

1. A proper job for "Just stop oil" into action?! - a lovely bit of normal every-day Asian pollution; road down from Kathmandu, 29 May 2012.
2. Pteris baurita subsp. walkeriana, typical raised, pointed costal arches, occasionally a few free, Pokhara to Birethanti, 30 May 2012.
3. Cyathea (Alsophila) spinulosa in Moonlight Lodge garden, Birethanti, at start of Annapurna Base Camp trek, 1050 m.
4. Jeep-transport coming down the new rough road-track near Birethanti.
5. Presumptive Pteris vermae, with erect fronds, shortish narrow pinnae, and relatively short terminal segments (unlike P. vittata), should be diploid, awaiting investigation.
6. Pteris vermae, a new species related to P. vittata, but short, narrow pinna'd and erect.
7. Large Pteris vermae again (with one P. vittata, drooping pinnae, in centre), near Shyauli Bazaar. Same plant as Photo 429.
8. Modi khola river, near Shyauli Bazaar.
9. A welcome chautara (rest-place), Shyauli Bazaar, 1200 m, Sagun, Jacob and Sunil, our local porter hired at Annapurna Committee agreed rates.
10. Davallia bullata, with long, reddish-scaly rhizome on rocks or trees.
11. Jacob's temporary dog-walking companion, going trekking.
12. Drynaria propinqua, epiphyte on bare tree-trunk above Modi khola.
13. Beautiful Crinocardium lily on the wayside with the abundant Nephrolepis cordifolia.
14. The "Last packet of crisps", one-star roadside restaurant at Khliu, above Shyauli, 31 May 2012.
15. Looking back down lower Modi river from Khliu.
16. Pteridium revolutum, the crispy bracken of most of south Asia, pinnae vernating before apex, hard texture and more hairy beneath than P. aquilinum of Europe, but equally poisonous, commonly fertile.
17. Onychium siliculosum, common lower-altitude fern with bright yellow farina on sori beneath, cannot be transplanted successfully, but easily grown from spores, on stones etc.
18. Looking up the lower Modi khola valley.
19. Deep, dark, forested gorge across the valley, must be an unspoilt lower-altitude fern- paradise, but too long a climb down to get into it.
20. First view of Annapurna South and Hiunchuli Himal up ahead - the "vanilla ice-cream bank" that encouraged our Jacob onwards!
21. Rice-terraces on lower valley sides, near Khliu.
22. Making doko, carrying-baskets, in Siwai village at the end of the road, where the new road-track runs out and the foot-path begins.
23. British Gurkha Regiment-made pedestrian suspension-bridge above deep stream valley at Siwai.
24. Sagun walking the swinging bridge.
25. A brief rest at a chautara resting- and gossip-place on the way beyond Kyumi, 1300 m.
26. Large Aleuritopteris (formerly Cheilanthes) rufa - hairy rachis and costae and weak, thin, whiteish flavinoid farina beneath.
27. Underside of A. rufa in hand.
28. Annapurna South 7273 m; the Base Camp lies behind it.
29. Farm-sheds for Buffalo by path towards Kyumi.
30. Drynaria propinqua covering tree-trunk, green fertile-leaves and old brown basiphylls, with pale pink Dendrobium orchid in flower.
31. Drynaria propinqua, closer.
32. Drynaria propinqua fertile leaves.
33. Drynaria and snow-peak, a typical view in the Nepal Himalaya.
34. Delightful Kyumi Lodge in Annapurna Conservation Area buffer zone. Jacob got there first!
35. Map-board outside Kyumi Lodge, a long way to go over the next several days.
36. Jacob NOT touching the Himalayan stinging-nettle, Girardinia diversifolia. It is used to make cloth, without the sting.
37. Only pretending! - keep one's distance! It stings more sharply than the common European nettle, Urtica dioica.
38. Asplenium laciniatum subsp. laciniatum, an unusually large plant, but good large sized spores on checking with the microscope, so not one of its hybrids; and Polystichum lentum behind, Kyumi to New Bridge.
39. A. laciniatum subsp. laciniatum (homotypic synonym A. varians), showing the rather coarse segments, not much stipitate.
40. A. laciniatum subsp. laciniatum, typical small plants.
41. The beautiful Pteris normalis, semi-adult frond, changing from pink to green; typical wide frond, fewish pinnae, large apiculate segments with no setae, and very rough-surfaced pink stipe.
