

A photograph of a mountain meadow filled with various plants. The most prominent feature is a large number of bright purple flowers, likely Gentiana or a similar species, scattered throughout the scene. The flowers are in various stages of bloom, some fully open and others as buds. The background is a dense thicket of green vegetation, including grasses and other wildflowers, creating a rich, textured environment. The overall scene is vibrant and natural, capturing the beauty of a high-altitude or mountainous flora.

FLORA OF THE MOUNTAINS OF
YUNNAN

Philippe de Spoelberch, with AGS, 4 to 19 June 2014

Foreword

This Power Point presentation was prepared for and shown to members of the Belgian Dendrology Society. Unfortunately my accompanying commentary is not available. Nevertheless, most series of pictures are presented with a legend .

Some pictures used for introducing the area (until slide 20) and presenting some sites (Shika Mountain in the sunshine for instance) are from a previous visit to these sites.

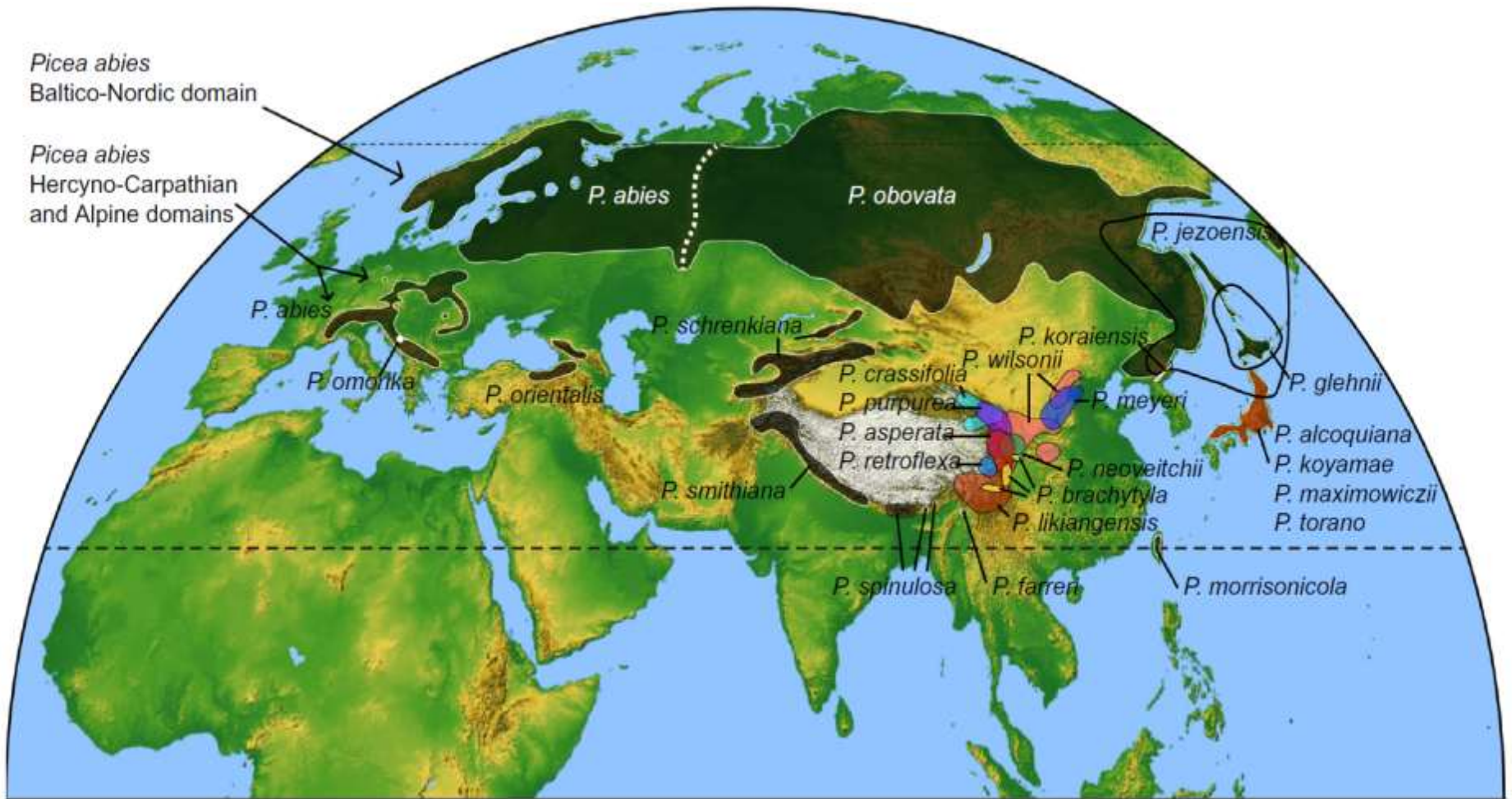
The names of rhododendrons are my educated guesses; those in Taliensia and Laponica subsections are particularly difficult to determine.

Most of the Alpine plants were identified by Dr. Phillip Cribb who was the leader for this tour of Alpine Garden Society. Here also I have made some educated guesses.

The tour run from 4 to 19 June 2014. Starting in South West Yunnan (visits West and North of Tengshong: Langhayan, Datang and Gaoligong Nature Reserve), the tour moved to Dali and the Cangshan and then North to Zhongdian (Shika Mt., Tianshi lake, over the Hongshan to the Meixian Cheese factory near Langdu, and finally Napa Hai at the top of the Zhongdian plateau)

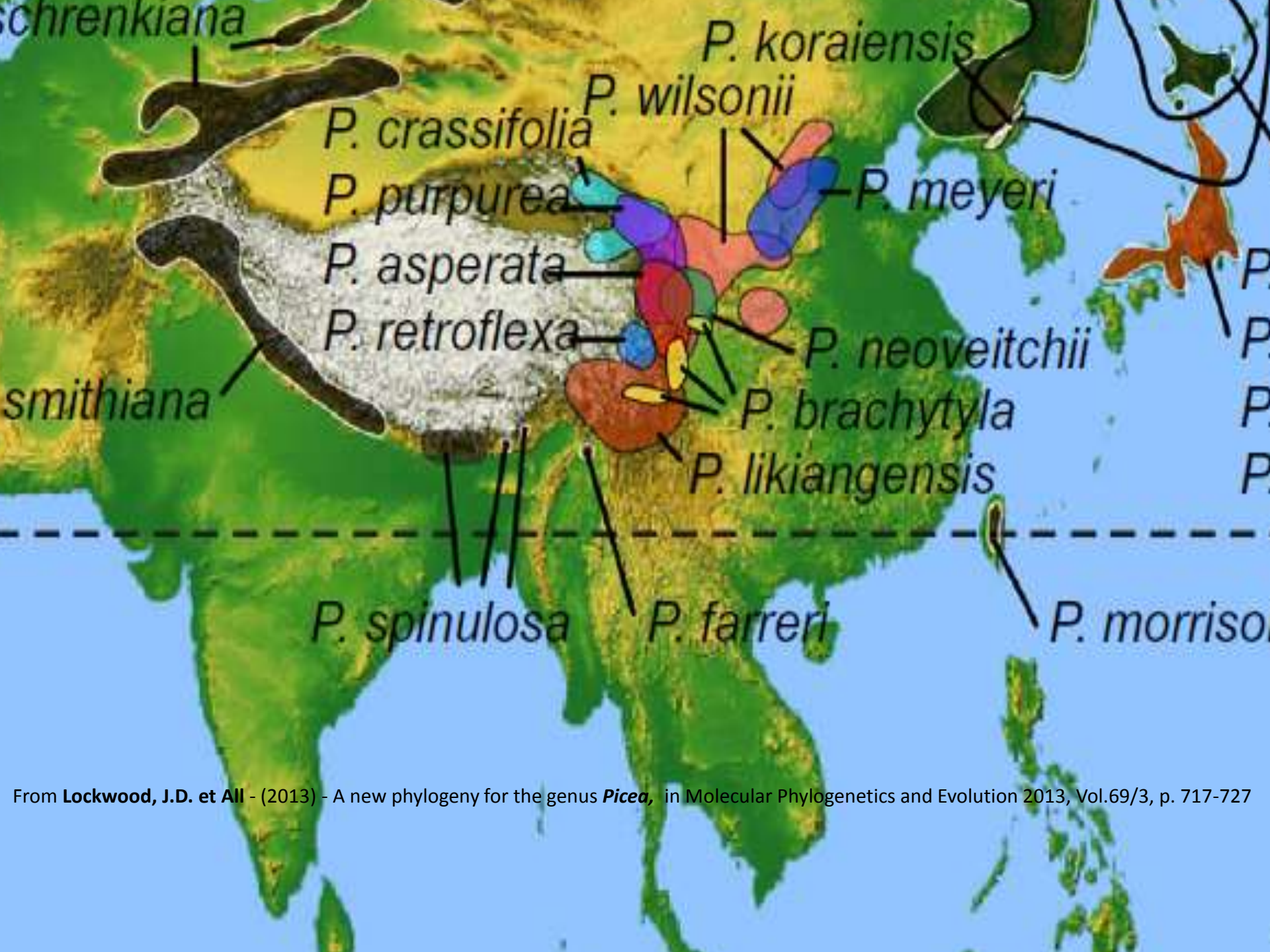
All pictures are free of copyright and can be used by anyone.

