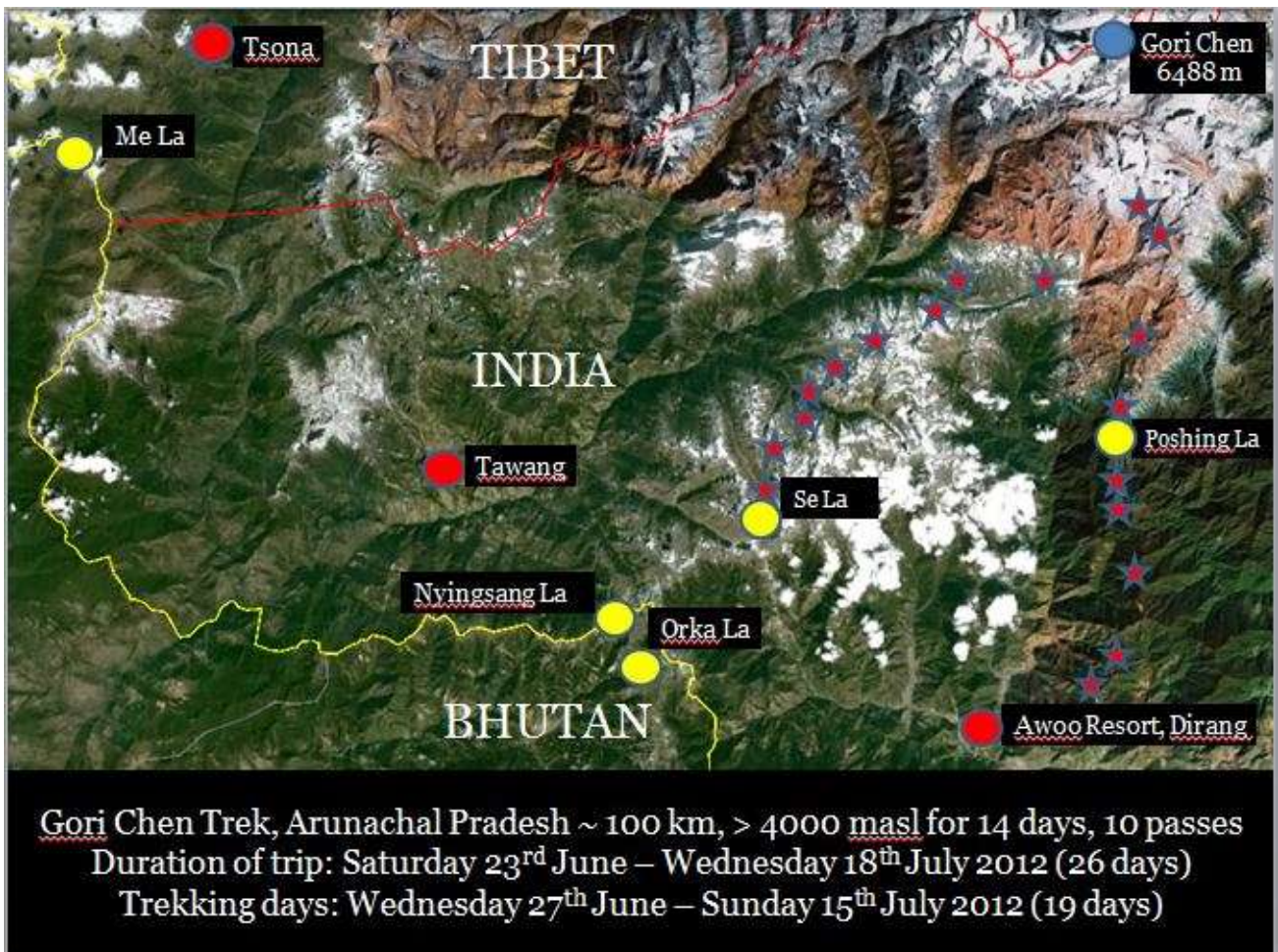


Meconopsis in Arunachal Pradesh 2012 By David & Margaret Thorne

Up to the end of 2011, we had visited the Sino-Himalayan region 12 times. In 2002 and 2006, we were in Sichuan and Yunnan on AGS trips led by John Mitchell. These are excellent places to see Meconopsis species in the wild and China has a good road network and many good hotels. We subsequently decided that, while we were still fit enough to do so, we should concentrate on the more challenging destinations which involved trekking and camping. We have been twice to Himachal Pradesh (2007 & 2011), once to Nepal (2001), three times to Tibet (2005, 2009, 2010), and four times to Bhutan (2008, 2009, 2010, 2011).

