

Mapping the Rocky Outcrops of India

Introduction

Rocky outcrops are unique and rugged landscapes that stand out amidst other ecosystems due to their distinct geological formations and ecological significance. They often harbour endemic and highly specialized species, making them critical to conservation efforts. In India, these formations include inselbergs, lateritic plateaus, and other rocky landscapes that are scattered across the subcontinent.

As part of the 2024–25 Ram Hattikudur Advanced Training in Conservation (RHATC), the theme focuses on "Rocky Outcrops and Inselbergs" highlighting their importance as ecological and geological treasures. With a specific focus on the lateritic plateaus of Maharashtra, this year's mentorship emphasizes understanding their biodiversity, threats, and conservation needs. Following a session with Dr. Aparna Watve, we were introduced to the significance of lateritic plateaus in the Konkan region. This inspired us to undertake a mapping exercise to better understand the distribution of rocky outcrops across India.

Mapping the Rocky Outcrops of India

The mapping exercise aimed to document the distribution of rocky outcrops across India and to give us an introduction to the topic in a relaxed way. The study revealed a wide variety of rocky landscapes, each associated with specific geological formations and ecological systems. Moreover, we found that these ecosystems are found to be distributed all over India. However, the presence of rocky Outcrops in western Himalayas is still under debate, so we have excluded this region but included northeastern Himalayas. In the Himalaya, it is still debated about the presence of Rocky outcrops, so we have excluded northern Himalaya from our study.

The mapping exercise not only introduced us to the diversity and distribution of these rocky landscapes but also underscored their ecological importance and the threats they face due to mining, urbanization, and agricultural expansion.

This exercise was instrumental in providing a foundational understanding of rocky outcrops, preparing us for further exploration and detailed studies on the lateritic plateaus of Maharashtra under the RHATC mentorship program.



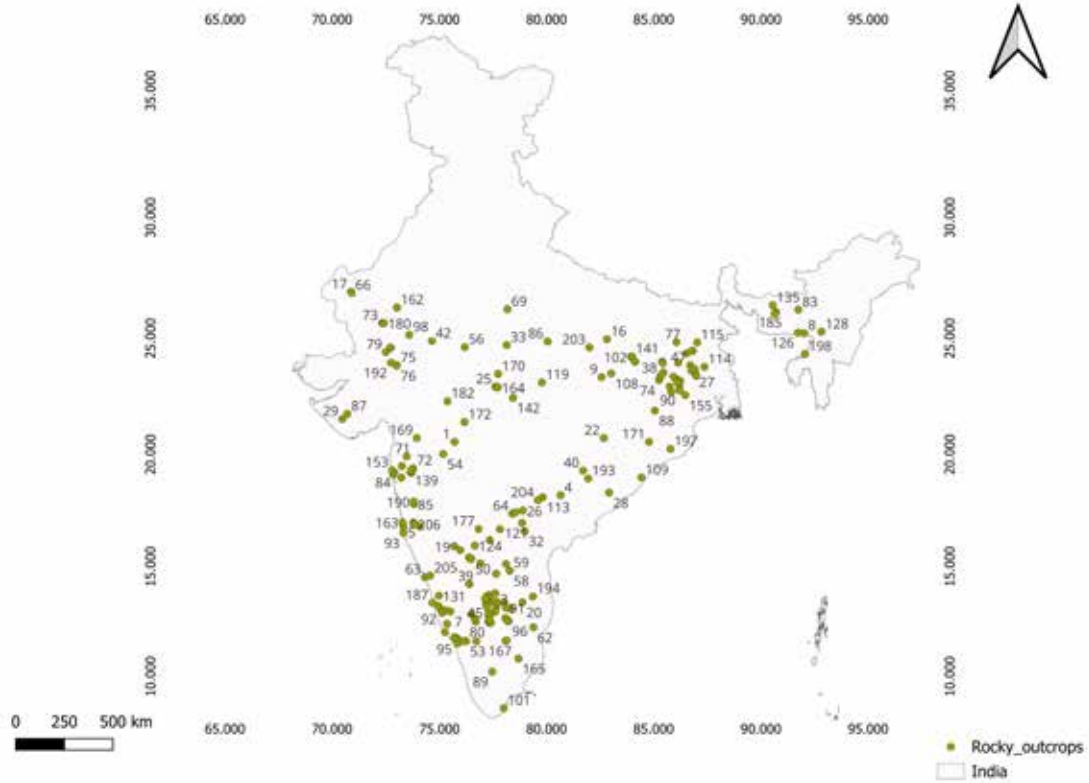


Fig 1. Map showing rocky outcrops of India.

