

THE WILD FLOWERS OF LINGSHAN

灵山野

花

徐凤翔等 著
By Xu Fengxiang



中国旅游出版社

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THE WILD FLOWERS OF LINGSHAN

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Sponsors: Beijing Lingshan Ecological Research Institute
Publicity Department of Mentougou Pistrict, Beijing



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责任编辑:龚威健 孟庆杰

装帧设计:孟庆杰 杨毅 田海婴

地图绘制:杨毅

图书在版编目(CIP)数据

灵山野花/徐凤翔等著. - 北京:中国旅游出版社, 1999.9

ISBN 7-5032-1664-6

I. 灵… II. 徐… III. 野生植物-花卉-京西-灵山-图集 IV. S68-64

中国版本图书馆 CIP 数据核字(1999)第 39487 号

《灵山野花》

出版发行:中国旅游出版社

地址:北京建国门内大街甲九号

邮政编码:100005

制版:深圳利丰雅高电分制版有限公司

印刷:新扬印刷有限公司

版次:1999年9月第一版

印次:1999年9月第一次

开本:850×1168毫米 1/24

印张:4

印数:1-5000 004800

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北京市
Beijing

至大同
to Datong

灵山
Lingshan

109国道
109 highway

门头沟
Mentougou

市区
City proper

灵山在北京市的位置
The Position of Lingshan in Beijing



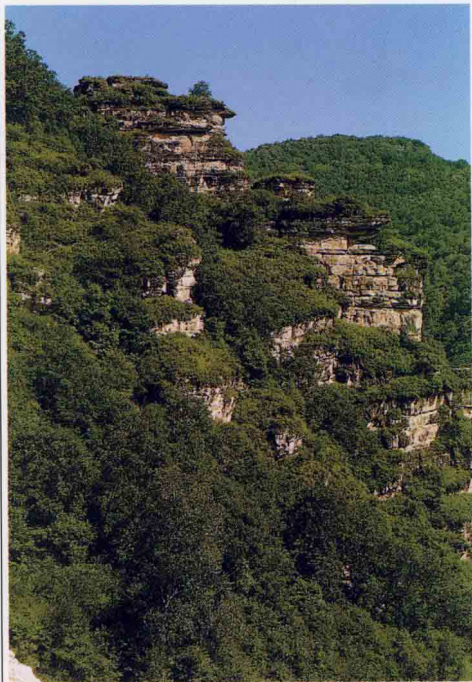
前言

Preface

举凡山体,被命名而称之为“灵”者,环视全国,不下十数。其“灵”,则各有千秋。有峰峦叠嶂,岩石剔透的山石之灵;有飞瀑山泉、雾岚飘忽的秀水之灵;有修竹万竿、古树苍劲的绿色之灵;有深山古刹、磬鼓悠悠的人文之灵。

而北京的灵山,灵在何处?窃以为一是灵在其地处京西,海拔高达 2303 米,为京都的最高峰,被爱称之为“北京的珠穆朗玛”;二是高亢辽阔,碧草青天,仲夏之际,山花争艳,露润草长,具远邈绿波之精灵!

灵山,其地理位置,在北京市西缘与河北省的涿鹿县及涑水县交界处,属门头沟清水镇地域。至于其经纬度范围虽然不大,但其地势与效能,却突兀重要。在华北平原上,逶迤的太行山脉中,小五台山一支



余脉至京西地段时,末端褶皱断裂,形成了一抹起伏的低、中山。百花山、灵山、黄草梁……,绵亘于北京的西沿。而灵山在其中高耸俯瞰,联袂群峰,为首都北京起着屏障西来的风沙寒流的作用。

在华北古陆沧海桑田造山的过程中,灵山地带的地质地貌,既有水成岩的各式褶皱抬升,又有火成岩的断裂喷发;既有灰岩系的岩溶地貌、流水潜泉、节理峰林,又有火山岩系的峭壁千仞、峻岭怪石。而更有特色的是灵山上部辽阔平缓的一级夷平面,形成了舒展的高原草地景观。