Philippe de Spoelberch, Wespelaar, December 2014



1. Map of the Northern Hemisphere in equal-area projection (Mollweide) showing the distribution of *Picea* based on Farjón (1990) and eFloras (2008). Black dashed line indicates a major phylogenetic split. From Lockwood, J.D. et al - (2013) - A new phylogeny for the genus *Picea*, in Molecular Phylogenetics and Evolution 2013, Vol.69/3, p. 717-727

Biodiversity of South West China demonstrated by
distribution map of the genus *Picea* (Eurasia):



From Lockwood, J.D. et All - (2013) - A new phylogeny for the genus *Picea*, in Molecular Phylogenetics and Evolution 2013, Vol.69/3, p. 717-727



C H I N A

INDIA

BIRMA

Zuidchinese Zee

Arabische Zee

Golf van Bengalen

ARABISCH BEKKEN

NICOBAREN-BEKKEN

MALEISIË

CARLSBERG RUG

renaar

GROTE SOENDA-INDONESIË

SEYCHELLEN-MADRITUSRUG

CENTRAAL

DIAKARTA

ISLANDS

BEKKEN

JAVATROG

DEP

COCOS ISLANDS

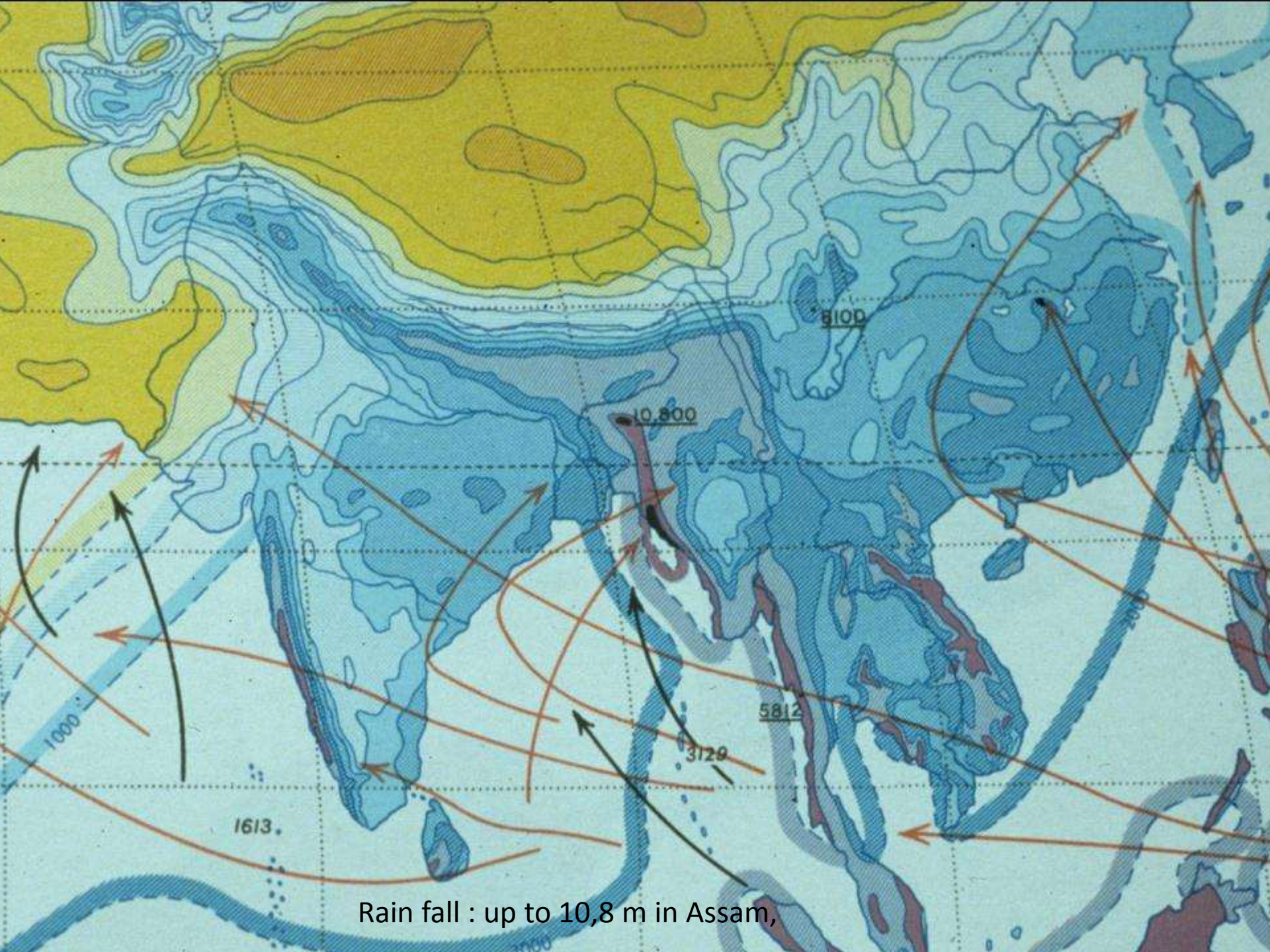
Timorzee

AP DIAMANT

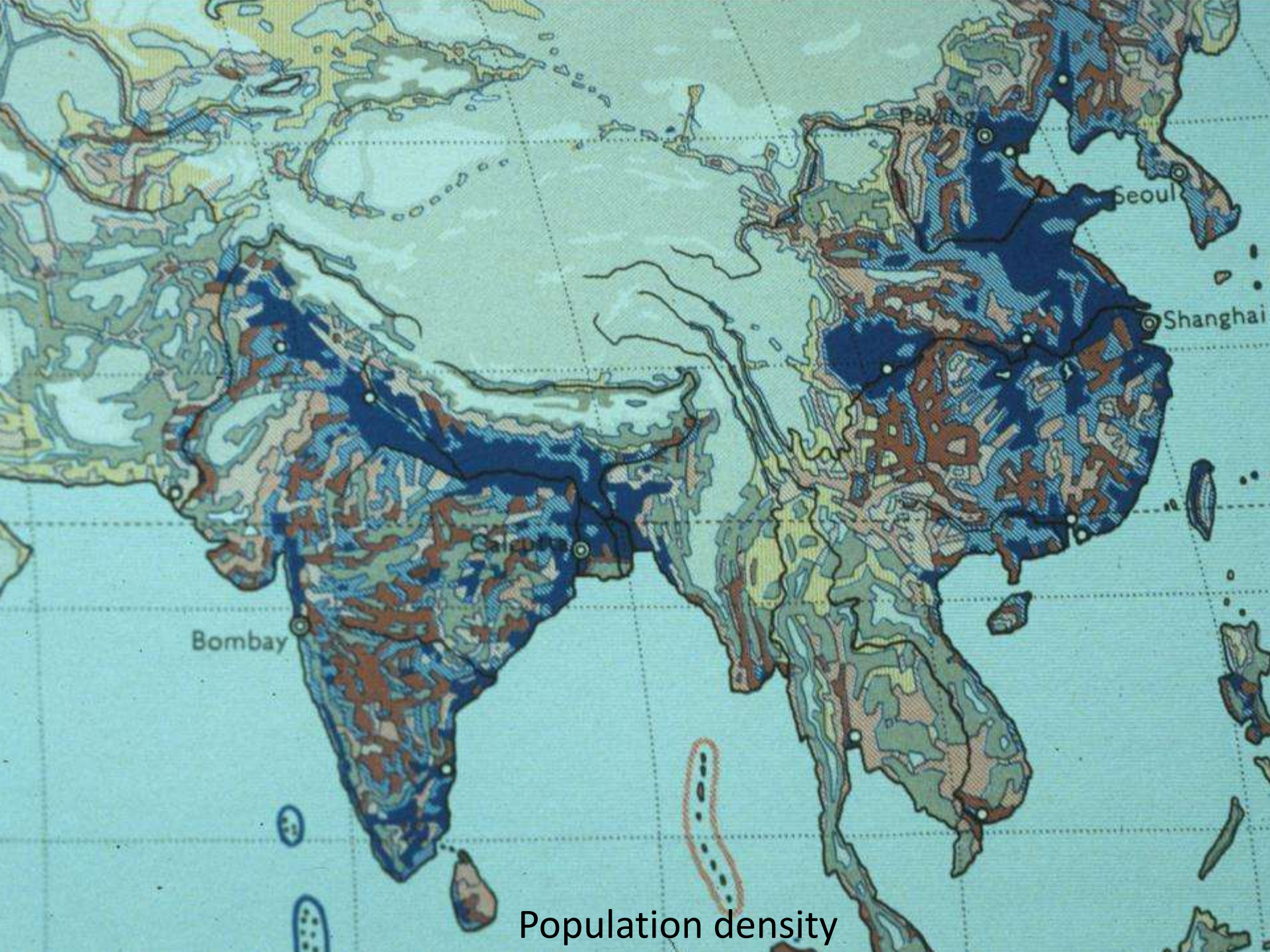
ARUBEBEKKEN

Joseph Bonaparte Gult





Rain fall : up to 10,8 m in Assam,



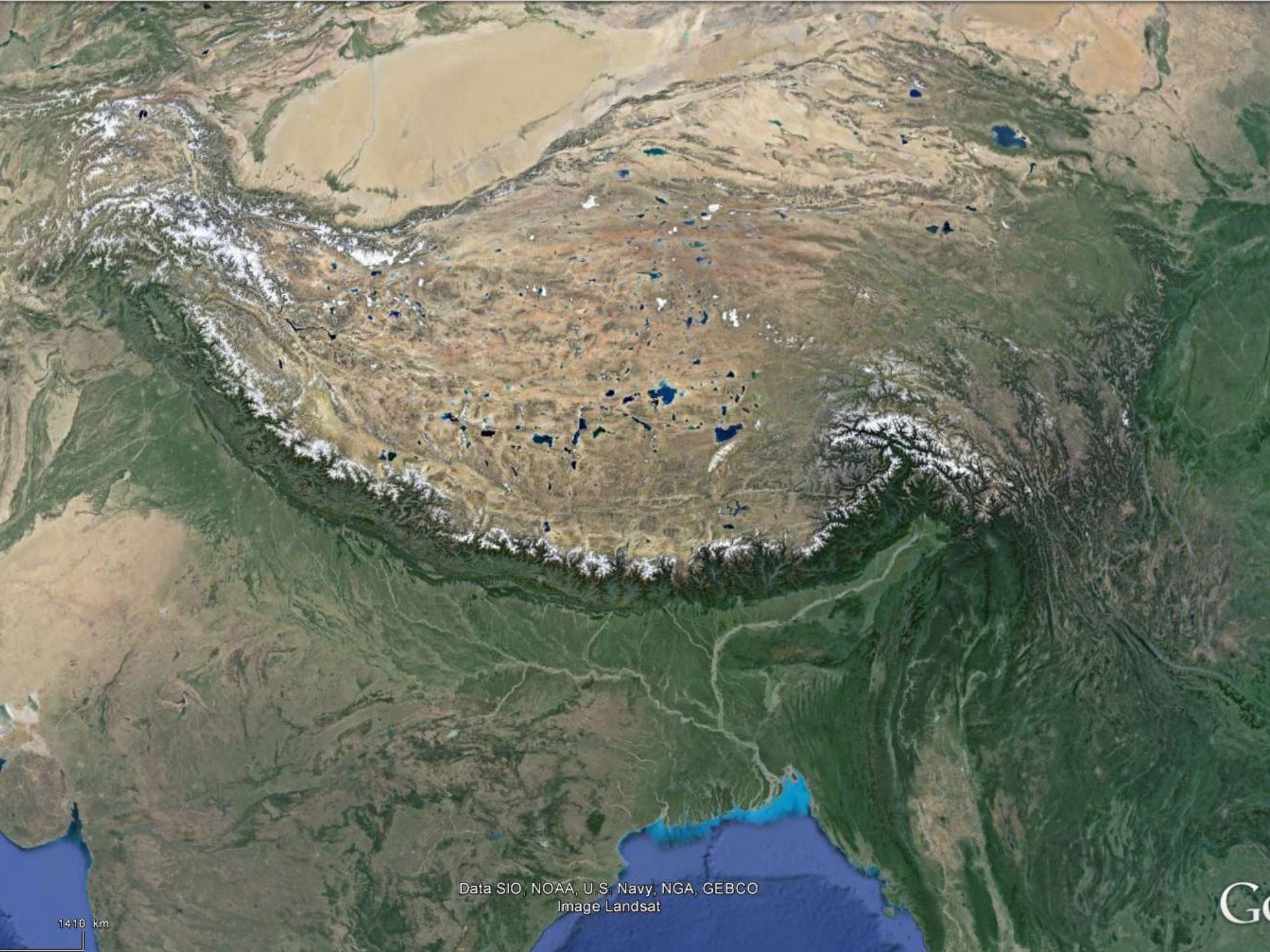
Bombay

Calcutta

Seoul

Shanghai

Population density



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat

1410 km

GO



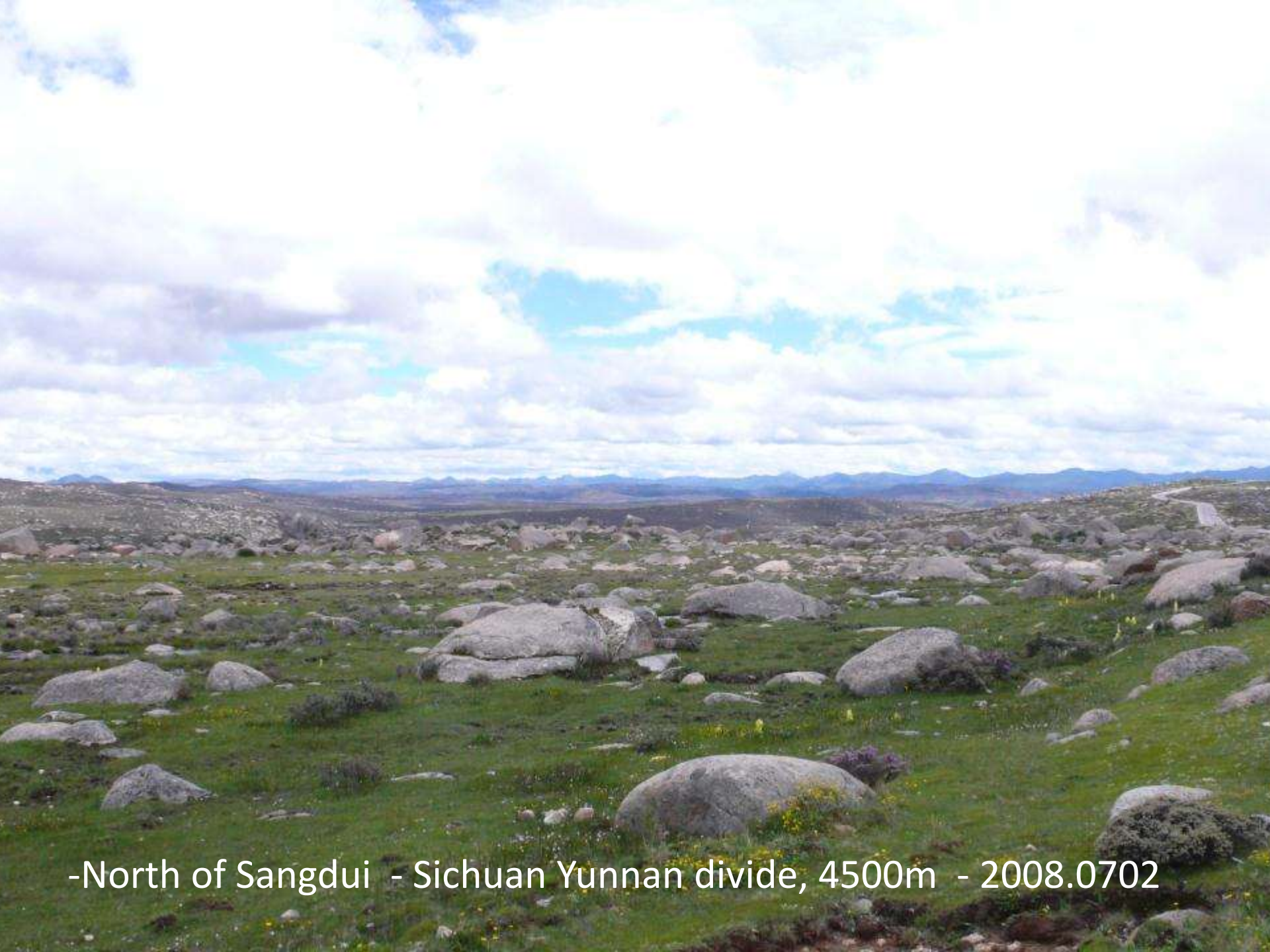
Salween

Mekong

Yangtze



The high plateau between Yunnan and Sichuan, 4500 m, source of the 3 rivers



-North of Sangdui - Sichuan Yunnan divide, 4500m - 2008.0702





Rheum alexandrae

Salween

Mekong

Yangtze





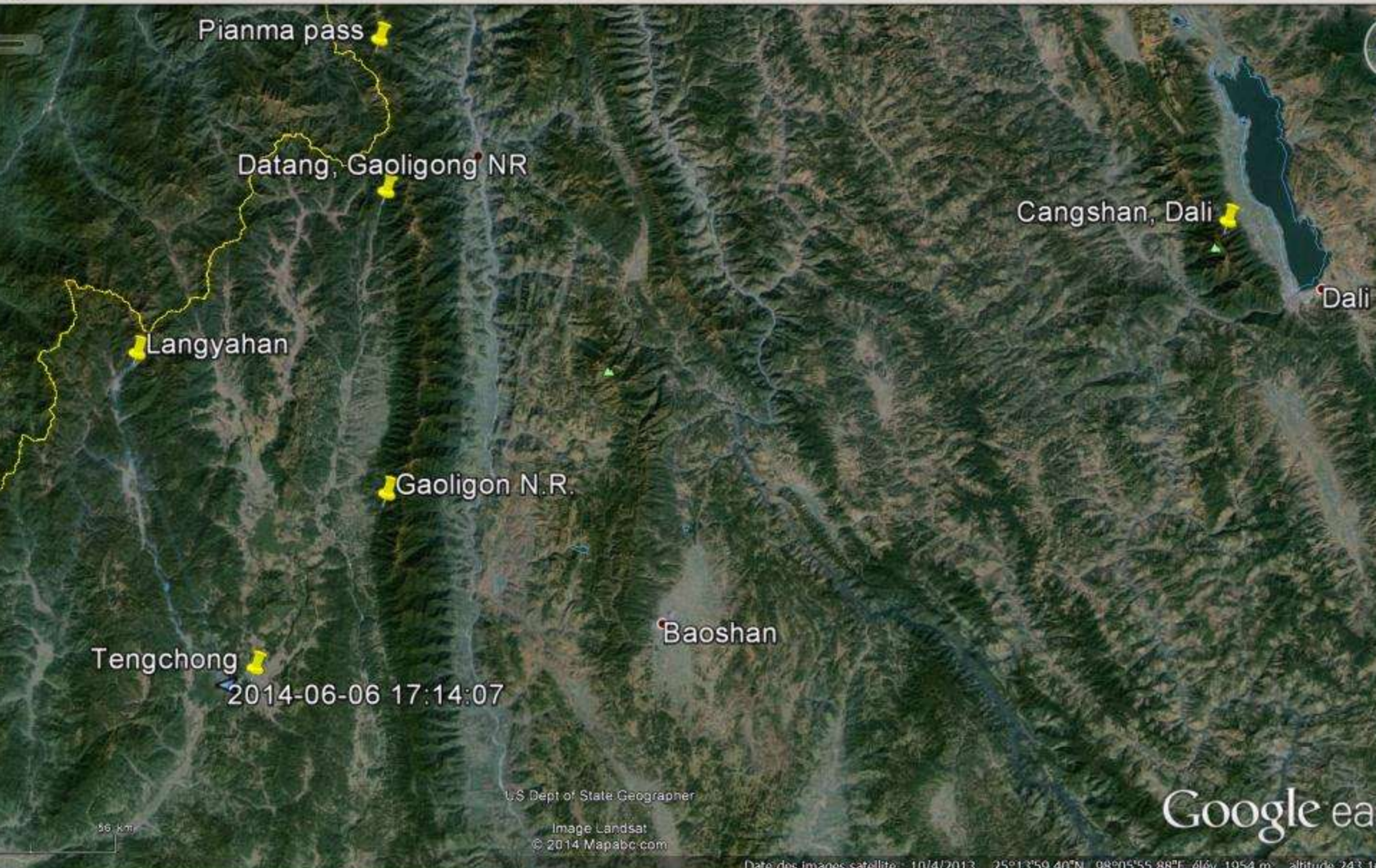
Kunming , 16 September 1986, Half a million inhabitants







