

The Call of the Wild 3: *Meconopsis* Lost and Found: Tibet and India

by Margaret and David Thorne

(with light editing by Evelyn Stevens)

Margaret started with maps indicating the 12 trips she and David have made to the Sino-Himalayas since they started visiting this part of the world in 2001. In this talk she spoke of some of the trips they have made since 2009, namely to Tibet and India. Earlier trips were dealt with in The Call of the Wild, parts 1 and two. (these are available as pdfs on www.meconopsis.org). The post 2009 trips to Bhutan could be covered in a later talk. The content of the talk at the November 2011 meeting was almost exclusively on the species of *Meconopsis* they succeeded in finding. The remainder of this write-up of Margaret's talk, in the first person, is readily comprehended, with minimal editing, from the notes she used to accompany her slides. The numbers, i.e. 4. 5. etc refer to her powerpoint slides.

4. Tibet title slide: This is the Potala Palace in Lhasa with pilgrims doing the chora, the holy walk around it in a clockwise direction and some pilgrims prostrating themselves

5. Map of Tibet: This map shows all the places which I shall be speaking about today, starting with Lhasa, crossing from Nepal to Tibet at the Friendship Bridge, the Everest Area, finishing back in Lhasa with a mention of SE Tibet before briefly talking about Himachal Pradesh in India, immediately adjacent to the Tibet border. Just 3 months after my last talk, in August 2009 we returned to Tibet with John and Hilary Birks as part of a University of Bergen Expedition to study vegetation along altitudinal gradients. As in 2005, we flew to Lhasa, but this time we planned our itinerary so that we had the opportunity of trying to find *Meconopsis torquata*. This is a sky blue flowered species which occurs in the Nyenchenang Mountains to the north and west of Lhasa

6. Lhasa and the Kyi-Chu: *M. torquata* was described by Sir David Prain from a single specimen collected in 1904, attributed to H J Walton who was part of the Younghusband Expedition to Lhasa that year. He claimed the specimen was collected 15 miles east of Lhasa at an altitude of 11,500ft, in the valley of the Kyi-Chu; this is the river on the north bank of which Lhasa is situated

7. *Meconopsis torquata* Type Specimen: He said the plant was in flower when collected in September and he described the flower as being red. Nobody has ever been able to find this site or any place at the correct altitude where it could have been.

8. Frank Ludlow & George Sherriff: Those of you who are familiar with Harold Fletcher's book 'A Quest of Flowers' about the plant explorations of Frank Ludlow and George Sherriff will know that both plant-hunters spent time during the war in Lhasa in charge of the British Mission; Ludlow from early in 1942 and Sherriff by then married to Betty, took over in April 1943

9. *Meconopsis torquata* b&w photograph with list of locations: Despite onerous duties, they found time to explore the mountains in the immediate vicinity of Lhasa and made 5 herbarium collections of *Meconopsis torquata*, as well as collecting seed

10. Frank Ludlow's letter: In a letter to RBGE, Ludlow writes...

"British Mission, Lhasa via xxliguri (Bengal) India and Gyantse P.O. Tibet
Sept 24/1942

My dear Professor

I am enclosing a small packet of seeds of the long lost Mec torquata. I hope you have success with it, but I fear it will be a difficult plant to raise. It is a beautiful plant – blue not red & flowers in June & July not September. It grows at 15000-16000 in boulder scree, & not at 11500'. I do not think Walton could possibly have seen the plant in flower himself & must have got his specimens & information from natives. It takes 2 or 3 years to reach the flowering stage, & then dies, & consequently is not perennial as Farrer suggests. I have abundant seed which I am sending home by air mail. I have good herbarium material showing every phase of growth from the seedling to the fruiting stage. There is no doubt about the correctness of my field identification. Hairs on the petals & the expanded disc on the ovary are alone sufficient to prove its identity..... Yours sincerely, F. Ludlow"

However, if you look at Frank Ludlow's own herbarium collection of *Meconopsis torquata* in flower, here in the RBGE herbarium, you will see that it has turned red, which may also be an explanation of how the mistake in flower colour arose."

