

大阿里山

地景之美

Allshan's Landscape Beauty



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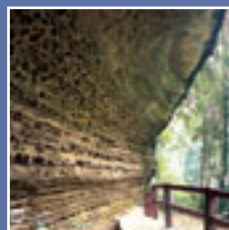
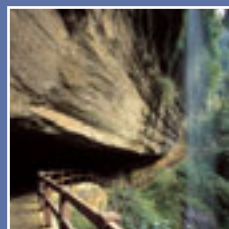
Alishan's Landscape Beauty

交通部觀光局

阿里山國家風景區管理處

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Translator's note: In Chinese, the word "shan" means mountain. It is retained here as an integral part of place names and names of mountains, following the Chinese pronunciation (e.g., "Alishan" rather than "Mt. Ali"). Notes explaining or translating other Chinese terms also appear elsewhere in the text.



處長的話

本人有幸在大阿里山國家風景區管理處工作，掌理範圍有四萬多公頃，海拔高度從數十公尺到二千多公尺不等，其中的自然與人文美景更是聞名遐邇。而這些美景不僅止於森林、日出、雲海、晚霞及小火車，還包括了山景、峽谷、瀑布、竹林、鄒族原住民等多采多姿的景觀。

走在風景區內欣賞一些著名景點時，例如：燕子崖、百年土石流遺跡、鐵達尼石、觀音瀑布、茶山大石壁等，讚嘆這些美景之際，我常常會有幾個疑問浮現：『這些景點到底是怎麼形成的？』、『為什麼會在這裡出現？』我想一定有許多遊客跟我有一樣的好奇心出現，又逢近年來遊客的旅遊需求也逐漸走向深度導覽，驅使了我們編輯這一本書。

本手冊是針對阿里山國家風景區內的地形、地質景觀資源，以深入淺出、圖文搭配的方式介紹阿里山地景之美，協助您在閱讀地景之餘，也能從陌生或熟悉的環境中感受新的事物。期盼在本手冊的導覽下，成為您在阿里山旅程中最深刻的印象之旅。

交通部觀光局阿里山國家風景區管理處

處長 鐘福松

A Word from the Director

It is my good fortune to work in the Alishan National Scenic Area office, managing over 40,000 hectares of land. The scenic Area ranges from a few meters above sea level to more than 2000 meters in elevation, with scenes of natural beauty and cultural interest known the world over. In addition to forests, sunrises and sunsets, cloud-shrouded valleys, and a famous narrow-gauge railway, even greater variety can be found in its mountains, valleys, waterfalls, and bamboo groves, and in addition, the culture of the aboriginal Tsou people.

As I walk in the scenic area and wonder at its sights—such as the Swallow Cliff, the Ancient Debris Flows site, the Titanic Rock, Guanyin Waterfall, and the Chashan Wall—I find questions coming to mind: "What formed these unique features?" "Why do they appear at this particular place?" I know many visitors have the same kind of curiosity, and their requests over the years have prompted us to provide more in-depth tours and to produce this guidebook.

This guidebook describes the topography and geology of the Alishan National Scenic Area in an easy-to-read style, with photographs and accompanying text. It will help you to "read the landscape", and even those already familiar with the area will be able to find something new. We hope this guidebook will help make your time in Alishan one of your most memorable travel experiences.

Alishan National Scenic Area Office
Tourism Bureau, Ministry of Transportation
and Communications

Jason Chung, Director

一、前言

阿里山國家風景區觀光資源豐富，具有山岳、河谷、瀑布、原住民文化、田野風光、新興活動等多樣化的遊憩資源，素以「青山綠水、日出饗宴、雲海漫遊」聞名。民國90年7月管理處正式成立後，即積極開發以主題遊程為導向的多元優質旅遊，並出版各種簡摺、手冊，以提供旅遊資訊和提升旅遊品質。

大自然的美通常不需要媒介，人們便能領會，但當念頭中興起了「是什麼」、「為什麼」或「為何如此」等疑問時，常常就需要更多的訊息才能滿足這份好奇！而地形與地質是構成自然美景的基本要素，也述說著大地的故事。

本解說手冊是針對阿里山國家風景區內的地形、地質景觀資源，以深入淺出、圖文搭配的方式加以介紹。首先說明本區所在位置與交通概況，進而介紹全區地質和地形背景，至於特定的地形、地質景點則按照本區四大旅遊系統編排，以便遊客按圖索驥的進行深度的地景之旅。如果讀者對本區自然環境頗為熟悉，可以直接翻閱景點解說部分，或者先瀏覽第二至四章，以了解本區整體的地景特色與主要作用。

這本手冊以呈現整體而非片斷的解說，協助遊客閱讀地景，從陌生或熟悉的環境中感受新的事物。期盼在此手冊的協助之下，遊客能同時體驗

到本區地景的知性之美，並自然而然地建立起地景保育的觀念，進而提昇風景區遊憩環境與經營管理品質。



1. Introduction

The Alishan National Scenic Area has a rich variety of tourism assets, with its natural scenery of mountains and river valleys, aboriginal cultures, and newly developed recreational activities. Alishan has always been famous among the Taiwanese for its sunrise, which they describe as "a feast for the eyes: sunrise among deep blue mountains, green rivers, and a majestic sea of clouds." Development of quality tour services, particularly oriented towards theme tours, began with the establishment of the Alishan National Scenic Area Office in July of 2001, along with publication of informative leaflets and guidebooks to further enhance the Alishan tour experience.





Few people need a guide to appreciate nature's beauty, but curiosity always sparks questions: "Why?" "What is that?" "What made it this way?" These questions can only be answered by a look at Alishan's geology and topography—they are the fundamental building blocks of the area's natural beauty and can tell us its story.

This illustrated and easily-to-read guidebook introduces the landforms and geological structures underlying the natural scenery of the Alishan region. First, we outline its location and transportation systems, followed by a description of its landforms, geological structures and related scenic spots, which are grouped in four main six main tourist systems to allow visitors to seek out their own points of special interest. Those already familiar with the area can turn directly to the descriptions of these points, or look at chapters 2-5 to learn more about how geological features relate to the region as a whole, with accompanying technical terms and concepts explained in simple language.

Rather than a piecemeal approach, this guidebook presents an overview that should help the visitor "read the landscape" and find something new in both familiar vistas and those experienced for the first time. We hope this guidebook will help visitors acquire both a new understanding of the beauty of this area and an accompanying desire to help in its preservation, so as to further enhance the quality of management in the scenic area and enjoyment of the leisure experience there.



二、位置、範圍與氣候

阿里山國家風景區位於嘉義縣的東半部丘陵及中高海拔山區，北回歸線穿過本區中部，總面積達41520公頃，遠大於早期開發的阿里山森林遊樂區。在地形分區上，本區位於阿里山脈的中北段，也是濁水溪、八掌溪、曾文溪等流域的上游地帶。

就行政區域而言，位於嘉義縣阿里山、梅山、竹崎及番路鄉，包含阿里山鄉的所有村落與梅山、竹崎、番路鄉的部分村落。



【阿里山國家風景區範圍圖】

Geographical area of the Alishan National Scenic Area

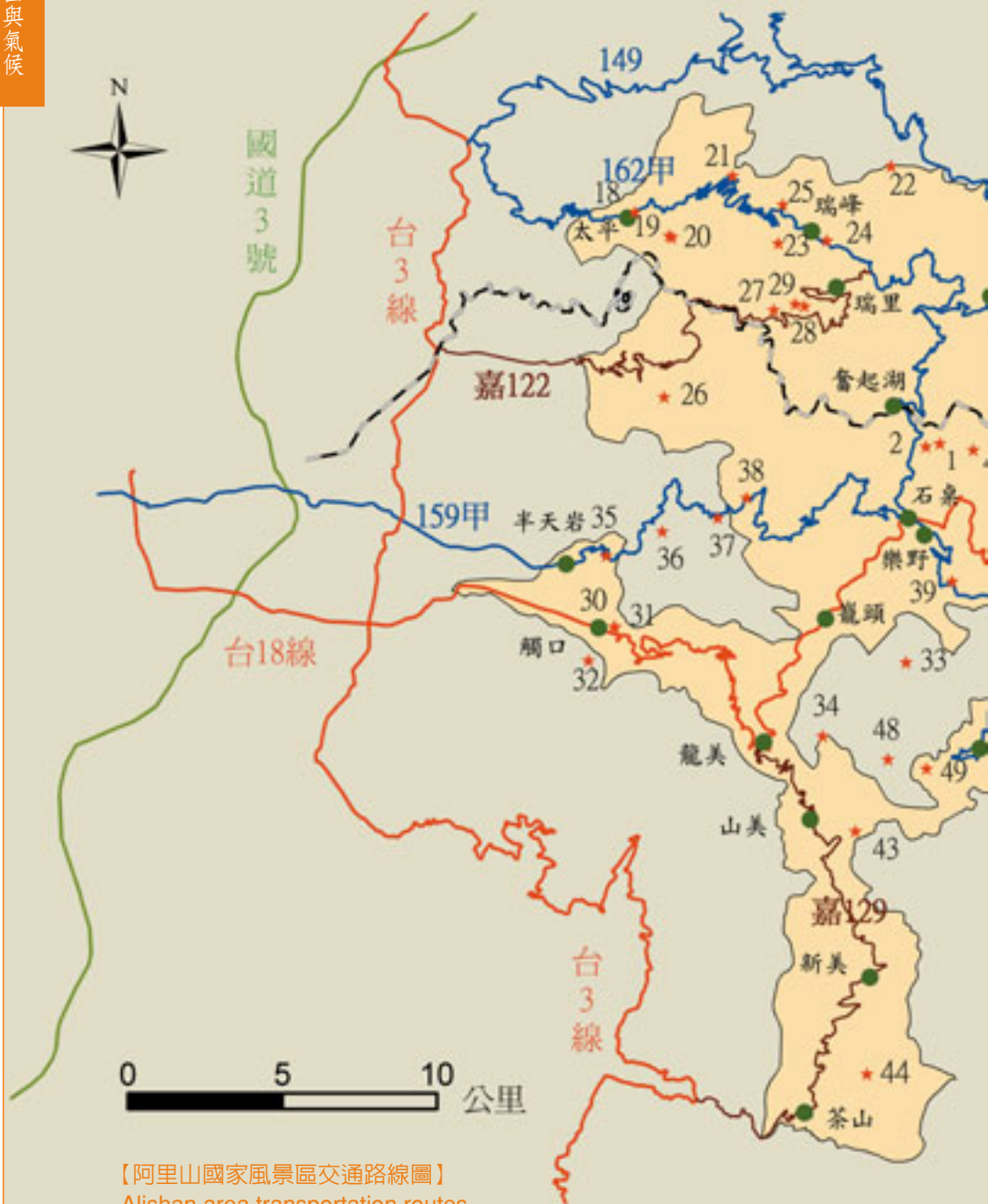


↑ 齊柏林 先生提供

2. Location, Area and Climate

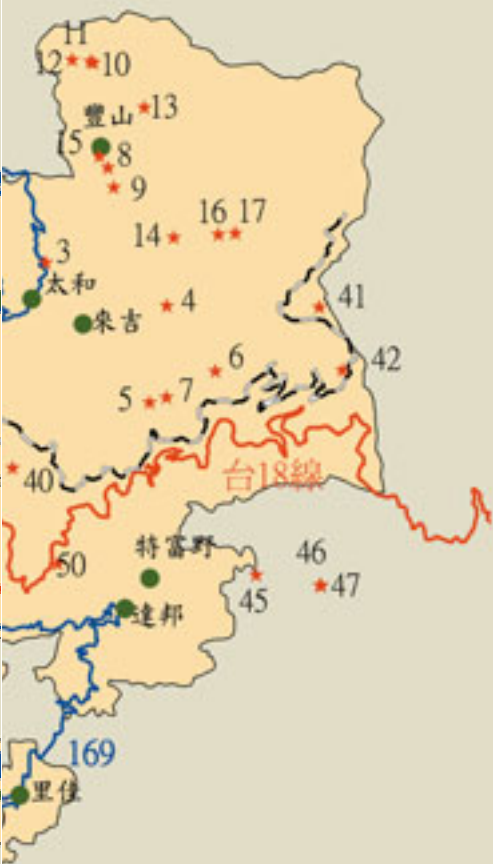
The Alishan National Scenic Area is set among the hills and mid-altitude mountains of eastern Chiayi County. Bisected by the Tropic of Cancer, the area comprises about 41520 hectares, much larger than the original Alishan Forest Recreation Area. Topographically the area lies in the north-central section of the Alishan Mountains and is the origin of the headwaters of the Jhuoshuei, Bajhang and Cengwun Rivers.

Administratively, the area spans the Alishan, Meishan, Jhuci, and Fanlyu townships, including all the villages in Alishan Township and some of those in the latter three.



【阿里山國家風景區交通路線圖】

Alishan area transportation routes



- 1 明月窟、流星巖 Mingyue Cave, Liousing Cliff
- 2 十八羅漢洞 Eighteen Luohan Caves
- 3 阿里山溪河階 Alishan River Terraces
- 4 札基谷瀑布 Zhajigu Waterfall
- 5 來吉大峭壁 The Laiji Wall
- 6 天水瀑布 Tianshwei Waterfall
- 7 原始一百洞 The Primeval Caves
- 8 土石流紀念公園 Debris Flow Memorial Park
- 9 土石流複成扇 Debris-flow Fan
- 10 百年土石流遺跡 Ancient Debris Flow
- 11 石盤谷瀑布 Shihpangu Waterfall
- 12 石盤谷大岩壁 Shihpangu Wall
- 13 天雲谷瀑布 Tianyungu Waterfall
- 14 蛟龍瀑布 Jiaolong Waterfall
- 15 滴水成金 Huagang Suelilian Cave
- 16 石夢谷壺穴 Shihmenggu Potholes
- 17 石夢谷瀑布 Shihmenggu Waterfall
- 18 仙人壩 Supernatural Potholes
- 19 萬坪石 Wuanping Rock
- 20 相逢瀑布 Twin Waterfalls
- 21 梅山峽谷 Meishan Canyon
- 22 新草嶺潭 New Caoling Lake
- 23 龍宮、雷音瀑布 Longgong and Lueiyin Waterfalls
- 24 南天峭壁 Nantien Cliff
- 25 神仙尿尿瀑布 ShihshianNiaoniao Waterfall
- 26 觀音瀑布 Guanyin Waterfalls
- 27 雲潭瀑布 Yuntan Waterfall
- 28 燕子崖 Swallow Cliff
- 29 蝙蝠洞 Bat Caves
- 30 觸口曲流河階 Chukou Amphitheater Terrace
- 31 八掌溪谷曲流 Bajhang River Incised Meander
- 32 情人瀑布 Lover's Waterfall
- 33 象山 Elephant Mountain
- 34 仙井瀑布 Sianjing Waterfall
- 35 八掌溪沖積扇階 Bajhang River Fan Terraces
- 36 鳳凰瀑布 Phoenix Waterfalls
- 37 光華砂頁岩互層 Guangha Sandstone-shale Alternations
- 38 濁水溪橋土石流 Jhuoshuei River Bridge Debris Flow
- 39 裸女瀑布 Luonyu Waterfall
- 40 頂湖巨石 Dinghu Rock
- 41 大塔山 Datashan
- 42 姊妹潭 Two Sisters Pools
- 43 曾文溪上游峽谷 Cengwun River Valley
- 44 茶山石壁 Chashan Wall
- 45 神秘谷瀑布 Mysterious Valley Waterfall
- 46 百人洞 Bairen Cave
- 47 拉拉喀斯瀑布 Lalakasih Waterfalls
- 48 里佳瀑布 Lijia Waterfall
- 49 福爾摩沙第一泉 First Formosa Spring
- 50 山崩窪 Scar

由於阿里山國家風景特定區大部分位於丘陵山地，聯外道路多盤旋於河谷山嶺之間，景色優美。本區交通主動脈是東西橫互的台18線（阿里山公路），它也是遊客進入本區的主要幹道。因為山嶺河谷的分割，區內各主要風景點之間的聯繫道路也常需翻山越嶺。雖然有地形阻隔，但區域內的縣道、鄉道與產業道路網已經形成，交通頗為便利。山區道路最大困擾就是颱風豪雨期較易坍方造成道路中斷，所幸除非狀況特殊，多能儘速修復通車，或有建議之替代道路。所以遊客在出發前最好洽詢本處或住宿處，以了解全區實際交通現況，做最出合宜的旅程規劃。

在氣候方面，北回歸線雖然橫跨本區，不過因為多山地，東側又有高山阻隔，全年頗為舒適、涼爽。在氣溫方面，由於海拔高度從數十公尺到兩千多公尺，氣溫與林相都有顯著的垂直變化，由熱帶、溫帶至寒帶。以阿里山測站代表本區，玉山、嘉義測站分別代表高山和平地，可以明顯看出本區夏季七月平均氣溫(14.3°C)比平地(28.4°C)低許多，冬季一月平均氣溫約(5.8°C)又比玉山(-1.5°C)高好幾度，相當宜人。不過早晚氣溫變化大，到此地旅遊仍應備妥禦寒衣物。

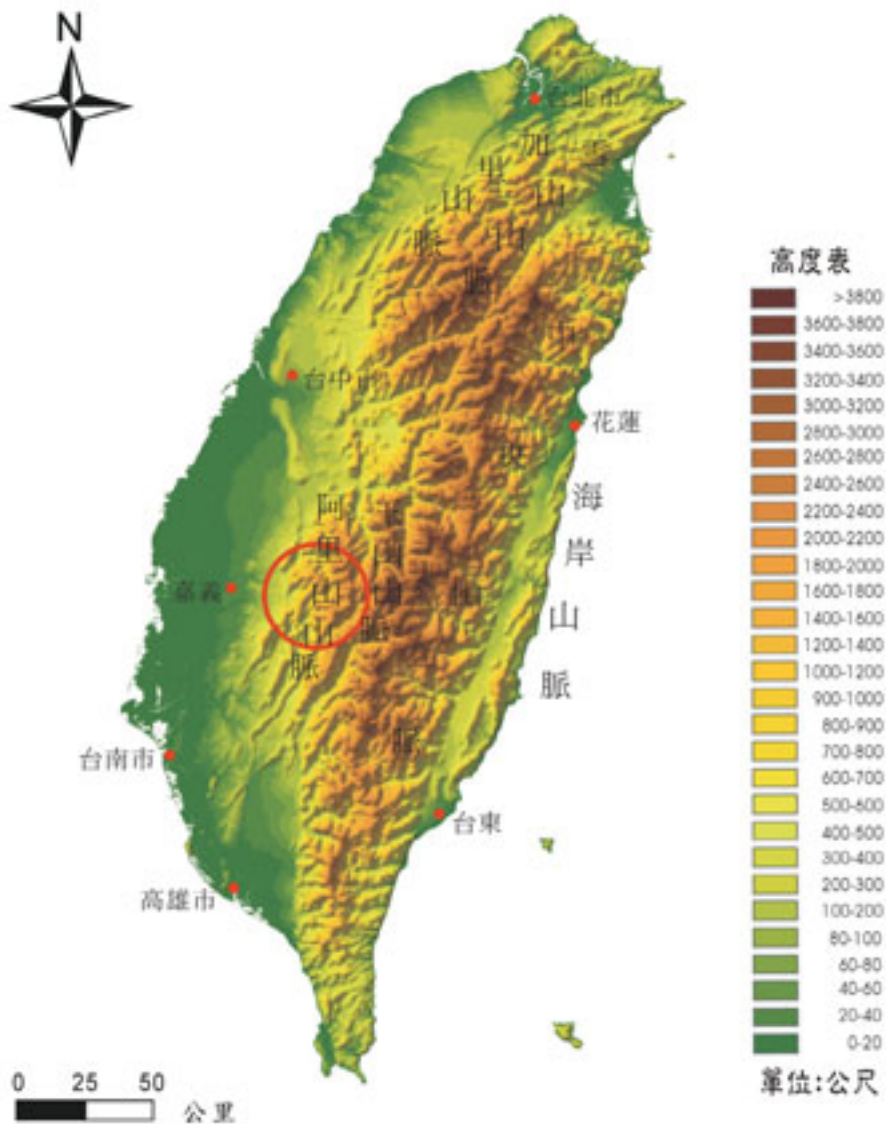
在降雨方面，冬季的東北季風南下時，本區受到山脈屏障，降雨有



限。夏季時，高溫及對流作用旺盛，常有雷雨；颱風來襲時常帶來豐沛雨量，為主要降雨季節。全區呈現冬乾夏雨的特性，年降雨量將近3900公釐，降雨日數全年達172天。



Being situated in mostly hilly and mountainous terrain, roadways providing access to the Alishan National Scenic Area tend to follow natural waterways and divides while offering the traveler many beautiful vistas. The natural layout of the terrain means that routes between scenic sites must frequently cross mountains and river valleys. Despite the physical impediments, a convenient network of county and township roads and feeder routes has grown up, its main artery being Tai 18 Highway (the Alishan Highway), the primary route through which visitors enter the scenic area. The only real obstacles to transportation are the landslides which sometimes block roads during typhoon seasons, though traffic usually resumes quickly after they are cleared away or alternate routes are found. Visitors are advised to check traffic conditions with the Alishan



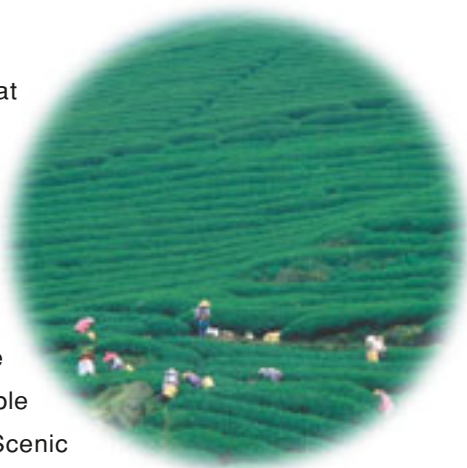
【臺灣島立體圖】

Relief map of Taiwan, Alishan area outlined

National Scenic Area office or at their lodgings in order to make appropriate arrangements.