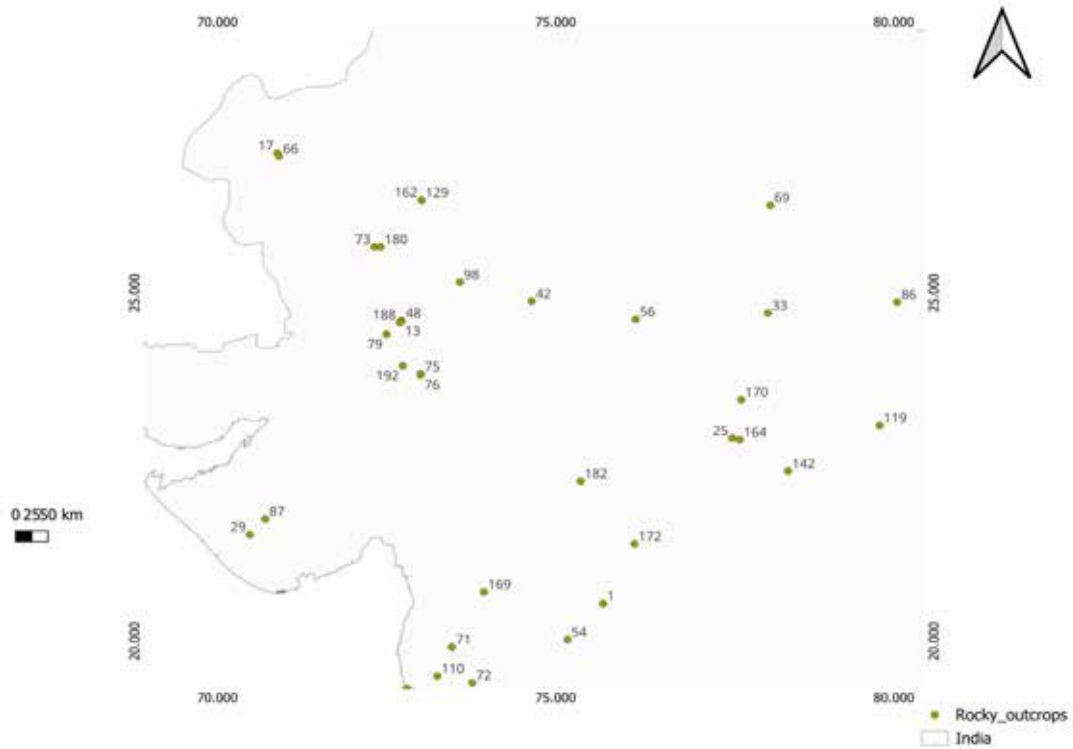


Fig 2. Enlarged map showing rocky outcrops of western and central India.

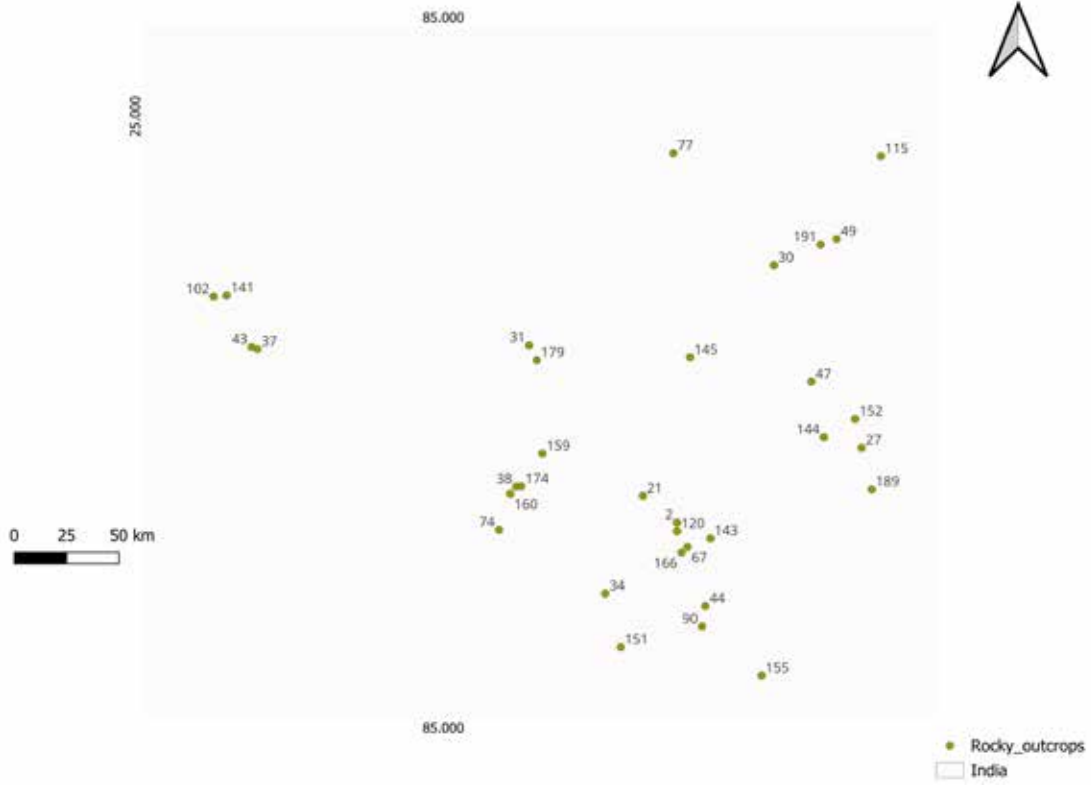


Fig 3. Enlarged map showing rocky outcrops of eastern coastal India.