11. Notes on *Meconopsis torquata* in cultivation: *Meconopsis torquata* was grown in cultivation for a short time: by Major and Mrs Knox-Finlay at Keillour Castle, D M Murray-Lyon, Major A Walmsley and here at RBGE under glass. Margaret has found no records of it having survived in cultivation after 1953.

“Alpine Garden Society Bulletin 1951, Alpine Commentary, Seen in Scotland:

‘Southern gardeners, who for many years, have suffered heartbreak in vain attempts to make Asiatic Primulas happy must have experienced considerable heartache at the sight of these treasures blooming at Keillour Castle.....visitors to the garden of Major and Mrs Knox-Finlay gasped audibly at the sight of Primula beds ablaze with bloom.....A group of *Meconopsis punicea* was just coming into flower and *M.torquata* which has baffled so many clever gardeners was nearly a foot high and in perfect health!’

Scottish Rock Garden Club Journal 1953, *Meconopsis torquata*:

‘I had the satisfaction of flowering this *Meconopsis* in my garden this year. It gave me quite a thrill, too, I admit, for as far as I have been able to find out I am the first person to have succeeded in flowering it out of doors. It has been flowered in a cool house in the R.B.G., Edinburgh, but indoors the flowers refuse to open properly and the petals remain only partly open, and are rather crumpled up’.....

D. M. Murray-Lyon

Editor’s note. – Major A. Walmsley also writes: “One of the *Meconopsis torquata* attempted to flower out of doors at the beginning of July. The colour was a good deep sky-blue, but none of the flowers opened properly and therefore no seed was set.”

12. *Meconopsis torquata* colour photograph with list of locations & comments: In 2009, we flew into Lhasa at the beginning of our trip and on our first day took the opportunity to attempt to track down *Meconopsis torquata*. We had with us the wonderful coloured version of George Sherriff’s picture from the RHS Journal 1947 and a list of the locations where it had been found by them which essentially boiled down to 3 places:

1. Hills North of Lhasa. 8-10 miles up valley West of Sera Monastery. High up on left side of track.
The track to the west of Sera Monastery was too rough for vehicles and we would have had to walk the 8-10 miles to this site, which we were not acclimatised to do this early in the trip
2. Hills West of Lhasa, beyond Trisum
Since the Chinese occupation of Tibet, many of the place names had been changed, and we could not find a map with Trisum marked on it
3. Nangtse, 20 miles West of Lhasa
La Duo, one of our Tibetan members of the group had discovered the approximate location from an elderly Tibetan friend

13. John Birks, La Duo & Lhag Chong + Tibetan Villagers: We set off for Nangtse, stopped at a small village to ask the way and were directed a short distance back to a cluster of smallholdings called Nangtse Jakang.

14. Tibetan Smallholding with mountains behind: Here our Tibetan friends showed George Sherriff’s picture of *Meconopsis torquata* to a farmer who immediately recognised it and said that it grew high in the mountains behind the village. He told them that he and other local people used to collect it for a pharmaceutical company, but that this had stopped about 20 years ago. Although we were very keen to see the plant for ourselves, the farmer indicated that it used to take them more than six hours to reach the place where it was found. Eventually he agreed to go up into the hills on the following day with his son to look for it, in return for payment of two days wages and a bonus if he returned with a plant. La Duo exchanged mobile phone numbers with the farmer, who promised to call next day to tell us whether or not they had been successful, and this he duly did. We returned to the farmer’s smallholding and were invited into the courtyard garden, where we sat at a table in the shade of an umbrella and were served yak butter tea in china bowls. The farmer and his son then brought out the bin liner, which we had given him for carrying back the plant.

15. *Meconopsis torquata* 2009-08-06: He had collected seven *Meconopsis torquata* plants, one which had flowered and was in seed and six which had not flowered. On the one plant in seed, the very short style may be seen with the glabrous disc below which characterises *Meconopsis* species in the sub-genus *Discogyne*. There were petals still on this plant, the persistence of which is characteristic of this species alone, as are the bristles on the backs of the petals, within this sub-genus. It was not possible to tell the number or colour of the petals. However, the farmer recognised the plant from the picture in the RHS article in which they are blue and he told us that the plant flowered in June. Our farmer also told us that it had taken the two of them much longer than anticipated to find the *M.torquata*, as there was none at the first place to which they had gone, and they had therefore carried on to another place. So we gave the farmer a bit more money than agreed, thanked the whole family, took our leave and photographed the plants outside on the roadside and later back at the hotel (hence the orange background).