Despite being located along the Tropic of Cancer in southwestern Taiwan, the mountainous terrain and the barrier ridge to the east create a cool and comfortable climate in the Alishan National Scenic Area. Along with the degree of forestation and the altitude—ranging from several score to 2000+ meters—temperatures vary from tropical to temperate and even frigid. Measurements from the Alishan weather station give clues to its pleasant climate: Alishan's summertime July average of 14.3°C is much lower than the 28.4°C on the plains (taken at Jiayi), while its wintertime average of 5.8°C remains higher than the average of -1.5°C in the high mountains (at Yushan, or "Jade Mountain"). Bringing some warm winter clothing is advisable, though, as temperatures can vary significantly on a daily basis and from morning to evening.

The mountain ranges of the Alishan area screen it from the northeast monsoons that move south in wintertime, and limit the amount of rainfall. Temperatures and atmospheric convection currents reach a high during the summer, making it the peak season for rain, especially the copious rainfall that accompanies the landfall of typhoons. Dry winters and rainy summers, with a total of 172 days of rain per year, add up to a yearly average rainfall of nearly 3900mm.

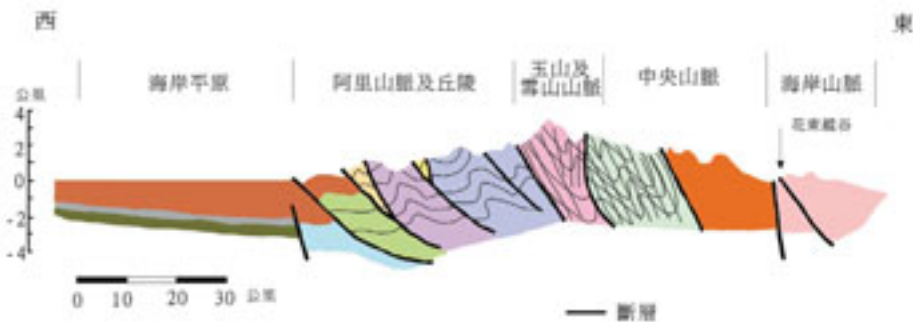


三、大地的故事

本區位於本島西南部中低海拔的山地區，東側是本島最高山嶺玉山山脈，西邊則鄰接斗六、嘉義丘陵。區域內所出露的地層大多是未變質的沈積岩，岩石種類以砂岩、砂頁岩互層為主。一個地區的地層特性是塑造地景的重要因素之一，所以本章將依序介紹本區的地質簡史、地層與地層構造的特性，最後則提醒初步觀察岩層露頭的幾個原則。

(一) 臺灣島與山脈的形成

與地球46億年的歷史相比，臺灣島是一個非常年輕的島嶼，根據研究，是因為數百萬年以來歐亞大陸板塊與菲律賓海板塊的持續推擠、碰撞，才在亞洲東部這個地區逐漸形成一個既狹窄又高聳的臺灣島。在本島五大山脈中，海岸山脈位於菲律賓海板塊上，其他各山脈則是位在歐亞大陸板塊上，花東縱谷是兩個板塊在陸地上的縫合線。在造山的過程中，由於推擠的力量來自東南方，科學家認為西邊的山脈是由東向西被依序抬升而起，最早是中央山脈，其次雪山和玉山山脈，最後才是阿里山脈。



【臺灣島橫剖面示意圖】
Cross section of the Taiwan Island

3. The Story of the Land

The Alishan National Scenic Area is set among the low to mid-altitude mountains in the southwest of the island. To its east is Taiwan's highest mountain range, the Jade Mountains, while to its west are the hills of Douliou and Chiayi. Most of the exposed strata within the Scenic Area are sedimentary rocks, primarily sandstone and sandstone-shale alternation. Since stratum characteristics are important in defining a region's landscape, this chapter provides a brief overview of the geological background, strata, and structure of the area, as well as offering some elementary guidelines for observing exposed geological strata.

(1) Formation of the Island of Taiwan and its Mountains

The island of Taiwan is young relative to the Earth's 4.6 billion-year history. Research shows that as the Eurasian Plate and Philippine Sea Plate continued to push against each other for millions of years, they formed a narrow but towering land mass—Taiwan island—in East Asia. Among the five major mountain ranges on the island, the Coastal Range is located on the Philippine Sea Plate while the other mountain ranges sit atop the Eurasian Plate. The East Longitudinal Valley (Huatung Zonggu) is the connecting line between the two plates. Scientists believe that since the tectonic stress originated from the southeast, the mountains on the east side of the island were raised progressively from east to west. The first to form were the Central Mountains, followed by the Syue Mountains and the Jade Mountains, and finally the Alishan Mountains.



板塊與東亞板塊配置

Tectonic Plate and Their Distribution in East Asia

地球表面是由多個板塊組合而成，由於板塊之間會做相對的移動，所以在交界處產生各種地質現象。在西太平洋或東亞、東南亞沿海，有一連串的島嶼出現，就是歐亞板塊、太平洋板塊以及它的副板塊菲律賓海板塊，和印澳板塊之間聚合、碰撞的產物。

The Earth's surface is made up of many tectonic plates. Tectonic movements produce various geological phenomena at the intersection of these plates. The islands in the west Pacific Ocean, including those along the coasts of East Asia and Southeast Asia, are products of tectonic activity by the Eurasian Plate, the Pacific Ocean Plate, the Philippine Sea Plate, and the Australian-Indian Plate.

(二) 岩石與地層

阿里山脈出露的地層以沒有發生變質的沈積岩為主，和東方已經發生變質的玉山山脈的地層不同。在本島形成過程中，當中央、雪山、玉山等山脈已經隆起成高山時，今天阿里山脈一帶仍然是一片海域，來自鄰近陸地上的土沙礫石持續的在此片海域堆積，所以它的地層比較年輕。

阿里山脈在隆起的過程中，雖然沒有變質但發生變形。加上山脈出露水面後，開始被風化、崩壞和侵蝕，所以原先堆積在比較下部的地層也會出露在地表。本區出露地表的地層主要為第三紀中新世晚期至第四紀更新世的沈積岩，出露岩層按地質年代為：

- 南港層 (Nk, 砂岩、砂頁岩互層, 中新世)
- 南莊層 (Nc, 砂岩、砂頁岩互層, 中新世) 及其相對地層
- 桂竹林層 (Kcl, 砂頁岩互層) 及其相對地層, 此層由下而上又可分為關刀山砂岩(Kts, 晚中新世)、十六份頁岩(Slf, 早上新世)和魚

(2) Rock Types and Geological Strata

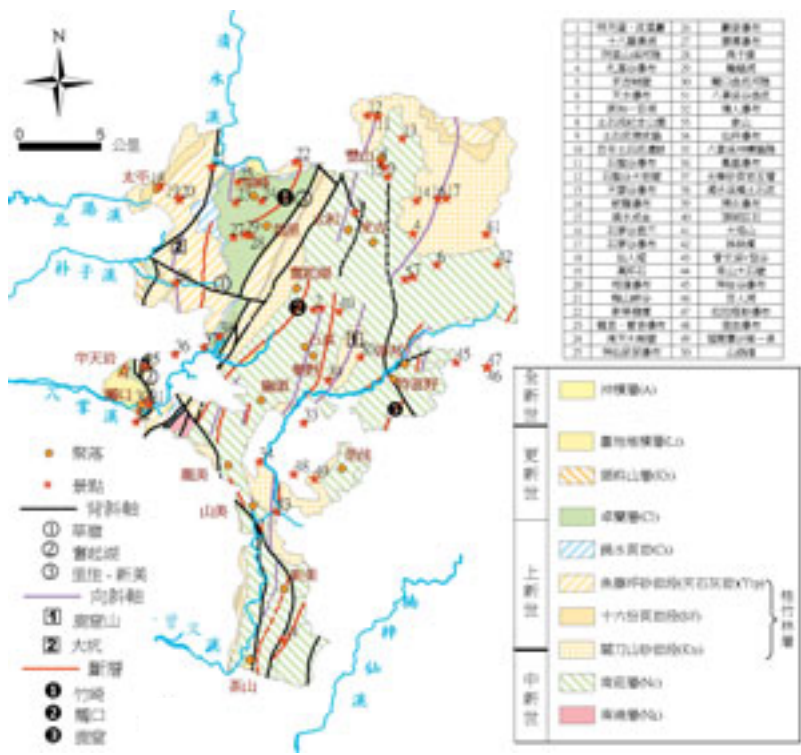
The exposed geological strata of the Alishan Mountains are composed mostly of sedimentary rocks, which, unlike those of the Jade Mountains, have not undergone metamorphosis. When the Central Mountains, Jade Mountains, and Syue Mountains had already been formed by uptrusts during the island's formation, the area of Alishan Mountains remained a body of water, where gravel and sand from neighboring areas continued to accumulate. Hence, the Alishan strata are relatively young.

During formation of the Alishan Mountains, the strata were deformed although tectonic movements did not result in metamorphosis. And, as the Alishan Mountains gradually emerged from the sea, they underwent weathering, collapse, and erosion. As a result, the accumulations of the lower strata sometimes show up on the surface. The exposed strata in the Alishan scenic area are sedimentary rocks from the late Tertiary Miocene period up to the Pleistocene period. Based on their geological age, the exposed strata are as follows:

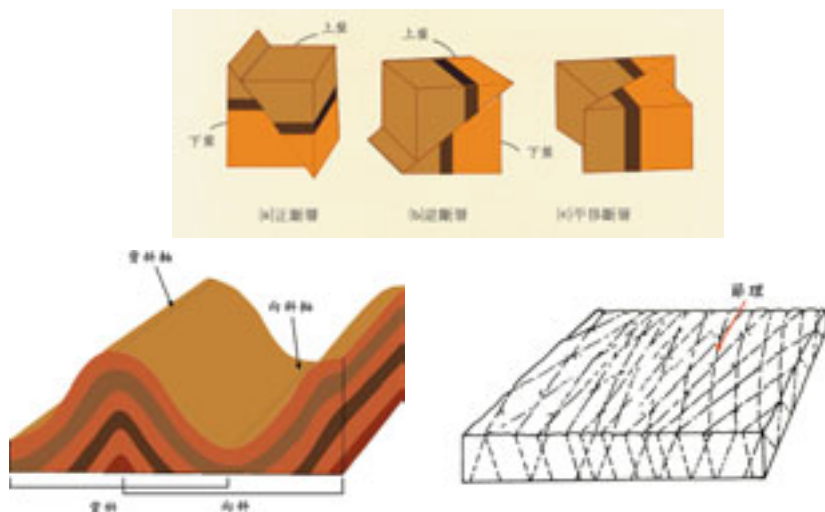
- The Nangang Formation (Nk, sandstone, sandstone-shale alternation; miocene)
- The Nanjhuang Formation (Nc, sandstone, sandstone-shale alternation) and its corresponding strata of the Miocene period.
- The Gueijhulin Formation (Kcl, sandstone-shale alternation) and its corresponding strata of the Miocene to Pliocene periods; This formation can be classified from the bottom up into the Guandaoshan Sandstone, Shihlioufenye Shale, and Yutengping

藤坪砂岩(Ytp, 中上新世)。

- 錦水頁岩層 (Cs, 頁岩、砂頁岩互層, 晚上新世) 及其相對地層
- 卓蘭層 (Cl, 砂岩夾頁岩, 早更新世)、
- 頭嵛山層 (Tks, 火炎山相—礫岩、香山相—砂頁岩互層夾礫岩, 更新世) 及其相對地層
- 紅土礫石層 (Qlt, 更新世)、階地堆積層 (Qte, 更新世) 與最近期的沖積層 (Qa, 全新世)



【本區地質圖】
Alishan area geological map



【地質構造圖：摺皺、斷層與節理】
Various types of geological structures

Sandstone.

- The Jinshuei Shale Formation (Cs, shale, sandstone-shale alternation) of the Pliocene period.
- The Jhuolan Formation of the Pleistocene Period (Cl, sandstone interbedded with some shale)
- The Toukeshan Formation (Tks, Huoyanshan facies — conglomerate rock stratum; Siangshan facies — sandstone-shale alternation interbedded with some conglomerate rocks) and its corresponding strata.
- The lateritic gravel strata (Qlt); the sedimentary layer (Qte); and the most recent alluvia (Qa)

整體而言，南莊層(Nc)是本區出露地表最廣的地層，而關刀山砂岩以塊狀厚層砂岩著稱，抗蝕力高，常構成山稜線。由於本區地層是在淺海到陸地的環境中堆積形成，所以在砂、頁岩和鈣質砂岩的岩層中，常可以見到海棲貝類化石，尤其是在南莊層中最為豐富。奮起湖背斜東翼的砂頁岩互層中，還發現陸相的植物葉片化石。

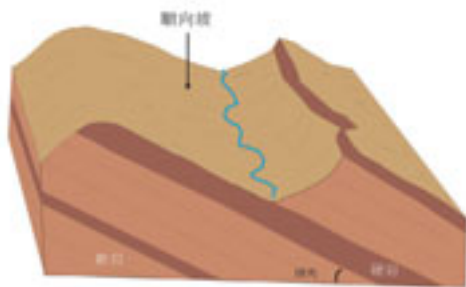
至於本區內主要的褶曲有（自北而南、自西而東）：草嶺背斜、大坑向斜、奮起湖背斜，主要的斷層有：觸口（大尖山）斷層、竹崎斷層。

（三）岩石與構造的觀察

本區地表雖然植樹茂密，但是在河岸、陡崖或道路旁仍然常常可以看到岩層的露頭，可以對岩石與地質構造或沈積構造做一些初步的觀察。本區常見的岩石有砂岩、頁岩或泥岩、礫岩。砂岩是由砂粒構成，觸摸起來大多有粗糙的感覺，頁岩或泥岩是指由非常細的顆粒所組成，觸摸起來幾乎沒有顆粒感；至於礫岩是指由大於0.2公分的礫石所組成，顆粒最粗。這類岩石顏色可能由灰白色到黑色，不過在野外山坡上的岩石表面大多已經風化而不夠「新鮮」，所看到的通常都不是岩石真正的顏色。

前面也介紹過，沈積岩最大的特徵就是有層次（層理），這可能是因為沈積時的短暫間斷、沈積物供應來源地的變化、礦物性質的改變，或搬運水流速度的變化等所造成。如果某一地區在某一段時間是砂粒沈積，過一段時間變成是極細的泥或黏土粒沈積，日後形成的就是砂頁岩互層。如果沈積顆粒變化的愈頻繁，所形成的互層就愈薄。

一般遊客也很容易就可以察覺到本區的岩層大多是傾斜



【順向坡圖】
Dip slope

As a whole, the Nanjhuang (Nc) Formation is the most extensive of the surface layers, while Guandaoshan Sandstone is known for its thickness, being highly resistant to erosion and often forming ridgelines. These strata were formed in shallow marine and terrestrial environments.

▶ 岩石與沈積岩

Rocks and Sedimentary Rocks

岩石是組成地殼的主要物質，種類繁多，是由一種或多種礦物組合而成。按照成因，岩石可以分為火成岩、沈積岩、變質岩三大類，本島都可以看到。簡單的說，沈積岩是由各種岩石或礦物的碎屑經沈澱堆積於海、湖、河流等水體中，再經壓密、膠結而成，或是由於生物的作用或其遺骸堆積而成，最常見的組成礦物是粘土、石英、方解石。

Rock is the major component of the Earth's crust. There are many types of rocks, which are composed of one or several kinds of minerals. Based on the means of their formation, rocks can be classified as igneous, sedimentary, or metamorphic, all of which can be found on Taiwan. In essence, sedimentary rocks are formed when pieces of rocks or minerals sink into a sea, lake, or river and are pressed and bonded together, or perhaps as the result of biological processes or the accumulation of the remains of living creatures. The most common mineral formations are clay, quartz, and calcite.

在臺灣最常見到的沈積岩是礫岩、砂岩、頁岩或泥岩和石灰岩。本島的石灰岩主要由珊瑚、藻類等生物遺體堆積而成，其他三類則是由不同顆粒大小的碎屑組成，依序是礫岩、砂岩和頁岩（或泥岩），這三類也是本區最常見的岩石。

In Taiwan, the most common sedimentary rocks are conglomerates, sandstone, shale (or mudstone), and limestone. The limestone found on the island is primarily composed of dead coral and algae. The other three types of sedimentary rocks are formed from sediments of different sizes. These are also common in the Alishan National Scenic Area.

岩層與岩層命名

Strata and Naming of the Strata

沈積岩最主要的特性是層理，也就是看起來一層一層可以沿之分離或劈開的層次，厚度從小於0.1公分到數十公尺。層和層之間的界面稱為層面。沈積岩形成過程中，最先沈積的在下部，時代較老，愈上面的時代愈新。

The principal characteristic of sedimentary rock is bedding or stratification. The layers in the rock look like they can be separated or split open. Layers range in thickness from 0.1 cm to tens of meters. A bedding plane separates the layers. During sedimentary rock formation, the first sediments are deposited at the bottom and are relatively older. The higher the layer, the more recent is its formation.

在相同的地質時代，不同地區的沈積環境與物質當然不盡相同，對同一地區而言，不同時代的沈積環境與物質可能有所改變。如果某一地區在某一段地質時期所沈積的碎屑都是砂粒，日後形成的就是砂岩層；如果一段時間是砂粒沈積，過一段時間變成是極細的碎屑沈積，日後形成的就是砂頁岩互層。

Even during the same geological period, different areas will vary in terms of the types of sediments and their deposition, while within a single region, there can be changes in sediments and their deposition during different geological periods. If all the sediments in an area in a given period are sand, there will be sandstone formation. If the first sediments are sand, followed later by finer materials, a sandstone-shale alternation will be formed.

為了方便指稱各地層，所以地層都有名字，大多是以地層保存最完整及最具代表性的那一地點的地名來命名。例如，本區出露極廣的南莊層，就是以苗栗的南莊來命名的。

For convenience, different strata are given names, which generally refer to the places where the strata are most completely preserved or are most typical of the given type. For instance, the name of the extensive Nanjhuang Formation in the scenic area is taken from Nanjhuang, in Miaoli.

For this reason, mollusca fossils are often found in the sandstone, shale, and calcareous sandstone layers, and are especially abundant in the Nanjhuang Formation. Plant fossils can also be found in the sandstone-shale alternations on the eastern flank of Fencihu.



The major folds in the Alishan scenic area include (from north to south, and west to east): the Caoling anticline, the Dakeng syncline, and the Fencihu anticline. The major faults include the Chukou (Dajianshan) fault and the Jhuci fault.

(3) Observing Rock Types and Structures

Although there is abundant vegetation within the Alishan scenic area, there are often outcroppings of rock strata along riverbanks, precipices, or roads. These can be used for initial observation of rock types and structures or sedimentation. The most common rocks in the scenic area are sandstone, shale or mudstone, and conglomerates. Sandstone, formed from sand, is often rough to the touch. Shale or mudstone, on the other hand, is formed from very fine particles and does not have a similarly grainy feel. As for conglomerate, it is formed by gravel larger than 0.2 cm, and has the coarsest grain. Rocks of this type can be greyish to black in color. But rock surfaces found on outdoor slopes are often no longer "fresh" due to the effects of weathering, and often do not show their true color.

As explained earlier, the most remarkable characteristic of sedimen-

而非水平的。本區有許多大石壁的景點其實是沿著層面發展的山坡，來吉、石盤谷、茶山大石壁均屬此類（景點5、12、44）。如果就近仔細觀察岩層的露頭，通常都會發現岩面被節理切割，這些也都是本區地層曾經受到外力干擾的證據。傾斜的岩層常常是一個更大褶曲的一部份（前一節所提到的地質構造），因為規模較大，通常不是一眼可以望盡，在野外可能需要比較專業人員的引導，才能有所體會。

▶ 地質構造

Geological Structures

在沒有受到干擾的情況下，沈積岩層大多是水平的，受到外力作用後就可能發生傾斜、彎曲、破裂，甚至斷裂。如果岩層受到擠壓發生傾斜或呈波浪狀的彎曲，稱為褶曲或褶皺；若岩層向上凸出，稱為背斜，向下凹入，則稱為向斜。如果岩層變形發生破裂，但是破裂面兩側的岩層沒有發生相對的移動，這種裂面稱為節理。節理很少單獨出現，通常是一組或多組彼此間略相平行的節理一起出現。岩層如果已經斷裂，並且沿著裂面有明顯的移動，就形成斷層。斷層按照移動的方式可以分為正斷層、逆斷層和平移斷層。至於一般口語所說的「斷崖」是指高而陡的峭壁，請大家不要和「斷層」弄混了喔！

Unless disturbed, most sedimentary formations are horizontal. When external forces are involved, there may be inclination, curving, breaking, and even splitting. If the rock stratum is subject to pressure the resulting inclined or wave-like curvature is called a fold. Folds may protrude upward or extend downward. An upward protrusion is called an anticline, while a downward extension is a syncline. If a rock stratum breaks due to deformation, with no relative motion between the strata along the break, it is called a joint. Breaks usually do not occur singly; often they develop in groups of parallel joints. If there is a break in a rock stratum and distinct movement occurs along the break, it becomes a fault. Faults may be classified as normal faults, reverse faults, and strike-slip faults based on the type of motion along the fault. The word "fault" should not be confused with "scarp" or "cliff"!

tary formations is their bedding (or stratification). This may be due to temporary discontinuities in deposition, changes in the source of sediments, changes in mineral composition, or changes in the flow speed of water carrying the sediments. If the sandy sediments of an area later change to very fine mud or clay, it will result in a sandstone-shale alternation. The layers are thinner where the changes in sediment particle size were more frequent.

Visitors to Alishan can readily observe that most strata in the scenic area are inclined and not horizontal. Many giant rock walls in the scenic areas are mountain slopes that developed along the lines of the rock strata. Those in Laiji, Shihpangu, and Chashan are of this type. Often times, joint cuts can be seen on the rock surface when the outcrops are observed up close. These are evidence that the strata in the scenic area were subjected to external disturbance. Inclined strata are usually parts of larger folds (the major structure explained in the previous chapter). Because they are larger in size, they usually cannot be seen in entirety at a glance. Professional guides are probably needed to help understand these structures in the field.