京华大地的气候,其基带主要属半干旱-半湿润暖温带类型。而灵山由于其海拔高程由暖温带~温带~寒温带,其气候属于温带季风半湿润型。冬长夏短,无霜期在 150 天左右。山顶部气温平均低于京华平地 10℃~12℃,夏季温润,既宜草木生长,又宜人类纳凉消暑。灵山地区外露的岩石,主要为石灰岩、花岗岩、页岩、片麻岩和石英砂岩。其土壤在山的下段以棕色森林土和褐色土为主,山中部以上以亚高山草甸土为主。

在灵山较明显的垂直气候带的状况下,植被类型亦成带分布。由山麓海拔 400 米向上至 800~1000 米带,为温和的低山丘陵台地带,植被主要是次生灌丛和阶地农田及村落道边的绿化树。灌丛主要是荆条 (*Vitex negundo* var. *heterophylla*)、酸枣 (*Ziziphus jujuba* var. *spinosa*)和虎榛 (*Ostryopsis davidiana*)、二色胡枝子 (*Lespedeza bicolor*)、绣线菊 (*Spiraea* spp.)等,并间有山杏 (*Prunus armeniaca* var. *ansu*)、山桃 (*Prunus davidiana*)等小乔木。均为落叶阔叶树种,春夏之间,亦能形成山花如云、绿满坡沟的景色。

800~1000 米以上至 1500~1700 米,为温凉的中山次生落叶阔叶林带,主要有辽东栎 (*Quercus liaotungensis*)、几种杨树 (*Pop-*

ulus spp.)、几种桦木 (*Betula* spp.)及胡桃楸 (*Juglans mandshurica*)等疏林,并间有灌木及禾草群落。此带沟深峰峻,奇石参差,在绿树的掩映下,颇有国画山水之意境。

1500~1700 米上至 1900~2000 米,属温凉中山过渡至冷凉亚高山夷平面草甸带,缓坡碧草,五花纷呈,大面积的山花草甸间以沟洼阴坡的白桦 (*Betula platyphylla*)、棘皮桦 (*Betula dahurica*)林和树丛。还有零星残留的落叶松 (*Larix principis-ruprechtii*)、云杉 (*Picea meyeri*),野生动物及牦牛游走其间,一派高原草地风光。

1900 米以上为冷凉的亚高山灌丛草甸、草地带,山柳 (*Salix phylicifolia*)、锦鸡儿 (*Caragana jubata*)等小灌木和苔草 (*Carex* spp.)、小丛红景天 (*Rhodiola dumulosa*)及杂色花草甸在石峰脊岭间遍布。登高远眺,绵延的太行山脉奔来眼底,脚下山花摇曳生姿,灵秀之气,氤氲环绕。

在如此垂直分异的生态环境中,灵山的生物物种亦甚丰富多样。这里有野生动物 1000 余种,其中哺乳类 26 种,鸟类 100 余种;高等植物 127 科,476 属,997 种,其中有药用和观赏价值的野生花灌木即有百余种。

这些野生花卉织就成天然的花毯,装点灵山的草甸、林分和灌丛。可以说灵山以草为珍,以花为宝。但灵山也是生态脆弱区,石质山地,土层瘠薄,植被稀疏,近年来旅游开发给亚高山草甸带来了超载负荷,出现了一定程度的草被退化、野花减少的状况,若继续下去,前景堪忧。

据此,我们按不同植被带,将主要的野花资源,选辑成册,为的是将灵山的珍宝一野花介绍于世,以期引起各方的关爱,共同保护,合理开发,让北京的珠穆朗玛永葆五彩的青春!

在我们进行灵山生物多样性研究与保护的工作中,在我们为灵山野花的选辑出

版过程中,得到了各级领导及同行们的热诚支持,我们由衷感谢!可以说,没有这些关怀和支持,灵山生物多样性的研究和保护以及《灵山野花》的问世是难以逆料的。在此我们特别要向市委付书记李志坚同志、首都绿化委员会单昭祥主任、宋希友付主任、市林业局李永芳局长、杨德宏局长、周冰总工、市科委王世雄副主任、王丽水处长、门头沟区委书记李建华同志、区长刘永富同志、付书记朱明德、孙尧东同志、付区长李慷云同志等关心生态环保事业、支持灵山生态研究所工作的同志们致以生态保护工作者的诚挚的谢意!