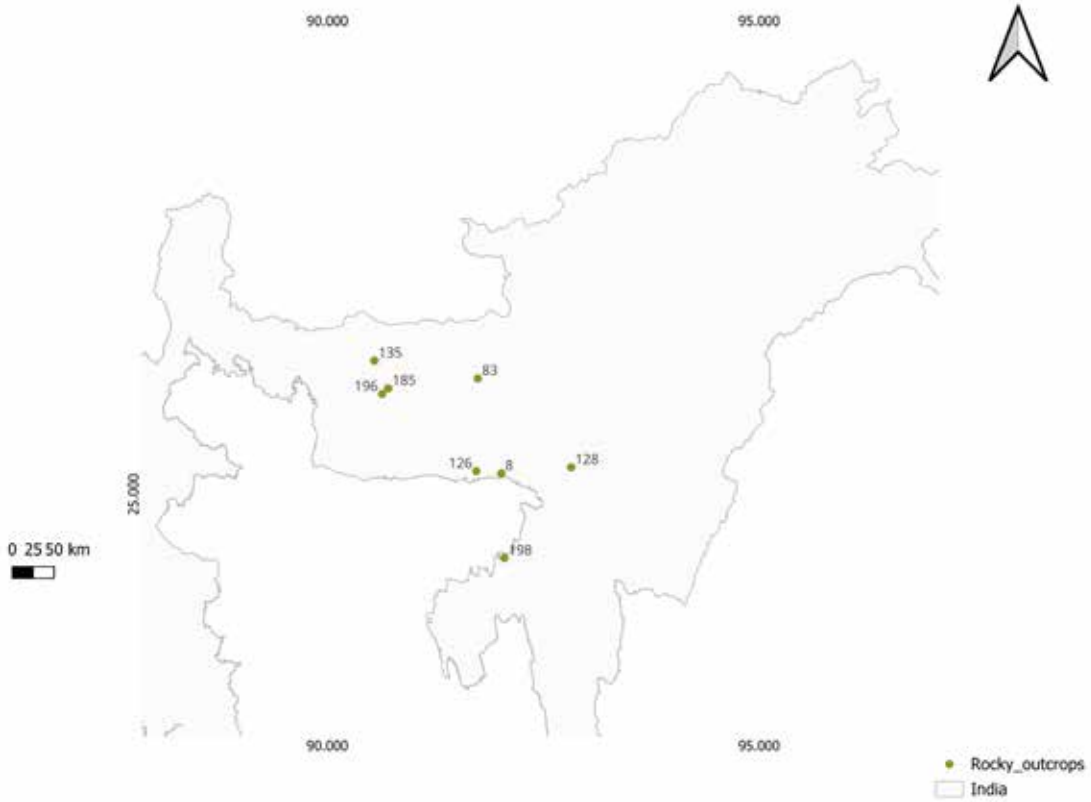


Fig 4. Enlarged map showing rocky outcrops of northeastern India.