16. Map of North and West Lhasa showing *Meconopsis torquata* sites: This is a very tiny world distribution as all known sites lie well within an 80km x 80km square

17. *Meconopsis torquata* summary slide

18. Zhangmu-Nyalam Road Block: The following year, 2010, we returned to Tibet as leaders of an AGS group. Instead of flying into Lhasa as we had in 2005, we entered overland through Nepal and across the Friendship Bridge to Zhangmu. Between here and the next town, Nyalam, we were held up by a landslide on the road, so we got out of our vehicles to botanise and found this *Meconopsis*.

19. *Meconopsis gracilipes* or *dhwojii*: In Flora of China it keyed out as *Meconopsis gracilipes*, the only location for which in Tibet is Nyalam, although it also occurs in Central Nepal, so on the face of it, this seems a very straightforward identification.

20. Close up of leaves of Nyalam plant: However, had we had with us the key in CG-Wilson's book 'Poppies', revised in 2000, the plants without purple-black bases to its bristles would have keyed out as *M. gracilipes* and those with purple-black bases would have been *M. dhwojii* as this characteristic is the only one which separates these 2 species. As most of the plants have black spots, they would on balance be *M. dhwojii*.

21. *M. dhwojii* & *M. gracilipes* seed capsules: CG-Wilson's later paper in Curtis's Botanical Magazine says of *Meconopsis gracilipes* 'Its flask-shaped fruit capsules with their long styles and the pale leaf bristles readily distinguish it from *M. dhwojii*'. These plants mostly have flask-shaped capsules, a few are much rounder, so on balance, this is *M. gracilipes*.

According to Paul Egan in his paper in The Rock Garden in January 2010, both species are endemic to Nepal anyway!

22. Map of *M. napaulensis*, *M. gracilipes* & *M. dhwojii* distributions: To make the situation even more confusing, the true *Meconopsis napaulensis* is also very similar to both the other species and this part of Tibet projects into Nepal at a point which is east of the main distribution of *M. napaulensis* and *M. gracilipes* and west of *M. dhwojii*.

23. Comparative table *M. autumnalis*, *M. gracilipes*, *M. dhwojii*, *M. autumnalis*, Part 1: Realising that the identification of these three species must have been addressed for the Flora of Nepal project, which Mark Watson spoke to this group about in 2009, I emailed Paul Egan to see what his verdict would be and he said categorically '*M. dhwojii*'. When I emailed him back for details of why, he promised to send them in time for this meeting, but unfortunately hasn't.

In the mean time, I drew up a comparative table of all the information I had for each species, mainly from CG-Wilson's and Paul Egan's papers. Unfortunately it does not include information on each parameter for each species.

M. autumnalis was probably ruled out because of flowering time

Basal leaf segments and purple-black base to bristles: more like *M. dhwojii*

24. Comparative table *M. autumnalis*, *M. gracilipes*, *M. dhwojii*, *M. autumnalis*, Part 2:

Filament colour: like *M. dhwojii*

Fruit capsules & height: more like *M. gracilipes*

Overall, rather inconclusive, so I decided to come to the RBGE herbarium to see if that would help with the identification

25. Herbarium specimens 1: I could find only 4 herbarium specimens collected in the wild: 1 of *M. dhwojii* and 3 of *M. gracilipes*; I haven't yet looked at specimens of plants grown in cultivation

The *M. dhwojii* specimen was collected in 1937-07-12 by F M Bailey. It's strange in that the shape of the seed capsule is not rounded as it should be for *M. dhwojii* and there are not sufficient pairs of leaflets – but it is not a very good specimen.

