

PONGSO INAWAN

婆婆伊那萬

蘭嶼達悟的民族植物

The Ethnobotany of Tao on
Orchid Island

董景生、黃啓瑞、張德斌◎著
蕭建軍等◎譯

婆婆(Pongso)指島嶼，伊那萬(Inawan)是生命，達悟語意為生命之島。在島嶼及海洋的國度，達悟子民世代遵循傳統的生活模式，男女分工互助，共同面對自然環境的考驗，善用植物資源永續樂土。

"Pongso (island) Inawan (lives)" means "the island of lives" in Tao. This book portrays the tradition and culture of Tao people and their sustainable lifestyle on Orchid Island.

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GPN 1010300119 NT\$460

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黃啓瑞
Aits Butal



踏足花蓮田野開始，匆匆過了十餘年。修習民族學，用影像與文字交織記錄，期間與朋友共組 O'rip 生活旅人工作室，並參與多本書籍企劃撰寫。和環境資訊協會的團隊合作是一場美麗的意外。

張德斌
Chang Te-Pin



昆蟲學博士，專長是分子生物與演化，埋首於實驗室十多年。因緣際會參與國科會計畫加入民族植物調查團隊，在芋田、地下屋訪談錄影，完全不同於過去的學術訓練。閒餘熱愛攝影，在蔚藍的海洋與天空下，達悟的部落經驗對自己的人生開啟了一扇新的窗口。

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THE ETHNOBOTANY
OF TAO ON ORCHID ISLAND