42. Pteris normalis.
43. Pteris aspericaulis, long frond, many pinnae, blunt apiculate segments, slightly rough, often pink stipe and rachis, spines above costae and some setae above segments.
44. Pteris aspericaulis, closer, showing spines on costae
45. Path beside stream, Polyodiodes lachnopus on tree-trunk.
46. Pteris subquinata, a small lithophyte below calcareous-rock overhangs, it also has a spectacular white-banded form from Sikkim eastwards.
47. Path between Dennstaedtia appendiculata clumps, with Davalloses on a large boulder behind.
48. A fine colony of Davalloses membranulosa (with hairy axes), colonising a large boulder, Kyumi to New Bridge.
49. Davalloses membranulosa fronds.
50. Davalloses membranulosa rhizome.
51. Jacob, the King of Drynaria Castle!
52. Probably just a weird Pteris baurita pretending to be P. wallichiana? But I forgot to check if it had any teeth and what the veins and spores were like.
53. Aleuritopteris formosana (syn. Cheilanthes brevifrons) loves old stone walls without cement.
54. Aleuritopteris formosana, rather narrow fronds in larger plants, bullulate wrinkled upper surface and narrow bicolorous scales beneath that extend some way up the rachis but not onto the pinna-costae.
55. Aleuritopteris formosana, bright white flavinoid farina beneath.
56. Aleuritopteris dubia, wider fronds, all axes hairy (actually narrow fibril-like scales), Kyumi to New Bridge.
57. Aleuritopteris dubia close-up. The phloroglucides in the white farina are the same as in A. rufa and A. albomarginata, unique in this genus, where all other species are qualitatively very different.
58. Aleuritopteris dubia beneath, with many fibrils on costae and even costules and white farina (but farina absent on larger monsoon-grown Summer fronds).
59. Microlepia setosa, narrowish triangular fronds.
60. Microlepia setosa frond-base; fronds arise from a creeping rhizome, not very far apart.
61. Vittaria ("Haplopteris") flexuosa, hanging off tree-trunk near New Bridge, long lines of sori with an inner ridge as well as the outer margin.
62. Vittaria flexuosa, Drynaria propinqua, Asplenium yoshinagae subsp. indicum, Leucostegia immersa (nom. cons.) and Nephrolepis cordifolia.
63. A whole tree of Vittaria flexuosa and Drynaria propinqua.
64. New Bridge Lodge.
65. Tectaria morata (the "overlooked Tectaria"), a new species, near New Bridge from Kyumi.
66. Tectaria morata - turned out to be a new species, and not the related T. coadunata, which is more hairy and has different sori, nor T. dubia, as I first thought, which is very different.
67. Tectaria morata, close-up of pinna apex.
68. Tectaria morata, few, large sori, few free included veinlets, succulent texture, subglabrous beneath, few scales confined to stipe-base.
69. Tectaria morata frond.
70. Tectaria morata fertile pinnules top surface.
71. A nice cool drink, but only for the Buffalo-in-the-manger! - it couldn't be shifted, nor would let anyone else take a drink, Khyumrung khola (river), beyond New Bridge.
72. Athyrium cuspidatum (NOT a separate genus, "Anisocampium"), New Bridge.
73. Lodges at Jhinu, 1750 m, at start of steep climb up towards Chomrong.
74. Aleuritopteris dealbata (syn. Cheilanthes doniana), superbly white beneath and long fronds, slightly bicolorous scales. This might be part-ancestral to the tetraploid A. anceps, perhaps with A. formosana as the other diploid? Needs looking into.
75. Woodwardia unigemmata - which usually has two or even three proliferous bulbils in reality, despite its name.
76. Looking north up Modi Khola towards the unsettled and natural forested core area of Annapurna Conservation Area.
77. Leucostegia immersa, bronze and green young fronds, with Polypodiodes lachnopus, above Jhinu, 1 June 2012.
78. Onychium cryptogrammoides but a consistently smaller, flatter-fronded form at lower altitude, Jhinu 1750 m, to compare spores with subsp. fragile.
79. Onychium cryptogrammoides subsp. fragile, small, flat fronds. Cytology would be desirable as the subsp. fragile type plant is triploid and the common subsp. cryptogrammoides is diploid.
80. Onychium cryptogrammoides small form, probably subsp. fragile, green stipe, drying stramineous, with short, black base, at Jhinu.