四、山地、瀑布與奇岩

本區在地形分區上絕大部分屬於阿里山脈，境內高度大多介於500～2500公尺之間，山勢險峻、坡陡谷深，配合出露的地層，本區地景可以「山嶺秀、溪谷幽、斷崖險、飛瀑盈、奇岩絕、化石珍」十八字加以形容。本章首先介紹本區地形的主體～山地與水系，以及區內特別顯著的河流與風化、崩壞地形，最說明本區地景的整體性。

(一) 山地與水系

阿里山脈北起濁水溪南岸，南抵高雄縣鳳山，全長約135公里。山勢東高西低，鹿林前山一帶數個高於2800公尺的山峰構成阿里山脈的最高點，烏松坑山一棚機山山嶺也都高於2000公尺。此線以西也有數條呈東北—西南走向的山嶺，高度級級下降，最西邊的山列高度約在1000公尺左



4. Mountains, Waterfalls, and Rock Formations

Most of the scenic area is part of the Alishan Mountains. The area ranges in elevation from about 500 to 2500+m, and is characterized by precipitous drops and deep valleys. Along with its exposed strata, the scenic area also possesses graceful mountains, remote river valleys, steep cliffs, flying waterfalls, extraordinary rock formations, and rare fossils. In addition to an overview of the main parts of within the scenic area, its mountains and bodies of water, this chapter also explains the major fluvial, weathering, mass-movement landforms.

(1) Mountains and River Systems

The Alishan Mountains stretch for approximately 135 kilometers from their northern border on the southern bank of the Jhuoshuei River to Kaohsiung County's Fangshan on the south. The mountains descend in elevation from east to west. The Lulinciashan area has several peaks over 2800 meters, the highest of the Alishan Mountains. The Wusungkengshan and Pengjishan ridges are both over 2000 meters high. West of this line, there are several ranges running in the northeast-southwest direction. Here the height of the ridges begins to drop; the mountains to the extreme west are approximately 1000m in height. The typical tourist route through the scenic area allows easy observation of Datashan (2663meters), the highest mountain along the route.

The major ridges usually also form the main divides. Taking the Jhushan and Shihdatianwangshan ridgeline as boundary, the area to the

本島主要山脈

Major Mountains in the Island

臺灣島是一個高山島，山地位置較為偏東，走向大致與島軸平行，由數條山脈組成。根據學者林朝榮教授的劃分，中央山脈（脊梁山脈）延伸最長，是本島河流的主要分水嶺；雪山山脈、玉山山脈（玉山山塊）位於中央山脈西側，兩者以濁水溪為界。這三座山脈的地層有不同程度的變質，有許多山峰超過三千公尺，是本島的屋脊。緊鄰雪山、玉山山脈以西的丘陵性山地，地層都沒有變質，統稱為阿里山脈（廣義），或以濁水溪為界分為加裡山脈和阿里山脈（狹義）。加裡山脈中超過一千公尺的山峰不到30座，超過二千公尺的山峰更是寥寥無幾。阿里山脈（狹義）山勢比較高，一般人所熟知的阿里山區只是本島脈中北部較高的一段。至於位居東臺的海岸山脈，最高點為新港山1682公尺。

Taiwan is an island of high mountains. Its mountainous regions are composed of several ranges parallel to the island's axis and concentrated toward its eastern side. According to conventions established by Professor Lin Chao-Chi, the Central Mountains (Backbone Ridge) are the longest and also form the island's major divide. The Syue Mountains and Jade Mountains (the Yushan Block) are located west of the Central Mountains and separated from them by the Jhuoshuei River. The three ranges have undergone different degrees of metamorphosis. Many of their peaks are higher than 3000 meters; they are the chief ridges of the island. The strata in mountainous areas west of the Syue Mountains and Jade Mountains have not undergone metamorphosis. They are generally referred to broadly as the Alishan Mountains, or, using the Jhuoshuei River as boundary, can be more narrowly defined as the Jiali and Alishan Mountains. The Jiali Mountains have less than 30 peaks above 1000 meters, and even fewer over 2000 meters. The Alishan Mountains have higher peaks than the Jiali range. The Alishan area familiar to the general public is made up of the higher central and northern portions of the range. The highest peak among the Coastal Ridge on Taiwan's eastern side is Mt. Singang at 1682 meters.

north is the Cingshuei river basin; with the Dadongshan and Toudongshan ridgeline as boundary, the area to its south is the Cengwun River basin. The area between these two river basins is made up primarily of the Bajhang River basin, and to a lesser extent, the headlands of the Beigang and Pujih Rivers.

- Cingshuei River is the third largest tributary of the Jhuoshuei River, originating from the northwestern foot of the Alishan Mountains. Upstream, the Shihgupan River and Alishan River converge near Shehouping and flow westward for approximately 8km. The river then converges with the Shengmaoshu River, which comes from the south, at Shuangszuei. The river then turns sharply northward and leaves the Alishan National Scenic



右。以一般遊客在本區較常行經的路線而言，較容易見到的山峰中以大塔山(2663公尺)最高。

主要山嶺也常是主要的分水嶺，本區以祝山、四大天王山一線山嶺為界，以北為清水溪流域；而以大凍山、頭凍山一線山嶺為界，以南為曾文溪流域。夾在此二流域之間的主要是八掌溪流域，和小部分北港溪、朴子溪的源流區。

- 清水溪是濁水溪的第三大支流，發源於阿里山脈的西北麓。本溪上游的石鼓盤溪和阿里山溪在社後坪附近會合後，向西行約8公里，在雙溪嘴處生毛樹溪自南來會。之後流路突然北折，就離開了阿里山國家風景區，最後在竹山匯入濁水溪。
- 八掌溪主流發源於阿里山脈西側奮起湖山，全長約81公里，中上游地區都屬於本區範圍。河流上游陡峻，切割旺盛，支流眾多，水潭、深谷、瀑布與峭壁的景觀隨處可見。
- 曾文溪發源於阿里山脈之萬歲山，全長約138公里，屬於本區的是曾文水庫以上的河段，呈縱谷形態，坡陡流急。

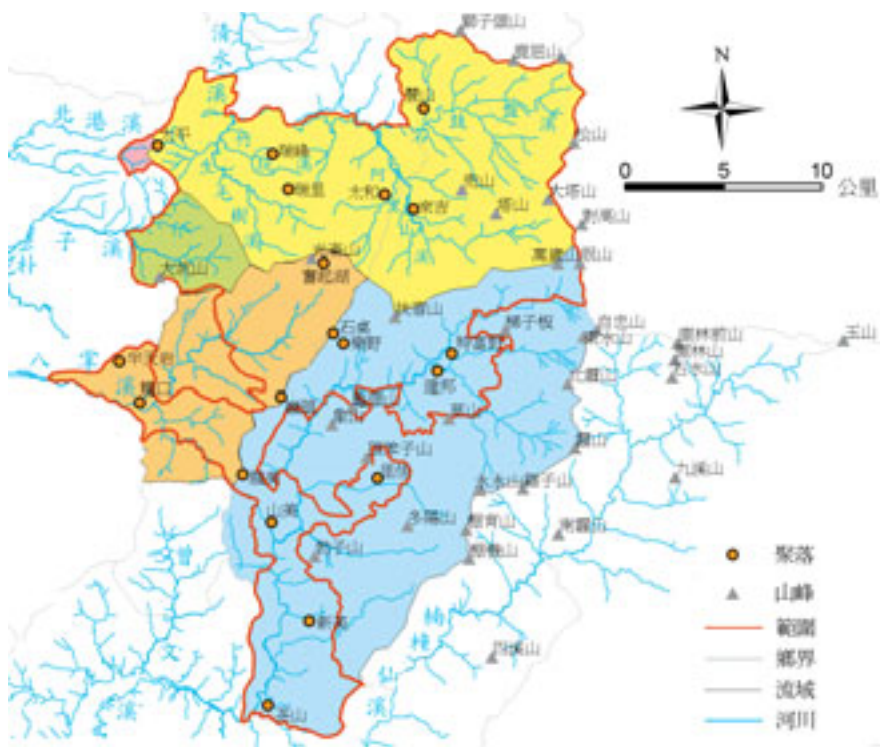
本區各河流的共同特色是流量變化極大：乾季時各月流量多低於每秒10立方公尺，河道枯竭，常呈涓涓細流；濕季時一般狀況河川流量平穩，一旦上游山區下起大雨，則水位快速上升。盛夏之時，遊客最喜歡在清涼溪水中嬉戲，應特別留心山區是否下雨。颱風豪雨時，山洪爆發，最大瞬間流量可能超過每秒1000立方公尺，應避免從事戶外活動。

(二) 河流地形

本區境內溪流眾多，河谷密布，深谷、峭壁與瀑布的景觀非常發達。根據主流河道與主要山嶺延伸方向的關係，河谷可分為縱谷與橫谷兩類。當河流與山脈走向平行時，稱為縱谷，例如曾文溪在曾文水庫以上的河

Area. It ultimately converges with the Jhuoshuei River at Jhushan.

- The main stream of the Bajhang River, approximately 81 km long, originates from Fencihushan on the western side of Alishan Mountains. The mid and upper stream areas of the river lie within the scenic area. The upstream flow traverses a steep channel with many channels and much downcutting. As a result, pools, deep valleys, waterfalls, and cliffs can be observed everywhere in the area.



【本區流域圖】
Alishan area river basins



知道自己在哪裡

多數的遊客是乘坐遊覽車或自行駕車進入本區，山區道路蜿蜒曲折，遊客常不能掌握自己身在何方！其實只要手中有一份地圖，或者留心道路在何處翻山越嶺，很快就可以培養成這樣的能力，這樣以後在野外可就不容易迷路囉。

山區道路大多循著河谷修建，但本區河谷大多下切很深，所以道路常需盤旋到源流區河谷較窄或較淺處才較容易架橋過河。如果要到另一個河谷區，則道路常需選擇山嶺相對較低處（鞍部）跨越，例如本區的石桌和龍美就是聯絡八掌溪和曾文溪流域之間的孔道，又如縣道169是在奮起湖北方，跨越八掌溪與清水溪流域。

以遊客經常取道進入本區的路線來說，阿里山公路在觸口以東是沿八掌溪的支流修建，在龍美越過分水嶺（二延平山—龍頭坪山—石桌山）進入曾文溪流域，公路沿此山稜線附近而行，展望頗佳。縣道159甲大致沿著八掌溪主流河谷修建。若是從梅山取道162甲縣道進入本區，在太平以西是屬於三疊溪的源流區，過了太平則進入清水溪的範圍，瑞里、瑞峰、太和、豐山一帶的溪谷美景都屬於這個系統。也有部分遊客是由曾文水庫附近取嘉129（新美產業道路）進入本區，則一路所見都是屬於曾文溪水系的河谷。

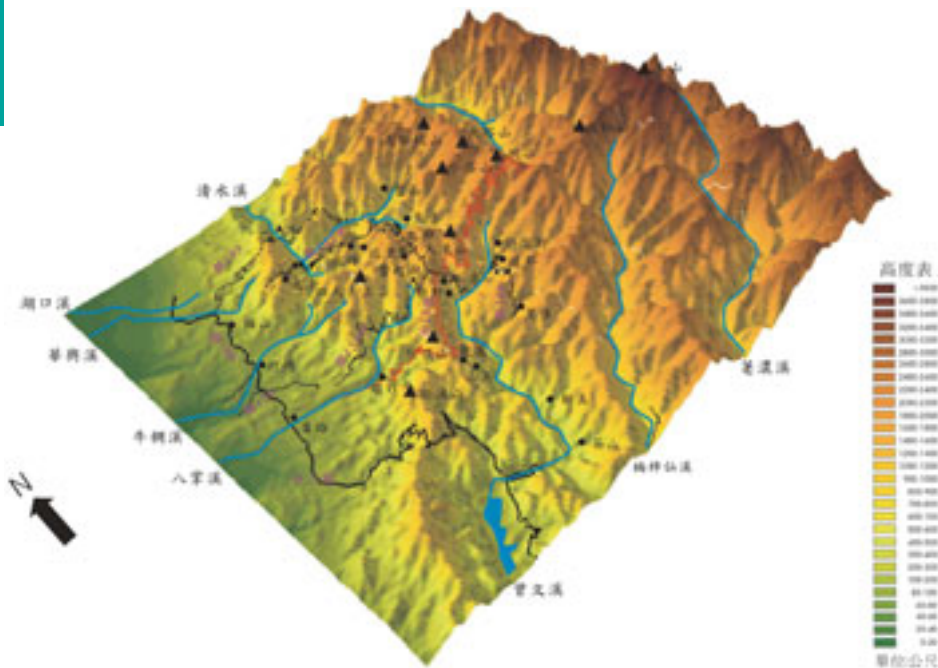


Finding Your Location

Most tourists enter the scenic area in tourist buses or their own vehicles. It is easy to lose one's way among intricately winding roads in the mountain areas, but such problems can be avoided by using a good map and by carefully noting the twists and turns along the way.

Most road construction follows river valleys in mountainous areas. Due to the sharp downcutting by the river in many of these valleys, roads have to wind their way up to the areas where the rivers are narrower or shallower in the river headlands before bridges can be built across them. To reach other river valleys, roads usually cross the ridges at low mountain passes (or saddles). Shihjhuo and Longmei, for instance, are passes connecting the Bajhang and Cengwun river basins, and north of Fencihu, County Road 169 connects to the Cingshuei river basin from the Bajhang River.

The Alishan Highway was constructed from Chukou east along the Bajhang River channel. It passes the divide ridge (Eryanpingshan — Longtoupingshan — Shihjhuoshan) at Longmei and enters the Cengwun River basin. The highway offers an outstanding view as it runs along the crest line. County Highway 159A mainly runs along the main channel of the Bajhang River. From Meishan, tourists can take County Highway 169A to the scenic area. The area west of Taiping is the headlands of the Sandie River. Beyond Taiping, the Cingshuei River begins. The beautiful scenery around Rueili, Rueifong, Taihe, and Fongshan is all part of this drainage system. Some tourists enter the scenic area taking County Road 129 near the Cengwun Reservoir, and along that route can observe the scenic sites in the Cengwun River valley.



【本區河流與主要道路圖道路圖】
Major rivers and road system in Alishan area

段。當河流與山脈走向直交或接近直交時，稱為橫谷，例如清水溪在流經本區北界的河段。由於地層走向常與山脈延伸方向一致，所以當河流橫切山脈與地層時，河谷的開展性較差，較易形成峽谷。

溪流在橫谷段時常流經軟硬不同的地層，當切穿軟岩時，河床大多平緩，當穿越硬岩時則常形成瀑布和急湍，差別侵蝕的效應相當明顯。此外，當地盤隆起後，河流會加速下切，但主流流量不同所以侵蝕能力也不同，而常使支流與主流河道間有很大的高度落差，這種位置也常形成瀑布，例如雷音瀑布群（景點23）。這些都是本區或本島瀑布特別發達的重要原因。

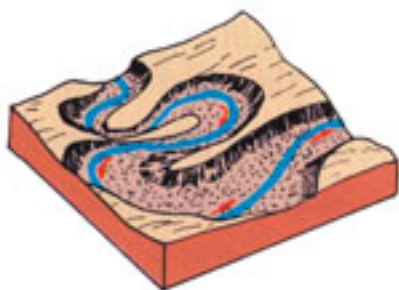
河流上游水流特別湍急，也會挾帶碎石挖鑿河床，如此在硬岩處常形

- The Cengwun River, approximately 138km long, originates from Wansueishan in the Alishan Mountains. Only the portion upstream from the Cengwun Reservoir belongs to the scenic area, and forms a longitudinal valley with steep slopes and a rushing current.

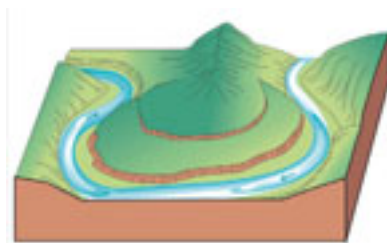
A common characteristic of rivers in the scenic area is huge changes in flow volume. During the dry season, rivers may be nearly dry and flow sluggishly at less than 10 CMS (cubic meters per second). During the wet season, flow volumes are generally stable, though water levels can rise rapidly when there is heavy rain upstream. During summer, tourists love to have fun in the cool rivers, but should take note of whether there has been rain in the mountain areas. During typhoons and heavy rains, there may be flash floods with maximum flow volumes reaching over 1000 CMS. Care should be taken in outdoor activities in nearby areas during these times.

(2) Fluvial Landforms

There are many rivers, valleys, canyons, cliffs, and waterfalls in the



【穿入曲流圖】
Incised Meander



【劇場河階圖】
Amphitheater terrace

▶ 塑造地表的要素

Elements Forming the Land Surface

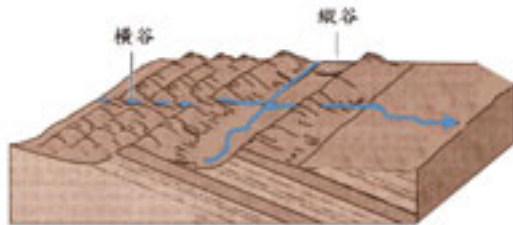
每個地區都有各自的地形特徵，到底哪些因素決定地表的形態和地表的變化呢？簡單的說，就是構成地形之岩石或沈積物的特性、施加在地形上的外來作用力和地形演育的時間長短，有時地形本身的形態也會影響地形後續的發展。

Every area has its own geomorphic characteristics. What then are the essential elements determining the morphology and the transformations of the land surface? In essence, they are the characteristics of the rocks or sediments in the geological formation, the external geomorphic forces acting on them, and the length of time the landforms undergo development. Sometimes, the morphology itself will also affect subsequent development.

岩石的強弱和地層的排列，以及地形的形態特徵（如邊坡的陡緩steepness）會決定地形抵抗外力的能力，地形本身的抗力和外來作用力之間的相互抗衡，則決定地形是發生改變或維持不變。施加在地形上的作用可能來自地球內部或者外部，前者如火山或地震，後者如風化和崩壞作用，以及河水、海水、風力、冰河的作用。

The strength of the rock, the arrangement of the strata, and the morphological characteristics (such as steepness) will determine a landform's resistance to external forces. The balance between the landform's resistance and the external forces will determine whether the landform undergoes any change. The forces affecting a landform can come from within the Earth or above it. The former can include volcanic action or earthquakes, while the latter might be weathering or slope failure. Likewise, rivers, seas, winds, and glaciers can also affect the landform.

Scenic Area. Based on the direction in which river channels and mountains run, river valleys can be divided into longitudinal valleys and transverse valleys. When a river runs parallel with the mountains, it is called a longitudinal valley; the Cengwun River found upstream of Cengwun Reservoir is one example. When a river runs directly or almost directly across the direction of the mountains, it is called a transverse valley, such as the portion of the Cingshuei River that passes through the Scenic Area. Because rock strata often run in the same direction as the mountain ranges, a river cutting across the mountains and strata does not lead to development of well-formed valleys, and a canyon may result.



【縱谷與橫谷圖】

Longitudinal and transverse valley

Rivers flow across strata of varying hardness as they pass through transverse valleys. When they cut through soft rocks, the riverbed is mostly smooth and even; when they pass over harder rock, waterfalls and rapids are formed. The results of the different degrees of erosion are quite evident. Furthermore, when the land moves upward, the river cuts down faster. Since the flow volumes of a river and its tributaries differ, the effects of erosion also differ, often times resulting in huge differences in height between the main channel and its tributaries. Waterfalls, such as the Leiyin waterfalls (Scenic Site 23), often form in such locations. These are the primary reasons why there are waterfalls aplenty in the Scenic Area or on the island.

▶ 河流作用和主要河流地形

河水是刻畫陸地非常重要的一種力量，地表上無數的溪谷大多是河流長期侵蝕的結果。河水流動時，尤其是豪雨洪水時，不論河水直接侵蝕的或山坡崩塌下來的物質，河流都會將它們繼續往下游搬運，直到河流無法搬不動時，便發生堆積。

河流在上游地區以侵蝕作用比較顯著，產生的地形以河谷（比較窄而深的稱峽谷）、瀑布、壺穴等為主。在中、下游地區堆以積作用比較顯著，通常河水流速減低、流量減少或河道突然變寬時，就容易出現堆積現象，所產生的地形有沖積扇、氾濫平原、三角洲和河道中的沙洲等。

河道不論在山區或平原上常常都是彎曲的，稱為曲流。如果河流可以相當自由的向兩側擺動，稱為自由曲流，通常出現在下游平原地區。在中上游河段，深切而彎曲的河道好像穿鑿在山地之中，稱為穿入曲流（景點31）。本島因為地殼抬升作用顯著，也特別有利於河階或扇階這類地形的發育。當原來位於曲流凸岸的河床被相對抬升，取其近似半圓的形狀，特別稱為劇場河階（景點30）。如果是原來的沖積扇被相對抬高，就稱為扇階（景點35）。



Fluvial Processes and Related Landforms

The river is an essential force in shaping the land. Most river valleys on the land surface are the result of long periods of fluvial erosion. When a river flows, in particular during heavy rains and floods, it carries eroded materials or remnants of collapsed mountains downstream. These materials begin to accumulate when the stream no longer has the force to move them.

Water erosion, most evident in upstream areas, produces river valleys (called canyons when they are narrower and deeper), waterfalls, and potholes. Deposition is more evident in the mid- and downstream areas, where the flow slows down, flow volume decreases, or the channel widens. The accumulation of sediments produces alluvial fans, floodplains, deltas, and sand bars.

River channels often curve, whether in mountain areas or plains; these curves are called meanders. If a stream can move freely within its channel, it is called free meander, which is often found in the plains downstream. Incised meanders, on the other hand, are deep, curving channels that seem to cut through the mountain in the mid- and upstream portion of the channel. Taiwan's rising crust facilitates the development of river and fan terraces. If the riverbed along the convex bank of a meander is raised, the semi-circular formation is called an amphitheater terrace. If an alluvial fan is raised, it is called fan terrace.