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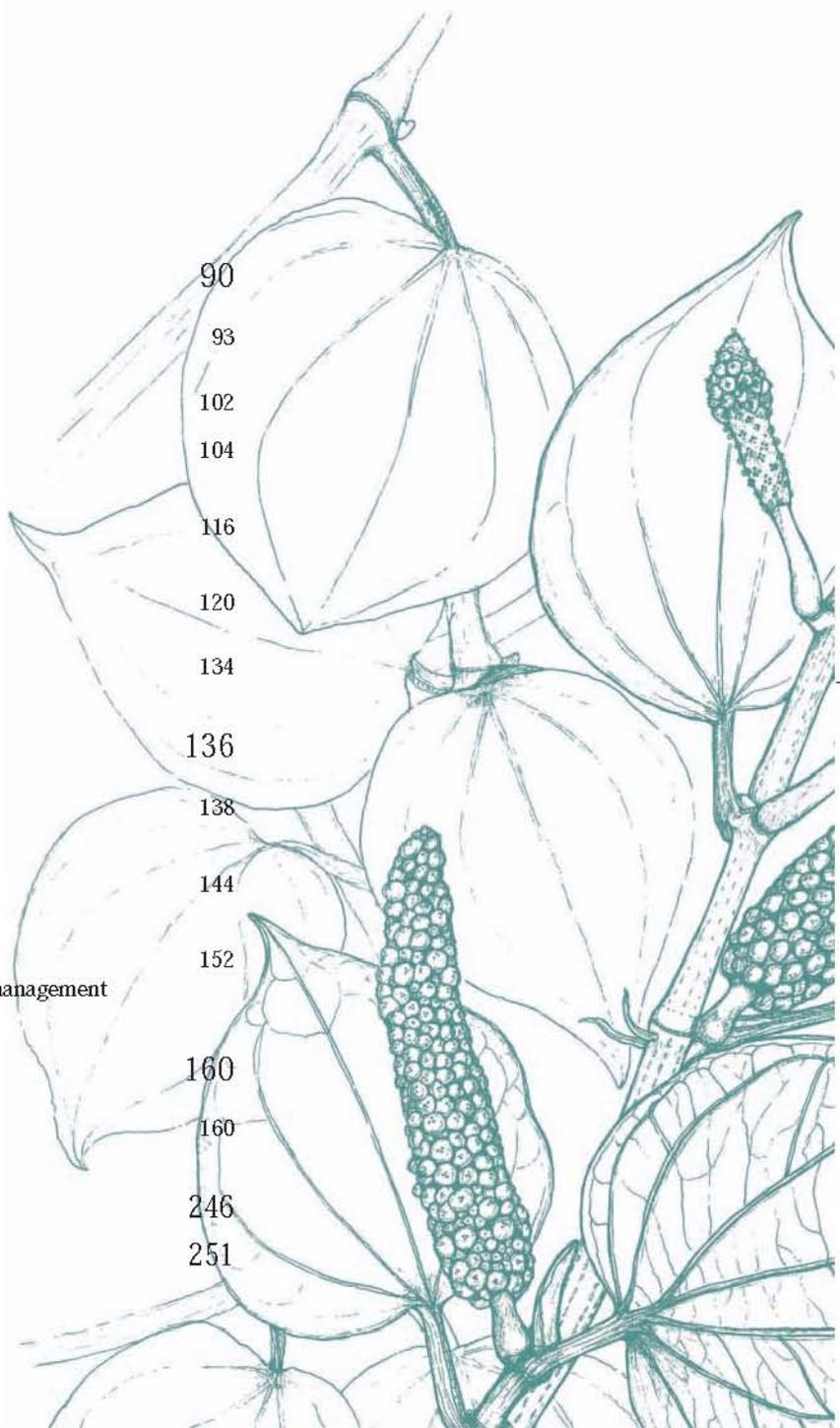
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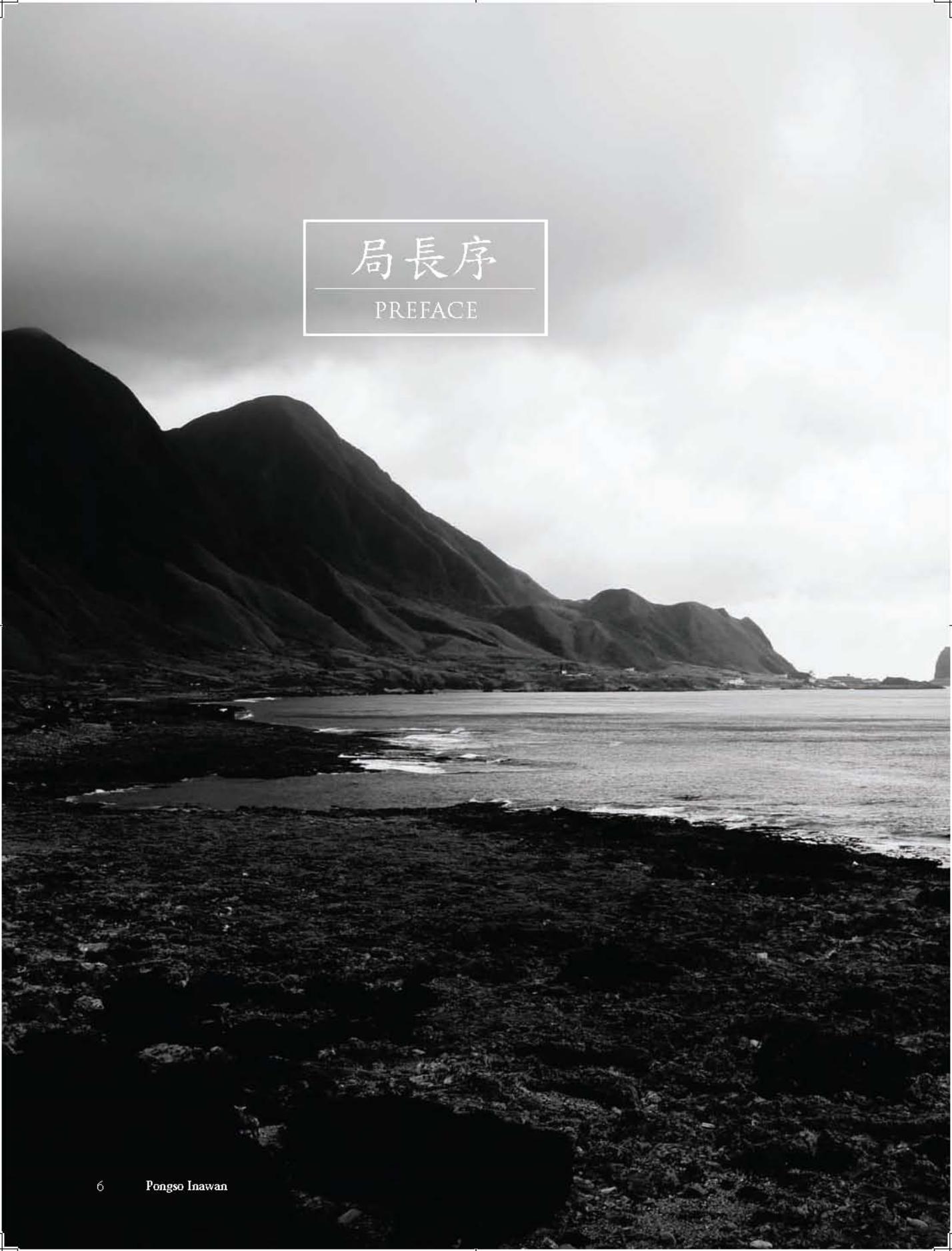