Kunming 2014 : 5 million inhabitants



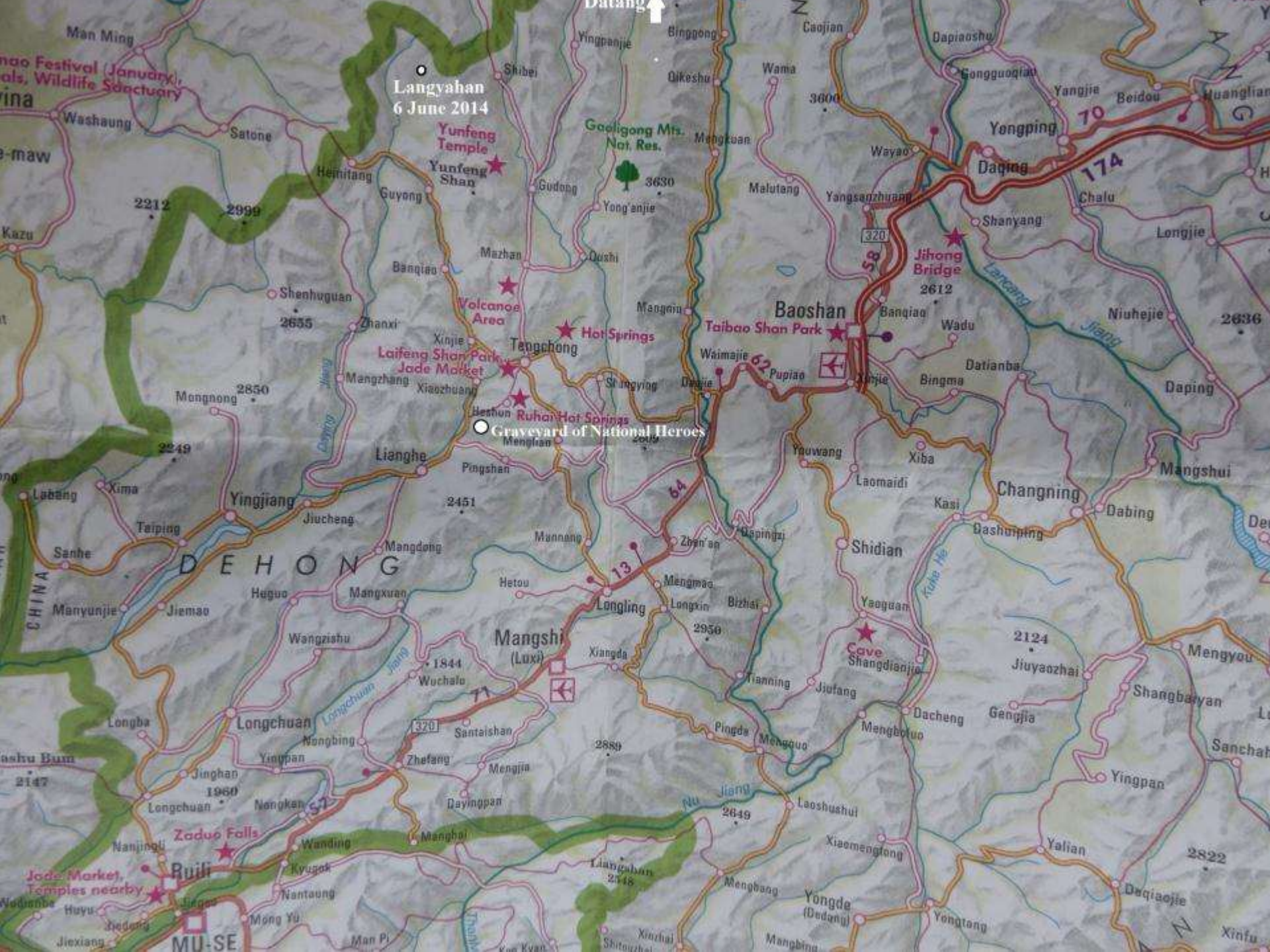
Tengchong

2014-06-06 17:14:07

U.S. Dept of State Geographer
 Image Landsat
 © 2014 Mapabc.com

Google ea

Date des images satellite: 10/4/2013 25°13'59.40"N 98°05'55.88"E elev. 1954 m altitude 243.1



Langyahan
6 June 2014

Yunfeng Temple

Yunfeng Shan

Googong Mts. Nat. Res.

Volcanos Area

Hot Springs

Lai Feng Shan Park

Jade Market

Ruhan Hot Springs

Graveyard of National Heroes

Baoshan

Taibao Shan Park

Jihong Bridge

DEHONG

Mangshi (Luxi)

Longling

Cave Shangdianjia

Zaduo Falls

Ruili

Jade Market, Temples nearby

MU-SE

Heshun lake, west of Tengshong, *Nelumbo nucifera*,







Taxus chinensis, Heshun, Graveyard of National Heroes



Taxus chinensis, Heshun, Graveyard of National Heroes



















Leycesteria formosa - Langyahan, West of Tengchong - 2015.0606b



Lilium brownii - Langyahan, West of Tengchong - 2015.0606



Lilium brownii - Langyahan, West of Tengchong - 2015.0606





Rosa brunonii - Langyahan, West of Tengchong - 2015.0606b



Rosa brunonii - Langyahan, West of Tengchong - 2015.0606b



Rosa sericea var. pteracantha - Langyahan, West of Tengchong



Rosa sericea var. *pteracantha* - Langyahan, West of Tengchong



Rhododendron arboreum subsp. *delavayi* - Langyahan, West of Tengchong



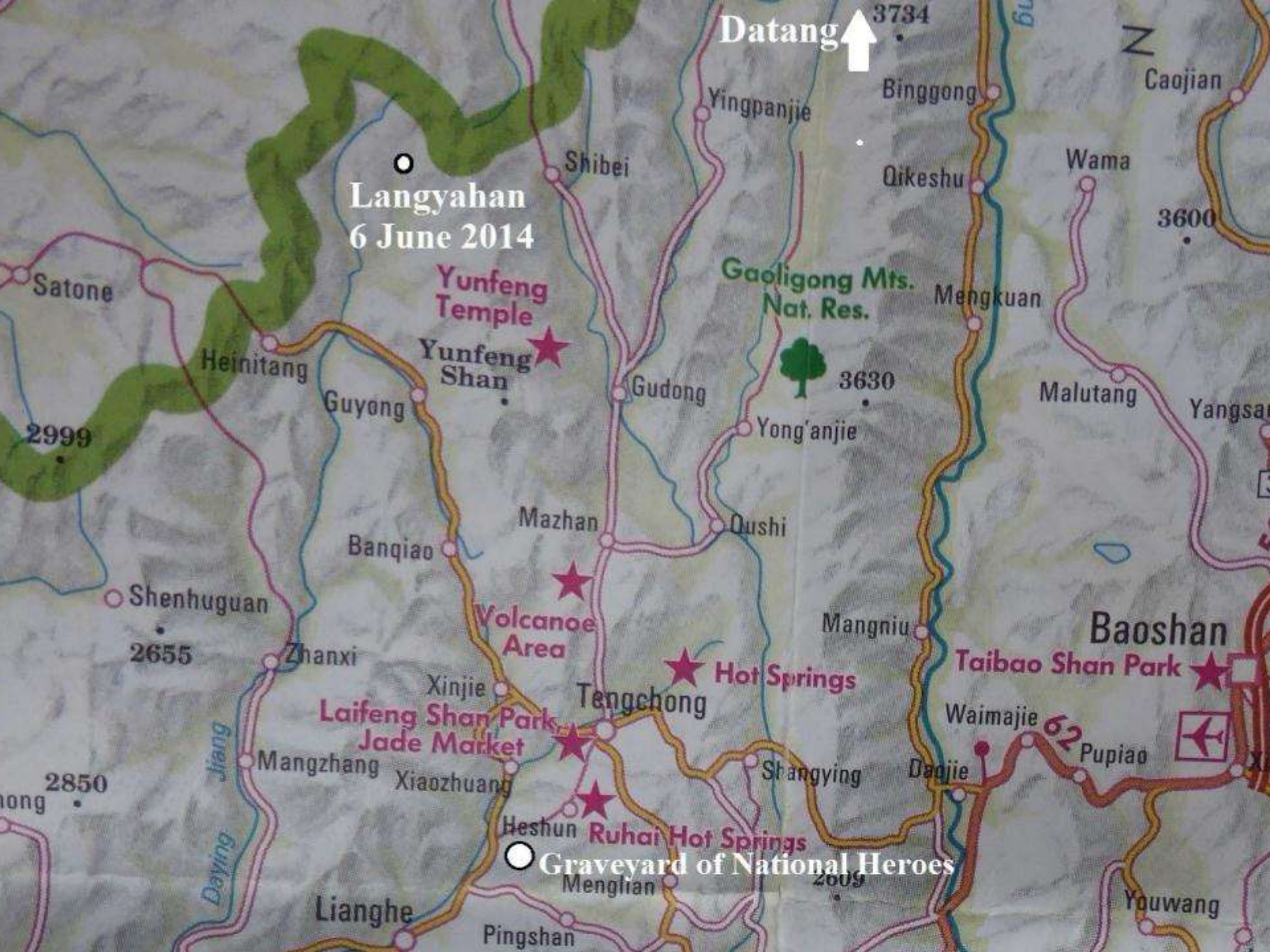
Rhododendron decorum - Langyahan, West of Tengchong - 2014.0606



Clematis montana - Langyahashan - 2014.0606 -



Cornus capitata - Langyahan, West of Tengchong - 2015.0606



Langyahan
6 June 2014

Datang ↑

Yunfeng Temple

Yunfeng Shan

Gaoligong Mts.
Nat. Res.