成呈橢圓或圓形的凹穴，稱為壺穴。這種小地形經常成群出現，也常見到相鄰兩個壺穴因為岩壁被磨穿而相連，形成有趣的形狀，例如石夢谷和仙人堀（景點16、18）。

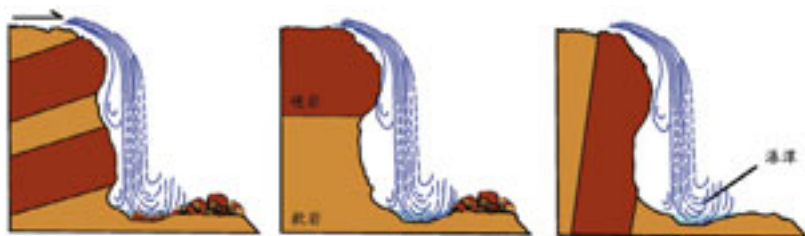


【壺穴圖】
Formation of potholes

本區境內大多是位在河流的上游段，上游河谷的谷床通常較為狹窄，河階地形不甚發達，還有一些是支流扇階。由於這類地形是山區少見的平坦地，大多已被開發為聚落用地或農地。另外值得介紹的是八掌溪在觸口以下發展的沖積扇階。八掌溪在觸口流出在此形成廣大的沖積扇（景點35）。此扇自東向西低降，後來因河流下切，而相對抬高形成扇階。

（三）風化與崩壞地形

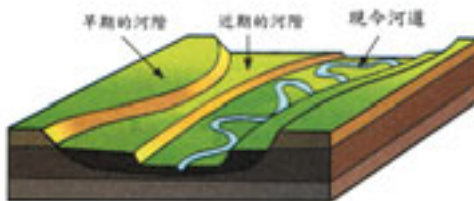
在許多改變地表形態的外力作用中，風化作用和崩壞與各種侵蝕作用最大的不同是，風化作用最靜態卻又無所不在。只要接觸到空氣或水分，岩石就會逐漸碎裂、疏鬆或體質弱化，只是不同的岩石性質風化效果的差異很大，而風化產物也較容易被其他的作用侵蝕搬運帶走。像本區多處大石壁，因為岩質堅硬，所以風化效果有限，而少量的風化產物也很容易被流水沖刷帶走，所以壁面總是看來光潔而無碎石堆積其上。



【硬岩瀑布與支流懸谷瀑布】
Waterfalls

Rivers flow especially rapidly in the upstream areas, carrying loose stones that carve out the riverbed and form elliptical or rounded holes in hard rock that are called potholes. These small landforms are often found in clusters, and two neighboring potholes may also be connected when the wall separating them has been eroded away. This can result in interesting shapes, such as those found in the Shihmong Valley and the Sianrenjyue (Scenic Sites 16, 18).

The Scenic Area is situated mostly in the headwater areas of rivers. The valley floors in these upstream areas are usually narrower, and river terraces are not well developed, though tributaries may form fan terraces.



【河階圖】
River terraces

Since flat areas such as fan terraces are rare in mountainous areas, they have mostly been developed for settlements or farming. One worthy of note is the alluvial fan terrace of the Bajhang River that formed below Chukou. There, the Bajhang River flows out of Chukou and forms a large alluvial fan (Scenic Site 35) descending from east to west. Since the river later continued to downcut, the land forming the fan terrace is relatively higher.

(3) Weathering and Mass-movement Related Landforms

Among the external forces that shape land surfaces, including mass

若一處地層是由抵抗風化能力不同的岩石所構成，長期下來經常造成硬岩處突出、軟岩處凹入的形態，就稱為差別風化。本區頗負盛名的奇特地景燕子崖、蝙蝠洞（景點28、29）都是差別風化的產物。若一地除了風化作用，還有流水同時進行侵蝕，而且作用更為顯著，則可以差別侵蝕稱之，本區很多瀑布流經薄層的砂頁岩互層，瀑面岩壁經常是凹凸有致就是一例。

臺灣島因為板塊運動活躍、地層破碎、地勢起伏大、風化侵蝕作用旺盛等環境特性，崩壞作用（山坡崩塌）是最自然不過的現象，本區也不例外。一般人對崩塌的印象大多把它看成是破壞的力量，大者山崩地裂、屋倒塌斷，小者落石砸車傷人，很少從地景欣賞的角度來看它所造成的地

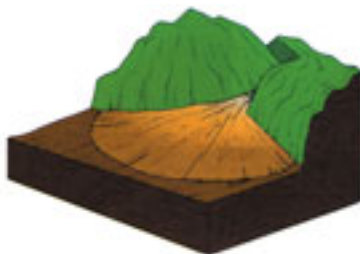
風化作用

Weathering Processes

地表的岩石與空氣（尤其是氧氣和濕氣）、水分接觸或因生物活動等影響，而使其發生崩解或分解的現象，稱為風化作用。一般將風化作用分為物理風化和化學風化兩大類，前者主要指造成岩石崩解碎裂的作用；後者則指造成岩石成分改變而使體質弱化的作用。通常高溫高濕的環境較有利於各種化學風化作用的進行，低溫乾燥或暴露岩壁的山區則較有利於物理風化作用的進行。

Rock on land surfaces disintegrates or decomposes in a process called weathering, due to exposure to air (especially its oxygen and moisture) and water, as well as the activities of living organisms. Generally, weathering is classified as either physical or chemical. Physical weathering refers to the splitting and disintegration of rock, while chemical weathering refers to the weakening of rock structure due to changes in composition. Typically, high temperatures and very humid environments facilitate various types of chemical weathering, whereas low temperatures, a dry environment, or exposed cliffs in mountain areas contribute to physical weathering.

movement and erosion, weathering is unique because it is both gradual and ubiquitous. When rocks are exposed to air or water, they gradually disintegrate, loosen up, or weaken. Different rocks, however, exhibit very different weathering effects, and the products of weathering are like-

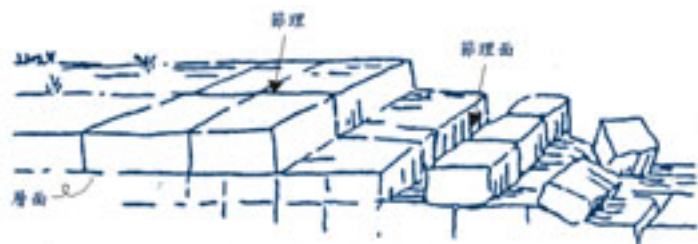


【沖積扇圖】
Alluvial fan

wise easily eroded and carried away by other forces. Since many of the rock walls in the Scenic Area are hard, weathering is limited, and the small amounts of weathering products are easily carried away by flowing water. For this reason, the surface of rock walls here are generally clean and smooth and free of accumulations of loose rock.

If the strata of a particular area are composed of rocks with different degrees of resistance to weathering, a phenomenon known as differential weathering will leave the harder rock protruding and softer rock indented after a long period of weathering. The famous Swallow Cliffs and Bat Caves in the Scenic Area are products of differential weathering. If an area experiences weathering and water erosion at the same time, and the effects of the latter are more pronounced, it can be called differential erosion. One example of this is the many waterfalls in the Scenic Area which flow over thin interbedded layers of sandstone and shale, resulting in an uneven rock wall.

The environmental characteristics that favor tectonic plate activity, the disintegration of strata, rugged terrain, and weathering and erosion



【岩石沿裂面崩解示意圖】
Rocks disintegrate along the fractures

形。本區常見的崩壞地形有：由陡坡墜落或翻滾而下的巨大岩塊～落石塊（也有戲稱飛來石），如頂湖巨石（景點40），山坡崩塌後遺留下來的凹地～山崩窪，堆積在陡峭山坡下部的碎石堆～落石堆。還有因為崩塌物質堵塞河谷而積河水成湖～山崩湖（又稱堰塞湖），位在本區北界的清水溪河段，在集集地震時因為北坡嚴重的地滑，阻塞河道形成草嶺潭（景點22）。

土石流常沿著小溪溝發生，因為侵蝕搬運力量太強大，會顯著的刷深加寬河道，也常在溪口堆積形成土石（流）扇（景點8、9、10）。在豐山村的一個土石流的景點，可以讓遊客深刻的體認大自然的威力。其實遊客對於崩塌不必過度驚惶，如果了解它們絕大多數是由豪大雨催生，只要在颱風期多注意氣象報導，或出發前詢問本處，夏季午後雷陣雨時遠離溪流或陡崖，就可避免危險。

（四）相關連的地景

就如同本章一開始所強調，地景是所有要素共同作用的結果。沒有風化、崩壞、侵蝕哪來的搬運、堆積！沒有上游山區邊坡的風化、崩塌與溪流的切割，山谷怎麼形成？河裡的土石礫從那裡來？又怎麼會有沖積扇、三角洲等河流堆積地形？其實連海邊沙灘的沙粒很大一部份也是來自上游的山區呢。

make mass movement (the collapse of mountain slopes) a very natural phenomenon throughout Taiwan, and the Scenic Area is no exception. People generally view mass movement as a destructive force, which on a larger scale caves in mountains, collapses houses, and destroys roads, and on a smaller scale, brings falling rocks that damage cars and injure people. Very rarely do people view the resultant geological formations from an appreciative perspective. Some of the mass movements seen in the Scenic Area include large hillside depressions resulting from slope collapse called the scars; the talus, piles of loose rocks accumulated below a steep mountain slope; and large boulders that have fallen or are rolling down the slopes (wittily referred to as "fly-bys"), such as the Dinghu Rock. There is also a barrier lake, the Caoling Lake, which has formed because a portion of the Cingshuei River (at the northern boundary of the Scenic Area) is blocked by a massive landslide on the northern slope of the river during the Chichi earthquake.

Debris flows usually occur along small river ravines. Since the flows have a powerful erosive and propulsive force, they visibly slice into the river channel and widen it, and often will form debris-flow fans at the mouth of the river. Several scenic spots featuring debris flows in Fongshan Village demonstrate nature's might. Tourists need not be overly worried about debris flows, however, if they understand that most debris flows are caused by heavy rains. Tourists can avoid danger by paying attention to weather reports during typhoon season, inquiring at the Scenic Area service center, or distancing themselves from rivers or precipices during thunderstorms in summer afternoons.



所有地形作用都是同時運作，只是其他環境因子的配合（如地層狀況）會凸顯出某些作用的成果。例如在軟硬岩層交替的地方，差別風化侵蝕的效果才會顯現出來。又如壺穴，雖然常被解釋為河流磨蝕作用的產物，但其實河床岩石的特性、風化作用和流水水力的衝擊也都十分重要。

許多地形之間都是有關連的，如本區多懸崖峭壁與多瀑布這兩種狀況也是關係密切。除了發展在順向坡的大石壁，本區還有更多的峭壁是因為持續崩場所形成的陡坡，最常見於河流的源頭，或者河谷的邊坡。河流的快速下切，造成山地與谷床很大的高度落差，河流向兩岸侵蝕，則常造成谷壁邊坡不穩，而容易導致崩塌。但是在後退過程中能一直維持陡坡則和地層的特性也很有關。

對本區軟硬互層交替的沈積岩而言，當地層傾斜角度小或接近水平時，或者傾斜角度較大的逆向坡位置，或地層中夾有抵抗侵蝕能力高的厚層砂岩時，都很有利於陡坡的維持，也就有利於懸崖峭壁的出現。如果有河流流經這類懸崖，就常形成瀑布。不過因為要有夠大的集水區，河流才會終年有水，所以很多在接近山脊的懸崖上的溝澗，只有在豪雨時才有水流，而出現臨時的瀑布。

(4) Relationship between Scenic Sites

As emphasized at the beginning of this chapter, the appearance of the landscape is produced by a combination of factors. Without weathering, mass movement, and erosion, there would be no matter to transport or accumulate, and how could valleys form without the weathering of slopes, mass movement, or the downcutting of rivers in the mountain areas upstream? Where would the soil, sand, and gravel in the rivers come from? How could there be alluvial fans and deltas? In fact, a large portion of the sand on beaches likewise comes from mountain areas upstream.

All processes affecting landforms occur simultaneously, but the combined effect with other environmental factors (such as the condition of a stratum) can amplify certain results; for instance, differential weathering is evident in areas with interbedded layers of hard and soft rock. In addition, although potholes are usually explained as product of abrasion in rivers, the characteristic of rocks in the riverbed, weathering effects, and the strength of the river's flow are also important determining factors.

Many landforms are related; for



崩壞作用

Mass Movement

崩壞作用是指地表或接近地表的土壤、岩石等因重力作用而沿山坡向下崩落移動的現象，有非常多類型，包括快速的岩塊墜落和土石流到極緩慢的潛移。土石流是泥砂礫（以礫為主）等未固結的物質與水混合的一種流體，因為含有較多的水分，移動速度快，又因常挾帶巨石，所經之處無堅不摧，只有在流出谷口或在河道加寬、變緩之處，才會停下來。

Mass movement refers to the downward sliding of soil and rocks on or near the land surface along mountain slope because of gravity. There are many kinds of mass movement, including the rapid rockfall and debris flow, as well as the very slow creep. Debris flow is a flowing mixture of loose matters and water, such as mud, sand, and gravel (primarily gravel). Since it is composed mostly of water, it flows at a faster rate and is formidable due to the large rocks it carries. Debris flow stops only when the stream slows down at the mouth of the valley or when river channel widens.

在台灣，颱風豪雨和大地震是造成崩塌最主要的自然外力，因建屋或開路不當開挖所造成的崩塌也顯著增多。但受到同樣外力的干擾時，有些山坡特別容易崩塌，有些則否，這就和山坡本身的特性很有關係。

In Taiwan, typhoons, heavy rains, and severe earthquakes are the natural forces that cause mass movement. Incidents of mass movement due to improper excavation for house and road construction are also increasing in number. But when subjected to similar external forces, mass movement readily occurs in some mountains but not in others, depending on the characteristic of the particular mountain slope.

instance, many precipices and waterfalls in the Scenic Area are closely related. In addition to large rock wall formations in dip slopes, the Scenic Area has even more precipices formed by continuous mass movements, which are most frequently seen at the headlands of a river or the slopes of a river valley. The rapid downcutting of the river produces large differences in elevation between the mountain area and the valley floor. Erosion along the banks of a river makes valley walls unstable and vulnerable to collapse. The maintenance of steep slopes even as the valley walls recede from the river is related to the characteristics of the local strata.

Given the sedimentary rocks with interbedded hard and soft layers in the Scenic Area, it is easy to maintain slopes when the slope of a stratum is mild nearly horizontal, as well as in escarpments with a steep inclines, or when the stratum includes thick layers of sandstone with higher resistance to erosion. These factors contribute to the formation of precipices, and rivers flowing across such precipices often form waterfalls. Because a large catchment area is required to maintain a year-round flow, channels above precipices near high mountain ridges only have flowing water during heavy rains, when waterfalls are sometimes temporarily created.



五、景點導覽

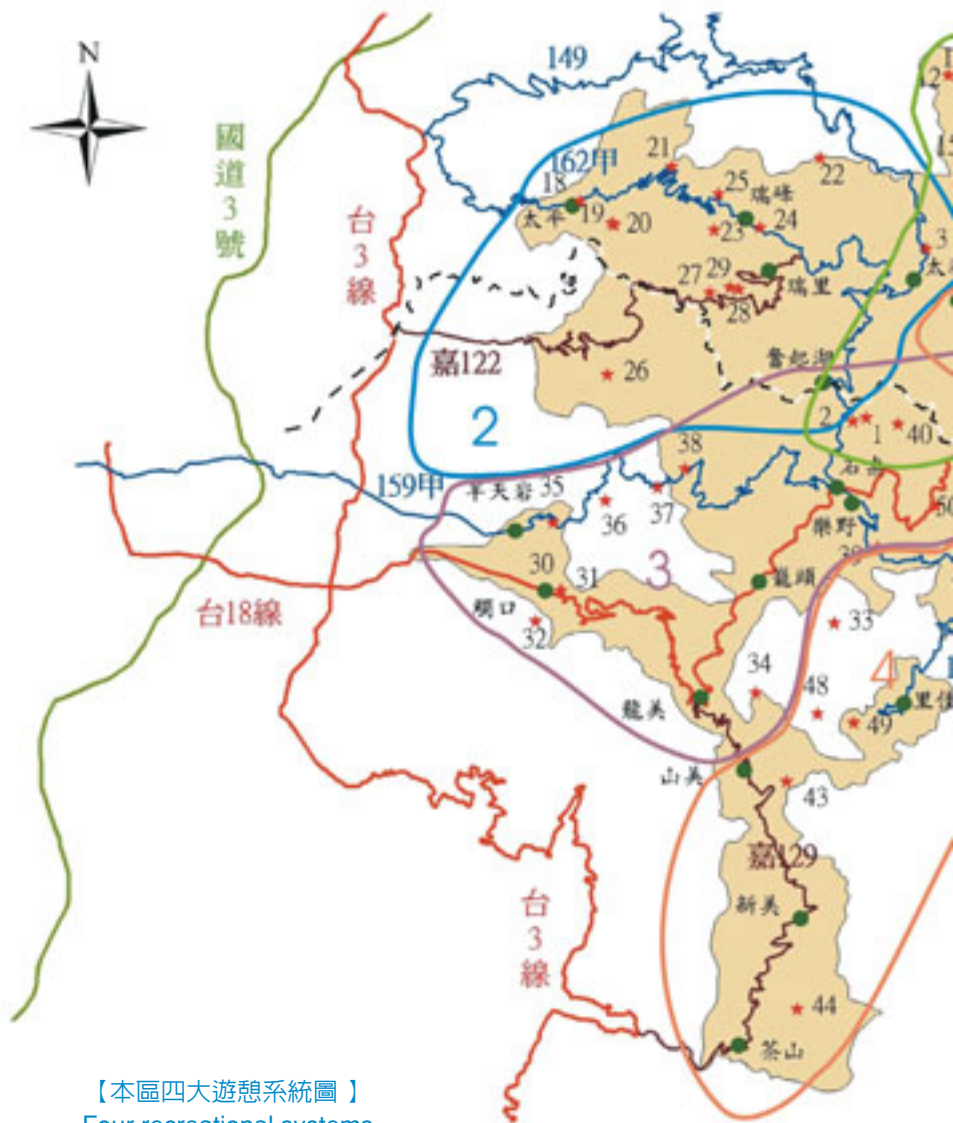
本章根據主要交通線將50個地形、地質景點分為四大遊憩系統，一一加以介紹。每一景點都會標明地景精采性與可及性（易達性）、安全性兩種等級，以供遊客參考；三顆黑星（★★★）表示地景精采性最高，三顆白星（☆☆☆）表示容易到達，也最無安全問題。



5. A Guide to Scenic Sites

This chapter introduces 50 scenic sites of special geomorphic or geological interest, according to their locations in four systems based on major traffic arteries. The degree of interest and the accessibility of the sites (as well as their level of safety) are rated for your reference: Three black stars (★★★) indicate sites of high interest, while three white stars (☆☆☆) indicate easily accessible sites with the fewest safety concerns.





【本區四大遊憩系統圖】

Four recreational systems
of the Alishan National Scenic Area

南北廊道遊憩系統 The North-South Corridor System

流水號 地景點
Serial no. Scenic sites

- 1 明月窟、流星巖 Mingyue Cave, Liousing Cliff
- 2 十八羅漢洞 Eighteen Luohan Caves
- 3 阿里山溪河階 Alishan River Terraces
- 4 札基谷瀑布 Jhajigu Waterfall
- 5 來吉大峭壁(鐵達尼石) The Laiji Wall (Titanic Rock)
- 6 天水瀑布 Tianshwei Waterfall
- 7 原始一百洞 The Primeval Caves
- 8 土石流紀念公園 Debris Flow Memorial Park
- 9 土石流複成扇 Debris-flow Fan
- 10 百年土石流遺跡 Ancient Debris Flow
- 11 石盤谷瀑布 Shihpangu Waterfall
- 12 石盤谷大岩壁 Shihpangu Wall
- 13 天雲谷瀑布 Tianyungu Waterfall
- 14 蛟龍瀑布 Jiaolong Waterfall (多由豐山村進入)
- 15 滴水成金(花崗水濺洞) (Huagang Sueilian Cave)
- 16 石夢谷壺穴 Shihmenggu Potholes (多由豐山村進入)
- 17 石夢谷瀑布 Shihmenggu Waterfall (多由豐山村進入)

西北廊道遊憩系統 The Northwestern Corridor System

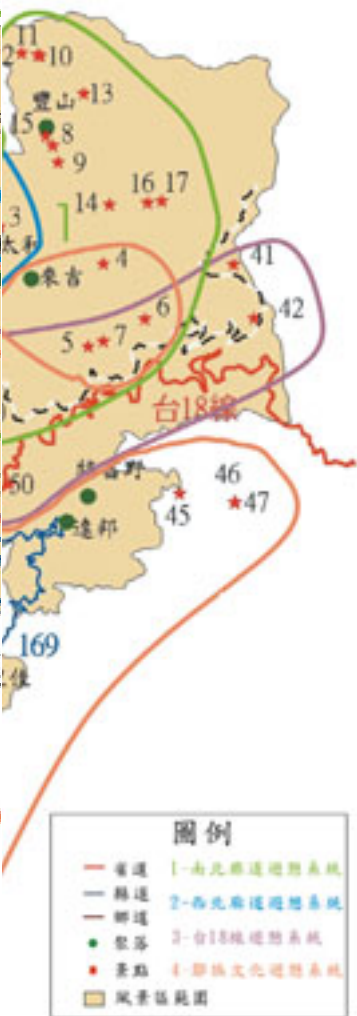
- 18 仙人壩 Supernatural Potholes (Sianren Potholes)
- 19 萬坪石 Wuaping Rock
- 20 相逢瀑布 Twin Waterfalls (Siangfeng Waterfalls)
- 21 梅山峽谷 Meishan Canyon
- 22 新草嶺潭 New Caoling Lake
- 23 龍宮、雷音瀑布 Longgong and Lueiyin Waterfalls
- 24 南天峭壁 Nantien Cliff
- 25 神仙尿尿瀑布 ShihshianNiaoniao Waterfall
- 26 觀音瀑布 Guanyin Waterfalls
- 27 雲潭瀑布 Yuntan Waterfall
- 28 燕子崖 Swallow Cliff
- 29 蝙蝠洞 Bat Caves

台18線遊憩系統 Tai 18 Highway System

- 30 觸口曲流河階 Chukou Amphitheater Terrace
- 31 八掌溪谷曲流 Bajhang River Incised Meander
- 32 情人瀑布 Lover's Waterfall
- 33 象山 Elephant Mountain (眺望點位於公田村)
- 34 仙井瀑布 Sianjing Waterfall (多由公田村進入)
- 35 八掌溪沖積扇階 Bajhang River Fan Terraces
- 36 鳳凰瀑布 Phoenix Waterfalls
- 37 光華砂頁岩互層 Guangha Sandstone-shale Alternations
- 38 濁水溪橋土石流 Jhuoshuei River Bridge Debris Flow
- 39 裸女瀑布 Luonyu Waterfall
- 40 頂湖巨石(巨墓碑) Dinghu Rock
- 41 大塔山 Datashan(需由香林村進入)
- 42 姊妹潭 Two Sisters Pools (Zimei Pool)

鄒族文化遊憩系統 The Tsou Tribe Cultural System

- 43 曾文溪上游峽谷 Cengwun River Valley
- 44 茶山石壁 Chashan Wall
- 45 神秘谷瀑布 Mysterious Valley Waterfall
- 46 百人洞 Bairen Cave
- 47 拉拉喀斯瀑布 Lalakasih Waterfalls
- 48 里佳瀑布 Lijia Waterfall
- 49 福爾摩沙第一泉 First Formosa Spring
- 50 山崩窪 Scar (眺望點在里佳村)





(一) 南北廊道遊憩系統

本系統以公路169（石桌以北）和嘉155沿線為軸，主要包括豐山、來吉、奮起湖等地。奮起湖附近的大凍山國家森林步道景色優美，還可通往明月窟、流星巖等地；豐山除了有傳統十景之外，土石流地景也成為新的景點；來吉的景點中又以「鐵達尼石」最富趣味。

(1) The North-South Corridor System

This system is centered on the Highway 169 (from Shihjhuo north) and county road Chia155, and includes Fongshan, Laiji, and Fencihu. The Dadongshan National Forest Trail near Fencihu has beautiful scenery, and leads to sites such as the Mingyue Cave and Liousing Cliff. In addition to its beautiful scenery, Fongshan has a new attraction in the deposits formed from debris flows, while Laiji features the "Rock" as a main point of interest.