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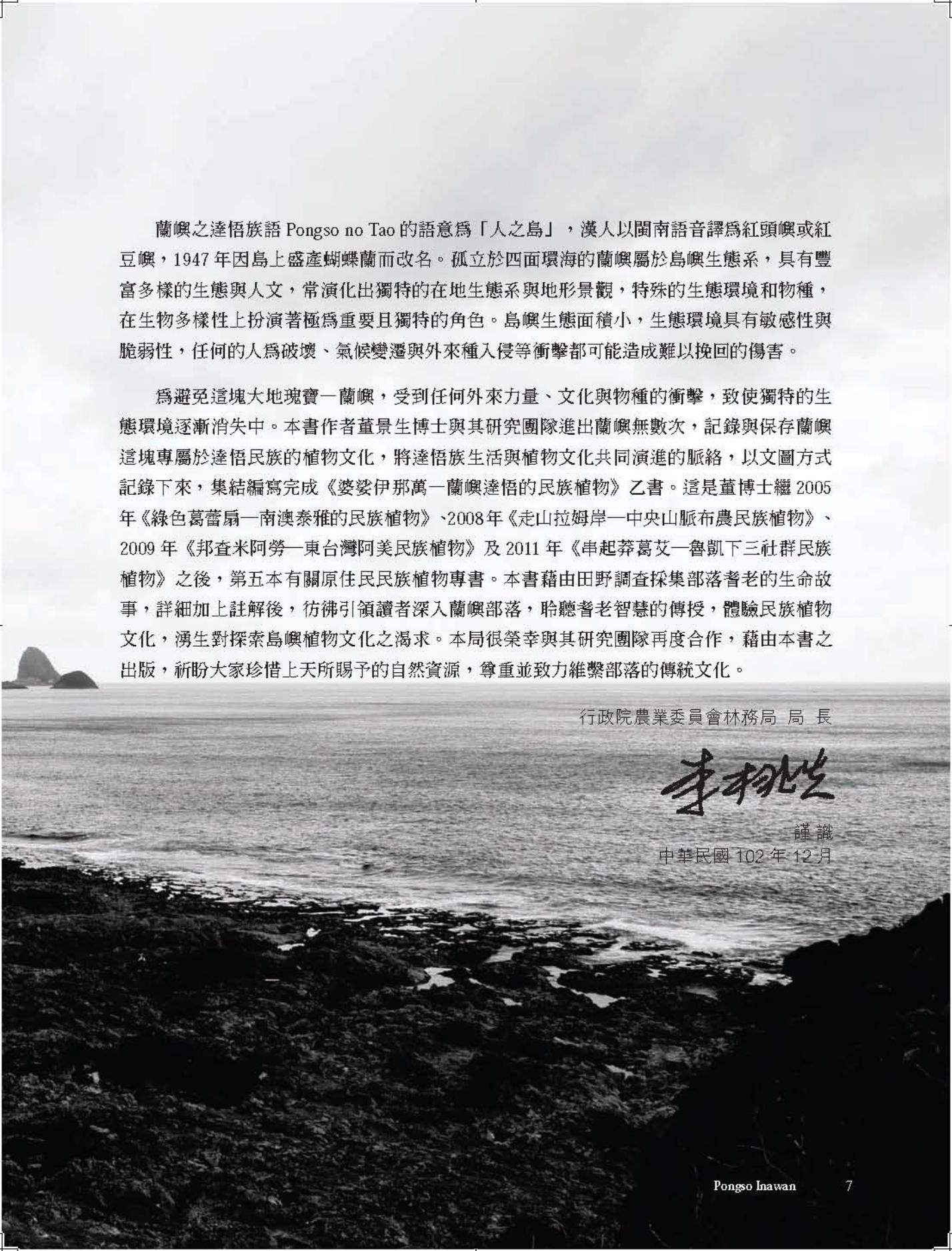
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局長序

