>Milusa tomentosa</i> (Roxb.) J. Sinclair        | Annonaceae      | Y | Y |   |
| 136 | <i>Mimosa pudica</i> L.                            | Mimosaceae      | Y | Y | Y |
| 137 | <i>Mimusops elengi</i> L.                          | Sapotaceae      | Y |   | Y |
| 138 | <i>Murdannia nudiflora</i> (L.) Brenan             | Commelinaceae   | Y | Y |   |
| 139 | <i>Murraya koenigii</i> (L.) Spreng.               | Rutaceae        |   | Y |   |
| 140 | <i>Nervilia aragoana</i> Gaudich.                  | Orchidaceae     |   |   | Y |
| 141 | <i>Nothopegia castaneifolia</i> (Roth) Ding Hou    | Anacardiaceae   | Y | Y |   |
| 142 | <i>Oberonia brachyphylla</i> Blatt. & Mccann.      | Orchidaceae     |   |   | Y |
| 143 | <i>Oroxylum indicum</i> (L.) Kurz                  | Bignoniaceae    | Y | Y | Y |
| 144 | <i>Pavetta crassicaulis</i> Bremek.                | Rubiaceae       | Y |   |   |
| 145 | <i>Peltophorum pterocarpum</i> (DC.) K. Heyne      | Caesalpinaceae  | Y | Y | Y |
| 146 | <i>Persea macrantha</i> (Nees) Kosterm.            | Lauraceae       | Y |   |   |
| 147 | <i>Plumbago zeylanica</i> L.                       | Plumbaginaceae  | Y | Y | Y |
| 148 | <i>Polyalthia longifolia</i> Benth.                | Annonaceae      |   | Y |   |
| 149 | <i>Pongamia pinnata</i> (L.) Pierve                | Fabaceae        | Y |   |   |
| 150 | <i>Pothos scandens</i> L.                          | Araceae         | Y |   | Y |
| 151 | <i>Pueraria tuberosa</i> (Willd.) DC.              | Fabaceae        |   | Y |   |
| 152 | <i>Randia dumetorum</i> Linn. Sans.                | Rubiaceae       | Y |   |   |
| 153 | <i>Rauwolfia serepentina</i> (L.) Benth.           | Apocynaceae     | Y | Y | Y |

|     |   |                  |   |   |   |
|-----|---|------------------|---|---|---|
| 154 | <i>Remusatia vivipara</i> (Roxb.) Schott                | Araceae          | Y |   | Y |
| 155 | <i>Sageraea laurifolia</i> (J. Graham) Blatt.           | Annonaceae       | Y |   |   |
| 156 | <i>Samanea saman</i> (Jacq.) Merr.                      | Mimosaceae       | Y | Y |   |
| 157 | <i>Sapindus laurifolius</i> Vahl.                       | Sapindaceae      |   | Y |   |
| 158 | <i>Securinega virosa</i> (Roxb. Ex Willd.) Baill.       | Phyllanthaceae   |   | Y |   |
| 159 | <i>Sida rhombifolia</i> L.                              | Malvaceae        | Y |   |   |
| 160 | <i>Smilax zeylanica</i> L.                              | Smilacaceae      | Y | Y |   |
| 161 | <i>Solanum anguivi</i> Lam.                             | Solanaceae       | Y | Y |   |
| 161 | <i>Spondias pinnata</i> (L. f.) Kurz                    | Anacardiaceae    |   | Y |   |
| 162 | <i>Sterculia urens</i> Roxb.                            | Malvaceae        | Y |   |   |
| 163 | <i>Stereospermum colais</i> (Buch.-Ham. ex Dillw.) D.L. | Bignoniaceae     | Y |   |   |
| 164 | <i>Strychnos nux-vomica</i> L.                          | Loganiaceae      |   | Y |   |
| 165 | <i>Symphorema involucreatum</i> Roxb.                   | Symphoremataceae | Y |   |   |
| 166 | <i>Syzygium cumini</i> (L.) Skeels.                     | Myrtaceae        | Y | Y |   |
| 167 | <i>Syzygium caryophyllatum</i> (L.) Alst.               | Myrtaceae        |   |   | Y |
| 168 | <i>Tabernaemontana alternifolia</i> L.                  | Apocynaceae      | Y | Y |   |
| 169 | <i>Tabernaemontana divaricate</i>                       | Apocynaceae      | Y |   |   |
| 170 | <i>Terminalia bellirica</i> (Gaertn.) Roxb.             | Combretaceae     | Y | Y |   |
| 171 | <i>Terminalia chebula</i> Retz.                         | Combretaceae     | Y |   |   |
| 172 | <i>Terminalia paniculata</i> Roth. Nov.                 | Combretaceae     |   | Y |   |
| 173 | <i>Terminalia tomentosa</i> Wight & Arn.                | Combretaceae     | Y |   |   |
| 174 | <i>Tinospora sinensis</i> (Lour.) Merr.                 | Menispermaceae   | Y | Y |   |
| 175 | <i>Trewia polycarpa</i> Benth.                          | Euphorbiaceae    |   |   | Y |
| 176 | <i>Trichosanthes cucumeria</i>                          | Cucurbitaceae    | Y |   |   |
| 177 | <i>Trichosanthes tricuspidata</i> Lour.                 | Cucurbitaceae    | Y |   |   |
| 178 | <i>Urena lobata</i>                                     | Malvaceae        | Y | Y |   |
| 179 | <i>Vitex altissima</i> L.                               | Verbenaceae      | Y | Y |   |
| 180 | <i>Vitex negundo</i> L.                                 | Verbenaceae      | Y |   |   |
| 181 | <i>Wagatea spicata</i> Dalzell.                         | Caesalpinaceae   | Y |   |   |
| 182 | <i>Wattakaka volubilis</i> (L. fil.) Stapf.             | Asclepiadaceae   | Y |   |   |
| 183 | <i>Woodfordia fruticosa</i> (L.) Kurz.                  | Lythraceae       |   | Y |   |
| 184 | <i>Wrightia tinctoria rothii</i> (G. Don) Ngan          | Apocynaceae      |   | Y |   |
| 185 | <i>Xantolis tomentosa</i> (Roxb.) Raf.                  | Sapotaceae       | Y | Y |   |
| 186 | <i>Xylia xylocarpa</i> (Roxb.) Taub.                    | Mimosaceae       | Y | Y |   |
| 187 | <i>Zanthoxylum rhesta</i> (Roxb.) DC.                   | Rutaceae         | Y | Y |   |
| 188 | <i>Zizyphus oenoplia</i> (L.) Miller.                   | Rhamnaceae       | Y |   |   |
| 189 | <i>Zizyphus rugosa</i> Lamk.                            | Rhamnaceae       |   | Y |   |
| 190 | <i>Gnetum ula</i> Brongn., nom. superfl.                | Gnetaceae        |   |   | Y |
| 191 | <i>Adiantum</i> sp.                                     | Adiantaceae      |   |   | Y |
| 192 | <i>Cheilanthes</i> sp                                   | Pteridaceae      |   |   | Y |
| 193 | <i>Drynaria</i> sp                                      | Drynariaceae     |   |   | Y |
| 194 | <i>Dryopteris</i> sp                                    | Dryopteridaceae  | Y | Y | Y |
| 195 | <i>Lygopodium flexuosum</i> (L.) Sw.                    | Lygodiaceae      |   |   | Y |
| 196 | <i>Selaginella</i> sp                                   | Selaginellaceae  | Y |   | Y |