Volcanoe Area

Hot Springs

Laifeng Shan Park
Jade Market

Tengchong

Taibao Shan Park

Ruhai Hot Springs

Graveyard of National Heroes

Baoshan

Lianghe

Pingshan

Youwang

N

Caojian

3600

3734

3630

2999

2655

2850

2609

62

Satone

Heinitang

Guyong

Banqiao

Shenhuguan

Zhanxi

Xinjie

Mangzhang

Xiaozhuang

Heshun

Mengliao

Shibei

Yingpanjie

Binggong

Qikeshu

Wama

Mengkuan

Malutang

Yangsa

Mazhan

Qushi

Mangniu

Waimajie

Pupiao

Shangying

Dajie



Gaoligong Mountains Nature Reserve : Southern tip of the Gaoligong Chain, into the mild temperate forest.





Juglans sigillata - Gaoligong Nature reserve, Tengchong, 2014.0607







Juglans sigillata - Gaoligong Nature reserve, Tengchong, 2014.0607



Juglans sigillata - Gaoligong Nature reserve, Tengchong, 2014.0607



Magnolia hookeri (syn. *Manglietia*) (3m girth) –
Gaoligong Nature reserve, Tengchong,



Magnolia hookeri (syn. Manglietia) (3m girth) –
Gaoligong Nature reserve, Tengchong,



Arisaema wardii Aff. - Gaoligong Nature reserve,



Disporum cantoniense - Gaoligong Nature reserve,



白桦 *Betula alnoides*
白桦 *Betula alnoides*
Betula alnoides Hamilt

Betula alnoides or *cylindrostachya* - Gaoligong Nature reserve,



Betula alnoides or cylindrostachya - Gaoligong Nature reserve,



Mahonia lomariifolia aff. - Gaoligong Nature reserve,



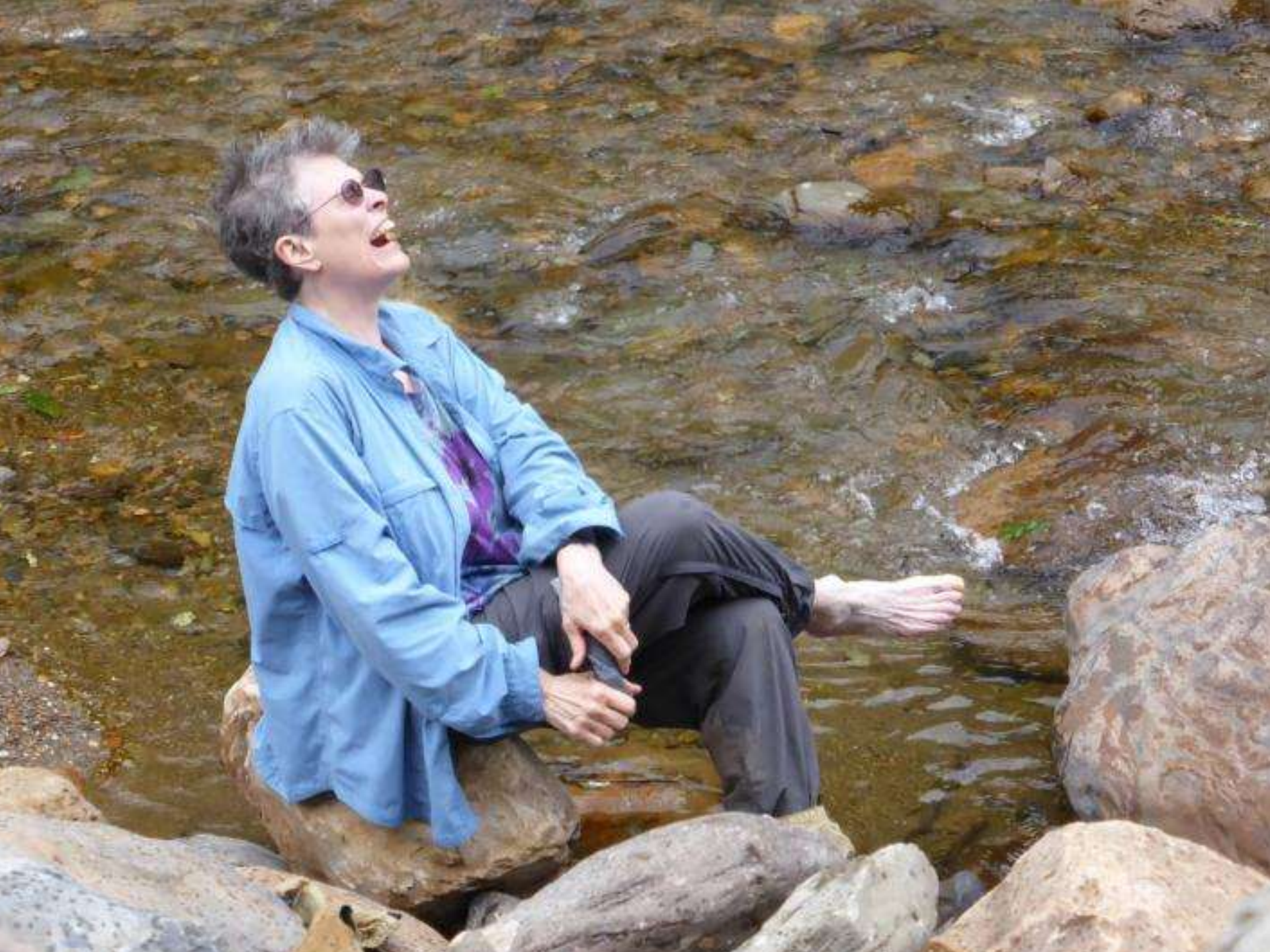
Datang, Big Rhododendron walk, 2040m,
Myanmar border, 2014.0608













Quercus lamellosa - Datang, Tengchong, Yunn.



Quercus lamellosa - Datang, Tengchong, Yunn.



Acer pectinatum subsp. *taronense* – Datang, Yunn. - 2014.0608



Acer pectinatum subsp. *taronense* – Datang, Yunn. - 2014.0608



Acer pectinatum subsp. *taronense* – Datang, Yunn. - 2014.0608



Acer chenii or *pectinatum* subsp. *taronense* Tengchong, Yunn. -



Acer chenii or *pectinatum* subsp. *taronense* Tengchong, Yunn. - 2014.06



Acer chenii or *pectinatum* subsp. *taronense* Tengchong, Yunn. - 2014.06



Acer campbellii - Datang, Tengchong, Yunn. - 2014.0608 0



Acer campbellii - Datang, Tengchong, Yunn. - 2014.0608 0



Acer davidii - Datang, Tengchong, Yunn. - 2014.0608



Hydrangea acuminata - Datang, Tengchong, Yunn. - 2014.0608



Hydrangea acuminata - Datang, Tengchong, Yunn. - 2014.0608




Tetracentron sinense - Datang, Tengchong, Yunn. - 2014.0608



Symplocos sp. - Datang, Tengchong, Yunn. - 2014.0608



Brassaiopsis fatsioides - Datang, Tengchong, Yunn. - 2014.0608

A photograph of a Brassaiopsis fatsioides plant. The plant features several large, bright green, deeply lobed leaves with prominent veins. The leaves are arranged in a fan-like pattern. The background is dark and filled with thin, brown branches and some other green foliage, suggesting a forest or woodland environment. The lighting is natural, highlighting the texture and color of the leaves.