PREFACE



蘭嶼之達悟族語 Pongso no Tao 的語意為「人之島」，漢人以閩南語音譯為紅頭嶼或紅豆嶼，1947 年因島上盛產蝴蝶蘭而改名。孤立於四面環海的蘭嶼屬於島嶼生態系，具有豐富多樣的生態與人文，常演化出獨特的在地生態系與地形景觀，特殊的生態環境和物種，在生物多樣性上扮演著極為重要且獨特的角色。島嶼生態面積小，生態環境具有敏感性與脆弱性，任何的人為破壞、氣候變遷與外來種入侵等衝擊都可能造成難以挽回的傷害。

為避免這塊大地瑰寶—蘭嶼，受到任何外來力量、文化與物種的衝擊，致使獨特的生態環境逐漸消失中。本書作者董景生博士與其研究團隊進出蘭嶼無數次，記錄與保存蘭嶼這塊專屬於達悟民族的植物文化，將達悟族生活與植物文化共同演進的脈絡，以文圖方式記錄下來，集結編寫完成《婆娑伊那萬—蘭嶼達悟的民族植物》乙書。這是董博士繼 2005 年《綠色葛蕾扇—南澳泰雅的民族植物》、2008 年《走山拉姆岸—中央山脈布農民族植物》、2009 年《邦查米阿勞—東台灣阿美民族植物》及 2011 年《串起莽葛艾—魯凱下三社群民族植物》之後，第五本有關原住民族植物專書。本書藉由田野調查採集部落耆老的生命故事，詳細加上註解後，彷彿引領讀者深入蘭嶼部落，聆聽耆老智慧的傳授，體驗民族植物文化，湧生對探索島嶼植物文化之渴求。本局很榮幸與其研究團隊再度合作，藉由本書之出版，祈盼大家珍惜上天所賜予的自然資源，尊重並致力維繫部落的傳統文化。

行政院農業委員會林務局 局長

李柏生

謹識
中華民國 102 年 12 月

自序

豐饒的海島

夏日清晨五點許，海風打破夜晚的滯黑，吹來海潮鹹味，棕耳鵝 apik 刺耳的噪鳴與潮浪拍岸的 psa 輕響間歇地傳來。一眼望向礁岩，隱約中所見的海平穩無浪，直到第一道曙光從海平面蹦現，揹好網袋、握著鐵棒的 Sinna Kaminan，已整好裝備，沿著公路走上一段就邁入山裡，這是她每天必須的勞動—巡田拿飯。

曙光漸露，踩過田埂上的好草，腳踝很快被露珠濡濕，沿著芋田的渠道邊路往溯到上游水源，確認水流暢通後，才折返到自家田裡 ora，沿途早著手拔掉田埂和田裡頭新冒出的壞草，遇到枯黃芋葉，也一併拉除。而揀除為患的大小福壽螺及粉紅色螺卵，則更是當務之急。農事勞動中，很快渡過了一上午。

隨著烈日高掛，揹回芋頭後，場景由山麓的芋田移動到海灘 pasalan 前的涼台 tagakal。風自太陽出來便慢慢轉了方向，由陸地往海上吹，達悟語風為 sazowsaw，不同的風歸成八種不同稱呼，生存的需要，風向及潮流至關重要。遠方藍天飄著層疊白雲，海面浪花閃爍淋漓日斑，沁出的汗，在衣領上迅速結出鹽晶，閉上眼睛，耳裡聽到各式各樣的聲音—海浪拍擊聲 psa、羊的啃食聲 gazemgem、葉的摩擦聲 pispis、船的馬達發動聲 gozit、涼台上婦女的剪布聲 kizi，更遠處的說話聲 zlak 與對小孩的斥責聲 cig 等，這些構成蘭嶼島上獨有的聲音風景。

A silhouette of a lighthouse on a hill against a sunset sky. The lighthouse is a white tower with a dark top section and a small dome. Two people are standing on the hill next to it. The sky is a mix of blue and orange, with some clouds. The foreground is dark, showing the silhouette of the hill and some distant structures.

盛夏溽暑，蔚藍海洋吸引逐浪的人潮，許多旅台的達悟族人得以這時回到島上，觀光需求下，商店、民宿、浮潛、導遊等，都需更多人手投入，這時的喧鬧，讓人錯覺觀光對島民的不可或缺。而秋天後東北季風吹拂，島上恢復安靜到只剩下狂風呼呼的聲音，考慮生病就醫的不便，有些老人隨著子女暫居台灣，部落巷弄間，冷清的只有小耳豬或雞匆匆跑過。這座小小的島嶼，就這麼具體而微地呈現島嶼生態的敏感脆弱和獨特，相對映照著近代資本主義發展的諸多荒謬。

上了年紀的島民，或可不依賴觀光維生，他們還堅守著傳統的生活方式，展現過去的簡單樸實，這是達悟文化千百年來發展出的島嶼適應，餓了才去拿飯，不過度消耗，細緻的管理知識與自然環境永續共存。這本書，即在著力於記錄下這些耆老們身體力行的傳統知識。調查採訪結果，取材朗島的資料最多，也有野銀、椰油、東清、漁人、紅頭幾位耆老，接受我們的一再叨擾，在此致上最高謝意。