In the present investigation, in total 196 plant species belonging to 167 genera under 70 families are recorded. Among all, dicot plant species contribute highest as 83.65% to all. *Gnetum ula* is recorded as only one gymnosperm. Among the three sacred groves Khanu stands first with 138 plant species while Gavane stands third with 59 plant species in number. In case of some other sacred groves in India including Ratnagiri district number of workers have enumerated the plant species. The number ranges from 80 to 400 (Bhakat, 2009<sup>[6]</sup>; Bhakat *et al.*, 2008<sup>[7]</sup>; Dash and Chauhan, 2002<sup>[8]</sup> and Sukumaran *et al.*, 2008<sup>[9]</sup>). In the light of these reports, the present sacred groves support good number of plant species. Among the species recorded in the present study 22 are endemic to this region. Interestingly, around 97 % plant species have economical importance for different purposes. Among all the families recorded, Fabaceae is dominant with 16 genera.

### Conclusion

The study area which include the sacred groves of Ratnagiri district have a rich floral diversity. Thus studied sacred

groves still playing a significant role in maintaining biodiversity.

Groves are home of RET, medicinal and economically important plants. The number of common species occurring in Khanu and Devdhe are 67, Devdhe and Gavane are 23 and Khanu and Gavane are 31.

Thus the similarity indices is 27.45, 13.93 and 15.74% respectively. It seems that Devdhe and Gavane are more diverse. Development of awareness among the people who are directly or indirectly depending on the groves are the key aspects for conservation of sacred groves and maintaining biodiversity.

### References

1. Gadgil M, Vartak VD. Groves dedicated to the gods. *Illustrated Weekly of India*, 1973;5:19-21.
2. Ray R, Chandran MDS, Ramachandra TV. Biodiversity and Ecological Assessment of Indian Sacred Groves. *J. Forestry Res*, 2014;25(1):21-28.
3. Cooke T. *The Flora of the Presidency of Bombay*. London (B.S.I. Reprint). Calcutta, 1905; Vols I-III:1958.

4. Yadav SR, Sardesai MM. *Flora of Kolhapur District* Shivaji University, Kolhapur, 2002.
5. Greuter W, McNeill J, Barrie FR, Burdet HM, Demoulin V, Filguerias TS *et al.* International Code of Botanical Nomenclature (Saint Louis Code). *Regnum Veg*,2000:138:1-474.
6. Bhakat RK. Chilikigarh Kanak Durga Sacred Grove, West Bengal. *Current Science*,2009:96:185.
7. Bhakat RK, Sen UK, Pandit PK. Role of a sacred grove in conservation of plants. *Indian Forester*,2008:134:866-874.
8. Dash SS, Chauhan AS. Kabi Sacred Grove in Sikkim relevance to conservation. Pp. 713-731. *In*: Das, A.P. (Ed.): Perspectives of Plant Biodiversity. Bishen Singh Mahendra Pal Singh, Dehradun, 2002.
9. Sukumaran S, Jeeva S. A floristic study on miniature sacred forests at Agastheeshwaram, southern peninsular India. *Eur Asia J.Bio Sci*,2008:2:66-72.