The earliest of the 3 herbarium specimens of *M. gracilipes*, collected by Lall Dhwoj in 1920 certainly shows the seed capsules well, but not the leaves

26. Herbarium specimens 2: These 2 later *M. gracilipes* specimens, collected by Stainton, Sykes and Williams in 1954 are certainly much better at showing the leaves, but have neither seed capsules nor flowers. So altogether not conclusive, but on the basis of numbers of pairs of leaflets would tend to point to *M. dhwojii*

27. *Meconopsis dhwojii* growing at RBGE: I then remembered I had taken this picture at RBGE of *M. dhwojii* and what a short plant it had been. I also checked the *Meconopsis* Group website where there is one of *M. gracilipes* – which is taller and more like our Nyalam plant

28. *Meconopsis napaulensis* summary slide: I prepared a summary slide for each of the three species, *M. napaulensis*, *gracilipes* and *dhwojii*, so I could just delete the inappropriate ones as soon as I found out what the Nyalam plant is. But as I'm still not sure, they are all still here, and if anyone can shed any light on this identification, please do. I certainly look forward to seeing what the Flora of Nepal has to say about these species.

It is very difficult to say whether or not the true *M. napaulensis* has been in cultivation, due to the confusion there has been between it and other closely related species and because it presumably became very rapidly hybridised with other species.

29. *Meconopsis gracilipes* summary slide: *M. gracilipes* grew well in cultivation in the 1950s, but now seems to have been lost

30. *Meconopsis dhwojii* summary slide: *M. dhwojii* still is in cultivation and it's very encouraging to see seeds of it listed in this year's SRGC Seed Exchange. The only specimens I have been able to track down are here at RBGE and one imagines that it is likely to go the same way as the others two species unless somebody really takes it on as a challenge and grows it in isolation from all other species with which it is likely to hybridise.

31. Map of the Friendship Bridge crossing on the Nepal/Tibet border: Time to move on

32. Kharta campsite: This is the campsite at Kharta we used in 2005 and 2010 which was also where Charles Howard-Bury and his companions camped during the 1921 reconnaissance of Mount Everest. In his subsequent book, Howard-Bury said "from our campsite at Kharta we used to watch the Monsoon clouds come up every day through the gorge in thin wisps, but every day they melted away always at the same spot... The forests of fir and birch trees came up to the limit of the rainfall and then ceased suddenly where the rain stopped a mile below us. At this point the Kharta River formed a sharp dividing line between the wet and dry zones."

In 2005, we had spent our so called rest day here doing comparative botanical studies between the dry steppe areas and wet sub-alpine woodland.

33. View back to Kharta valley from the path to Samchung La: However, in 2010, we climbed instead up the path towards the Samchung La. This is the view north showing the dry steppe of Tibet; the only green areas are the cultivated fields along the river where they can be irrigated

34. *Meconopsis tibetica* in 2005: These are the pictures I took in 2005 during the Kangshung Trek of the plants from which CG-W described *Meconopsis tibetica*. Although this species had never been properly described before, it was not totally new to science, as it had been found in 1921 by Charles Howard-Bury on the Samchung La and this is recorded in his book "At the top of the pass there was not much of a view, but prowling round I came across some very fine saussureas with their great white woolly heads and a wonderful meconopsis of a deep claret colour that I had never seen before. There were 15 to 20 flowers on each stem, and it grew from 2 to 3 feet high..."

AFR Wollaston was the natural historian on the trip, but he does not mention this species in his chapter in the book and if he did collect it, it is possible that the specimen was lost when the Natural History Museum was bombed during the Second World War.

35. Valley of the Lakes from the Samchung La, 4479 masl: We were more fortunate than Howard-Bury and in 2009, got good views from the Samchung La, in this case over the pass into the Valley of the Lakes on the south side towards Nepal and into the monsoonal area

36. *Meconopsis tibetica* seed heads in 2009: We also saw a really healthy population of hundreds of *M. tibetica* with many seedlings and spent several hours measuring them and counting the fruiting bodies on each plant. However, because our visit was in August, they were all past flowering

37. *Meconopsis tibetica* in flower: So it was wonderful to return with the AGS group in 2010 and see the same population in July in full flower

38. Close-ups of *Meconopsis tibetica* in flower: Here are the flowers in more detail and one of the non-flowering rosettes

39. Map of Nyalam, Mt Everest, Makalu & Kharta: This map is just a little further east than the last one I showed and indicates the location of *Meconopsis tibetica*. The next map is this box in detail

40. Map of *Meconopsis tibetica* distribution: Known locations for this species fit comfortably into the area of this map which is 19km x 24km

41. 2010-07-28 View from campsite, Kagnai Meadow, 4660 masl: An early morning picture of the view from our Kagnai Meadow campsite