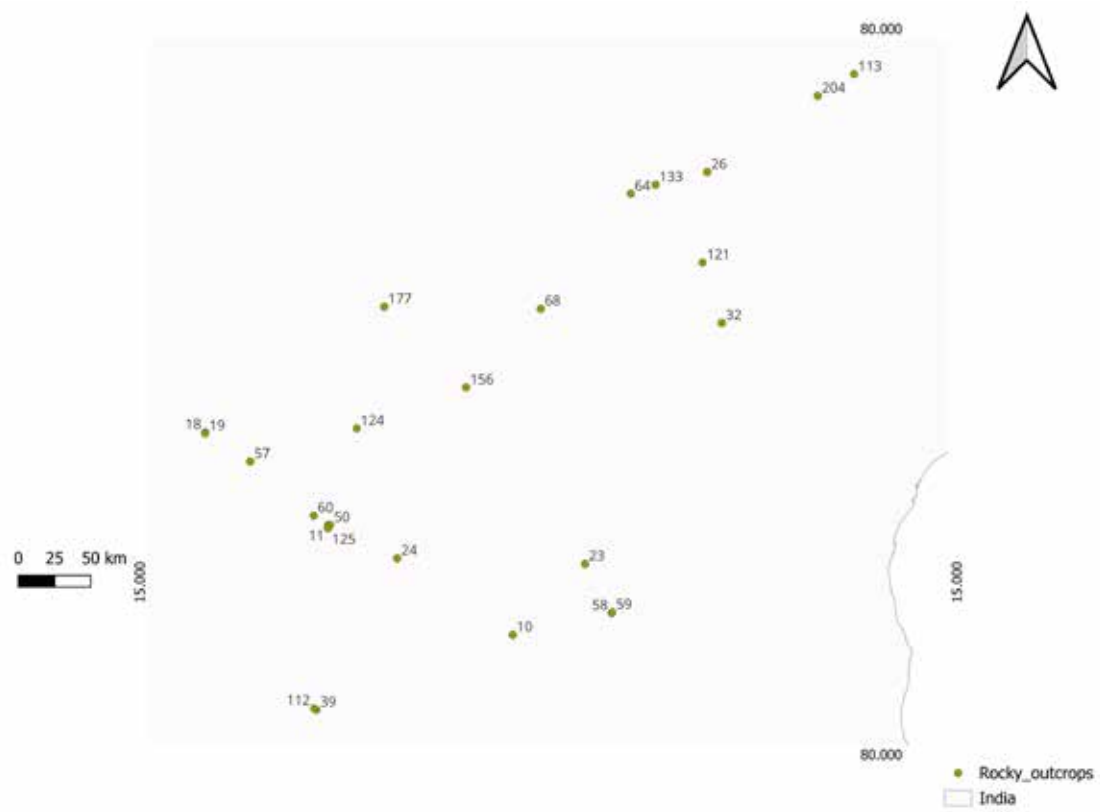


Fig 5. Enlarged map showing rocky outcrops of Southern part of central India.

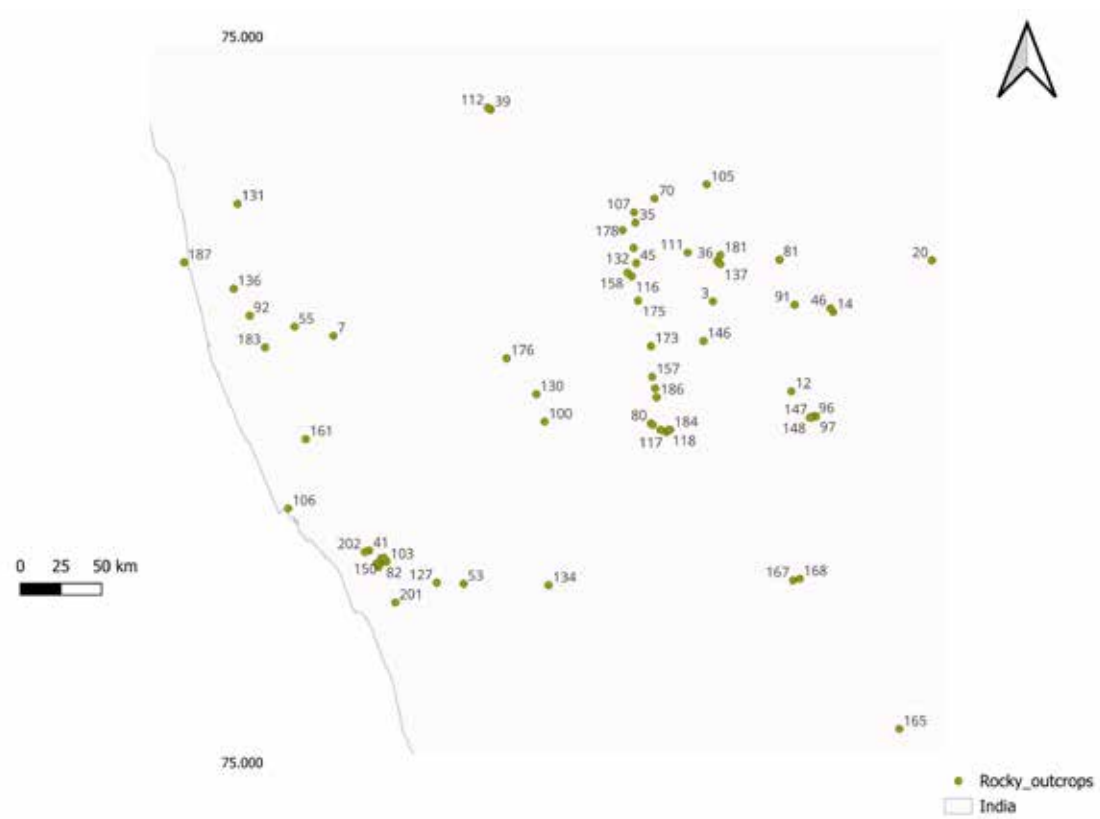


Fig 6. Enlarged map showing rocky outcrops of Konkan coastal region and central India.