1. 明月窟、流星巖 Mingyue Cave and Liousing Cliff

精采性 interest★★ 可及性 accessibility☆☆

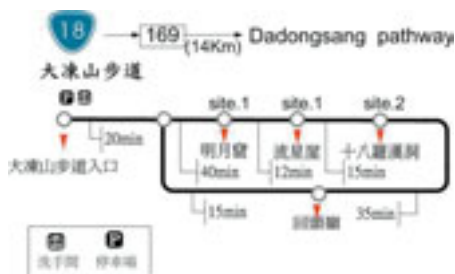
明月窟、流星巖發展於畚箕山西南方一大片裸露陡峭的岩壁上，岩壁裸露部分的寬度總計可達兩百公尺以上。其上部為厚層砂岩，下部為砂頁岩互層，厚層砂岩抗蝕力較強，維持壁立，砂頁岩互層則凹入，差別風化的效應顯著。扶梯步道即沿同一層凹入處修建，所以步道頂部即為層面。在明月窟步道中，隔八掌溪源流也可眺望奮起湖聚落一帶地景。

The Mingyue Cave and Liousing Cliff developed in one part of a large exposed cliffs to the southwest of Benjishan, with the exposed cliff wall measuring as much as 200 m in width. Crowned with a thick sand-



stone layer, alternating layers of sandstone and shale make up the lower portion. The thick sandstone layer, clearly more resistant to erosion, stands upright, while the shale is indented. The pathway follows the indented area, so the ceiling overhead is the bedding plane. On the Mingyue path, the Fengcihu village area is visible on the far side of the headwaters of the Bajhang River.

交通說明：台18公路轉縣道169經奮起湖在14公里處右轉往大凍山步道方向，步道沿線階梯緩坡好行。





2. 十八羅漢洞 The Eighteen Luohan Caves

精采性 interest★ 可及性 accessibility☆

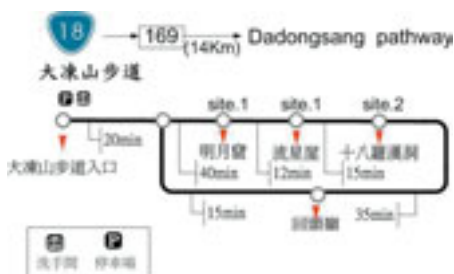
十八羅漢洞（或稱靈岩十八洞）位於1865高地西南方山坡。主要是厚層砂岩順沿層面與節理面崩解分離，而形成的砂岩裂隙型洞穴，也有可能是整片順向坡發生地滑所造成。由於整片山坡到處都是這種洞穴，十八乃形容其「多」之意。

The Eighteen Luohan Caves (also called the Eighteen Speirt Stone Caves) are located on the mountain slopes of the 1865 Highland. These were likely created by massive sandstone strata collapsing and separating along the bedding planes and joint planes, forming sandstone fissure caves, or possibly by a landslide of the entire structure along the dip



slope. The word "eighteen" only expresses how numerous are the caves that appear in the slopes here, rather than being a precise number.

交通說明：台18公路轉縣道169經奮起湖在14公里處右轉往大凍山步道方向，步道沿線階梯緩坡好行。經明月窟、流星巖後繼續爬坡往上，約500公尺即可達。由此再往上爬坡到分水嶺脊的階梯坡道則頗為陡峭。洞穴內可能有蛇類棲息，最好不要進入。





3. 阿里山溪河階 The Alishan River Terraces

精采性 interest★ 可及性 accessibility☆☆

阿里山溪最下游段流經太和村，沿溪兩岸有幾處河階發育，如右岸的太里網和左岸的社前湖（社興、仁和），位置更高的社發坪（社後坪）應該也是更早形成的河階面。河階是原來的河床，因為河流下切，相對抬升而形成，和現今河床間通常有明顯的高差，也不易受現今洪水影響到，比較安全；至於緊鄰河道兩岸的高灘地，雖有草類覆蓋，但在大洪水來時都會被淹沒，仍屬現今河床的一部份。

Several river terraces have developed along the banks of the Alishan River in its lower reaches where it flows through the village of Taihe, such as the Tailiwang area on the left bank or the Shecianhu area on the right,



The Shefaping area, at a higher location, is a river terrace that formed much earlier. Such terraces are created when the river cuts down through the original bed, leaving it higher. There is usually a marked difference in elevation between the present river bed and its previous courses, areas which are usually unaffected and relatively safe during flooding. While bars adjacent to the flow usually have grass coverage, they will be submerged under rising water and are considered part of the current riverbed itself.

交通說明：阿里山溪兩側有縣道169和縣道149甲兩條路線。縣道169在太和與仁和之間，多處道路狹窄、會車不易，僅適合小客車通行，縣道149甲路況較佳。

Fengcihu → 169 → Taihe → Lookout point



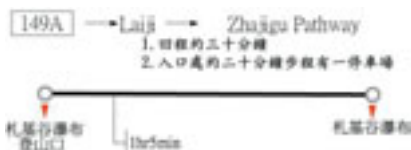
4. 札基谷瀑布 Zhajigu Waterfall

精采性 interest★★ 可及性 accessibility☆

阿里山溪上游支流塔山溪流貫於塔山與兜山之間，形成數十個瀑布，札基谷瀑布是最大的一個。札基谷在鄒族語中是「峽谷內」的意思，就像高懸在峽谷內的一匹白絹，閃閃發亮。瀑布共分三段，第一段落差約28公尺，第二段最壯觀，落差16公尺、下方瀑潭長徑約9公尺，第三段落差僅約2公尺。

A tributary of the Alishan River in its upper reaches, the Tashan River flows between Tashan and Doushan, dropping over more than ten falls in its course; the Zhajigu Waterfall is one of the largest. In the Tsou language, "Zhajigu" means "in the canyon," and these falls resemble a bolt of glistening white silk hung from a canyon wall. The waterfall has three sections, the first dropping about 28 m; the second and most impressive, 16 meters, with a pool of about 9 meters in diameter beneath; and the third, about 2 meters.

交通說明：循縣道149甲抵來吉，從第四鄰沿瓦腳腳溪上游前進，進入產業道路上坡道後開始步行。探訪此瀑布必須縱走來吉塔山線，有登山健行經驗者較佳，最好請當地嚮導帶路。





5.來吉大峭壁 Laiji Wall

精采性 interest ★★★ 可及性 accessibility ☆☆☆

來吉大峭壁鄒族人稱為斯比斯比岩，峭壁寬度約70公尺，岩壁垂直落差近百公尺，其中裸露部分落差約60公尺。當地人以其外形彷彿電影「鐵達尼號」的船頭，也戲稱為鐵達尼石。目前峭壁斜坡上有繩索，可供遊客攀爬至頂部。岩層為南莊層中所夾砂岩層，岩壁上有生痕化石、波痕等，顯示此岩壁面就是層面。由峭壁頂部可眺望阿里山溪上游V形谷，兩岸邊坡高而陡，崩塌非常嚴重。前往此景點的道路多彎且坡陡，路面不佳，必須更換四輪傳動車輛上山。

The Laiji Wall, known among the Tso people as Sibi-sibi Cliff, is 70 meters wide with a vertical drop of nearly 100 meters, 60 meters of which are exposed. Locals have named Laiji "The Titanic" for its resemble to the prow of the in the famous movie scene. Lines are attached for a climb to the top of the cliff face. The cliff is one of the sandstone layers of the Nanzhuang Formation, its trace fossils and ripple marks revealing it as a bedding plane. From the top, the V-shaped valley of the Alishan River headwaters can be seen. A four-wheel drive is required for the steep and winding road to this scenic site.

交通說明：循縣道149甲抵來吉，由第四鄰來吉山莊出發，左轉產業道路，遇產業道路分岔時，取左邊小徑上坡。道路多彎且坡度陡，路面不佳，必須更換四輪傳動車輛上山。





6. 天水瀑布 Tianshuei Waterfall

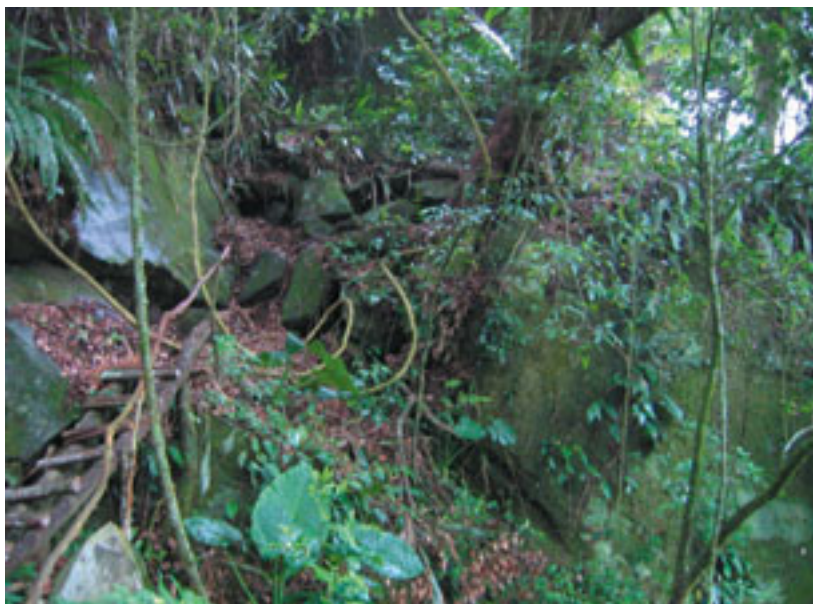
精采性 interest★ 可及性 accessibility☆☆

天水瀑布位於來吉大峭壁下方，由塔山頂西南方傾瀉而下，猶如天上來的水一般。唯瀑布只能遠眺，無法接近，因為該處海拔高度高，瀑布常被雲霧籠罩，難見全貌。

The Tianshuei Waterfall is located below the Laiji Wall, falling from the southwestern side of the Tashan peak, like water falling from the heavens (*tien*-heaven; *shuei*-water). Because of its high elevation, the waterfall can only be viewed from a distance and is often obscured by clouds, making it difficult to see in its entirety.

交通說明：循縣道149甲抵來吉，由第四鄰來吉山莊出發，左轉產業道路，遇產業道路分岔時，取左邊小徑上坡。道路多彎且坡度陡，路面不佳，必須更換四輪傳動車輛上山。

Fengcihu → [149A] → Laiji
→ Productive Road → The Primeval Caves



7. 原始一百洞 The Primeval Caves

精采性 interest★ 可及性 accessibility☆

原始一百洞位於思瑪突（Smatu）原始森林區，主要由崩塌的砂岩塊堆砌所成，遍佈岩塊的山坡上，常可見岩塊間的孔隙如洞，故稱百洞。沿步道進入，都是在大小、高低、寬窄不同的岩洞中爬上爬下。

The Primeval Caves are located in the Smatu primeval forest area, formed mostly by the heaping of sandstone boulders from slope collapse. On these boulder-strewn slopes, fissures between boulders appear as caves, hence the name "100 Caves." The walking path leads up and down through caves of varying size.

交通說明：循縣道149甲抵來吉，由第四鄰來吉山莊出發，左轉產業道路，遇產業道路分岔時，取左邊小徑上坡。道路多彎且坡度陡，路面不佳，必須更換四輪傳動車輛上山。





8. 土石流紀念公園 Debris Flow Memorial Park

精采性 interest ★ 可及性 accessibility ☆☆

豐山村周圍山嶺高聳陡峭，容易崩塌。各溪流的坡度很陡，平常看似平靜，但遇到像民國85年賀伯颱風所夾帶的驚人雨勢，使洪水突增，就能促使大量土石快速下移，形成土石流。賀伯颱風與集集地震之後的颱風都曾誘發土石流，使本村多次受創。災後在當地居民樂天知命的態度與政府的協助之下，在新出現的土石流階地上興建「土石流紀念公園」，讓老天爺加諸的考驗轉變為本村特有的觀光資源。

Rockslides frequently occur in the steeply towering ranges surrounding the village of Fongshan. Rivers here travel steep declines and usually appear tranquil, but quickly become torrents following the vast amounts



of precipitation brought by such storms as Typhoon Herb in 1996. The result can produce the slippage of large volumes of earth and stone in what are sometimes called debris flows. Fongshan has several times been a casualty of such flows, which were generated by Typhoon Herb and by typhoons that followed the Chichi Earthquake of September 21, 1999. But the calmly optimism local residents, with government assistance, established the Debris Flow Memorial Park on the site of the new terrace left by the flows, turning one of nature's severest tests into a unique local tourism resource.

交通說明：縣道169公路進入豐山村聚落前路旁。

Fengcihu → 169 → Fongshan
→ Productive Road → Debris Flow Memorial Park

9. 土石流複成扇 Debris-flow Fan Terraces

精采性 interest★★ 可及性 accessibility☆☆☆

由於自然環境特性使然，豐山曾發生過多次的土石流（參見前一點說明）。從觀景台向北眺望，可以看出整個豐山聚落就是座落在乾坑溪的土石扇階上，也就是很久以前的土石流堆積而成。雖然後來河流下切較深，使得聚落所在位置免於洪水威脅，但自賀伯颱風以來的多次土石流又將河床顯著淤高，位於較低處的住宅應特別注意潛在危險。

Given the natural environment of Fongshan (see explanation above), debris flows have been a recurring phenomenon. Looking north from the lookout point, the Fongshan settlement can be seen resting on the fan terrace of the Gankeng River, built up from washes of debris deposited over time. Later, the river downcut deeply, mitigating the risk of flooding to the town, but the river bed was later raised again by the silting that occurred after Typhoon Herb, requiring that further precautions be taken for the safety of the lower-lying residential buildings.

交通說明：轉入豐山產業道路，經豐山村聚落、蛟龍橋，根據指標可抵達對岸的觀景台。





10.百年土石流遺跡 Ancient Debris Flows

精采性 interest★★★ 可及性 accessibility☆☆☆

本景點位於乾坑溪兩源流相會之處。當地雜草叢生、巨石遍地，是更早期的土石流的遺跡。本公園雖名為百年，但其實豐山的土石流自古有之，在先民還沒有移墾之前就有了，只是若一段時期沒有造成災害，就容易被遺忘。此景點，巨石遍地，有更早期的土石流的遺跡，顯示豐山的土石流自古有之。此外，該處的巨石上，有許多扇貝、海螺等化石，饒富趣味，不過因為已經不在原生地層中，所以不能作為地層對比的依據。

Local site in Fongshan is littered with huge boulders that are remnants of earlier flows, showing that such debris flows are an age-old phenomenon along the Gankeng River. Intriguing fossils of scallops and sea-snails appear on these boulders, but since they no longer appear in-situ in their original strata, they cannot be used as a basis for comparing different strata.



Fengciha → 169 → Fongshan
 → Productive Road → Ancient Debris Flows

交通說明：豐山村五鄰吊橋下方步道。



11. 石盤谷瀑布 Shihpangu Waterfall

精采性 interest ★

可及性 accessibility ☆☆☆

石盤谷瀑布位於乾坑溪上游，原有5~6段瀑布，因為近十年來多次土石流作用，有幾段瀑布變成急湍或消失，目前只有看到第一和第五段瀑布。石盤谷第一段瀑布的瀑布約高15公尺、瀑寬8公尺，瀑壁近乎垂直。

The Shihpangu Waterfall is located in the upper reaches of the Gankeng River. There were originally 5-6 separate falls, but several have disappeared or become rapids due to debris flows in recent decades; now only the first and fifth sections remain. The first section, falling over a nearly vertical face, is about 15 meters high and 8 meters wide.

交通說明：豐山村五鄰吊橋後，抵47號農家。步道在農家旁，再五分鐘抵達石盤谷步道。過乾坑溪谷，沿步道上昇，即可見瀑布群。





12. 石盤谷大岩壁 The Shihpangu Wall

精采性 interest★★ 可及性 accessibility☆

石盤谷溪河流上游段，左岸（步道在右岸）出露的地層是頁岩夾薄層砂岩，有多處崩塌，右岸邊坡出露的是厚層砂岩，而且沿層面發展成一大片裸露石壁，也就是順向坡。所謂的石盤谷峭壁就是發展在這片順向坡上，坡面傾斜可達30-40度。石壁上架有繩索，遊客可以試試自己的膽量喔！

Along the upper reaches of the Shihpangu River, the rock stratum exposed on the left bank (the walking path lies along the right bank) is shale intermixed with thin sandstone layers, which has collapsed in a number of places; on the right bank, a massive sandstone layer is exposed, with a large exposed face following along the stratum, which is the dip slope. The Shihpangu Wall developed along this dip slope, with a dip angle of as much as 30-40 degree. Lines have been set in the rock wall allowing tourists to try their own hand at scaling it!

交通說明：豐山村五鄰吊橋後，抵47號農家，沿農家旁步道前行5分鐘，即可接遠石盤谷步道。過乾坑溪谷，沿步道上行經瀑布群後，繼續前行即可抵達。





↑ 劉家吉先生提供

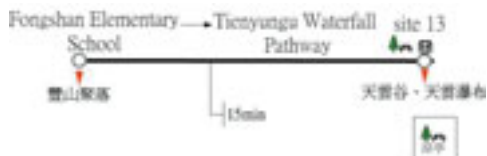
13. 天雲谷瀑布 Tienyungu Waterfall

精采性 interest ★ 可及性 accessibility ☆☆☆

天雲谷位於石鼓盤溪支流之一的源流段，河谷邊坡陡峭壁立，平時並無水流，只見崩塌邊坡與落石堆，雨季時溪水宛如自雲霧中凌空而下，因而得名。

The Tienyungu Waterfall is located near the source of the Shihgupan River. The valley's side slopes are extremely steep, and usually only the collapsed side slopes and heaps of fallen stone can be seen, with no waterfall; but during the rainy season water comes cascading as if from among the clouds, giving the waterfall its name (*tien*—sky; *yun*—cloud; *gu*—valley)

交通說明：豐山國小旁山坡階梯步道，坡緩好行，但沿線標示不明，容易迷路。



14. 蛟龍瀑布 Jiaolong Waterfall

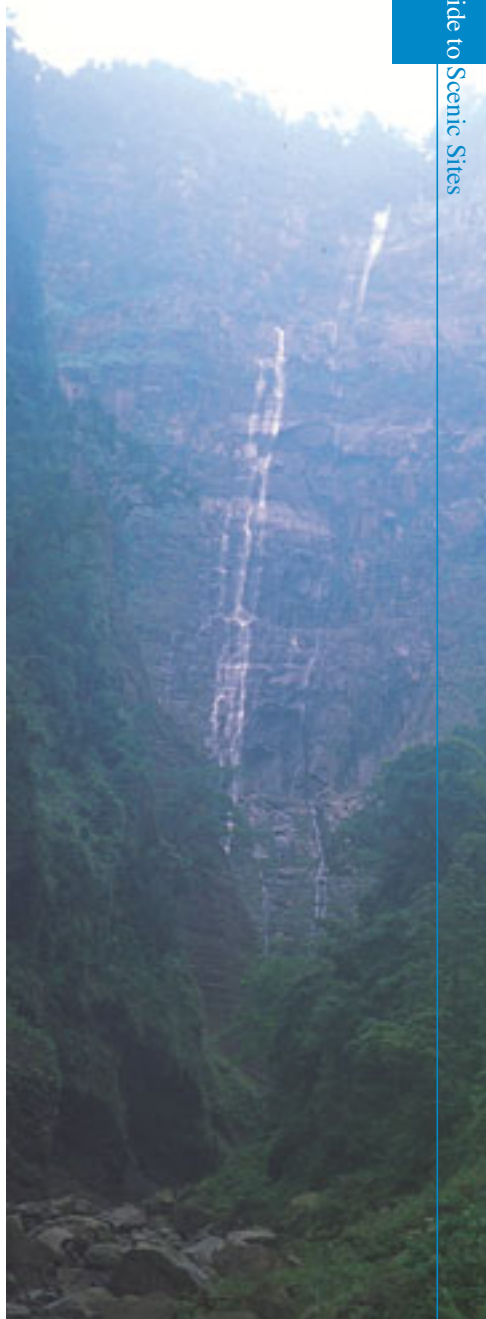
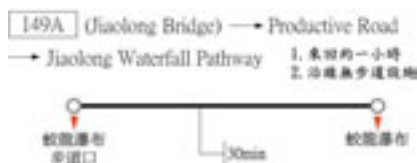
精采性 interest★★

可及性 accessibility☆☆

蛟龍瀑布所在溪流發源於塔山的北坡，源流河段十分陡峭，其中在高度1700-1000公尺之間坡度最陡，形成岩壁裸露的大斷崖，瀑布就是位於此斷崖處。好天氣時從豐山往東南方眺望，即可看到瀑布，雨季時，溪水流量較大，宛如銀白蛟龍從天而降，因而得名。

The river on which the Jiaolong Waterfall is found originates on the northern slope of Tashan. The river's source flow travels a steep decline, at its steepest in the 1700-1000 meters region; the falls descend from an exposed rock scarp in this segment. In good weather, the fall can be seen looking southeastward from Fongshan. The larger flows of the rainy season give the falls the look of a silver-white flood dragon (jiaolong) descending from the heavens, hence the waterfall's name.