生态环境与自然资源的保护事业,是共同的事业,是未来的事业,需要爱心、汗水和双手来护卫它、扶持它,以恢复和展现大自然的勃勃生机和美好的生态环境。

徐凤翔

一九九九年七月于灵山小木屋

灵山冬景
Lingshan's winter



Lingshan, or Magic Mountain, towers like a giant screen on the western fringe of Beijing Municipality, coming under the jurisdiction of Mentougou District. One can reach it by National Highway 109, a drive of about 100 kilometres from Beijing's city proper.

Towering 2303 metres above sea level, Lingshan is the capital's tallest mountain. Coming from Tibet, I like to call it "Beijing's Qomolangma (Mt. Everest)". Not very large in area, it is, nevertheless, of unique significance so far as nature's endowment is concerned. Lingshan is at the western end of an extended chain of the Taihang Mountains stretching across the North China Plain.

As it approaches Beijing's western boundary, the chain turns into folds and faults, appearing as undulating low or medium-high mountains, among which Lingshan towers above the rest, serving as a break against the cold wind and sand sweeping in from the west. The mountain conveys a feeling of spaciousness and of being one step closer to the sky, a satisfaction enhanced in the summer by the flourishing of wild flowers on the green meadows.

During the orogenesis, a geological period of mountain building, the landforms in the Lingshan area saw both the elevation of sedimentary rocks and rifts and eruption of igneous rocks, giving rise

to limestone karsts, underground springs and joints and needle karsts as well as cliffs and precipices formed of volcanic rocks. What is even more unusual is the emergence of a smooth denudation level in the upper part of Lingshan Mountain, which explains the vast expanse of highland meadows there.

On the whole, the climate of the Beijing area belongs to the semi-arid, semi-humid warm-temperate zone. Lingshan Mountain, however, has three climatic zones, warm-temperate, temperate and frigid-temperate, according to altitude, thus one might describe its climate as belonging to the semi-humid temperate monsoon type. With a long

winter and short summer, its frost-free period is around 150 days. At its top, the average temperature is 10-12 degrees Celsius lower than on the plains. The summer is mild with moisture, suitable for the growth of vegetation and for humans as a retreat from the heat.

Limestone, granite, shale, gneiss and cherty sandstone form the bulk of the outcrop of rocks in the Lingshan area. As for its soil, it is mainly brown forest soil and cinnamon soil in the lower and middle section of the mountain and subalpine meadow soil from there up.

The remarkable vertical climatic belts have caused vegetation to grow in belt form. Between 400 metres and 800-1000 metres above sea level, it is gentle, hilly, platform land where vegetation consists mainly of secondary shrubs, terrace fields and village roadside trees. Shrubs include *Vitex negundo* var. *heterophylla* (chaste), *Ziziphus jujuba* var. *spinosa* (wild jujube), *Ostryopsis davidiana*, *Lespedeza bicolor*, and *Spiraea* spp. Interspersed among them are small arbors such as *Prunus armeniaca* var. *ansu* and *Prunus davidiana*. Every spring and summer, these deciduous broad-leaf species burst forth with dazzling flowers, covering the slopes and gullies with colors.

Between 800-1000 and 1500-1700 metres is the temperate medium-high mountain secondary deciduous broad-leaf belt. The main vegetation in this belt include *Quercus liaotungensis*, several species of *Populus* spp., several species of *Betula* spp. and *Juglans mandshurica* mingled with woodlands of shrubbery and communities of gramineal herbs. Along with the deep gullies, the precipitous peaks and strange rocks which the area abounds with, they form a familiar

scene often found in traditional Chinese painting.