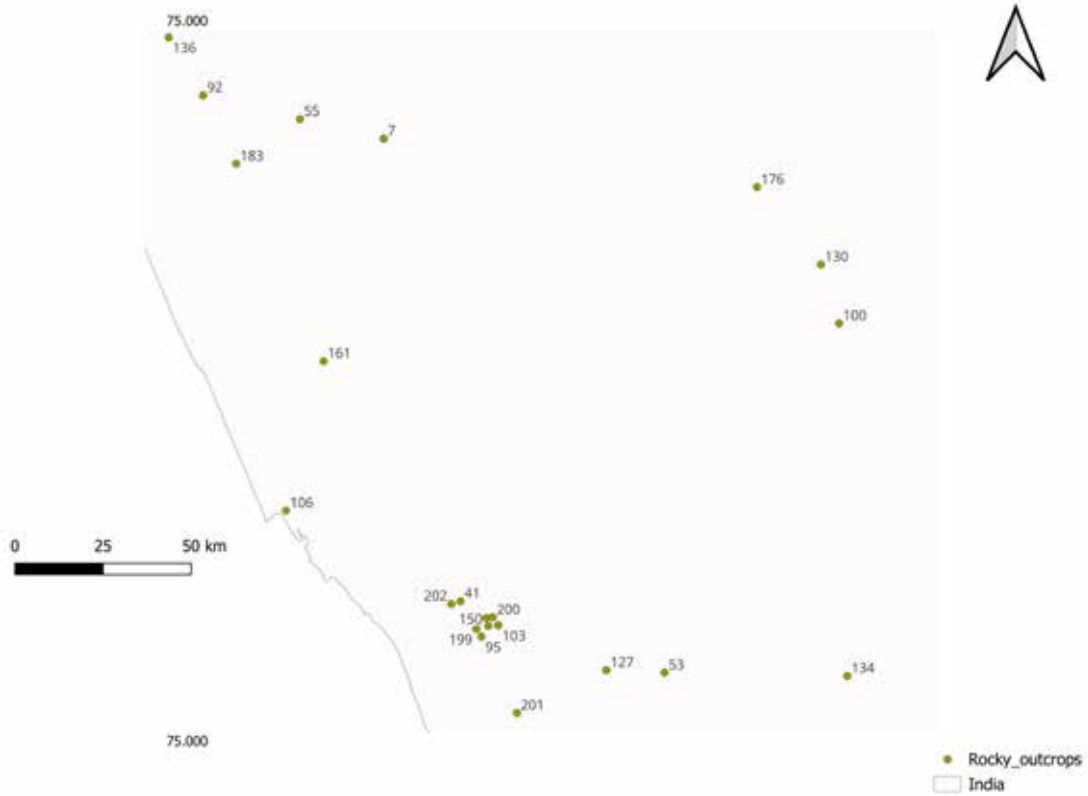


Fig 7. Enlarged map showing rocky outcrops of Konkan coastal region.

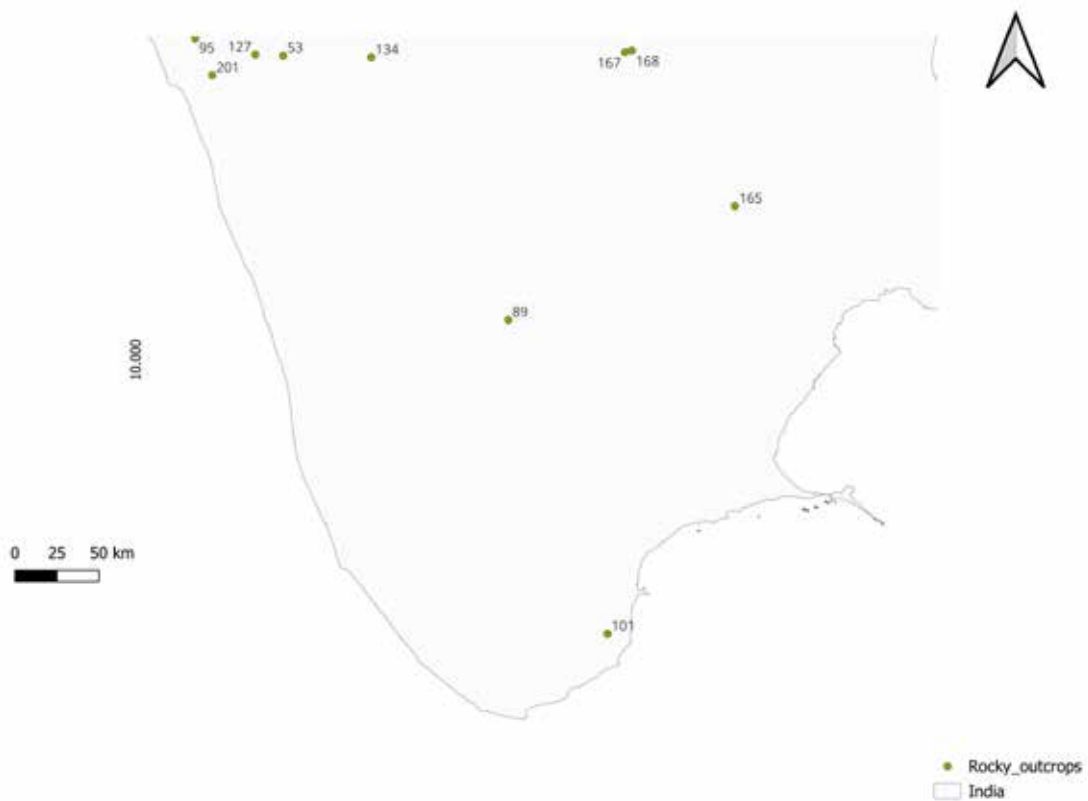


Fig 8. Enlarged map showing rocky outcrops of southern India.