交通說明：豐山聚落149甲公路，至過蛟龍橋左轉產業道路，但溪畔道路已斷，欲至瀑布需走河床1公里，河床上土石多稜角，行走需小心。





15. 滴水成金 (花崗水濂洞) Spring of Gold (Huagang Shuilian Cave)

精采性 interest★★ 可及性 accessibility☆☆☆

花崗水上青又名花崗水濂洞，外觀上有兩個小洞，洞口高約一公尺、寬不到半公尺。一進入洞中可見許多鐘乳石、石筍或石柱，洞內長度約僅3公尺，故一次只限三人進入。當地居民說：將實物如瓷碗、石頭放置泉水下滴潤，大約一年時間，這些實物的表層便舖滿一層金黃色的鍍膜，在陽光之下亮麗耀眼，而有「滴水成金」之譽。

At Huagang Shuishangcing (or the Huagang Shuilian Cave) two small openings about a meter high and less than half a meter wide are visible. From within the opening, various stalactites, stalagmites, and columns are visible within a space extending about 3 meters inward, which allows only three persons to enter at a time. Local residents say that if an object—say a ceramic bowl or a stone—is placed within the flow of the spring, after about a year's time it will emerge with a gold-colored coating on its surface that will glitter in the sunlight like gold, hence the name "Spring of Gold."



交通說明：豐山聚園149甲公路，至蛟龍橋前右轉產業道路。

16. 石夢谷壺穴 Shihmenggu Potholes

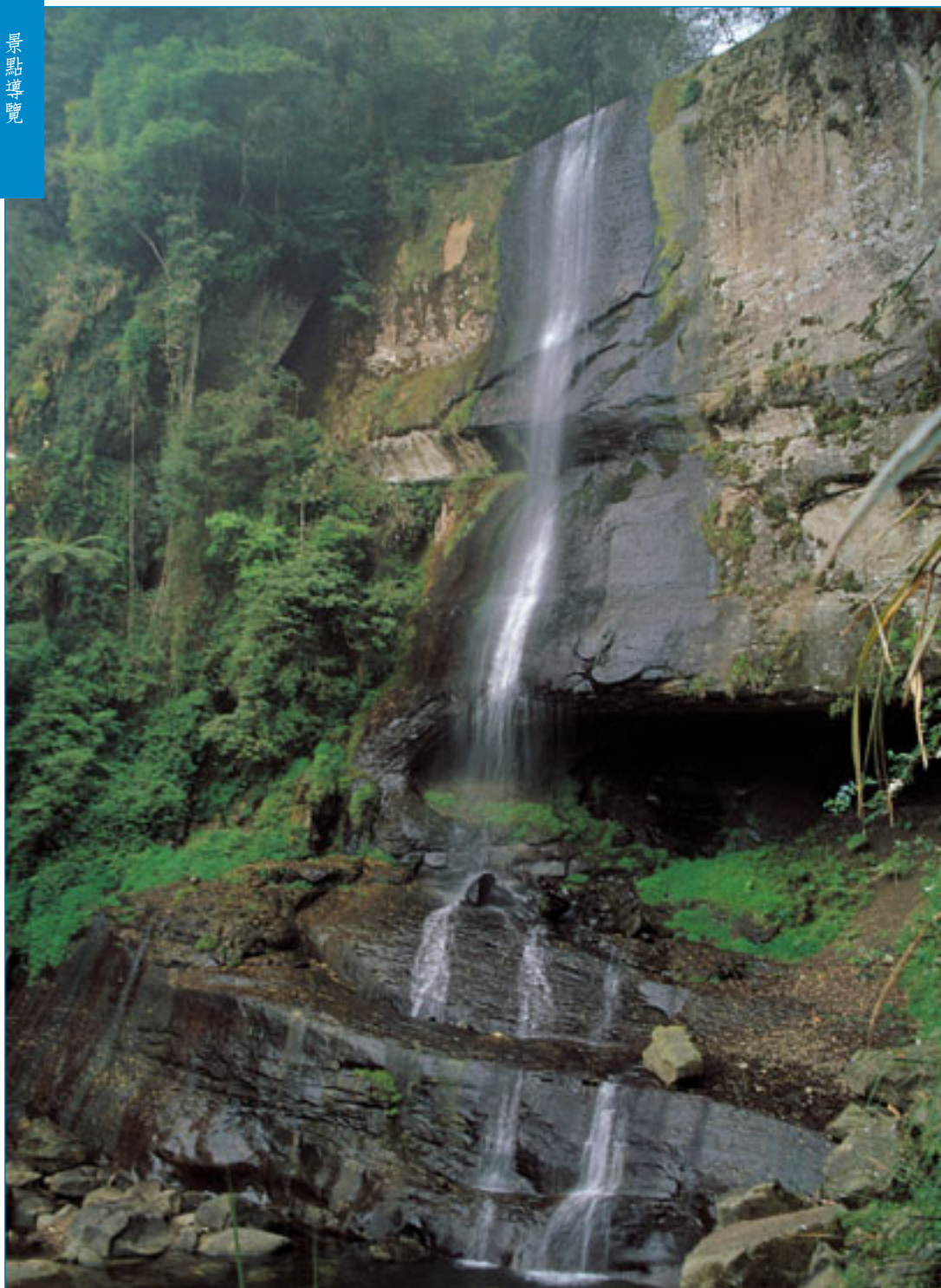
精采性 interest ★★★ 可及性 accessibility ☆

石夢谷所在溪流發源於大塔山西北坡，在海拔高度約1700公尺處，河床上有綿延數百公尺的底岩出露，質地堅硬，並沿地層的層面形成階梯狀級級下降。洪水時，湍急的水流夾帶石礫，磨蝕河床岩面，形成許多凹穴，稱為壺穴。

The river on which Shihmenggu is found originates on the northeastern slope of Tashan at an elevation of 1700 meters. The hard bedrock of the river is exposed for an unbroken stretch of several hundred meters as the ground layer descends in a stairstep pattern. During periods of flooding, the rapids carry gravel that abrades the stone river bed, forming deep depressions called known as potholes.

交通說明：由豐山村穿過石鼓盤溪河床至登山口，轉入宣帽石山前的岔路，沿階梯一路爬行，整體步道落差約九百公尺，頗具挑戰性，宜備妥飲用水及食物。沿線多處碎石崩落，路況有待維護，又多咬人貓植物，需特別注意安全。





17. 石夢谷瀑布 Shihmenggu Waterfall

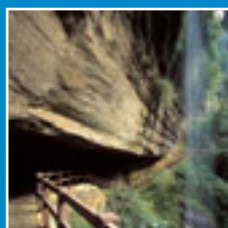
精采性 interest★ 可及性 accessibility☆

石夢谷瀑布位於石夢谷步道盡頭，瀑布高約50公尺、寬約8公尺，瀑壁近乎垂直。出露地層為厚層砂岩，瀑布下段的凹壁應該是砂岩中所夾局部較弱的岩石，受流水沖刷與風化作用而崩下。

The Shihmenggu Waterfall, about 50 meters high and 8 meters wide, falling over a nearly vertical face, is located at the end of the Shihmenggu hiking path. The exposed rock is a massive sandstone layer; the concave wall in the lower part of the fall is probably due to weaker areas of stone in the sandstone layer which have crumbled due to erosion and weathering."

交通說明：由豐山村穿過石鼓盤溪河床至登山口，轉入宣帽石山前的岔路，沿階梯一路爬行，整體步道落差約九百公尺，頗具挑戰性，宜備妥飲用水及食物。沿線多處碎石崩落，路況有待維護，又多咬人貓植物，需特別注意安全。





(二) 西北廊道遊憩系統

本系統以公路162甲和嘉122沿線為軸，主要包括太平、瑞峰、瑞里等地。本系統中的燕子崖與蝙蝠洞早負盛名；集集地震後在162甲沿線修建的景觀涼亭，最適合眺望清水溪谷和對岸的草嶺大崩塌。此外，本區瀑布發達、各具風采，而且步道狀況良好，容易到達。

(2) The Northwestern Corridor System

This system is centered on the 162A Highway and county road Chia122, and includes Taiping, Rueifong, and Ruieli, along with their famous Swallow Cliffs and Bat Caves. After the Chichi Earthquake, outlook pagodas were built along the 162A Highway, from which the Cingshuei Valley and the great Caoling Landslide can be viewed. The area also features beautiful waterfalls accessible by means of well-maintained hiking paths.



18. 仙人壩 Sianren Potholes

精采性 interest ★★

可及性 accessibility ☆☆

仙人壩所在溪谷是生毛樹溪的支流之一，溪水在源流區一段厚層砂岩的河床上，經過長期的鑽鑿、磨蝕，形成一大群的壺穴。尤其沿著地層的裂面，壺穴比較容易拓展，更有利於規模較大壺穴的形成，目前所看到最大的寬2.6公尺、深1.3公尺。附近的「玉螺洞」是一個狀似螺旋的天然小洞，造型奇特，像是一個鑲在岩壁上的壺穴。

The supernatural Potholes lie along one of the tributaries of the Shengmaoshu River. In the source-flow stretches, the massive sandstone stratum of the river bed has undergone long-term boring and abrasion, forming a series of potholes, which take shape with particular ease along the natural fractures in the stone of the river bed. Those areas are especially





suitable to the formation of larger potholes; the largest currently known is 2.6 meters wide and 1.3 meters deep. The nearby "Jade Spiral" is a deep indentation with an unusual spiral shape that has formed naturally in the wall, as if the pothole were chiseled out of the rock face.

交通說明：循嘉162甲公路往太平方向，轉154公路，約0.5公里處為步道入口。步道狀況佳，唯路面濕滑，最好扶欄杆而行。





19. 萬坪石 Wanping Rock

精采性 interest★ 可及性 accessibility☆

萬坪石舊稱「茅仔埔大石壁」，形勢天成，北側險峻（一般稱「北萬坪石」），南側較平緩，雨季時水流直瀉衝下，形成壯觀的飛瀑沿途均可觀賞非常厚層砂岩所形成的陡峭邊坡，坡度約23-36度。第五橋的裸露岩壁規模最大，本地「萬坪石」之名，即因此而得。

Wanping Rock (formerly, "Maozaipu Wall") is a natural formation with a steep northern face (often called North Wanping Rock) and a more gradual slope on the south. Water surges off the rock during the rainy season to create a flying waterfall, flanked by steep and massive sandstone side slopes at angles from 23 degree to 36 degree. The exposed face along Bridge 5, from which the name is derived (wanping indicates a large area in Chinese) is largest.

交通說明：縣道154太興社區附近，在3公里處咖啡園旁有不明顯的下坡石階，即為通往萬坪石與相逢瀑布的步道。步道坡度稍陡，且路面濕滑，需小心行走。





20. 相逢瀑布 Twin Waterfalls

精采性 interest ★ 可及性 accessibility ☆☆

相逢瀑布位於萬坪石下游約100公尺處，萬坪石南、北兩側的溪流在匯流點附近各形成一瀑布，所以合稱為相逢瀑布。面對下游來看，右側女瀑為主流瀑布，瀑高約44公尺，左側男瀑為支流瀑布，瀑高約26公尺。

The Twin Waterfalls are located about 100 meters downstream from Wanping Rock; streams from the northern and southern sides of the Wanping Rock each form a fall near the point of their convergence. Looking further downstream, it can be seen that the more delicate "female" fall on the right, about 44 meters high, is the main current, while the "male" fall on the left, about 26 meters high, is a tributary.

交通說明：縣道154太興社區附近，在3公里處咖啡園旁有不明顯的下坡石階，即為通往萬坪石與相逢瀑布的步道。步道坡度稍陡，且路面濕滑，需小心行走。



21. 梅山峽谷 Meishan Valley

精采性 interest★★ 可及性 accessibility☆☆☆

清水溪流經雲林和嘉義縣界時河谷呈東西向，與山脈、地層走向大角度相交，形成橫谷。在梅山鄉瑞峰與碧湖兩村交界處，生毛樹溪匯入清水溪，當地人稱雙溪嘴。在此處，清水溪河道突然北折，峽谷形勢頗為壯觀，稱為梅山峽谷。民國88年集集地震時，草嶺大崩塌也影響到此區，峽谷底部被土石埋淤，後來又被河水再下切而形成新的河道。

The valley of the Cingshui River crosses the border of Yunlin and Chiayi Counties in an east-west direction and is a "transverse valley," as that direction is different from that of the mountain ranges and underlying strata. In between the villages of Rueifong and Bihu in Meishan Township, the Shengmaoshu River converges with the Cingshui River at Shuangszui ("Two River Mouths"). Here, the Cingshui suddenly turns northward, creating a wonderfully scenic valley, the Meishan Valley. The Caoling landslide, during the Chichi Earthquake of 1999, brought change to the area, filling in the valley floor, after which downcutting by the river created a new river channel.

交通說明：縣道162甲路旁有堰塞湖觀景台，由此涼亭向東看到的是清水溪東西向橫谷段，向北則可眺望清水溪大轉彎處。

Meishan → 162A → Meishan Valley





↑ 齊柏林 先生提供

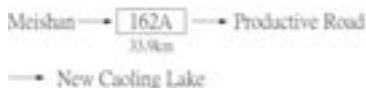
22. 新草嶺潭 New Caoling Lake

精采性 interest ★★★ 可及性 accessibility ☆☆☆

民國88年集集大地震北岸草嶺壩崙山的半壁邊坡坍塌，阻塞草嶺與瑞峰之間的清水溪河道達5公里，瞬間形成一個堰塞湖—新草嶺潭，坍塌土方量約為一億兩千萬立方公尺，為近150年來最大規模的一次坍塌。由於阻塞溪流的天然壩壩體材料疏鬆，膠結不良，水流容易滲漏，堰塞湖通常無法維持太久。

In the Chichi Earthquake of 1999, half of the Caoling Kutashan side slope collapsed, blocking the Qingshuei River channel for a distance of 5 km between Caoling and Rueifong, instantly forming a new barrier lake—New Caoling Lake. The approximately 120 million cubic meters of displaced earth make this the largest collapse in nearly 150 years. But since the materials, that form such blockages are loose and not well cemented together, barrier lakes often do not last long.

交通說明：縣道162甲約33.9公里，倒交山產業道路入口處建有堰塞湖觀景台，倒交山產業道路沿線也有數處涼亭，提供不同的眺望角度。



23. 龍宮、雷音瀑布 Longgong and Leiyin Waterfalls

精采性 interest ★★

可及性 accessibility ☆☆

生毛樹溪支流竹仔坑溪，河流深切，沿線斷崖峭壁發達，以新興寮西側一帶特別密集。其中龍宮瀑布位於南側支流匯注竹仔坑溪處；雷音瀑布群則是來自北方的一條小溪，在注入竹仔坑溪河谷前流經約兩百公尺落差的陡崖，所形成的多段瀑布；而竹仔坑溪源流段流經這個陡崖時所形成的是中正瀑布。

A tributary of the Shengmaoshu River, the Zhuzaikeng River has a deeply cut channel along which many scarps and rock walls have developed, particularly in the area on the western side of Sinsingliao. The Longgong Waterfall is located where the southern tributary converges with the Zhuzaikeng River; the Leiyin ("Thunder") Waterfalls are the result of a stream from the north which drops for about 200 meters over a steep scarp before entering the Zhuzaikeng River valley, forming several sections of falls. The Jhongjheng





Waterfall is formed from the source flow of the Zhuzaikeng River as it flows over this scarp.

交通說明：以往多由縣道162甲之大瑞峰山莊旁小徑下行或33公里處的東興茶葉旁前往，但歷經多次地震，步道已毀壞。最新修建的龍宮瀑布步道是沿著竹仔坑溪源流段而行，共計有10座吊橋。6號吊橋前為木製步道，6號吊橋後為原先的石砌步道，也是早年的挑炭古道，行走其上可以體會當年先民之艱苦，不過雨天要小心打滑。





24. 南天峭壁 Nantien Cliff

精采性 interest ★ 可及性 accessibility ☆ ☆

峭壁通常指的是坡度極陡且高度夠大的山壁，由於陡壁上土壤很難發育，所以也少有植物覆蓋。峭壁高約40-60公尺，岩壁裸露處隨植物覆蓋狀況而有變化，可達150-200公尺。

What is meant by a "cliff" is usually a mountain face of sufficient height and with a steep slope. There is generally no vegetation due to the fact that soil coverage is difficult to develop or retain. The Nantien Cliff varies in height from 40-60 meters, and while the exposed portion does vary with the amount of vegetation, it extends as far as 150-200.

交通說明：縣道162甲在37公里處有步道上山3分鐘即可抵達崖下。



25. 神仙尿尿瀑布 Shihshian Niaoniao Waterfall

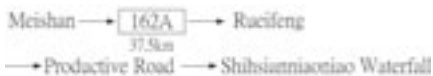
精采性 interest ★★

可及性 accessibility ☆☆

瑞峰一帶出露的地層是卓蘭層，此層中的砂岩常構成陡崖，只要是經常有水的小溪溝通過之處，就會形成瀑布。神仙尿尿瀑布水量不大甚至乾涸，這是因為瀑布上游的集水區域很小的緣故。

The major outcropping around the Rueifong area is the Jhuolan Formation, which contains sandstone that often forms steep scarps, where waterfalls form whenever a small flow passes over them. The volume of water here is small, and sometimes dries up due to the small drainage area upstream from the falls.

交通說明：沿縣道162甲在37.5公里處轉入下坡處的產業道路，步行約10分鐘路程，道路頗窄且陡。





26. 觀音瀑布 Guanyin Waterfalls

精采性 interest★★ 可及性 accessibility☆☆

觀音瀑布位於崎腳溪上游，水量豐沛，因為瀑布流水有如觀音形象，因而得名。遊客一般可以看到三段瀑布，瀑布高度由上而下約為50、25、10公尺，流水的沖刷力極強，第二、三段瀑布下方都有瀑潭形成。三段瀑



布都是溪水流經厚層砂岩而成，瀑壁近乎垂直，兩側砂岩層相當破碎，邊坡下方多落石堆，巨大落石更堆滿河床，遊客必須注意安全。

Located in the upper reaches of the Cijiao River, an abundant current feeds the Guanyin Waterfall. At least three distinct sections can be seen, with respective heights (from upper to lower) of 50m, 25m, and 10m. The water's erosive force is powerful enough to create pools at the bottom of the second and third sections. Formed by current cutting through a thick sandstone layer, the three falls drop over nearly vertical faces. Fragmentation of the sandstone on the side slopes has left rock heaps below and the riverbed is full of huge fallen boulders; tourists should take care in the area.

交通說明：縣道嘉122在金福橋之南接縣道嘉119，從溪心寮開始需下車步行，步道沿河岸修建，坡緩好行，僅通往第二段瀑布頂步的「通天坡」較陡峭。現在也有人從縣道嘉122接芋臻坑產業道路，至芋臻坑聚落再下行通往瀑布。



27. 雲潭瀑布 Yuntan Waterfall

精采性 interest★ 可及性 accessibility☆☆

雲潭瀑布附近岩層以厚層砂岩夾薄層頁岩為主，地層傾斜約12度，而且傾斜方向與河流流向相反，這種情形有利於瀑布高度的維持。瀑布高約25公尺，岩壁近乎垂直，水量尚稱豐沛，瀑布下方有深達2公尺以上的瀑潭。雲潭瀑布其實共有三段，一般遊客最容易看到的只是其中的第一段瀑布。

Rock strata near the Yuntan Waterfall consist of massive sandstone layers intermixed with thin layers of shale. The strata tilt at a 12 degree dip angle in a direction opposing the stream flow, a condition which helps maintain a high drop. A fairly voluminous flow falls about 25m over a nearly vertical rock face, creating a pool over 2m deep below. These falls are actually in three sections, though only the first is easily accessible to tourists.

交通說明：循嘉122公路在雲潭休息站停車，沿商店旁步道下行，即可抵達瀑布。







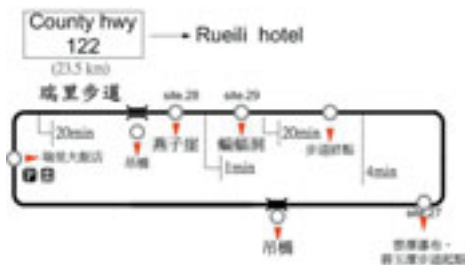
28. 燕子崖 Swallow Cliff

精采性 interest ★★★ 可及性 accessibility ☆☆

燕子崖、蝙蝠洞位於生毛樹溪上游，瑞里聚落南側的懸崖之下接近河道之處。燕子崖所在岩壁寬度約40公尺，上部為凹凸有致平行線條，下部則為一高約2公尺的凹壁。雨季時，崖頂上方水流匯集而下，形成臨時瀑布自高處垂降，增添許多趣味。該處岩石上部為薄層的砂、頁岩互層，而且近乎水平，因差別風化作用頁岩凹入，而砂岩相對凸出。

Swallow Cliff and the Bat Caves are located at the upper reaches of the Shengmaoshu River, on the south side of Rueili (Ruili) where the river channel nears the bottom of the cliff. About 40 meters wide, the cliff face displays parallel curving lines above a concave face about 2m high. The site is even more pleasing when waters gather during the rainy season to form a waterfall descending from the crest. The rock is composed of sandstone and shale layers alternating in a nearly level stratum. Different rates of weathering left the sandstone protruding while the shale is indented.

交通說明：嘉122公路-23.5公里右轉下坡往瑞里大飯店方向，飯店下方為路況良好的石階步道，過情人橋，即抵燕子崖。



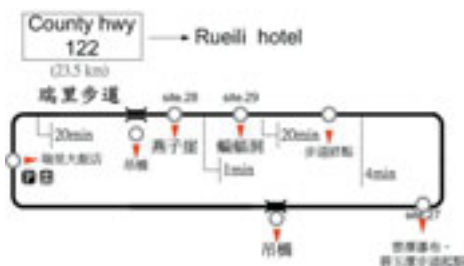
29. 蝙蝠洞 The Bat Caves

精采性 interest ★★★ 可及性 accessibility ☆☆

蝙蝠洞所在的岩壁也是燕子崖上部地層的延伸。在這裡，砂頁岩互層中的頁岩夾層也明顯內凹，但是還保留垂直的薄壁，而形成一大面蜂窩狀的岩壁，相當奇特。最大洞的洞口寬約50公分，深約60公分。至於洞穴的成因，則有待進一步的研究。在此處需特別注意懸崖落石，最好站在遠處觀賞美景，通過時則宜迅速。

The Bat Caves are located on an extension of the Swallow Cliff's upper stratum. Shale layers here are also markedly indented compared to the sandstone layers, though narrow vertical walls remain and thus form a large area with an unusual honeycombed structure. The largest openings are about 50 cm wide and 60 cm deep. It is not yet known what processes formed these openings. Care should be taken to avoid falling rock; the site is perhaps best viewed from a distance and passed by quickly at close range.