During the four years prior to 2012, we had worked our way across Bhutan, trekking in the far west (Ha), the Chomolhari area twice and Central Bhutan. For several years we have been seeking permission to visit the Me La in the north-east of the country, found by Ludlow and the Sherriffs to be very rich in plants and on the way to which Betty Sherriff found her 'Dream Poppy'. It now seems unlikely that this permission will be granted soon, as there is an agreement in place with India, which has a military presence in the country by mutual agreement with the Bhutanese Government, that this area close to the Tibetan border will remain restricted. So we decided that the next best place to visit was the area immediately east of Bhutan – near Tawang in Arunachal Pradesh, India.

Our trek was centred on Dirang and we drove north-eastwards from there as far as we could before camping and then started walking northwards the following day towards the Poshing La (4110 masl) and Gori Chen (6488 masl) beyond. We walked approximately 100 km over 19 days (27th June – Sunday 15th July 2012) during which we crossed 10 passes and were above 4000 masl for 14 days.

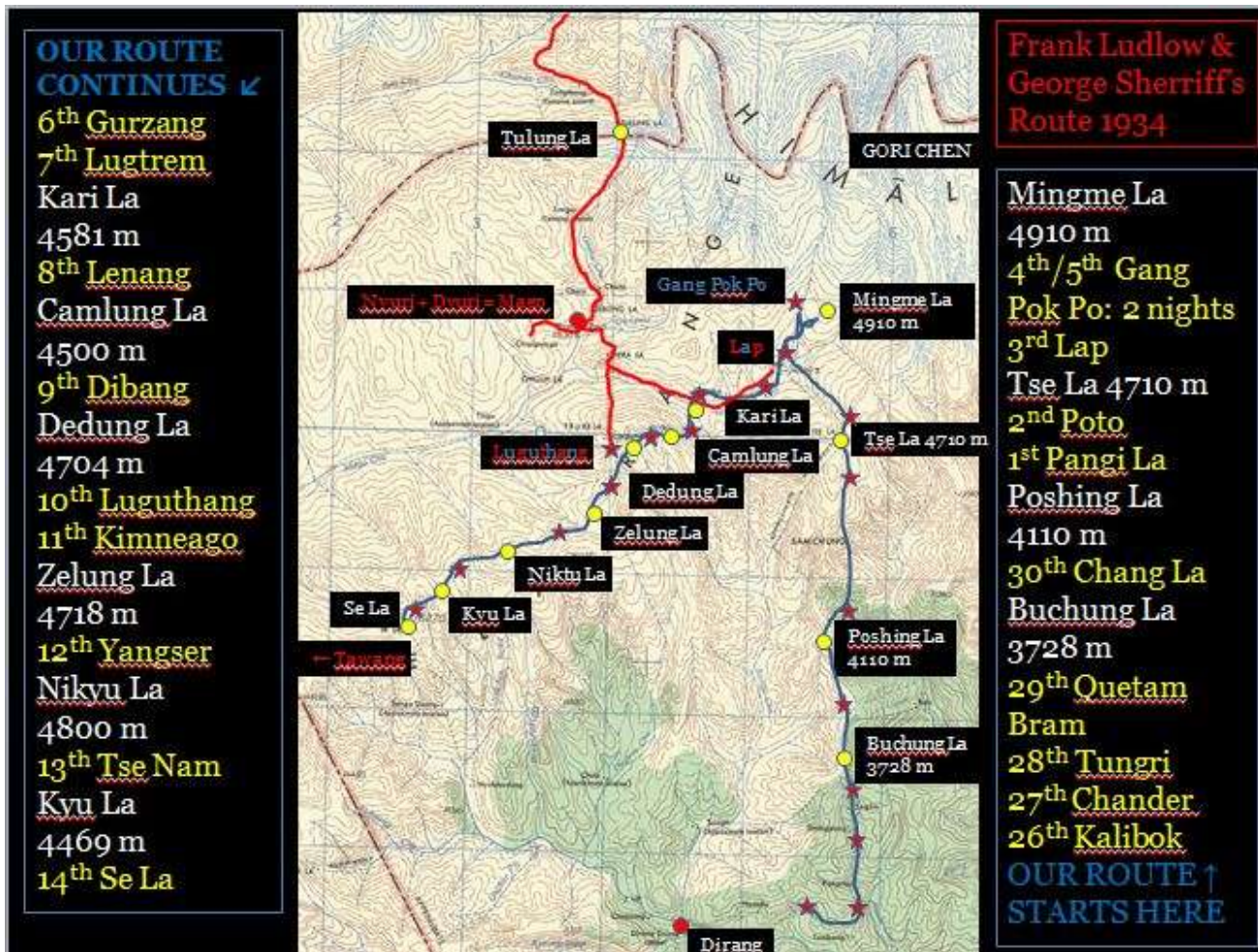


We could find only a few written accounts of previous British expeditions to this area (see references), the earliest of which was the visit in 1913 by F M (Eric) Bailey and H T Morshead returning from their epic journey through Tibet, the survey results from which made it possible to establish the McMahon Line.