81. Looking down at Jhinu, and inaccessible dense forest on south-east side of the Modi valley, from less than a quarter-way up the steep ascent to Chomrong.
82. Huperzia hamiltonii (broader leaves) and H. pulcherrima, but, as often occurs, with an intermediate-leaved branch (lower right), all in one colony.
83. Huperzia pulcherrima, the subulifolia form, though not as long-pendent as larger plants.
84. Dryopteris carolinhopei, horizontal semi-subterranean rhizome, often only one or two fronds, unlike the more eastern D. marginata, Jhinu to Chomrong.
85. Dryopteris carolinhopei, Jhinu to Chomrong.
86. Selliginea oxyloba, decurrent lamina-base and un-notched margins, Jhinu to Chomrong.
87. Asplenium khullarii, with acute lobe-apices and bi-elliptic lobes, in wall at top of climb just before Chomrong.
88. Asplenium khullarii, wall above and just before Chomrong.
89. Asplenium laciniatum subsp. kukkonenii, narrow fronds, small segments, elongated fused frond-apices, wall above and south of Chomrong, 2100 m; with a small Aleuritopteris albomarginata and Selaginella chrysocaulos shoots (from bulbils in ground).
90. Asplenium laciniatum subsp. kukkonenii, wall above and S. of Chomrong, 2100 m.
91. Chomrong sign-board - the "metropolis" [maybe!] of the Annapurna lower hills.
92. Path down steps and Hotel (with a small Coke at 250 rupees - 25 down in Pokhara! in 2012), Chomrong - but remember all has to be carried up by porters and ponies.
93. Chickens come super-fresh right off the menu in Chomrong Hotels!
94. Village school assembly-time, Chomrong (Dennstaedtia appendiculata in wall on left).
95. The supermarket at the end of the universe! - Chomrong. Prices appropriately fixed for foreign incomes, but better than elsewhere to stock up from before walking further up into the core-area.
96. Jacob, Sagun and our guide, Sunil, on the walk all the way down again to cross the stream below and beyond Chomrong, only to climb back up again on the other side.
97. The path down to the river-crossing - and then up again beyond, into the core-area forests.
98. Pteris aspericaulis, a nearly green-axised plant, long lamina, many pinnae, Chomrong khola.
99. P. aspericaulis, close-up showing the abruptly apiculate segment-apices.
100. The White Commadore butterfly, identified from Colin Smith's fine butterfly books of Nepal.
101. Dryopteris chrysocoma, pale stipe- and rachis-scales, tall, thick indusia and erect fronds, Chomrong to Sinuwa.
102. Dryopteris chrysocoma, young sori, Chomrong to Sinuwa, 2200 m.
103. Katoella pulchra, finely dissect, slightly narrowly triangular fronds, long stipe and thinnish, very knobby rhizome, near Sinuwa.
104. Flowery lodge and constantly busy clothes-lines for drying, lower Sinuwa.
105. A harmless and attractively patterned ?Natrix snake - unfortunately conservation cuts little ice in this village - for snakes, anyway.
106. Pteris wallichiana, densely short-bristly stipe form, the Umbrella Fern, lower Sinuwa.
107. Pteris wallichiana - the densely bristly stipe, Sinuwa.
108. Jacob's friendly following goat, Sinuwa.
109. Sagun and all the tired horses in the sun, Sinuwa.
110. Jacob and Sunil, our porter, up a tree next to a clump of Goniophlebium argutum, above Sinuwa.
- 111.. Polystichum mucronifolium (syn.: P. heteropaleaceum, ?P. tautopterium), entering the core-area forest, Sinuwa to Bamboo Lodges, 2300 m.
112. Polystichum mucronifolium, wide scales in tufts at pinna-rachis junctions; lower pinna- axils and stipe have some dark centred scales, large dark-centred scales at the base of the stipe.
113. Path among old trees in the core-area of Annapurna Conservation area, Sinuwa to Bamboo lodge.
114. A fine stand of Dryopteris wallichiana subsp. wallichiana shuttlecocks in the lower Polysticho-Dryopteridetum forest, Sinuwa to Bamboo Lodge.
115. D. wallichiana subsp. wallichiana by the path.
116. D. wallichiana subsp. wallichiana long, very narrow dark-brown stipe- and rachis-scales.
117. Lepisorus loriformis, a pendent epiphyte with leathery-succulent fronds, varying in width, which are pinkish when young and have infra-marginal sori.