Brassaiopsis fatsioides - Datang, Tengchong, Yunn. - 2014.0608









Galeola lindleyana - Datang, Tengchong, 2014.0608



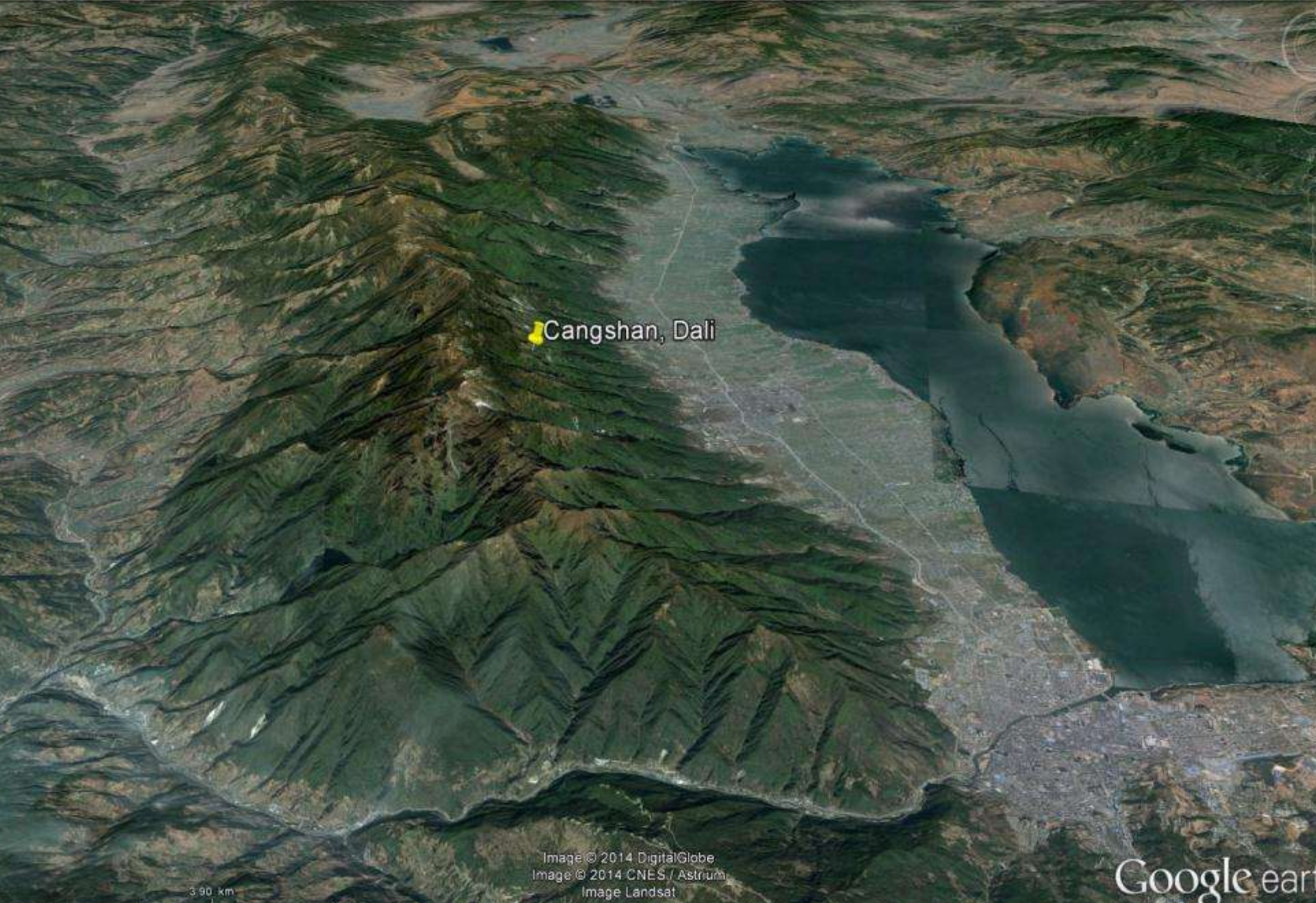



Cardiocrinum
giganteum
var. Yunnanense
Datang, Yunnan

Over the Mekong to Dali and the Cangshan



Lancang Jiang, (Mekong) on the way to Dali, Yunn - 2014.0609 002



 Cangshan, Dali

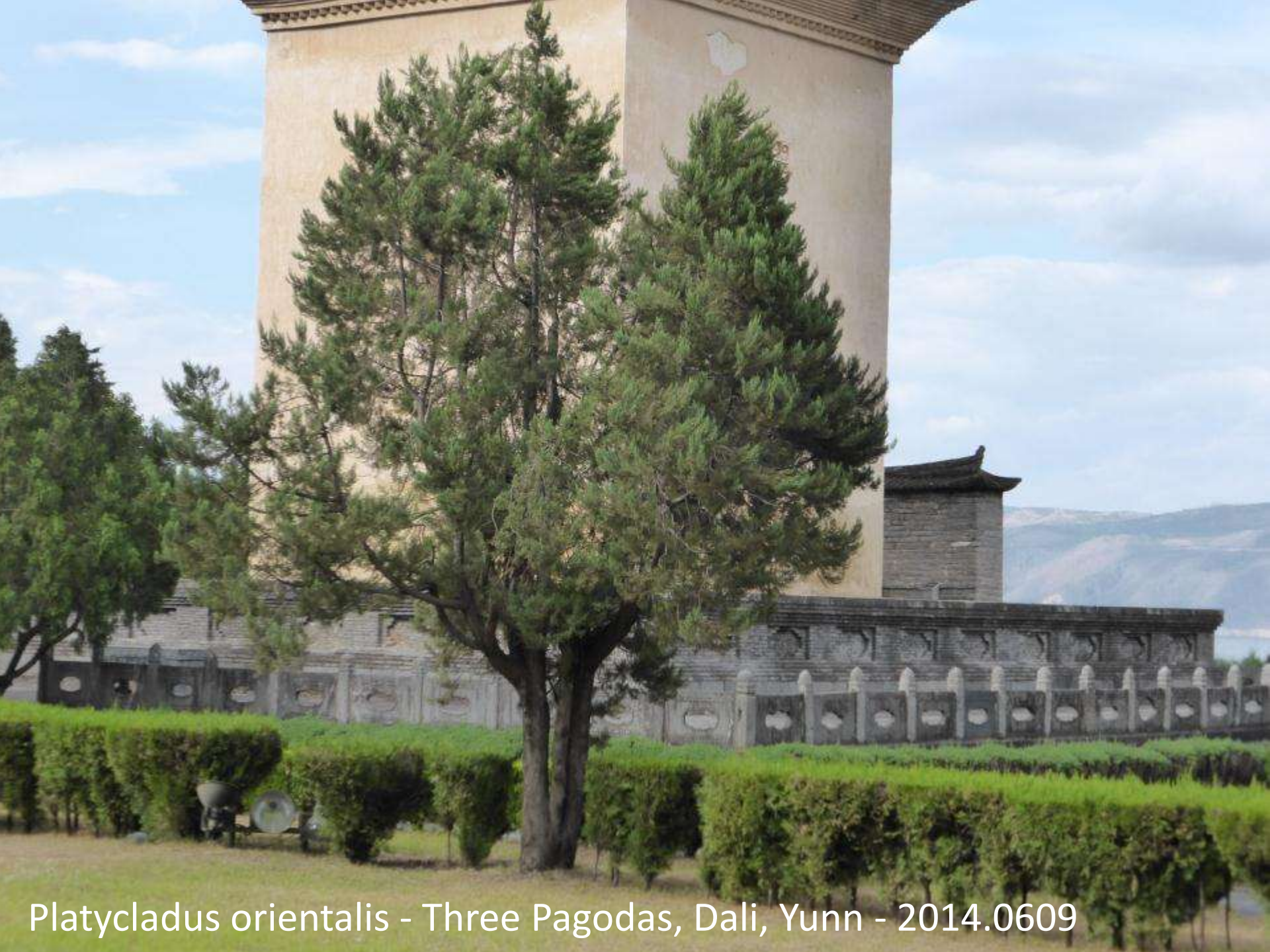
3.90 km

Image © 2014 DigitalGlobe
Image © 2014 CNES / Astrium
Image Landsat

Google earth



One of the three pagodas of Dali



Platycladus orientalis - Three Pagodas, Dali, Yunn - 2014.0609



Platycladus orientalis - Three Pagodas, Dali, Yunn - 2014.0609



Cangshan summit - 3900m, Dali, Yunn - 2014.0610







Abies delavayi - Cangshan summit 3900m, Dali, Yunn - 2014.0610













Rhododendron taliense - Cangshan summit 3900m, Dali, Yunn -



Rhododendron taliense - Cangshan summit 3900m, Dali, Yunn -



Rhododendron taliense - Cangshan summit 3900m, Dali, Yunn -



Rhododendron lacteum - Cangshan summit 3900m, Dali, Yunn



Rhododendron lacteum - Cangshan summit 3900m, Dali, Yunn







Rhododendron impeditum - Cangshan summit 3900m, Dali, Yunn -



Rhododendron impeditum - Cangshan summit 3900m, Dali, Yunn -



Rhododendron impeditum - Cangshan summit 3900m, Dali, Yunn -



Sorbus microphylla - Cangshan summit 3900m



Sorbus microphylla - Cangshan summit 3900m



Megacarpaea delavayi - Cangshan summit 3900m, - 2014.0610



Megacarpaea delavayi - Cangshan summit 3900m, - 2014.0610



Omphalogramma delavayi - Cangshan summit 3900m, Dali, Yunn -



Omphalogramma delavayi - Cangshan summit 3900m, Dali, Yunn -



Omphalogramma delavayi - Cangshan summit 3900m, Dali, Yunn -



Primula calliantha -



Primula calliantha -



Primula sikkimensis - Cangshan
summit 3900m, Dali, Yunn



Pegaeophyton scapiflorum - Cangshan summit 3900m,



Bergenia purpurascens

Over the Yangtze to the Zhongdian Plateau







Zhongdian plateau, 3300 m - 2014.0611







Betula szechuanica, Zhongdian Plateau, Yunn 2014.0611



Thermopsis barbata - Zhongdian - 2014.0611



Euphorbia stracheyi - Stellera chamaejasme - 2014.0611



Lysimachia prolifera - Zhongdian - 2014.0611



Euphorbia stracheyi - *Stelleria chamaejasme*, *Incarvillea zhongdianensis* -



Incarvillea zhongdianensis (dwarf on dry meadow) - Zhongdian -



Incarvillea zhongdianensis (dwarf on dry meadow) - Zhongdian -



Rhododendron hippophaeoides - Zhongdian - 2014.0611



Iris bulleyana -



Iris barbatula -

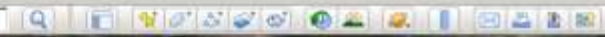


Stellera chamejasme



Euphorbia jolkinii (syn. *nematocypha*) - Zhongdian





Shika

Kamuru

Kamugu

Image © 2014 DigitalGlobe

© 2014 Mapabc.com

Google

500 m

Date des images satellite : 27/12/2011 27°47'03.67"N 99°35'21.06"E élév. 4331







Paraquilegia microphylla - 4400m, Shika Mountain,



AGS members in action (Dick, Barry, Phillip) - Shika Mountain 4300m, Zhongdian



Rhododendron intricatum
Shika Mountain, 4300m,



Corydalis pachycentra - Shika Mountain 4300m, Zhongdian -



Spongiocarpella nubigena (syn. Chesneya) -



Primula chionantha subsp. *sinopurpurea* - Shika Mountain 4300m,



Primula minor - Shika Mountain 4300m, Zhongdian -



Primula amethystina - - Shika Mountain, Zhongdian -



Primula amethystina - - Shika Mountain, Zhongdian -



Diapensia purpurea - Shika Mountain 4300m, Zhongdian -



Oxygraphis glacialis - Shika Mountain 4300m, Zhongdian -



Rhododendron primuliflorum
(Section Pogonanthum)
4300m Shika Mt., Zhongdian





Rhododendron primuliflorum
(Section Pogonanthum)
4300m Shika Mt., Zhongdian







Rhododendron phaeochrysum -
Shika Mountain 4200 m,



Rhododendron phaeochrysum -
Shika Mountain 4200 m,



Rhododendron phaeochrysum - Shika Mountain 4200 m, Zhongdian



Rhododendron phaeochrysum - Shika Mountain 4200 m, Zhongdian















Meconopsis sulfurea



Meconopsis sulfurea



Meconopsis sulfurea



Primula amethystina





Primula orbicularis



P. minor



Primula deflexa



Corydalis pachycentra -



Abies delavayi var. *forrestii* 4075m -



Abies delavayi var. forrestii 4075m -



Abies delavayi var. *forrestii* - Shika Mountain, Zhongdian -



Abies delavayi var. *forrestii* - Shika Mountain, Zhongdian -





Juniperus chinensis



Picea likiangensis (young cone) - Shika Mountain, 3900 0m,



Larix potaninii



Rhododendron roxieanum



Rhododendron roxieanum



Rhododendron rupicola



Rhododendron rupicola



Primula polyneura - Shika Mountain, Zhongdian -



Megacodon stylophorus



Megacodon stylophorus



Daphne retusa aff., *Primula polyneura* -



Daphne retusa aff., *Primula polyneura* -



Oreorchis
erythrochrysea

Viola bifolia



Deutzia calycosa



Rhododendron vernicosum -



Podophyllum hexandrum -



Podophyllum hexandrum -





Shika Mountain, Cable car
Middle station 3750 m



Rhododendron intricatum



End of a great day on Shika Mountain , Zhongdian

Yunnan June 2014

Shika Mountain
Zhongdian



Rhododendron saluenense
subsp. *chameunum* -



Rhododendron rupicola
or *russatum* ?