42. 2010-07-28 Campsite, Kagnai Meadow, 4660 masl: This is the campsite itself with our sleeping tents, the mess tent and our yak-herders shelter

43. 2010-07-28 AGS Group and our Trekking Crew, Kagnai Meadow: The AGS Group and our trekking crew

44. 2010-07-28 Ragarsamba Glacier from Kagnai Meadow, 4660 masl: This is a picture of the Ragarsamba Glacier, next to which we had camped, or more accurately, a picture of the lateral moraine left behind by the glacier which has now retreated to a much smaller area of ice. There is currently a huge amount of concern about the rate at which these glaciers are retreating, at the effect this is having on the climate in the Himalayas and as a consequence on the difficulties this might create for the flora and fauna. As species move higher to

compensate for the increase in temperatures, they face the prospect of a reduced area of suitable ground in which to live as well as increased isolation from other members of the population. *Meconopsis* is a genus of plants which could be extremely adversely affected by these climatic changes

45. *Meconopsis tibetica* summary slide

46. *Meconopsis paniculata*, Shau La to Zokshyam, 2010-07-23: This is *Meconopsis paniculata*, photographed on the Kangshung Trek after we had crossed the Shau La from the Kharta watershed into the Karma Valley.

47. *Meconopsis paniculata*, 2010-07-23, 2009-08-10 & 11, 2005-07-20 & 21: This is one of the most widespread and abundant species of *Meconopsis* in the Himalaya and renowned for its variation in the wild, particularly in the shape of its leaves which can vary enormously from being deeply pinnate to quite shallowly toothed. We saw it on several days on each of our visits to Tibet, as well as in Bhutan and Nepal. It also occurs in NE India, although we have not seen it there.

48. *Meconopsis grandis*, 2005-07-20, 2009-08-10 & 11 & 12, 2010-07-23 & 24: Not far away Alan and Chris found *Meconopsis grandis*, a species we also found several times in the Valley of the Lakes. It was close to finishing flowering, but still had one good blue flower and one purple one. It also has a wide distribution in comparison to the species I mentioned earlier and is also found in Bhutan, Nepal and India.

49. *Meconopsis horridula* - 2005:10 days, 2009: 9 days, 2010: 8 days. These are the really high altitude forms of *Meconopsis horridula* with very short scapes. We found them on lots of days on all three of our visits to Tibet, including plants in seed in snow on the Ba La, east of Lhasa on 25th August 2009.

50. *Meconopsis horridula*: Slightly taller examples, but still entirely scapose.

51. *Meconopsis horridula*: Some with plain leaves, others with heavily dark spotted leaves, with cupped or wide open flowers

52. *Meconopsis horridula* – racemose forms: Here some racemose forms, but as they have no stem leaves and a yellow stigma, they must still be *M. horridula* and not *M. racemosa*.

53. *Meconopsis ?speciosa* – Langma La, 5347 masl & Ba La, 5050 masl: Here are some with leaves which are not entire, so perhaps these could be *M. speciosa*.

54. *Meconopsis integrifolia*: Finally in Tibet, *Meconopsis integrifolia* which is also a widespread species, but with a more easterly distribution. We have not found it west of Lhasa and it doesn't occur in Bhutan or India.

55. Map of Tibet: These borders of Tibet and the distinction between Outer Tibet and Inner Tibet, as shown on this map, were agreed by the Governments of Britain, India, Tibet and China at the Simla Convention which was initialled by all parties on 27th April 1914. Captain FM or 'Eric' Bailey of *Meconopsis baileyi* fame and Captain Henry Morshead who had just returned from their epic journey to investigate the Tsangpo gorges and map the frontier were rushed to Simla to provide the vital information required to define the border between Tibet and India.

Two days after the Convention was initialled the Chinese Government repudiated the action of their representative who was not allowed to proceed to full signature. China has subsequently disputed this entire border which makes it very difficult to get permission to visit areas in its immediate vicinity on either side.

56. *Meconopsis sherriffii*: This is *Meconopsis sherriffii*, in this case photographed in Bhutan as we have not seen it in Tibet, but we would very much like to.

57. *Meconopsis sherriffii* Type Specimen: It was discovered by George Sherriff on the Dri chung La, very near the border between Tibet and Arunachal Pradesh and one of the areas disputed by the Chinese.