交通說明：嘉122公路-23.5公里右轉下坡往瑞里大飯店方向，飯店下方為路況良好的石階步道，過情人橋、燕子崖，即抵蝙蝠洞。







(三) 台18線遊憩系統

本系統以台18線和159甲沿線為軸，主要包括觸口、半天岩、隙頂、石桌、阿里山森林遊樂區等地。觸口是進入阿里山區的重要門戶，附近八掌溪的扇階和谷曲流地形都很發達；大塔山與頂湖巨石不但具有地形意義，也有重要的鄒族文化意涵。

(3) Tai 18 Highway System

This system is based on the Tai 18 and 159A Highways, and includes Chukou, Bantianshih, Siding, Shihjhuo, and the Alishan Forest Recreational Area. Chukou is one of the primary gateways to the Alishan area, with points of interest in the Bajhang River fan terrace and valley meanders. Datashan and the Dinghu Rock are also intriguing landforms and are important to the Tsou culture.





30. 觸口曲流河階 Chukou Amphitheatre Terrace

精采性 interest ★ 可及性 accessibility ☆☆☆

在觸口橋略上游處，八掌溪主流和其支流（天長吊橋）環繞形成一近似半圓形的曲流，後來因為河流相對下切，原來的曲流凸岸就相對抬高形成曲流河階，也稱劇場河階。此地雖然不算典型，但相當神似，龍隱寺即位於此面上。

Just upstream from the Chukou Bridge, the main channel of the Bajhang River and its tributary sweep around to form a nearly semi-circular meander. The later downcutting of the river to lower levels left the original convex bank relatively high, forming a river terrace, though perhaps not an entirely typical one here called an amphitheatre terrace. The Longyin Temple is located above.

交通說明：由台18線於觸口福安宮前左轉往狗寮山方向的小路，爬坡不久即可抵展望點。繼續上行可通往嘉124鄉道上的凍仔嶺眺望點，和銜接159甲縣道上的景點。



31. 八掌溪谷曲流

The Bajhang River Incised Meander

精采性 interest ★ 可及性 accessibility ☆☆☆

自地久吊橋或觸口橋往下游望，八掌溪主流左岸因為位於攻擊坡，河流侵蝕顯著，而造成底岩出露。天長吊橋建於八掌溪支流，往上游方向看去，可看見河流兩岸邊坡均十分陡峭，尤其左岸攻擊坡受到河流沖蝕，還特別修建河岸護堤，以維護台18線公路的安全。

Looking downstream from the Diju Hanging Bridge or the Chukou Bridge, the bedrock of the river bed can be seen to be exposed where the flow of the Bajhang River has created an undercut slope by the marked erosion of the left bank. The Tienchang Hanging Bridge hangs over a tributary of the Bajhang River; looking in the upstream direction, the slopes of both banks can be seen to be quite steep, especially the undercut slope on the left bank. Because of the severe erosion there, a revetment was built to help ensure the safety of the Tai 18 Highway.

交通說明：台18公路觸口橋旁為地久吊橋，
經龍隱寺旁階梯步道可通往天長吊橋。

Chiayi City →  → Chukou
→ The Bajhang River Incised Meander



32. 情人瀑布 Lovers' Waterfall

精采性 interest ★

可及性 accessibility ☆ ☆

情人瀑布位於八掌溪南側一小支流的上游，瀑布高約4.5公尺、寬約3.6公尺，規模雖然不大，卻是本島瀑布成因的一種典型。本地沈積岩中常夾有砂岩段，當溪流規模小，下切到硬岩段時，因為硬岩的抗蝕力較強，就容易形成小瀑布。

Lovers' Waterfall is found at the headwaters of a small tributary to the south of the Bajhang River. The fall is about 4.5m high and 3.6m wide, and while not large, it illustrates the typical formation of waterfalls on the island of Taiwan. Sedimentary rock here often contains stretches of sandstone, and when a river has only a moderate flow volume and downcuts to a layer of hard sandstone, the hardness of the rock resists further erosion, and small waterfalls typically result.

交通說明：台18線在觸口慈雲寺對面南轉，沿產業道路過行圓橋，車行約5分鐘抵達車道盡頭，取民宅（觸口村過溪仔13號）左側步道。緊鄰瀑布的步道，部分路基已淘空。

Chiayi City →  → Chukou
→ Productive Road → Lovers' Waterfall



33. 象山 Elephant Mountain

精采性 interest ★ 可及性 accessibility ☆☆☆

象山高一千公尺以上，隔曾文溪谷眺望，山形剪影彷彿一頭面朝北方的巨象，象頭頂為最高點，造型十分有趣。構成象山的地層是關刀山砂岩，此地層常形成陡急的峭壁或凸坡，台18線的隙頂附近為最佳眺望點。當地人也稱象山一帶為「落仔咚（ㄌㄨㄛˋㄨㄥˊ）」，因為早年久乾不雨或大雨後，常有落石掉入山谷，咚咚作響，隙頂一帶均可聽到回音，故有此名。

At over 1000m high, the mountain's silhouette when seen from across the Cengwun River resembles a giant elephant facing north, its highest point matching the top of the elephant's head. Elephant Mountain is formed out of the sandstone of the Guandaoshan Formation, which often forms steep precipices and convex slopes. The best vantage point is at Sianding off Tai 18 Highway. Locals name the Elephant Mountain area "Lo-ah-dong" after the "dong" sound made by rock falling into the valley after a long drought or a big rain, which would echo throughout the area around Sianding.

交通說明：台18線隙頂茶行街前為最佳眺望點，但實際上是位於阿里山鄉里佳村；若要登象山，則需由崎嶇斯古道進入，在象山頂上觀看日出或雲海，非常壯觀，但坡陡難行。



34. 仙井瀑布 Sianjing Waterfall

精采性 interest ★★

可及性 accessibility ☆☆☆

仙井瀑布位於曾文溪的支流上，匯集龍美以北之集水區的水流，水量頗豐。目測瀑布高度約30公尺，瀑面隨岩石軟硬交替而凹凸。較特別的是瀑布下方瀑潭的外緣完全沒有石塊堆疊，而是流水在硬岩面上沖蝕出來的。瀑潭略成圓形，所以也有石井瀑布之名。

The Sianjing Waterfall, located on a tributary of the Cengwun River, has an abundant flow originating in the drainage area from Longmei northward. Visual estimate puts the height of the falls at about 30m, which descend over rock that protrudes to varying degrees depending on its relative hardness. Interestingly, no stones are heaped around the outer periphery of the pool below the falls, which was formed only through the erosion of the falling water itself. Because of the fairly round shape of the pool, it also known by the name "Stone Well Falls."

交通說明：通常由台18線39.5公里鞍頂站東轉產業道路，但實際上是位於阿里山鄉樂野村。沿產業道路到底後，還需步行山徑約40分鐘，尤其最後一段是沿溪溝攀爬而下，尤其下雨時不宜前往。





35. 八掌溪沖積扇階 The Bajhang River Fan Terraces

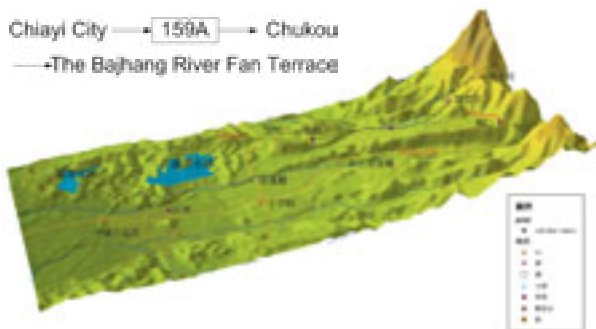
精采性 interest★★ 可及性 accessibility☆☆☆

八掌溪中游段以觸口為頂點，有斗六、嘉義一帶最大面積的扇階地形，是一處非常有特色的地景。由縣道159甲沿線半天岩景觀涼亭所看到，近處的平坦面是八掌溪北岸的客莊聚落所在階面，較遠處則為番路聚落所在階面，所看到的道路就是縣道159甲（大華公路）。

The middle reaches of the Bajhang River begin at Chukou, and possess a distinctive landscape feature, which is the largest fan-terrace landform in the Douliu and Chiayi area. From the Bantienyan lookout platform on County Highway 159A, the nearby flat area is the terrace upon which the Kejuang settlement on the northern bank of the Bajhang River is located; in the farther distance is the Fanlu settlement terrace. The roadway visible in the distance is the County Highway 159A (Dahua Highway).

交通說明：半天岩景觀涼亭位於縣道159甲約21公里處道路外側，或可由嘉124鄉道至159甲會口左轉約50公尺即可抵達。山路彎曲狹窄，停車需留意。

Chiayi City — 159A — Chukou
— The Bajhang River Fan Terrace





36. 鳳凰瀑布 Fenghuang Waterfalls

精采性 interest★ 可及性 accessibility☆☆

鳳凰瀑布位於八掌溪支流上，分為上下兩段，上鳳下凰合稱鳳凰。上瀑高22公尺，下瀑較矮，目測瀑高約10公尺。上瀑之下有潭，寬約7公尺，是瀑布水流沖蝕而成。此瀑布的造瀑層也是砂頁岩互層，在上瀑頂左岸可以看到軟硬岩互層露頭，瀑頂一大片的傾斜岩面，即為層面。

The Fenghuang Waterfalls are located on a tributary of the Bajhang River. The falls are in two sections, the upper, "Feng," and the lower, "Huang" together, the "Fenghuang" Falls. The upper fall drops about 22 meters, while the lower, by visual estimate, is shorter, at about 10 meters. The pool beneath the upper fall, formed by erosion from the falling water, is about 7 meters wide. The stone underlying the waterfall consists of alternating layers of sandstone and shale. The alternating hard and soft layers of stone can be seen at the top of the upper fall's left side; the large inclined section of rock that is visible is the bedding plane.

交通說明：縣道159甲？公里處，入口處有明顯標示，通往瀑布的石階步道頗陡，最後可抵達下瀑頂，部分階梯與護欄已損壞。





37. 光華砂頁岩互層

The Guanghua Sandstone-shale Alternations

精采性 interest ★ 可及性 accessibility ☆ ☆

大華二號隧道旁出露的地層為典型的砂頁岩互層，厚層砂岩夾薄頁岩。沈積岩形成時大多是水平沉積，但此地岩層傾斜角度可高達68度，顯示在造山過程中，地層受干擾的程度。

The stratum revealed at the side of the Dahua No. 2 Tunnel is a typical layer of alternating sandstone and shale, thinner layers of shale interspersed within thicker layers of sandstone. Most sedimentary rocks are formed from the deposition of sediments on a level plane, but the rock layers here are inclined at angles of up to 68 degree, showing the degree of stress placed on the rock during the mountain-building process.

交通說明：159甲縣道29公里處，大華二號隧道前方，但僅路邊可停小車一輛。

Chiayi City → 159A → Dahu
→ Guanghua Sandstone-shale Alternations



38. 濁水溪橋土石流 The Jhuoshuei River Bridge Debris Flow

精采性 interest★ 可及性 accessibility☆☆

本景點是由八掌溪支流茄苳溪右岸的小支流濁水溪（非南投濁水溪）所造成，此小溪分水嶺高達1300公尺，但濁水溪橋處河床高度不及600公尺，自上游搬運下來的土石容易在較寬又較緩的河段堆積。如果仔細觀察，河道上的巨礫上還可以看到搬運時相互磨蝕的刮痕。

This site was formed on the Jhuoshuei River (different from the Jhuoshuei River in Nantou), a small tributary stream feeding into the Qiedong River, itself a tributary of the Bajhang River. The ridge demarcating the divide for this stream lies at the high altitude of 1300 meters, though the Jhuoshuei riverbed at the bridge is less than 600 meters high, so that debris masses carried downward tend to collect in the relatively wider and flatter stretches of the stream. A closer look will reveal how stones in the river channel were scored when they collided during their downward tumble.

交通說明：縣道159甲濁水溪橋上。

Fengcihu → 159A → Jhuoshuei River Bridge

39. 裸女瀑布 Luonyu Waterfall

精采性 interest ★ 可及性 accessibility ☆☆☆

裸女瀑布位於曾文溪上游支流米洋溪，此溪最源頭就是頂湖巨石所在地。瀑布高約18公尺，瀑壁呈70°傾斜，流水在厚層砂岩上自北向南流下。瀑布在雨季時水量才顯豐沛，景致秀麗。

The Luonyu Waterfall is located on the Miyang River, a tributary feeding into the upper reaches of the Cengwun River. The Dinghu Rock is located just at the river's source. The falls are almost 18 meters high, falling in a southerly direction at a 70° slope angle from over a massive layer of sandstone. The falls are most attractive during the rainy season when the volume of flow is most abundant.



交通說明：位於縣道嘉169公路27公里處的3號橋旁邊。



40. 頂湖巨石 The Dinghu Rock

精采性 interest★★ 可及性 accessibility☆☆☆

頂湖巨石是一座小石山，高12公尺，周長近60公尺，位在平緩坡地上，顯得十分突出。巨石有一面相當平直，有如一座帝陵墓碑，當地人稱為「巨墓碑」，也是鄒族人崇敬的聖地。判斷這些巨石應該是背後陡坡崩塌下來的大岩塊。至於頂湖巨石的平直岩面，是沿層面裂開的，仔細觀察此平面上還有海洋生物的生痕化石。

Dinghu Rock is a small rock peak about 12 meters in height and 60 meters wide, standing out clearly above the gentle slope beneath. It has one smooth face, like the stone stele of an emperor's tomb, and is thus known to locals as the "giant gravestone"; it is also one of the Tsou people's sacred places. Dinghu Rock appears to be a large remnant of the collapse of the steep slope behind it. The rock's smooth face is due to a split along the bedding plane, and on close observation can be seen to bear marine trace fossils.

交通說明：循台18公路約52.6公里處北轉焙仔桶林道，往頂湖大棟山民宿方向，上坡5公里抵民







41. 大塔山 Datashan

精采性 interest★ 可及性 accessibility☆☆

從阿里山森林遊樂區入口附近，隔著阿里山溪源流溪谷向北眺望，看到的是塔山山嶺南面的大斷崖，險峻陡峭，山脊與谷底的落差達到一千公尺以上。塔山山嶺是鄒族神話中善終者安息之地，此地鄒族人稱為hohcubū。位於此山嶺最東側的是附近最高的山頭大塔山（2663公尺），光復後一度成為軍事管制區，如今已經開放。山頂展望極佳，唯高山地區易起霧，若想登高望遠，最好在早上9點前抵達山頂。

Near the entrance to the Alishan Forest Recreation Area, the view across the valley of the Alishan River headwaters shows the southern face of the Tashan range and the tip of its western ridge; the range rises steeply for over 1000m from valley floor to the crest. Datashan, the highest nearby peak (2663m), lies on the eastern side of the range. In Tsou legend, the Datashan area is an after-death haven. The peak offers an excellent view, but arriving at the peak before 9:00 am may be best due to frequent fog conditions.

交通說明：自阿里山森林遊樂區由沼平車站，至阿里山閣，循眠月石猴的鐵道前行，至鐵路叉道後木棧道平台，再進入大塔山的階梯步道。全線為修建良好的階梯步道，但坡陡。需注意沿步道有鮮豔美麗的毛地黃，整株有毒不可碰觸。





42. 姊妹潭 Two Sisters Pools

精采性 interest★ 可及性 accessibility☆☆☆

姊妹潭有淒美的傳說，相傳是兩位山地姊妹追求愛情不成，相偕殉情的地方。兩潭相距不到50公尺，姊潭較大，呈長方形，環潭周邊長約70公尺；妹潭略呈圓形，長約20公尺、寬約35公尺。

A sad legend is associated with the Two Sisters Pool—that two young girls of the indigenous mountain tribes, sisters, both failed in love and took their lives there. The two pools are separated by less than 50 meters; the "older



sister" pool (Zi Tan) is the larger, and nearly rectangular in shape, with a circumference around 70 meters; the "younger sister" pool (Mei Tan) is rounder, measuring 20 meters by 35 meters.

交通說明：位於阿里山森林遊樂區內，近高山閣賓館，沿途均為緩坡階梯步道。





(四) 鄒族文化遊憩系統

本遊憩系統以公路169（南段）和嘉129、嘉155沿線，主要包括新美、山美、樂野、特富野、達邦、里佳、來吉等地。本系統雖然是以鄒族文化為核心，但搭配地形、地質景點可以使旅程更豐富，同時體會鄒族人的生活環境特色。

(4) The Tsou Tribe Cultural System

This system is centered along the southern section of 169 County Highway and the 129 and 155 County Highway. It includes the areas of Sinmei, Shanmei, Leye, Tefuye, Dabang, Lijia, and Laiji. Primary points of interest are related to Tsou culture, but understanding of local geological sites and landforms adds extra interest and aids in understanding the setting for the Tsou way of life.





43. 曾文溪上游峽谷 The Cengwun River Valley

精采性 interest★ 可及性 accessibility☆☆☆

一般河流上游河谷的形態大多像一個V字形，因為最下部的河床通常很狹窄，而兩岸谷壁因為邊坡崩壞作用而多陡峭，曾文溪上游的主、支流河谷也大多具備這種特色。縣道嘉129在山美與茶山之間沿曾文溪主流上游而修築，山美村的達娜伊谷自然生態公園則位於曾文溪的支流上，都可以欣賞到V形河谷的剪影。

Most valleys in the upper reaches of a river are V-shaped, given the typical narrowness of the lower riverbed and the steepness of the valley walls due to the collapse of the side slopes on either bank. This is the shape that characterizes the Cengwun River and its tributaries in their upper reaches. County Chia 129 Highway between Shanmei and Chashan was built along the river channel. A view of the V-shaped valley can be enjoyed at the Danuoyi Valley Ecological Part in Shanmei village, located on the main Cengwun River channel.

交通說明：縣道嘉129沿線或山美村的達娜伊谷內，達娜伊谷目前由山美社區發展協會經營，需購門票進入。



44. 茶山石壁 Chashan Wall

精采性 interest★ 可及性 accessibility☆☆☆

茶山石壁為一向西傾斜的厚層砂岩，岩性堅硬細緻，斜坡裸露部分高25公尺、寬33公尺，傾斜約20度。雨季時，石壁表面濕滑，常可見遊客以大片葉子當作滑板往下滑，跌入石壁下方的蓄水池，有如天然的滑水場。不過前往該景點沿線，路彎坡陡而狹窄，應特別注意安全。

The Chashan Wall is a thick layer of hard, fine sandstone with an exposed slope measuring 25 by 33 meters and a dip angle of 20° toward the west. The rock face is slippery during the rainy season; tourists often turn it into a natural water slide that ends in the reservoir below. Caution should be exercised on the access road, which is narrow and winds steeply.

交通說明：台18公路自龍美轉嘉129公路，往山美方向，至茶山村第二鄰後左轉上坡，坡道轉彎處即可見。不過前往該景點沿線，路彎坡陡而狹窄，應特別注意安全。





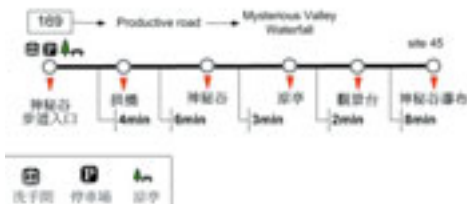
45. 神秘谷瀑布 Mysterious Valley Waterfall

精采性 interest ★ 可及性 accessibility ☆

神秘谷瀑布位於曾文溪支流特富野溪的上游（海拔約1380公尺處），瀑布比高僅8公尺，雖然規模不大，但水勢滂沱。河床上遍布5公尺以上的巨石，顯示此處旺盛的崩塌作用。

The Mysterious Valley Waterfall is located on the upper reaches of a tributary of the Cengwun River, the Tefuye River (1380 meters above sea level). While these falls are relatively small-scale at only 8m high, the flow is torrential. Large boulders over 5 m in size can be found in the river bed, illustrating the strength of the disintegrating forces at work here.

交通說明：循縣道嘉169公路經達邦轉往特富野，由特富野山莊沿溪谷而行。步道沿線坡緩好行，標示清楚。



46. 百人洞 The Bairen Cave

精采性 interest★ 可及性 accessibility☆

百人洞位於拉拉喀斯步道中，海拔高度約1880公尺，是厚層砂岩崩解後又崩落所形成的岩洞。洞高不足2公尺，洞寬約10公尺，為過去鄒族獵人休息避雨之處。當地居民說：過去岩洞規模更大，因為邊坡土石崩落掩蓋洞口，使岩洞規模縮小。

The Bairen Cave, formed by the collapse of a massive sandstone layer followed by further rockfall, is located on the Lalakesi hiking path at about 1880 m above sea level. Just below 2 meters in height, the cavern's width is about 10 meters, and used to serve Tsou hunters for rest and shelter from the rain. Locals say the cave used to be larger, but side slope collapse and rockfalls reduced the size of the cavern opening.

交通說明：循縣道嘉169公路經達邦轉往特富野，由特富野山莊沿溪谷而行，循特富野古道（產業道路）向東爬坡約8公里，可達瀑布群步道入口。沿線步道甚窄、坡度很陡，需拉繩、攀岩、涉溪，相當具有挑戰性，若無當地導遊陪同，最好不要貿然前往。



47. 拉拉喀斯瀑布群 The Lalakesi Waterfalls

精采性 interest ★

可及性 accessibility ☆

拉拉喀斯瀑布群從海拔2600公尺的東水山（水山）傾瀉而下，盛夏豐水期時，水勢澎湃。上段瀑布規模較大，但無步道到達。下段瀑布高度近30公尺，接近瀑布頂部凹入之處為砂頁岩薄層的互層，其上突出的較厚層砂岩有如一頂帽子，保護下面的弱岩。

The Lalakesi Falls drop from Dongshueishan (or Shueishan) at an altitude of 2600 m above sea level. The waters gush forcefully when the current is strongest in midsummer. The upper fall is largest, but is not accessible by footpath. The lower falls are about 30m high; near the top an indented area is composed of alternating layers of sandstone and shale, with a thicker layer of sandstone above acting as a protecting cap to shield the weaker stone below.