From 1500-1700 metres up to 1900-2000 metres, it is a denudation level meadow belt in transition from temperate medium-high to frigid subalpine mountain climate. The gentle slopes are covered with ant grass and a great variety of flora, punctured by groves of *Betula platyphylla* and *Betula dahurica* (wild jujube) and other trees. Also found here are scattered stands of *Larix principis-rupprechtii* (larch) and *Picea meyeri* (dragon spruce) as well as wild and domesticated animals, scenes typical of highland meadows.

Over and above 1900 metres is a frigid subalpine belt of shrubs, meadows and grassland where small shrubs such as *Salix phylicifolia* and *Caragana jubata* and *Carex* spp., *Rhodiola dumulosa* and multicolor flowers abound amongst rocky mountain peaks and ridges.

The variegated vertical ecological environment of Lingshan has made it the home of a great variety of flora and fauna. There are more than 1000 species of wild animals, including 26 species of mammals and more than 100 species of birds, and 127 families of higher plants in 476 genera and 997 species, including more than 100 species of wild flower shrubbery which are of medicinal and ornamental value. These wild flowers that carpet the meadows are the treasures of Lingshan.

It must be pointed out, however, that Lingshan is at the same time an ecologically fragile area. Its mountain slope is rocky, its soil layer thin and poor, its vegetation sparse. Furthermore, the development of tourism in recent years has overloaded the carrying capacity of the subalpine meadows, resulting in a fair amount of deterioration of grass cover

and diminishing of wild flowers. There is cause for anxiety should this trend be allowed to continue.

We have compiled this book on the wild flower resources of Lingshan according to the different vegetation belts with the hope of arousing the interest and concern of people at all levels and of all walks of life. By our common efforts to protect and rationally develop the area, we may yet ensure that Beijing's Qomolangma will forever retain its youthfulness.

Protecting the ecological environment and the Earth's natural resources is a common cause and a cause for the future which can only be realised with our love, sweat and labor. By defending and supporting this cause, we will be helping to restore Nature's beauty and vitality.