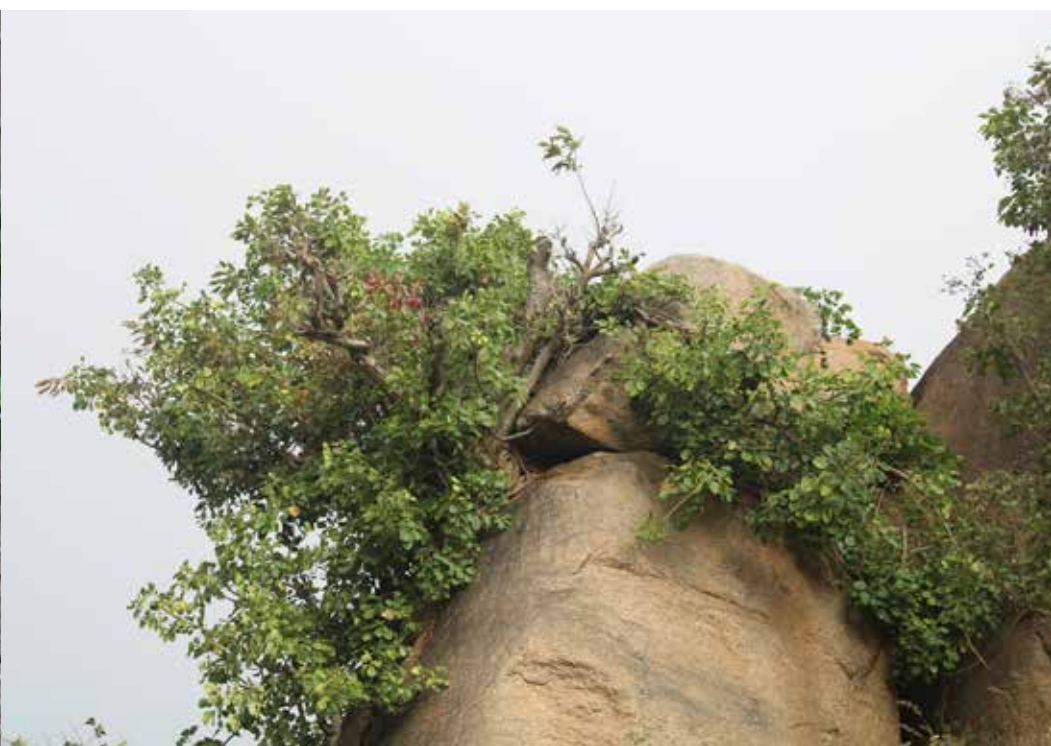


Table: List of the out crops are given in the end

	Place Name	Latitude	Longitude
1	Ajanta Caves	20.5514	75.7033
2	Ajodhya Hill	23.25048	86.08442
3	Akkayamma Betta	13.16589	77.64321
4	Albaka	18.1972	80.6571
5	Amba Plateau location 1	16.985	73.784
6	Amba Plateau location 2	16.987	73.7970E
7	Amedikallu	12.97785	75.51226
8	Amkoi	25.22107	92.01495
9	Amritdhara Falls	23.3471	82.5684
10	Anantapur	14.6759	77.6474
11	Anjanadri Hill	15.35461	76.46989
12	Ankushagiri Fort	12.67392	78.08434
13	Arbuda Devi Temple	24.60475	72.71292
14	Avani Betta	13.10777	78.3186
16	Baba Sidhbath Dari	24.96417	82.82167
17	Bada Bagh	26.95514	70.88773
18	Badami Fort	15.92313	75.68421
19	Badami South Fort and Caves	15.91728	75.68483
20	Bala Raya Konda Durgam	13.39	78.8731
21	Bansa Hill	23.36644	85.92616
22	Bargarh Upland	20.7225	82.67306
23	Belam caves	15.113	78.109
24	Bellary Fort	15.14761	76.91026
25	Bhimbetka Rock Shelters	22.9392	77.6111
26	Bhongir Fort	17.515	78.888
27	Biharinath Hill	23.57477	86.94055
28	Borra Caves	18.3151	82.9211
29	Buddhist Caves of Khapra Kodiya	21.55073	70.48049
30	Burhai Hill	24.36212	86.5342
31	Canary Hill	24.0169	85.39833
32	Chandampet	16.5938	78.9816
33	Chanderi	24.7184	78.1377
34	Chandil-Gamharia Range	22.94253	85.75146
35	Channarayana Durga	13.59509	77.20782
36	Chennagiri-Channakeshava Betta	13.38632	77.66791
37	Chianki Hill	24.00073	84.138
38	Chiraundi Hill	23.40676	85.33725
39	Chitradurga Fort	14.21127	76.39459
40	Chitrakote Falls	19.2887	81.7037
41	Chittari Mala	11.80046	75.71216
42	Chittor Fort	24.88398	74.64737
43	Chiyanki Hill	24.00988	84.11013