交通說明：參考前一景點。循特富野古道（產業道路）向東爬行，經過百人洞不久，先看見一個小瀑布，再爬一段較陡坡道，即可抵達拉拉喀斯瀑布群。





48. 里佳瀑布 Lijia Waterfall

精采性 interest ★ 可及性 accessibility ☆

里佳瀑布是位於一條無名小溪流注入烏奇哈溪之處，由於水量較小，無法下切硬岩形成深谷，兩溪之間高度相差百餘公尺，所以無名小溪溪水以瀑布的形式匯注到烏奇哈溪，這種原因所造成的瀑布也特別稱為懸谷瀑布。

The Lijia Waterfall is located on a small, unnamed stream where it flows into the Wuciha River. Its small volume of water has been unable to downcut through the hard stone to create a deep valley, so the vertical distance between the two streams is over 100m, and the smaller stream must fall from above to join the larger flow. Falls formed under these conditions are known as hanging valley falls.

交通說明：縣道嘉169公路49.8公里處轉入里佳部落，繼續下行即可達風景區步道。步道沿線起伏不斷，無明顯路徑，棧道年久失修，僅容一人通行。進入里佳，需事先在石桌辦理入山證。





49. 福爾摩沙第一泉 First Formosa Spring

精采性 interest★ 可及性 accessibility☆☆☆

福爾摩沙第一泉係出水平砂頁岩互層邊坡之裂縫水流，在岩壁上可看見自然湧出的山泉水，源源不斷，水量頗豐。由於甘甜清涼，遊客常直接飲用，消暑解渴，當地人也取來泡茶。不過水質未測，請勿生飲。

The First Formosa Spring emerges from fissures in a level stratum of alternating sandstone and shale. The spring emerges from the rock wall in a continuous and ample flow. Because the water is sweet and cold, tourists often use it to slake their thirst on hot summer days, while locals use it for brewing tea. The water quality has not been tested for potability, however.

交通說明：縣道嘉169公路49.8公里處轉入里佳部落，繼續下行即可達風景區步道，從里佳部落到第一泉景點，約4.4公里。沿線坡緩好走。





50. 山崩窪 Scar

精采性 interest ★ 可及性 accessibility ☆☆

阿里山區台18公路沿線因為邊坡陡峭，常因颱風豪雨引發崩塌，自嘉169公路向北眺望曾文溪上游右岸最高山頭扶蓉山（1968公尺），可見其邊坡有連續成片的崩場地形，其中還有一有如正立湯匙的「山崩窪」。

The steep side slopes along Tai 18 Highway in the Alishan area often collapse due to the effects of heavy typhoon rains. Looking northward from 169 county Highway toward the left bank along the upper reach of the Cengwun, the highest peak in view is Furongshan, at 1968 m. The formation of its side slopes results from continuous collapse, where one area is shaped like a soup spoon standing on end.

交通說明：縣道嘉169公路過達邦後，在42.5公里轉彎處，自里佳村向北眺望。



六、旅遊叮嚀

(1) 諮詢服務

各項旅遊資訊，可瀏覽阿里山國家風景區網頁（中英日文版皆有）：[\(website of the Alishan National Scenic Area\) http://www.ali.org.tw/](http://www.ali.org.tw/)，來電(886-5)2593900，或來函電子郵件服務信箱info@ali.org.tw。其他單位電話：

阿里山森林遊樂區旅客服務中心：05-2679917

阿里山車站訂票專線：05-2769833

北門車站（阿里山鐵路）訂票專線：05-2768094

森林火災消防指揮部：05-2783441

林務局保林電話：05-2679806



(2) 衣食住行

- ★ 山區早晚溫差大，最好帶外套；山區多雨，宜帶雨傘。本區常有石階步道，防滑之步鞋最為合宜。
- ★ 觸口以上地區都是一般雜貨店，並無便利超商。遊客最好自行判斷有無必要事先準備藥物，例如暈車藥、減緩高山症藥物。
- ★ 本區餐飲以山產為主，烹飪大多簡樸。常見的菜色有竹筍、野菜、竹筒飯、山溪蝦、山溪魚等，鄒族的戶外烤肉及小米酒亦頗具特色。
- ★ 除少數大旅館外，本區的住宿設施多屬家庭式經營的小旅館或民宿，許多旅館會配合遊客個別需要提供接送與導覽解說服務。此外，大部分旅館及商店尚不接受信用卡，仍多以現金交易。

6. Advice for Travelers

(1) Information services

Tourist information is available in both English, Chinese and Japanese pages, on the Alishan National Scenic Area website, at <http://www.ali.org.tw>, or by telephone at (886-5) 259-3900. E-mails with requests for information can be mailed to: info@ali.org.tw. Other useful telephone numbers are:

Alishan Forest Recreational Area Visitors Service Center : 05-2679917

Alishan Station Ticketing : 05-2769833

North Gate Station Ticketing (Alishan Railway) : 05-2768094

Forest Fire Command Post : 05-2783441

Taiwan Forestry Bureau Forest Preservation : 05-2679806

(2) Dining and accommodations

- ★ Temperatures vary greatly throughout the day, with occasional rain; jackets and umbrellas are advisable. For the many paths with stairways, good non-slip shoes are best.
- ★ Above Chukou, there are no convenience stores, but there are local grocery stores. Visitors should decide ahead of time whether they need to bring medicines for car sickness or altitude sickness (AMS).
- ★ Most food in the area is simple cooking with mountain produce, featuring bamboo shoots, wild herbs, rice dishes baked in bamboo tubes, and catch from local rivers. Tsou outdoor barbecues and millet wine are special treats.

- ★ 旅遊旺季為春節及三至四月間的櫻花季。
- ★ 主要道路為台18線，其他入口包括：南方台3線經茶山的入口；北方縣162甲經梅山的入口；東方台21線（新中橫）方向經玉山國家公園塔塔加的入口。
- ★ 公共運輸方面，嘉義縣公車每日分別行駛於嘉義市至阿里山（森林遊樂區），以及各主要聚落之間，班次及行駛地點有限，詳情請洽嘉義縣公車處。在鐵路方面，每日嘉義市北門車站與森林遊樂區之間（嘉義火車站與北門車站間有接駁列車）來回各行駛一班，假日通常加開一班次。公車或火車未達之處，多數旅館均提供接送服務。
- ★ 本區由於地形的因素，道路及鐵路偶有崩塌而至局部中斷，但通常當日或數日內即搶修完畢，旅客於夏日雨季行前宜注意路況消息。



- ★ Aside from a few large hotels, local accommodations are mostly family-run lodges or guesthouses. Many will provide transportation to and from local points of interest or basic tour services. Most transactions at these and at local stores will require cash rather than credit cards.
- ★ The busy season for tourism is springtime, particularly during the cherry-blossom season of March and April.
- ★ The principal access route is Tai 18 Highway; the area can also be accessed from the south on Taiwan Highway 3 at Chashan, from the north at County Highway 162A at Meishan, and from the east through the Jade Mountain National Park at the Tatajia entrance, Tai 21 Highway (the New Cross-Island Highway).
- ★ Public transport: Chiayi County buses run daily between Chiayi City and Alishan (the Forest Recreational Area), and the main settlements of the area. Buses and stops are limited; the Chiayi Public Bus Administration may be contacted for further details. Rail transport: Once-daily round trip service between the Chiayi North Gate Station and the Forest Recreational Area (feeder trains run between the Chiayi Rail Station and the North Gate Station), with an extra daily run on holidays. Many hotels and guest houses provide transport beyond the rail or bus lines.
- ★ Given the area's terrain, landslide or rockfall will occasionally result in temporary interruption to service in a particular location, but the obstacles are generally removed the same day or shortly thereafter. Visitors should take note of road condition reports during the summer rainy season.

(3) 公共服務

加油站：石桌及阿里山森林遊樂區兩處。

提款機：觸口、隙頂、瑞里、樂野、石桌和奮起湖大飯店、阿里山森林遊樂區等地有農會的提款機。

郵局：阿里山森林遊樂區設有郵局。

醫療：區內並無醫院，但各村設有醫療站安排醫生定時駐診，其中石棹醫療站有聖馬定醫院派駐的24小時服務。

(3) Public services

Filling stations: Two, in Shihjhuo and the Alishan Forest Recreational Area.

Automatic tellers: Automated tellers are provided by Farmers Associations at Chukou, Siding, Rueili, Leye, Shihjhuo, the Fencihu Fancylake Hotel, and in the Alishan Forest Recreational Area.

Postal service: A post office is available in the Alishan Forest Recreational Area.

There are no hospitals in the Alishan area, but doctors have scheduled hours at medical stations in local villages. Shihjhuo offers 24-hour medical care at a station staffed with personnel from the St Martin's Clinic (Shengma-erding Yiyuan).

醫療急救（區內）

名稱 name	地址 address	電話 Tel. no.
阿里山鄉衛生所 Alishan Township Health station	嘉義縣阿里山鄉達邦村4鄰85號	05-2511007, 2511325
聖馬爾定醫院（石棹分院） St. Martin's Hospital(Shihjhuo Branch)	嘉義縣阿里山鄉樂野村1鄰18-1號	05-2562436

醫療急救（區外）

名稱 name	地址 address	電話 Tel. no.
嘉義醫院 Chiayi Hospital	嘉義市文化路228號	05-2273311
嘉義榮民醫院 Chiayi Veteran's Hospital	嘉義市世賢路二段600號	05-2359630
灣橋榮民醫院 Wanciao Veteran's Hospital	嘉義縣竹崎鄉灣橋石麻園38號	05-2791072
基督教醫院 Christian Hospital	嘉義市忠孝路539號	05-2764994
聖馬爾定醫院 St. Martin's Hospital	嘉義市大雅路二段565號	05-2756000
慈濟醫院 Cihji Hospital	嘉義縣大林鎮民生路2號	05-2648111
長庚醫院 Changgeng Hospital	嘉義縣朴子市嘉朴路西段6號	05-3621000
竹崎鄉衛生所 Jhuqi Township Health Station	嘉義縣竹崎鄉竹崎村文化路19-1號	05-2611264
梅山鄉衛生所 Meishan Township Health Station	嘉義縣梅山鄉華山村19號	05-2621049/2621043
番路鄉衛生所 Fanlu Township Health Station	嘉義縣番路鄉下坑村菜公店2鄰60號	05-2591148/2592353

(4) 緊急聯絡Emergency

通知火災、救護車請打119，報案請打110，均為24小時免付費電話。

(4) Emergency

The 24-hour emergency phone number for fire, ambulance or search-and-rescue is Tel: 119. For police emergencies, it's Tel: 110. These calls are toll-free from any phone, even a public pay phone.

警察局 Police Stations

名稱 name	地址 address	電話 Tel. no.
中埔分局 Jhongpu Precinct	嘉義縣中埔鄉中正路64號	05-2538108
番路分隊 Fanlu Precinct	嘉義縣番路鄉菜公店21號	05-2591304
公田派出所 Gongtian Station	嘉義縣番路鄉公興村中寮4鄰31號	05-2586114
觸口派出所 Chukou Station	嘉義縣番路鄉觸口村觸口147號	05-2591358
竹崎分局 Jhuci Precinct	嘉義縣竹崎鄉中山路72號勤務大樓	05-2611089
十字派出所 Shzih Stationj	嘉義縣阿里山鄉十字路12號	05-2511223
太和派出所 Taihe Station	嘉義縣梅山鄉太和蛤味3鄰24號	05-2661055
中和派出所 Jhonghe Station	嘉義縣竹崎鄉中和村24號	05-2561054
里佳派出所 Lijia Station	嘉義縣阿里山鄉里佳村3鄰50號	05-2511124
來吉派出所 Lajji Station	嘉義縣阿里山鄉來吉村內來吉4鄰95號	05-2661185
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嘉義警察局 (外事科) Foreign Affairs Police. Chiayi County police	嘉義市	05-3620220
觀光局	台北市	02-27173737

附錄 Appendix

1. 景點英文名稱檢索表 Key to Scenic Sites by Name (依字母排序)

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Alishan River Terraces 阿里山溪河階	169	太和村 Taihe	3
Ancient Debris Flow 百年土石流遺跡	149甲	豐山村 Fongshan	10
Bairen Cave 百人洞	169	達邦村 Dabang	46
Bajhang River Fan Terraces 八掌溪沖積扇階	159甲	民和村 Mianghe	35
Bajhang River Incised Meander 八掌溪谷曲流	台18	觸口村 Chukou	31
Bat Caves 蝙蝠洞	嘉122	瑞里村 Rueili	29
Chashan Wall 茶山大石壁	嘉129	茶山村 Chashan	44
Chukou Amphitheater Terrace 觸口曲流河階	台18	觸口村 Chukou	30
Datashan 大塔山(需由香林村進入)	台18	中正村 Zhongjheng	41
Debris-flow Fan 土石流複成扇	149甲	豐山村 Fongshan	9
Debris Flow Memorial Park 土石流紀念公園	149甲	豐山村 Fongshan	8
Dinghu Rock 頂湖巨石 (巨墓碑)	169	樂野村 Leyie	40
Eighteen Luohan Caves 十八羅漢洞	169	中和村 Zhonghe	
First Formosa Spring 福爾摩沙第一泉	169	里佳村 Lijia	49
Guangha Sandstone-shale Alternations 光華砂頁岩互層	159甲	大湖村 Dahu	37
Guanyin Waterfalls 觀音瀑布	嘉122	金獅村 Jinshih	26
Huagang Sueilian Cave 滴水成金 (花崗水濺洞)	149甲	豐山村 Fongshan	16

Jhajigu Waterfall 札基谷瀑布	嘉155	來吉村 Laiji	4
Jhuoshuei River Bridge Debris Flow 濁水溪橋土石流	159甲	光華村 Guangha	38
Jiao long Waterfall 蛟龍瀑布(多由豐山村進入)	149甲	來吉村 Laiji	14
Laiji Wall (Titanic Rock) 來吉峭壁 (鐵達尼石)	嘉155	來吉村 Laiji	5
Lalakasih Waterfalls 拉拉喀斯瀑布	169	達邦村 Dabang	47
Lijia Waterfalls 里佳瀑布	169	里佳村 Lijia	48
Longgong andLueiyin Waterfall 龍宮、雷音瀑布	162甲	瑞峰村 Rueifeng	23
Lover's Waterfalls 情人瀑布	台18	觸口村 Chukou	32
Luonyu Waterfall 裸女瀑布	169	樂野村 Leyie	39
Meishan Canyon 梅山峽谷	162甲	碧湖村 Bihu	21
Mingyue Cave and Liousing Cliff 明月窟、流星巖	169	中和村 Jhonghe	1
Mysterious Valley Waterfall 神秘谷瀑布	169	達邦村 Dabang	45
Nantien Cliff 南天峭壁	162甲	瑞峰村 Rueifeng	24
New Caoling Lake 新草嶺潭	162甲	瑞峰村 Rueifeng	22
Phoenix Waterfalls 鳳凰瀑布	159甲	大湖村 Dahu	36
Scar 山崩窪(眺望點在里佳村)	169	里佳村 Lijia	50
Shihmenggu Potholes 石夢谷壺穴(多由豐山村進入)	149甲	來吉村 Laiji	16
Shihmenggu Waterfall 石夢谷瀑布(多由豐山村進入)	149甲	中正村 Jhongheng	17
Shihpangu Wall 石盤谷大岩壁	149甲	豐山村 Fongshan	12

Shihpangu Waterfall 石盤谷瀑布	149甲	豐山村 Fongshan	11
Shihshian Niaoniao Waterfall 神仙尿瀑布	162甲	瑞峰村 Rueifeng	25
Siangfeng Waterfall 相逢瀑布	嘉154	太興村 Taising	20
Siangshan (Elephant Mountain) 象山 (眺望點位於公田村)	台18	里佳村 Lijia	33
Sianjing Waterfall 仙井瀑布(多由公田村進入)	台18	公田村 Gongtian	34
Supernatural Potholes 仙人堀	嘉154	太平村 Taiping	18
Swallow Cliff 燕子崖	嘉122	瑞里村 Rueili	28
The Primeval Caves 原始一百洞	嘉155	來吉村 Laiji	7
Tianshuei Waterfall 天水瀑布	嘉155	來吉村 Laiji	6
Tianyungu Waterfall 天雲谷瀑布	149甲	豐山村 Fongshan	13
Two Sisters Pool 姊妹潭	台18	香林村 Sianglin	42
Wuanping Rock 萬坪石	嘉154	太興村 Taising	19
Yuntan Waterfall 雲潭瀑布	嘉122	瑞里村 Rueili	27
V-shaped Cengwun River Valley 曾文溪V形谷	嘉129	山美村 Shanmei	43

2. 景點類型檢索表(Key to Scenic Sites by Type)

* 山嶺 Ridges

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Elephant Mountain (Siangshan) 象山 (眺望點位於公田村)	台18	里佳村 Lijia	33
Datashan 大塔山 (需由香林村進入)	台18	中正村 Jhongjheng	41

* 順向坡之石壁 Dip-slope Rocky Walls

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Laiji Wall (Titanic Rock) 來吉峭壁 (鐵達尼石)	嘉155	來吉村 Laiji	5
Shihpangu Wall 石盤谷大岩壁	149甲	豐山村 Fongshan	12
Wuanping Rock 萬坪石	嘉154	太興村 Taising	19
Chashan Wall 茶山石壁	嘉129	茶山村 Chashan	44

* 陡崖峭壁 Precipices

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Mingyue Cave 、Liousing Cliff 明月窟、流星巖	169	中和村 Jhonghe	1
Nantien Cliff 南天峭壁	162甲	瑞峰村 Rueifeng	24
Bat Caves 蝙蝠洞	嘉122	瑞里村 Rueili	29
Swallow Cliff 燕子崖	嘉122	瑞里村 Rueili	28

* 洞穴 Caves

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Eighteen Luohan Caves 十八羅漢洞	169	中和村 Jhonghe	2
The Primeval caves 原始一百洞	嘉155	來吉村 Laiji	7
Huagang Sueilian Cave 滴水成金 (花崗水濺洞)	149甲	豐山村 Fongshan	15
Bairen Cave 百人洞	169	達邦村 Dabang	46

* 河谷 River Valleys

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Meishan Canyon 梅山峽谷	162甲	碧湖村 Bihu	21
Bajhang River Incised Meander 八掌溪谷曲流	台18	觸口村 Chukou	31
Cengwun River Valley 曾文溪上游峽谷	嘉129	山美村 Shanmei	43

* 河階 River Terraces

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Alishan River Terraces 阿里山溪河階	169	太和村 Taihe	3
Chukou Amphitheater Terrace 觸口曲流河階	台18	觸口村 Chukou	30
Bajhang River Fan Terraces 八掌溪沖積扇階	159甲	民和村 Mianghe	35

* 瀑布 Waterfalls

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Jhajigu Waterfall 札基谷瀑布	嘉155	來吉村 Laiji	4
Tianshuei Waterfall 天水瀑布	嘉155	來吉村 Laiji	6
Shihpangu Waterfall 石盤谷瀑布	149甲	豐山村 Fongshan	11
Tianyungu Waterfall 天雲谷瀑布	149甲	豐山村 Fongshan	13
Jiaolong Waterfall 蛟龍瀑布 (多由豐山村進入)	149甲	來吉村 Laiji	14
Shihmenggu Waterfall 石夢谷瀑布 (多由豐山村進入)	149甲	中正村 Jhongjheng	17
Siangfeng Waterfalls 相逢瀑布	嘉154	太興村 Taising	20
Longgong andLueiyin Waterfalls 龍宮、雷音瀑布	162甲	瑞峰村 Rueifeng	23
Shih sianniaoniao Waterfall 神仙尿尿瀑布	162甲	瑞峰村 Rueifeng	25
Guanyin Waterfall 觀音瀑布	嘉122	金獅村 Jinshih	26
Yuntan Waterfall 雲潭瀑布	嘉122	瑞里村 Rueili	27
Lover's waterfall 情人瀑布	台18	觸口村 Chukou	32
Sianjing Waterfall 仙井瀑布 (需由公田村進入)	台18	公田村 Gongtian	34
Phoenix Waterfalls 鳳凰瀑布	159甲	大湖村 Dahu	36
Luonyu Waterfall 裸女瀑布	169	樂野村 Leyie	39
Mysterious Valley waterfall 神秘谷瀑布	169	達邦村 Dabang	45
Lalakasih Waterfalls 拉拉喀斯瀑布	169	達邦村 Dabang	47
Lijia Waterfall 里佳瀑布	169	里佳村 Lijia	48

* 壺穴 Potholes

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Shihmenggu Potholes 石夢谷壺穴 (多由豐山村進入)	149甲	來吉村 Laiji	16
Supernational Potholes 仙人堀	嘉154	太平村 Taiping	18

* 土石流 Debris Flow

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
Debris Flow Memorial Park 土石流紀念公園	149甲	豐山村 Fongshan	8
Debris-flow Fan 土石流複成扇	149甲	豐山村 Fongshan	9
Ancient Debris Flow 百年土石流遺跡	149甲	豐山村 Fongshan	10
Jhuoshuei River Bridge Debris Flow 濁水溪橋土石流	159甲	光華村 Guangha	38

* 其他 Others

Scenic sites (地景點)	Routes (路線)	Village (所在村落)	Serial no. (流水號)
New Caoling Lake 新草嶺潭	162甲	瑞峰村 Rueifeng	22
Guangha Sandstone-shale Alternations 光華砂頁岩互層	159甲	大湖村 Dahu	37
Dinghu Rock 頂湖巨石 (巨墓碑)	169	樂野村 Leyie	40
Two Sisters Pools (Zimei Pool) 姊妹潭	台18	香林村 Sianglin	42
First Formosa Spring 福爾摩沙第一泉	169	里佳村 Lijia	49
Scar 山崩窪(眺望點在里佳村)	169	里佳村 Lijia	50



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印刷／中原造像股份有限公司

G P N／1009305010

I S B N／957-01-9885-0

定價／新台幣150元

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初版日期／中華民國九十三年十二月