Ludlow & Sherriff spent a month in Mago in July/August 1934, during which they explored some of the places through which we trekked and our route also coincided with Frank Kingdon Ward's to and from SE Tibet in 1935 and 1938. In 1939 Bill Tilman set out to climb Gori Chen, but failed even to reach its foot: he and all his men caught malaria and one of them died. We camped at exactly the same spot as his highest campsite (Gang Pok Po), from where we then continued westwards while he retraced his route south.

Peter and Patricia Cox failed to cross the Poshing La in 2004, but they and their son Kenneth have had other successful expeditions to Arunachal Pradesh, though possibly not during the monsoon. We believe this to be the case after reading Kenneth Cox's memorable words (The Alpine Gardener 2004): **“Getting up into these mountains in the monsoon season when the flowers are out would take a braver person than me; quite apart from the rain, most of the over 70 species of leech in Arunachal would be out and about.”**

Of greatest assistance to us, were the two trips made by Pete and Pam Boardman in 2008 and 2010. On their advice, and with a great deal of information which they had provided, we followed in June and July the same route they had taken in spring and autumn, and had an extremely rewarding visit.



For the first four days of the trek, we were walking through magnificent woodland with many flowering trees and shrubs, Pleiones and other orchids, Arisaema, Roscoea, Cardiocrinum, Streptopus, Maianthemum, Caltha, Geranium and a good selection of Primula species. The first day on which we found a Meconopsis was 1st July, the day we crossed the Poshing La, where we were at the tree line on the upper limit of the Abies densa forest. The ancient gnarled rhododendrons, encrusted with mosses, liverworts, lichens and ferns, and seen through the misty conditions, made a truly atmospheric spectacle. We saw three species of Meconopsis that day and seven species on the whole trek. These are described in the order in which we first saw them. Dates are given on which each species was seen and altitudes, some of these are estimated, as our camera mounted GPS did not work from 8th – 15th July, but our hand-held one did.

Meconopsis sinuata: seen on 3 days at 3956 - 4165 masl.

This was the first *Meconopsis* we saw, on the woodland edge and in meadows, growing to 0.5 metres with blue four-petalled flowers and lobed stem leaves with the dark markings on the inner curve of the lobes. We subsequently found pure white forms, but none of the high altitude short plants with large blue flowers, as we had on the Jule La in Bhutan. This species was seen on only 3 days and over a much smaller altitudinal range than in Bhutan.

Meconopsis paniculata: seen on 11 days at 3938 – 4523 masl.

We first found yellow flowered *Meconopsis paniculata* in a large group in a meadow on 1st July, very shortly after finding *M. sinuata*. We saw them on 10 days, (the second most frequent species), usually in good numbers and there was a wide variety in leaf shape between different populations, as we have also noted in Bhutan.

On 2nd July, we found a red-flowered *Meconopsis*, which because of its colour, reminded us of *M. wallichii* var *fusco-purpurea*. However, it did not have the golden hairs on the foliage and stem of this species or the correct leaf configuration. We subsequently found one pinky-red flowered plant in a population of yellow flowered *M. paniculata* and then a population of approximately equal numbers of red and yellow flowered plants which we were able to study in detail in sunny weather. A comparison of all aspects of the foliage and flower structure was made and no differences were found other than the flower colour. They all had four petals, white filaments, purple stigmas, round seed pods and identically shaped and coloured stems and leaves. We therefore concluded that all these plants were colour forms of *Meconopsis paniculata*.



Meconopsis prainiana: seen on 12 days at 4000 – 4900 masl.

The third species we saw on 1st July was *Meconopsis prainiana* in its white flowered form. This prickly plant is related to *M. horridula*, but is distinct in several characteristics. It is taller in stature and has stem leaves on the raceme, whereas in *M. horridula* they are all in a basal rosette. The leaves are long and thin (shorter

and wider in *M. horridula*) with pale bristles and without dark markings. The flower is four-petalled (5 and often more in *M. horridula*).

On four days, we saw both *M. prainiana* (white flowered form) and *M. horridula*, but even where the two species grew together, they maintained discrete populations, and there was no sign of any intermediate forms. This is very different from the situation in Bhutan where the short high altitude forms of *M. horridula* form a continuous population with taller forms at lower altitudes – all have the broad leaves and five-petalled flowers. Most plants have a central raceme surrounded by scapes, though plants with only scapes or only a raceme may occasionally be found within the population.