Rhododendron intricatum

Rhododendron impeditum ?



Rhododendron primuliflorum



To Tianchi Lake
13 June 2014, 4300 m



Rhododendron impeditum aff. – Shika lake, Zhongdian





Rhododendron rupicola, impeditum, nivale



Rhododendron rupicola, impeditum, nivale



Lilium souliei - Tianchi lake, Zhongdian - 2014.0613



Lilium souliei - Tianchi lake, Zhongdian - 2014.0613



Rheum alexandrae - Tianchi lake, Zhongdian - 2014.0613 267



Rhododendron rupicola, Caltha scaposa- Tianchi lake, Zhongdian - 2014.



Lonicera mitis - Tianchi lake,



Primula secundiflora -



Primula secundiflora -



Primula sikkimensis always with secundiflora - down from Tianchi lake



Primula sikkimensis always with secundiflora - down from Tianchi lake





Nomocharis aperta - Tianchi lake, Zhongdian -



Cyripedium guttatum



Cypripedium guttatum



Cypripedium flavum - Tianchi lake, Zhongdian -



Cypripedium flavum - Tianchi lake, Zhongdian -



Meconopsis zhongdianensis- down from Tianchi Zhongdian



Meconopsis zhongdianensis- down from Tianchi Zhongdian

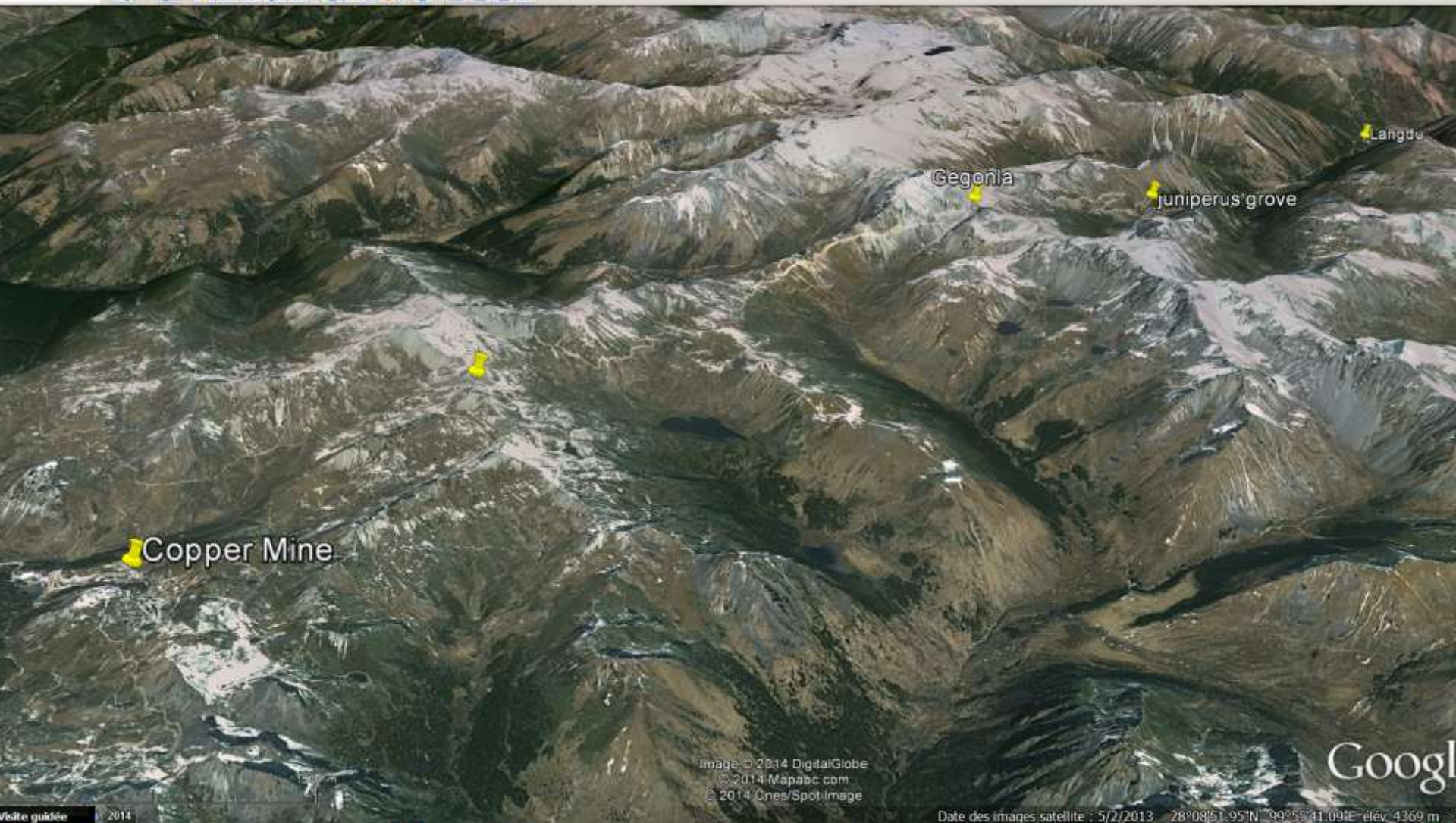


Image © 2014 DigitalGlobe
© 2014 Mapbox.com
© 2014 CNES/Spot Image

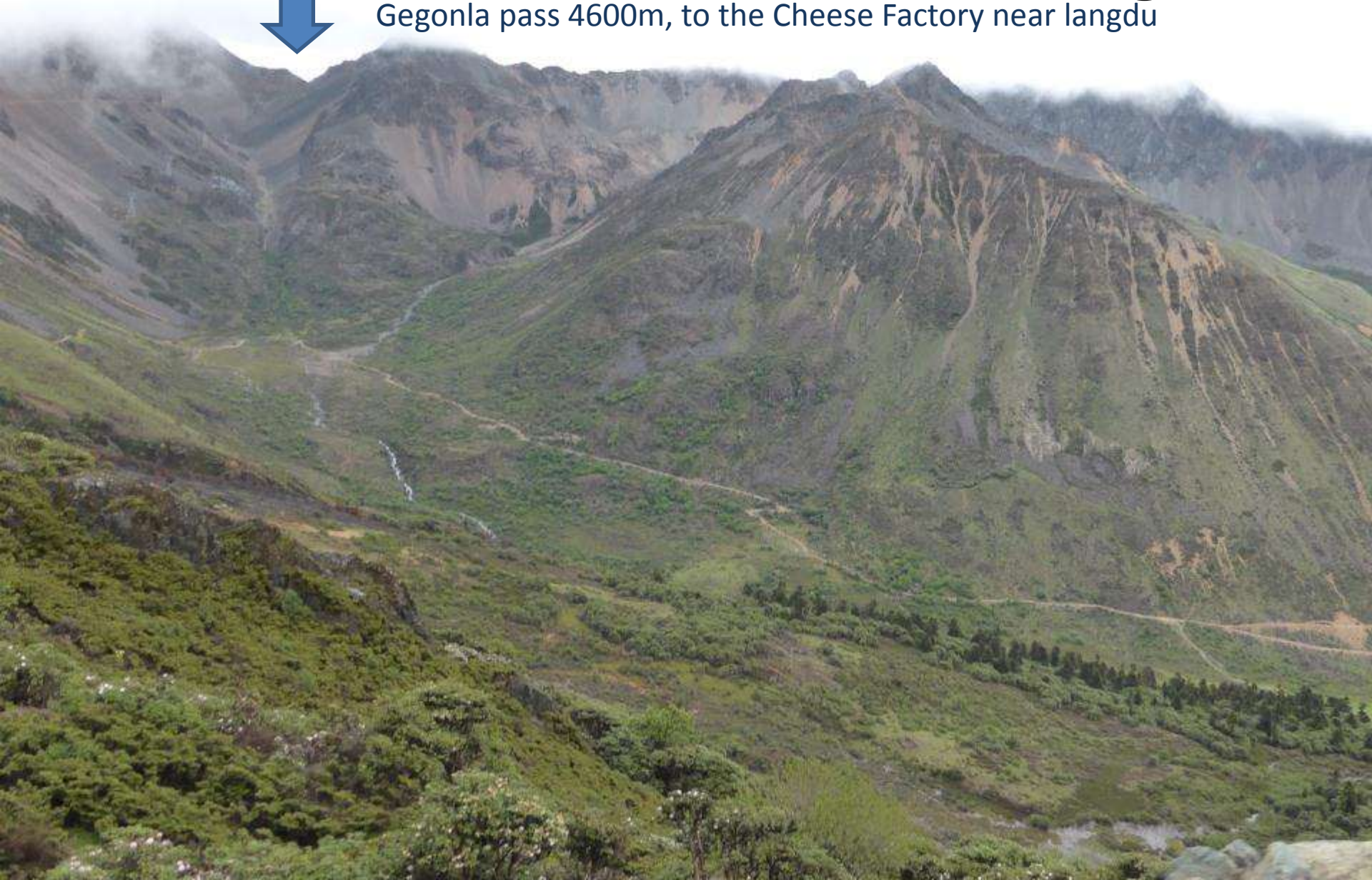
Google

Date des images satellite : 5/2/2013 28°08'51.95"N 99°55'41.09"E élév. 4369 m

14-15 June - over the Hongshan



Gegonla pass 4600m, to the Cheese Factory near langdu













Lodge at Meixian Cheese factory, 3650m, near Langdu - Hongshan - 2014.0615



Watermill at Meixian Cheese factory, 3650m, near Langdu – North Yunnan - 2014.0615



Rhododendron trichostomum -3200m out of Zhongdian,



Rhododendron trichostomum -3200m out of Zhongdian,



Rhododendron oreotrephes – 3800m Hongshan, from Zhongdian to Gog



Rhododendron yunnanense - Hongshan, near Langdu cheese factory -



Sorbus sp. (PROP.13209) - Hongshan 4245m, Yunn. -



Sorbus sp. (PROP.13209) - Hongshan 4245m, Yunn. -



Sorbus sp. (PROP.13209) - Hongshan 4245m, Yunn. -



Juniperus chinensis – down to cheese factory Hongshan 4245m, Yunn.