山泉
Waterfall





灵山自然景观

The Landscape of Mt. Lingshan

桦林草甸
Birch forest in the meadow



岩溶山体
The karst mountain





灵山草甸
The meadow of Lingshan



灵山冬景
Lingshan's winter

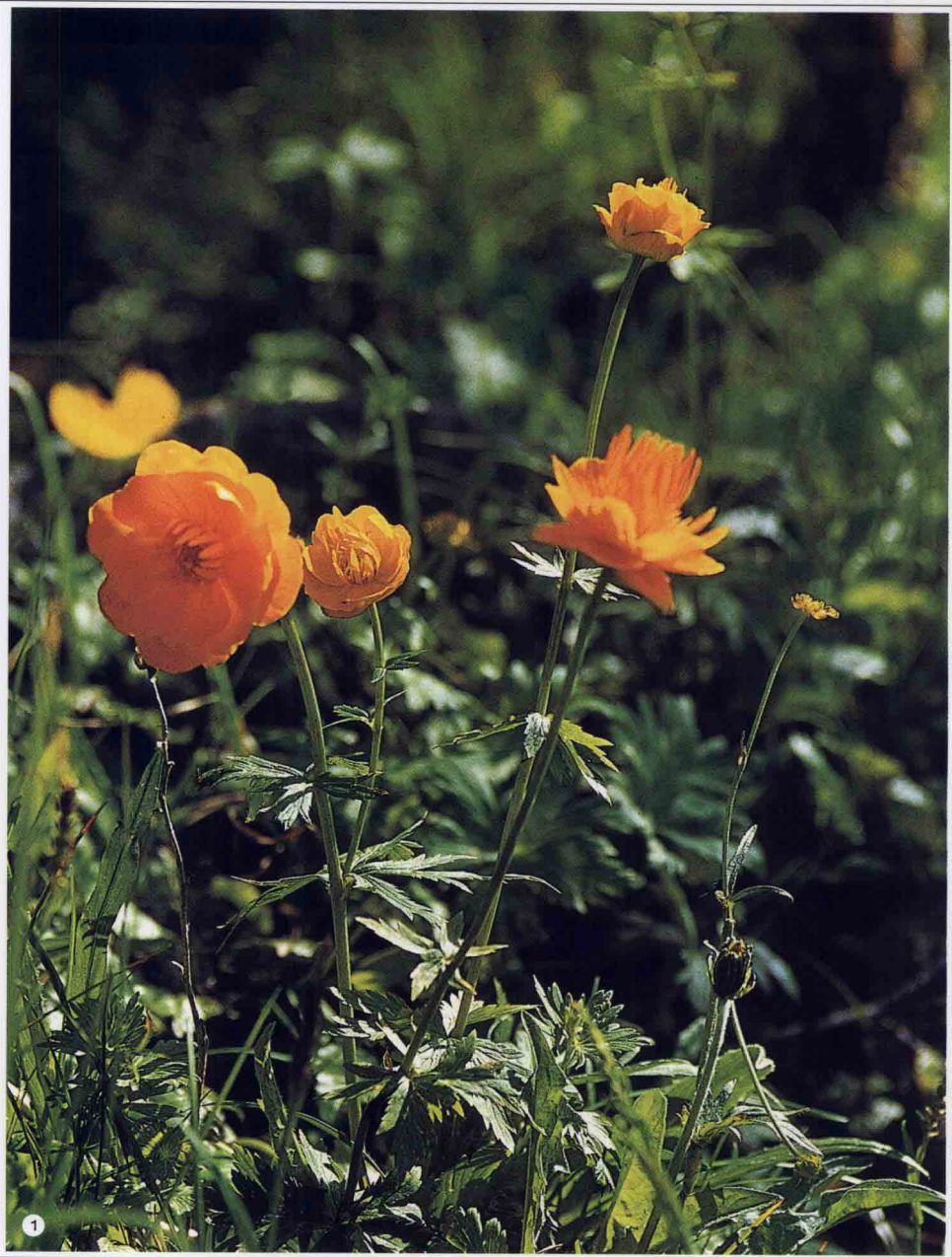




亚高山灌丛草甸、草地带

The Subalpine Grassy Shrubland Zone





1. 金莲花 *Trollius chinensis*

多年生草本，高 50 ~ 70 厘米。基生叶 1 ~ 4，五角形，3 全裂。茎生叶 3 ~ 4，似基生叶，5 全裂。花单生，金黄色，直径 4 ~ 5 厘米，花期 6 ~ 7 月。生于灵山海拔 1800 ~ 2200 米的草甸中。分布于华北、东北、内蒙古。

Perennial herb. 1 ~ 4 basal leaves, quinqueangular, trisected; 3 ~ 4 cauline leaves, similar to basal but quinquesected. Single flower, golden, 4 ~ 5 cm in diam. Flowering: June & July. 1800 ~ 2200 m alt. of Lingshan, meadow. North China, Inner Mongolia.

2. 翠雀 *Delphinium grandiflorum*

多年生草本。叶片圆五角形，3 全裂。总状花序，具 3 ~ 15 朵花，萼片 5，蓝紫色，花瓣 2，蓝色。花期 5 ~ 9 月。生于灵山海拔 800 ~ 2200 米山坡草地或亚高山草甸。华北、西北、西南诸省有分布。

Perennial. Leaves rounded quinqueangular, trisected. Raceme with 3 ~ 15 flowers. 5 calyxes, bluish purple. 2 petals, blue. Flowering: May to Sept. 800 ~ 2200 m alt. of Lingshan, grassland, meadow. Northwest China.

3. 银露梅 *Potentilla glabra*

落叶小灌木，高约 60 厘米。奇数羽状复叶，小叶 3 ~ 5 枚。花单生，白色，直径 1.5 ~ 2.5 厘米。花期 6 ~ 8 月，果期 9 月。在灵山分布于海拔 2000 米以上亚高山灌丛草甸带。另见于北方及西南诸省区。(摄影：郑乃强)

Little shrub, about 60 cm tall. Odd-pinnately compound leaf, 3 ~ 5 folials. Single flower, white, 1.5 ~ 2.5 cm in diameter. Flowering: June to Aug. Fruiting: Sept. Over 2000 m alt. of Lingshan, north to southwest China.