118. L. loriformis underside, forest from Sinuwa to Bamboo lodges.
119. Coniogramme pubescens (misapplied name "C. caudata"), note narrowly cuneate pinna- bases unlike the widely truncate ones of the type of C. caudata, which is a synonym of C. serrulata.
120. Coniogramme pubescens, Sinuwa to Bamboo Lodges, 2300 m.
121. Strange Aristolochia ?griffithii flowers, fallen off climber.
122. Aristolochia - very large tuba-like flowers.
123. Pteris wallichiana young fronds taller than me, hairy stipe form, Sinuwa to Bamboo Lodges, 2300 m.
124. Densely forested Modi Khola valley beneath the pre-monsoon clouds, looking north.
125. Path through an unusual grassy rock-slope with many interesting wild flowers.
126. An attractive Roscoea species (?R. alpina) on the grassy slope.
127. Flowers from the path beneath a late-flowering individual of Rhododendron arboreum, Nepal's Lali Gurans, that flowers in huge masses on the mountain-sides in early Spring, 1 June 2012.
128. Thelypteris mollissima ("Leptogramma or Stegogramma pozi" sensu auct. Ind.), free veins, creeping rhizome; with a baby Coniogramme procera behind it, wet places all along path near Bamboo Lodge, 2200 m.
129. Thelypteris mollissima, elongated sori, veins nearly all free, rhizome horizontal, thickish, Bamboo to Dovan Lodges.
130. Superb basket-crown of Polystichum longipaleatum, near Bamboo Lodge.
131. Polystichum longipaleatum, when fronds first come up, the hanging tips are like bunches of large brown hairy caterpillars.
132. P. longipaleatum close-up showing spectacular hair-like fibrils on the pinnules.
133. Polystichum longipaleatum (misapplied name: P. discretum, syn. P. setosum), glossy and hairy fronds.
134. Cornopteris banajaoensis, first named from the Philippines, Bamboo Lodge.
135. Athyrium decorum, near to A. dubium; Chinese botanists clarified it is not A. dubium, short-horizontal, thick rhizome and very short or hardly any setae above segments.
136. Athyrium decorum, ridges above segment-midribs, rather than actual setae.
137. Athyrium decorum, not previously known from Nepal or India, with pink rachis, near Dovan Lodge.
138. Athyrium decorum showing ridges above pinnule-midribs, hardly extending to very small apical extensions, not the prominent setae of members of Section Strigothrium, Dovan.
139. Pre-monsoon thunder-shower, Bamboo Lodge.
140. Selaginella bisulcata, fertile plant apex showing large heteromorphic sporophylls, Bamboo Lodge.
141. Machapuchare "Fish-tail" peak, clear in the morning, Bamboo to Dovan Lodges, 2 June 2012.
142. Dryopteris wallichiana subsp. convexa (syn.: subsp. himalaica), rounded, convex segments, broad, dark or dark-streaked stipe-scales, Bamboo to Dovan Lodges, c. 2400 m.
143. D. wallichiana subsp. convexa, close-up of pinnules.
144. D. wallichiana subsp. convexa, impressed veins on pinnules, a bit reminiscent of D. splendens.
145. D. wallichiana subsp. convexa.
146. D. wallichiana subsp. convexa.
147. D. wallichiana subsp. convexa.
148. A stand of Thelypteris (Pseudophegopteris) microstegia subsp. hirtirachis, rather thickish but creeping rhizome, wide, less lobed pinnules, hairs and scales on stipe, forest beyond Bamboos and Dostegia Lodge, c. 2400 m.
149. Thelypteris microstegia subsp. hirtirachis, lower pinnae, Bamboo to Dovan lodges.
150. Small plants of Asplenium laciniatum subsp. tenuicaule on rock in forest among Trichomanes (Crepidomanes) latealatum (no hairs on stipe-wing), near Dovan Lodge.
151. Cyrtomium anomophyllum, hardly auriculate pinnae with widely rounded basispic bases as in C. macrophyllum, but many small teeth in apical part of pinna, near Dovan.
152. Cyrtomium anomophyllum, though a rather weakly toothed pinna-apex compared to most.
153. Cyrtomium anomophyllum (syn. C. microindusium), sori with indusia showing dark, depressed centres.
154. Forest path near Dovan, 2500 m.
155. Trichomanes (Crepidomanes) latealatum covering tree-trunk, with some Lepisorus loriformis.
156. Machapuchare, the Fish-tail twin peak.