58. *Meconopsis sherriffii*: Although it was first discovered in Tibet, for some unaccountable reason, it is not mentioned in the Flora of China. This is another picture taken in Bhutan, this time by Martin Walsh at Danjii

59. *Meconopsis sherriffii*: *Meconopsis sherriffii* summary

60. *Meconopsis argemonantha* & *Primula kingii*: Two other plants which occur in the same disputed area of SE Tibet which it would be good to have the opportunity to see. *M. argemonantha* was photographed by Anne Chambers on the Bimbi La and *Primula kingii* was photographed in Bhutan.

61. Taj Mahal: So to India, where we led an AGS group in July this year, finishing with a trip to the Taj Mahal

62. *Meconopsis bikrami*: Before we left, Al Elliott sent us a paper on the discovery of a new species of *Meconopsis*, *M. bikrami*, described in the Indian Journal of Forestry 1985. As its location was near where we were going, over the Rohtang Pass, north of Manali, we hoped that we could go and look for it.

63. Rohtang Pass: Unfortunately on the day we were due to cross the pass, it was more or less blocked by a sea of mud, so although we did manage to cross it, we had to go straight to our campsite at Chatru and didn't have any time for botanising on the northern side of the pass

64. South side of Rohtang Pass: But we did have some time for botanising on the south side and had some good views of the mountains while we were waiting for our vehicles to get through the vast traffic jam

65. *Meconopsis aculeata*: Although we didn't get the opportunity to find *Meconopsis bikrami*, there was plenty of *M. aculeata*, both these plants just by the traffic jam.

66. *Meconopsis aculeata*: We saw very small high altitude forms on the passes and this lovely big clump while we were on the Hampta trek

67. Gaddi Bridge below Ranglati: Other highlights of the trip included crossing the Gaddi Bridge below Ranglati camp which was in a particularly exciting state of repair this year

68. Hampta Pass: and crossing the Hampta Pass where there was more *Meconopsis aculeata*

69. Bir Singh, David and Tenzing on the Hampta Pass: Here is David with our guides Tenzin and his cousin Bir Singh who, after Henry Taylor had tripped, rescued him with a rugby tackle, as he tumbled down the mountain.

70. *Meconopsis* Found & Lost

Discovered: 60

Found by us: 27 (45%)

Cultivated: 20 (33%)

Lost: 17 (28%)

Never cultivated: 23 (38%)

Currently in cultivation: *aculeata, baileyi, betonicifolia, chankheliensis, delavayi, dhwojii, grandis, integrifolia, lancifolia, paniculata, prattii, pseudointegrifolia, punicea, quintuplinervia, rudis, simplicifolia, superba, tibetica, wallichii, wilsonii*

Lost in cultivation: *bella, discigera, forrestii, gracilipes, henrici, horridula, impedita, latifolia, longipetiolata=napaulensis, regia, robusta, sherriffii, sinuata, staintonii, taylori, torquata, violacea*

Never been in cultivation: *argemonantha, autumnalis, barbisetia, bijianensis, bikrami, castanea, concinna, florindae, georgei, ganeshensis, lyrata, neglecta, pinnatifolia, prainiana, primulina, pseudovenusta, pseudohorridula, quinghaiensis, simikotensis, sino-maculata, speciosa, wumungensis, zangnanensis*

71. The Call of the Wild: some conclusion from the last talk

- It is easier than ever before to see *Meconopsis* in the wild, to research the distribution of known species and perhaps to find more new ones
- There is an enormous amount to be learnt by observation and from photographs
- Back-up support can be provided by others, through literature, herbarium and laboratory research, and dissemination of information, in a co-ordinated approach
- Is this an appropriate challenge for the *Meconopsis* Group to tackle?

72. *Meconopsis* Found & Lost

- Several *Meconopsis* species are insufficiently described from wild material
- Others have distributions which require further investigation
- Most are likely to be detrimentally affected by climate change, due to their distribution in the Sino-Himalaya
- Some species may become extinct before they are fully described or their distributions discovered

73. Mount Everest from Rongbuk: View of Qomolungma (Mount Everest) from our mess tent in the Rongbuk Valley

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