	Place Name	Latitude	Longitude
44	Dalma Hill Top	22.8891	86.21591
45	Devarayanadurga Hill	13.37393	77.2126
46	Devarayasamudra Betta	13.12796	78.30384
47	Dharampur Hil	23.85994	86.7079
48	Dilwara Temple	24.60963	72.72299
49	Dumka road	24.47453	86.8247
50	Durga Temple and Vali Cave	15.35416	76.48127
51	Durgawadi Plateau location 1	19.19389	73.69516
52	Durgawadi Plateau location 2	19.21766	73.64276
53	Edakkal caves	11.61862	76.24381
54	Ellora Caves	20.024	75.179
55	Gadaikallu (Jamalabad Fort)	13.02744	75.29398
56	Gagron Fort	24.62801	76.18603
57	Gajendragad	15.74381	75.97158
58	Gandikota Fort	14.81	78.28
59	Gandikota Gorge	14.8156	78.2812
60	Gandugali Kumara Ramana Hill	15.41108	76.37759
61	Gillbert Hill	19.1206	72.8402
62	Gingee Fort	12.25	79.39
63	Gokarna	14.52248	74.31585
64	Golconda Fort	17.3833	78.4011
65	Golconda Fort	17.3833	78.4011
66	Golden Fort	26.91248	70.91259
67	Gorgaburu Hill	23.14441	86.13291
68	Guddeguda	16.68069	77.82587
69	Gwalior Fort	26.231	78.173
70	Handi Gundi Betta	13.72618	77.31529
71	Harihar Fort	19.91639	73.46694
72	Harishchandragad	19.3913	73.7675
73	Hinglaj Mata Mandir	25.65	72.32
74	Huringdag Hill	23.21852	85.25837
75	Idar Fort	23.85296	73.00534
76	Idar Hill Fort	23.83943	73.00075
77	Jamui Hill Range	24.84245	86.06759
78	Jenvadekal Betta	12.46212	77.34958
79	Jessore Sloth Bear Sanctuary	24.41709	72.49939
80	Kabbaladurga	12.49779	77.29479
81	Kailasagiri Betta	13.39345	78.01721
82	Kammaiyi	11.73755	75.78466
83	Kanai Boroxi Boa Rocks	26.21139	91.74316
84	Kanheri Caves	19.2	72.9
85	Kas Plateau	17.8003	73.814
86	Ken River, Raneh	24.87	80.05
87	Khambhalida Buddhist Caves	21.77687	70.70897

	Place Name	Latitude	Longitude
88	Khandadhar Falls	21.916	85.06
89	Kodaikanal Pillar Rocks	10.2133	77.4631
90	Koel River Basin	22.8	86.2
91	Kolar	13.14658	78.10209
92	Konaje Kallu	13.08762	75.04168
93	Konkan Region 1	16.51667	73.31667
94	Konkan Region 2	16.8	73.31667
95	Koranappara	11.71053	75.76651
96	Krishnagiri	12.5381	78.21415
97	Krishnagiri Fort	12.5364	78.2217
98	Kumbhalgarh Fort	25.15331	73.58684
99	Kunagalu Betta	12.68962	77.31834
100	Kunti Betta	12.5082	76.69806
101	Kuthiraimozhi	8.5367	78
102	Kuthiwala Hill	24.22714	83.93457
103	Kuttiady Ghat	11.73954	75.81029
104	Lakshmi Venkataramana Betta	12.48927	77.30634
105	Lepakshi Rock Formations	13.8042	77.6087
106	Madayippara	12.03155	75.25762
107	Madhugiri Fort	13.65194	77.20036
108	Mahanadi Basin	23.50639	83.02306
109	Mahendragiri	18.9856	84.43
110	Mahuli Fort	19.49083	73.24972
111	Makalidurga Fort	13.43193	77.50104
112	Malappanahatty	14.22085	76.38029
113	Mallampalli	18.1106	79.8257
114	Mama Bhagne Hill	23.78528	87.37208
115	Manadar Hill	24.83	87.03
116	Mandaragiri Hill	13.30241	77.18721
117	Marale Hebbarga Betta	12.45065	77.3818
118	Marammana Betta	12.46161	77.39314
119	Marble Cliffs, Jabalpur	23.12	79.79
120	Marble Lake	23.21324	86.08489
121	Marrigudda	16.9627	78.85869
123	Masai plateau	16.81778	74.07833
124	Maski	15.94751	76.65174
125	Matanga hills	15.33161	76.46834
126	Mawsmi Caves	25.24476	91.72406
127	Mayiladippara	11.62433	76.09203
128	Megalithic Stone Jars	25.28513	92.82351
129	Mehrangarh Fort	26.29917	73.01795
130	Melukote	12.65822	76.65114
131	Metkalgudde Shri Mahaganapati temple	13.69803	74.97309
132	Minchukallu Betta	13.45747	77.19715

