Report of Expedition to NW Yunnan, China

FOR DAVIS EXPEDITION FUND

The expedition took place from 3rd to 31st May 1997. The aims were to study *Rhododendron* and other *Ericaceae* on lime soil and to study the hybridisation of the *Taliensia* sub-section of *Rhododendron* in the wild.

The expedition was run in association with the Kunming Institute of Botany who provided a botanist and guide as well as a driver (who was quite fond of a lunch-time drink and had a bit of a suicidal tendency) who drove a heavy slow and cumbersome 19 seat bus (for five people). Accommodation was in hotels and guest houses. This was generally good and was the best the town/village had to offer.

We visited many key sites where it is known that *Rhododendron* grow on lime soil and where interesting hybrid groups are. One such site was Gang Ho Ba, a dried out river valley and a basin of lime based soil. Here *Rhododendron rubigenosum, R. vernicosum and R. cuneatum* were found growing on lime. Other sites were Napa Hai, a lime quarry, where good samples of *R. roxianum, R. vernicosum* and *R. wardii* were taken on lime.

Over the course of the three weeks of collecting we took samples from forty three *Rhododendron* on lime sites and fifty three samples for wax studies. This included eighty one soil samples, thirty nine rock samples, seventy nine leaf samples for inorganic analysis and seven water samples. Sixty three samples for leaf wax analysis were taken as well as one hundred and sixteen herbarium specimens, mainly *Rhododendron*, and GPS (Global Positioning Satellite) of all significant sites were recorded. Identification of

the rocks was by Dr David Millward of the British Geological survey and all *Rhododendron* collected have herbarium specimens which have been identified by Dr David Chamberlain of the Royal Botanic Garden, Edinburgh.

Analysis of the samples is for calcium, magnesium, iron and manganese content. This is underway at the department of chemistry and will not be complete for some time. We can say however that some species of *Rhododendron* grow well in soil which is rich in limestone and alkaline with a high Ca:Mg ratio with little organic content. Analysis of leaves will show if the calcium is being taken up at all by the plants or if manganese, magnesium and iron are being taken up preferentially.

Analysis of the leaf was of *Rhododendron* provide valuable taxonomic insight. We specifically sought hybrids, particularly of the *Taliensia* sub-section, and discovered two new populations. Leaves were also collected from species of *Taliensias* in widely separated sites, so the validity and range of applicability of the method can be checked. A pleasing result is that we appear to have rediscovered the elusive *R. clementinae*.

Results of all these studies will be published when data analysis is complete and a copy will be sent to the committee.

In conclusion I would like to thank the Davis Expedition fund Committee for assisting in funding this expedition in such a generous way.

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