Juniperus chinensis - Hongshan 4245m, Yunn.



Juniperus chinensis - Hongshan 4245m, Yunn.



Juniperus chinensis - Hongshan 4245m, Yunn. –
Mature (scale like) and juvenile (acicular) needles



Rhododendron sp. (PROP.13210) - 4250m, down to cheese factory



Probably
R. phaeochrysum

Rhododendron sp. (PROP.13210) - 4250m, down to cheese factory



Rhododendron phaeochrysum (Taliensia sect.) - Hongshan, Yunn. -



Rhododendron phaeochrysum (Taliensia sect.) - Hongshan, Yunn. -



Rhododendron phaeochrysum (Taliensia sect.) - Hongshan, Yunn. -



Rhododendron rupicola var. chryseum - Hongshan 4245m, Yunn.



Rhododendron rupicola var. *chryseum* - Hongshan 4245m, Yunn.



Rhododendron rupicola var. *chryseum* - Hongshan 4245m, Yunn.



Rhododendron roxieanum Hongshan 4300m, Yunn.



Rhododendron roxieanum Hongshan 4300m, Yunn.



Rhododendron roxieanum Hongshan 4300m, Yunn.



Primula boreiocalliantha - Hongshan 4245m, Yunn. -



Primula boreiocalliantha - Hongshan 4245m, Yunn. -



Primula boreiocalliantha - Hongshan 4245m, Yunn. -



Primula nanobella - 4500m Hongshan

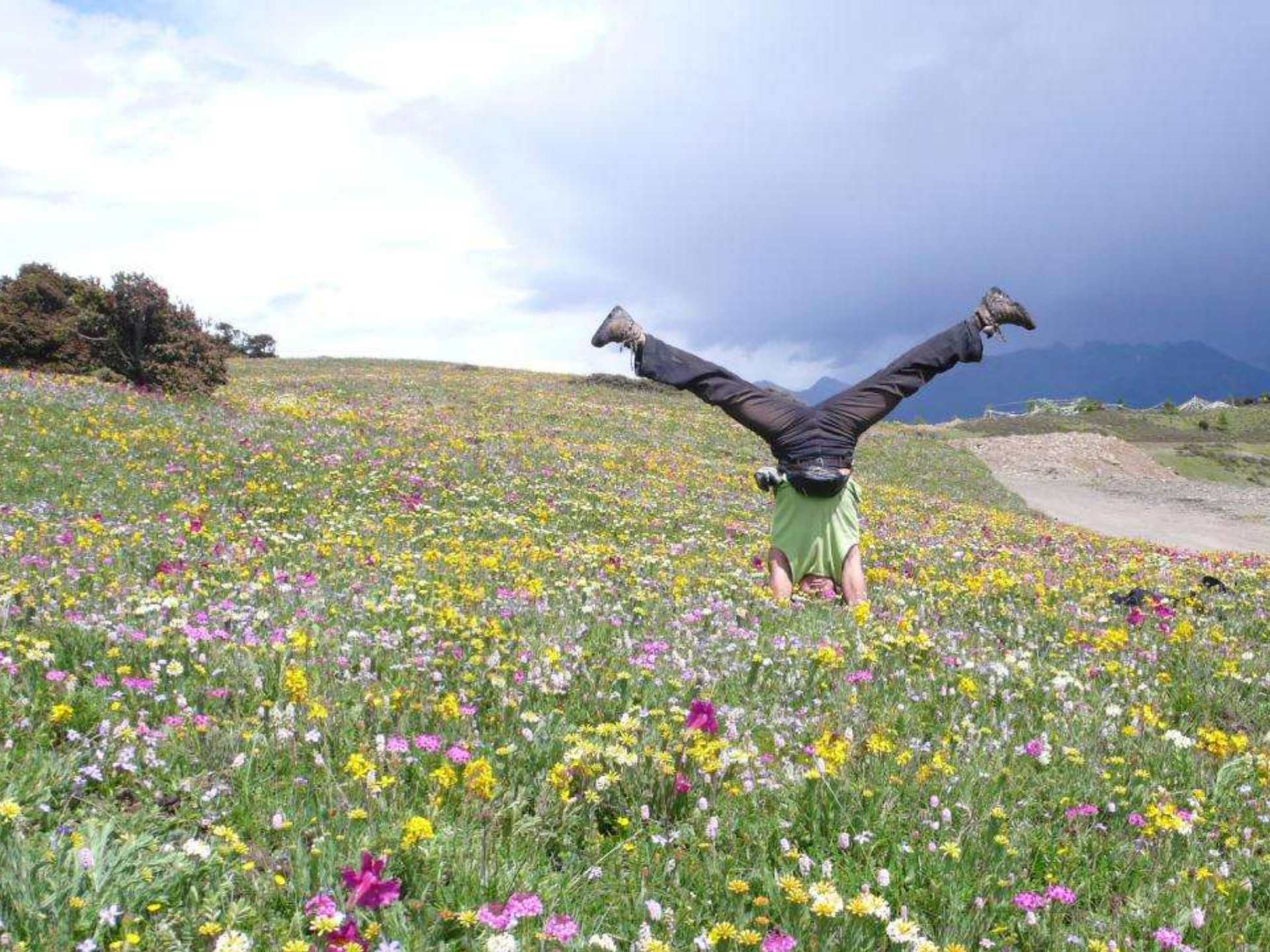


Pedicularis roylei - Hongshan 4200m,























Arenaria polytrichoides - Hongshan, Yunn.



Corydalis melanochlora - 4500m Hongshan





Corydalis benecincta aff - Hongshan, - 2014.0615



Corydalis conspersa - Hongshan, Yunn. -



Cremanthodium campanulatum - Hongshan, Yunn. -



Cremanthodium decaisnei - Hongshan, Yunn. -



Meconopsis lancifolia - Hongshan



Fritillaria delavayi - Hongshan 4400m,



“All aboard “, ... Rushing back to the cars

Over the Beimashan (4500m) to Deqen 16-17 June 2014





Kawagebo, or Meilishu, 6700 m , in the background,
3,5 km above the valley floor (Deqen)















Larix potaninii - 4500m - Beimashan, Yunn. -2014.0616







Rhododendron phaeochrysum aff. - Beimashan Pass 4500m - 2014.0617



Rhododendron rupicola var. *chryseum*, et *R. impeditum* - Beimashan,



Rhododendron saluenense et impeditum- Beimashan,



Rhododendron saluenense et impeditum- Beimashan,



Rhododendron saluenense - 4500m Beimashan, Yunn. -2014.0616



Rhododendron impeditum aff.
and Primula chionantha var sinopurpurea, , Beimashan 4250m



Primula calliantha - Beimashan, Yunn. -2014.0616



Primula dryadifolia aff. - Beimashan, Yunn. -2014.0616



Primula nanobella - Beimashan, Yunn. -2014.0616



Primula zambalensis - Beimashan, Yunn. -2014.0616



Primula zambalensis (white var.)



Lillium euxanthum - Beimashan east 4250 m -



Lillium euxanthum - Beimashan east 4250 m -



Paraquilegia microphylla - Beimashan, -2014.0616

Northern end of the Zhongdian plateau
Napahai and Songtsam Monastery 18 June 2014



Northern end of the Zhongdian plateau
Napahai and Songtsam Monastery 18 June 2014







Meconopsis prattii , Songtsam Botanical garden, Zhongdian



Daphne calcicola - Songtsam Bot. Garden, Yunn -



Acanthocalyx nepalensis var. delavayi - Songtsam Bot. Garden - 2014.0618



Androsace bulleyana - Songtsam Bot. Garden, Yunn - 2014.0618



Leontopodium dedekensii - Songtsam Bot. Garden, 2014.0618



Euphorbia jolkinii - Songtsam Bot. Garden,





Gentiana chungtienensis - Napahai top, Zhongdian, Yunn - 2014.0618



Gentiana chungtienensis - Napahai top, Zhongdian, Yunn - 2014.0618



Quercus sp. 2 (new growth) - Napahai top, Zhongdian



Rhododendron vernicosum - Napahai top, Zhongdian,



Rhododendron vernicosum - Napahai top, Zhongdian,



Rhododendron yunnanense (new growth) - Napahai top, Zhongdian,



Rhododendron yunnanense - Napahai top, Zhongdian,



Cypripedium flavum - Napahai top, Zhongdian,



Cypripedium plectrochillum - Napahai top, Zhongdian,



Cypripedium tibeticum - Napahai top, Zhongdian,



Cypripedium tibeticum - Napahai top, Zhongdian,





*The
End*

Cypripedium yunnanense - Napahai top, Zhongdian, - 2014.0618