	Place Name	Latitude	Longitude
133	Moula Ali Hill	17.4369	78.5583
134	Moyar Gorge	11.61	76.72
135	Nakkati Hills	26.39586	90.54442
136	Nakre Rock Hill	13.23462	74.95209
137	Nandi Hills	13.36955	77.68481
138	Naneghat Plateau location 1	19.27934	73.68888
139	Naneghat Plateau location 2	19.29814	73.67399
141	Pachghra Hill	24.23224	83.99479
142	Pachmarhi Hills	22.4674	78.4346
143	Pakhi Pahar	23.18189	86.23973
144	Panchkot Hill	23.62096	86.7655
145	Pareshnath Hill	23.96491	86.14466
146	Peninsular Gneiss Lalbagh	12.94869	77.58966
147	Perumal Temple	12.5314	78.1956
148	Perumal Temple Krishnagiri	12.52949	78.1874
149	Prabalgad fort	18.9804	73.2217
150	Pullippara	11.75781	75.77928
151	Purulia 1	22.70972	85.82361
152	Purulia 2	23.7	86.91028
153	Querry site	19.30546	72.79456
155	Raghunathdi	22.58531	86.47682
156	Raichur Fort Hill	16.19898	77.34927
157	Ramadevara Hills	12.75308	77.30267
158	Ramadeverabetta	13.32179	77.16416
159	Ramgarh Hill	23.54992	85.45917
160	Ranchi Hill	23.3752	85.31071
161	Ranipuram	12.4121	75.35562
162	Rao Jodha Desert Rock Park	26.30507	73.0167
163	Ratandurga Fort	16.99611	73.27
164	Ratapani Wildlife Sanctuary	22.9178	77.7223
165	Rock Fort	10.82	78.69
166	Rocky Island	23.1196	86.10451
167	Salem 1	11.6372	78.0942
168	Salem 2	11.6461	78.1311
169	Salher Fort	20.72	73.94
170	Sanchi Stupa	23.486	77.7422
171	Satkosia Gorge	20.5531	84.786
172	Satpura Range	21.4167	76.1667
173	Savandurga Hill	12.92092	77.29506
174	Shanti Hill	23.408	85.36204
175	Shivaganga Hills	13.16925	77.22302
176	Shravanabelagola	12.85449	76.48459
177	Siddalingeswara Betta	16.6926	76.82751
178	Siddarabetta	13.55446	77.13577

	Place Name	Latitude	Longitude
179	Sitagarh Hill	23.9529	85.43369
180	Siwana Fort	25.65	72.41
181	Skandagiri Hills	13.41754	77.68377
182	Songarh Fort	22.32	75.37
183	Sri Karinjeshwara Temple	12.91407	75.12788
184	Sri Muneshwara Betta	12.46337	77.4033
185	Sri Surya Pahar	26.10847	90.70322
186	SRS Hills	12.64021	77.32683
187	St. Mary's Islands	13.37791	74.67299
188	Sunset Point	24.58539	72.69502
189	Susunia Hill	23.39445	86.98741
190	Tableland Plateau	17.92	73.8
191	Tapovan Hill	24.45126	86.75132
192	Taranaga Caves	23.97	72.74
193	Tirathgarh Falls	18.9383	81.9436
194	Tirumala Hills	13.6596	79.3621
195	Toad Rock	24.59302	72.70305
196	Tukreswari Temple	26.04956	90.63217
197	Udayagiri and Khandagiri Caves	20.246	85.7869
198	Unakoti	24.33074	92.05043
199	Urithookki	11.72962	75.7534
200	Vaalook	11.7595	75.79581
201	Vayalada	11.51552	75.8591
202	Vazhamala	11.79384	75.68842
203	Vindhya	24.6167	82
204	Warangal Fort	17.9784	79.5941
205	Yana Rocks	14.59026	74.56723
206	Zenda Plateau Location 1	16.918	73.797
207	Zenda Plateau Location 2	16.904	73.849

**Sidharthan, Koshik V Rao, Dupati Poojitha, Ananditha
 Pascal, Diya Banerjee, Gupta Priya, Himangshu Kalita,
 Jain Zeal, Mohsin Ahmad & Shivangi Kanwar Chouhan**
 RHATC Fellows 2024–25, Zoo Outreach Organisation,
 Coimbatore, Tamil Nadu, India.