We saw the white flowered form of *M. prainiana* for the last time on 10th July and on the following day, were delighted instead to find identical plants, but with yellow flowers and these remained with us for four days. Both the white and yellow flowered forms were extremely abundant and could be seen distributed across whole hillsides for many kilometres. They occupied a wide range of habitats including open stony ground, shrubberies, streamsides and marshy areas.

M. prainiana was discovered on 7th July 1924 by Frank Kingdon Ward on the Temo la in SE Tibet in its pale blue-flowered form and described by him in February 1926, but George Taylor lumped the species under *M. horridula* in 'The Genus *Meconopsis*' 1934. The white flowered form was first collected by Ludlow & Sherriff on the Milakatong La near Tawang, now in Arunachal Pradesh, on 14th July 1934 (L&S 659) and the yellow-flowered form on the Shagam La in SE Tibet on 20th June 1936 (L&S 2188). George Taylor ignored Ludlow & Sherriff's field observations and opinions, as he did Frank Kingdon Ward's and continued to identify the collected specimens as colour variants of *M. horridula*. *M. prainiana* occupies a similar relationship to *M. horridula* in the eastern Himalaya as *M. pratti* does in China, and the entry for *M. prainiana* appears under *M. prattii* in the Flora of China. In his new *Meconopsis* monograph, Kit Grey-Wilson has reinstated *M. prainiana* as a separate species.

***Meconopsis prainiana* (white)**

M. horridula

***M. prainiana* (yellow)**



Meconopsis simplicifolia: seen on 8 days at 4100 - 4800 masl.

We saw excellent colour forms of *M. simplicifolia* ranging from electric blue to purple. At the beginning of the trek the first flowers were opening and by the end, there were plants in seed. They grew, as they do in Bhutan, with their basal leaves among shrubs, but also in boulder fields, open grassy banks and on river shingle. They appeared to occupy the ecological niche in which *M. bhutanica* is found in Bhutan and it is interesting to note that we did not find any members of the *Discogyne* during this trek.

Meconopsis horridula: seen on 4 days at 4550 – 4900 masl.

All the plants we saw were short but racemose with sharp prickles all over. They had leaves which were all broad and in basal rosettes. The spines on the buds and sometimes those on the leaves were dark at their bases. Their flowers were electric blue with five and often more petals, deeper blue filaments, yellow anthers and a pale stigma protruding beyond the anthers.

Meconopsis bella: seen on 4 days at 4400 – 4700 masl.

Although the first plants seen on the trek were growing high on a gully ledge, which is how we have typically seen them on previous trips, the majority were subsequently found on the open rocky hillside. For three days we walked through thousands of flowers growing in profusion on either side of the path – a truly astonishing spectacle of what is usually a sparse plant. The leaf type was predominantly simple and entire, but there were also plants with deeply divided leaves. The flowers were usually blue, rarely with a pink or purple hue, four-petalled and more deeply cup-shaped than the following species. Perhaps the most unusual feature of this species is the attractive dark markings on the flower buds.



Meconopsis ludlowii: seen on 3 days at 3950 – 4500 masl.

This compact and delicate species is very like *M. primulina* in character and in the shape of its long thin seed head with longitudinal black lines between the valves (which *M. sinuata* has too). However, it differs in that its neat basal rosette is of deeply dentate leaves with one large lobe at the tip. We found this plant on three days, often growing among small Juniper plants and accompanied nearby by *M. bella*, *M. sinuata* or *M. horridula*.



This species was discovered by Ludlow & Sherriff on the Orka La in Bhutan on 10th July 1934 (L& S642), who also recorded it on the Milakatong La four days later and near Lap (L& S728) on 28th July 1934. Seed was collected from both passes in October 1934 (L&S 1080 & 1095).

The specimens were identified initially as *M. lyrata* and then by George Taylor as *M. lancifolia* var *concinna* (a rather different Chinese species), and it was called this in 'A Quest of Flowers'.

On the basis of the pictures and descriptions which we took on this trek, Kit Grey-Wilson is to name this species *Meconopsis ludlowii*, a fitting tribute to a great plantsman.

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Date in July 2012	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<i>M. sinuata</i>	*	*									*					3
<i>M. paniculata</i> - yellow	*		*				*	*	*	*	*		*	*	*	10
<i>M. paniculata</i> - red/pink		*								*	*					3
<i>M. prainiana</i> - white	*	*	*	*	*			*	*	*						8
<i>M. horridula</i>					*			*	*	*						4
<i>M. prainiana</i> - yellow											*	*	*	*		4
<i>M. simplicifolia</i>		*		*	*	*	*		*	*			*			8
<i>M. bella</i>			*					*	*	*						4
<i>M. ludlowii</i>								*	*		*					3

Thanks to:

Our fellow trekkers (Julia Corden, Tim Lever, Elspeth MacKintosh, Martin Walsh), our trekking crew and the staff of the RBGE library and herbarium.