島上的朋友曾說，蘭嶼是好幾個國家組成的島國 pongso 群，不同部落間各有知識的脈絡，當然互相影響的情形也有，在我們嘗試記錄下受訪者口述時，可能偏頗礙於一詞，但與其追索終極的正確版本，我們其實更擔憂傳統的快速流失，而這是本書進行最主要的動力。

Foreword

A self-sufficient island

It is the summer time, at 5 o'clock in the morning the sea breeze that brings the salty mist ashore has gently blown away the still darkness. An Apik (Brown-eared bulbul bird) squawks loudly from afar echoing the rhythmic sound of waves hitting the shore (Psa). It is calm, peaceful and translucent until the first sunbeam breaks over the horizon. By the time people finally notice this crack of dawn, Sinna Kaminan has already prepared what she needs and be ready for her daily mission, "Mangap So Kanen", collecting the staple food.

As the morning gets brighter, Sinna walks on the field paths covered by beneficial plants and soon her shoes are dampened by the dew. Firstly she goes up to the water sources to check if the irrigation systems are working properly before visiting her own taro patches. She weeds while on her way to the fields. In the fields, she removes the withered taro leaves and most importantly, collects the invasive channeled apple snails and their egg mass to reduce the damage to her taro plants. After hours of hard work, Sinna puts the taro she dug up into her net-bag and walks home. What a busy morning she has had.

By midday, it is hot. At the cabana (Tagakal) by the beach (Pasalan), the wind has turned its direction towards the sea after the sun has heated the land. Tao call wind "Sazowsaw". Due to the needs for living on the island, they have to understand the characteristics of the wind and the currents. Consequently, wind is classified into eight different categories and each carries a different Tao name. Names are also given to different sounds. The sound of waves hitting the rock is "Psa", the sound of crabs spitting bubbles is "Cicit", the sound of goats chewing grass called "Gazemgem", "Pispis" is for the rustling of leaves,





“Gozit” means the sound created from the engine running on the boat, “Ziak” is the sound when we speak, “Cig” is for the sound when adults discipline their children and the sound from the scissors cutting clothes is called “Kizi”.

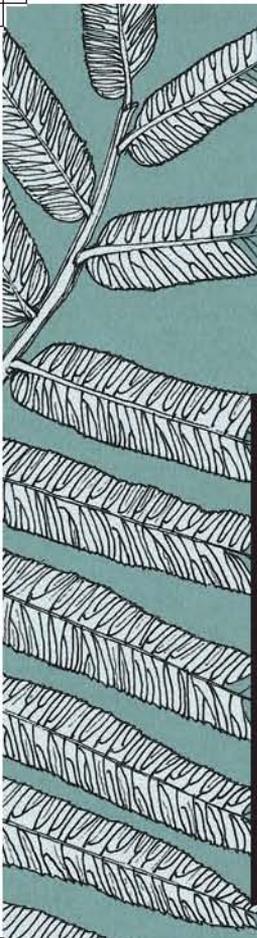
During the hot summer days, in order to cater for the popular tourist season, Tao people return home from mainland Taiwan to help out in stores, B & Bs, snorkel shops etc. This hustle and bustle leaves the impression that the tourist business seems to be a necessity for the survival of these islanders. However, the scene changes dramatically when the cold northeast wind starts to blow in the winter. The villages become deadly quiet except for the sound of wind, and feel like they have been abandoned. The inadequate health care system has made the elderly choose to move temporarily with their children to Taiwan. This small island is suddenly left alone in these bitter cold conditions. Commercialization has its down side, and it inevitably reflects on those changes that we see on the island.

The elderly on this island do not survive on tourism. They follow their traditional lifestyle, moderate and simple, only take what they need when they need it. Practicing sustainability and coexisting with the nature is the wisdom developed through hundreds of years that helps them manage their lives on the island. This book aims to document the traditional intelligence by visiting these Tao elderly frequently. Most interviews were conducted in Iralalay (Langdao) village, the rest were in Ivalino (Yeyin), Yayo (Yeyou), Iranmilek (Dongqing), Iratay (Yuren), and Imowrod (Hongtou). We are really grateful for all opportunities they gave us. We can truly not express enough gratitude towards those elderly interviewees.

Some Tao friends have said to us that Orchid Island is like a Pongso (island) comprised of several nations. Different villages have their own distinctive knowledge and heritage, but they also share something in common. In spite of the difficulties in getting unified answers because of their varying opinions and perceptions and their varying backgrounds, our intention in publishing this book is to raise awareness, and to record a disappearing knowledge, and the mysteries of the people on the island.







CHAPTER — 1

第一章



中國 China

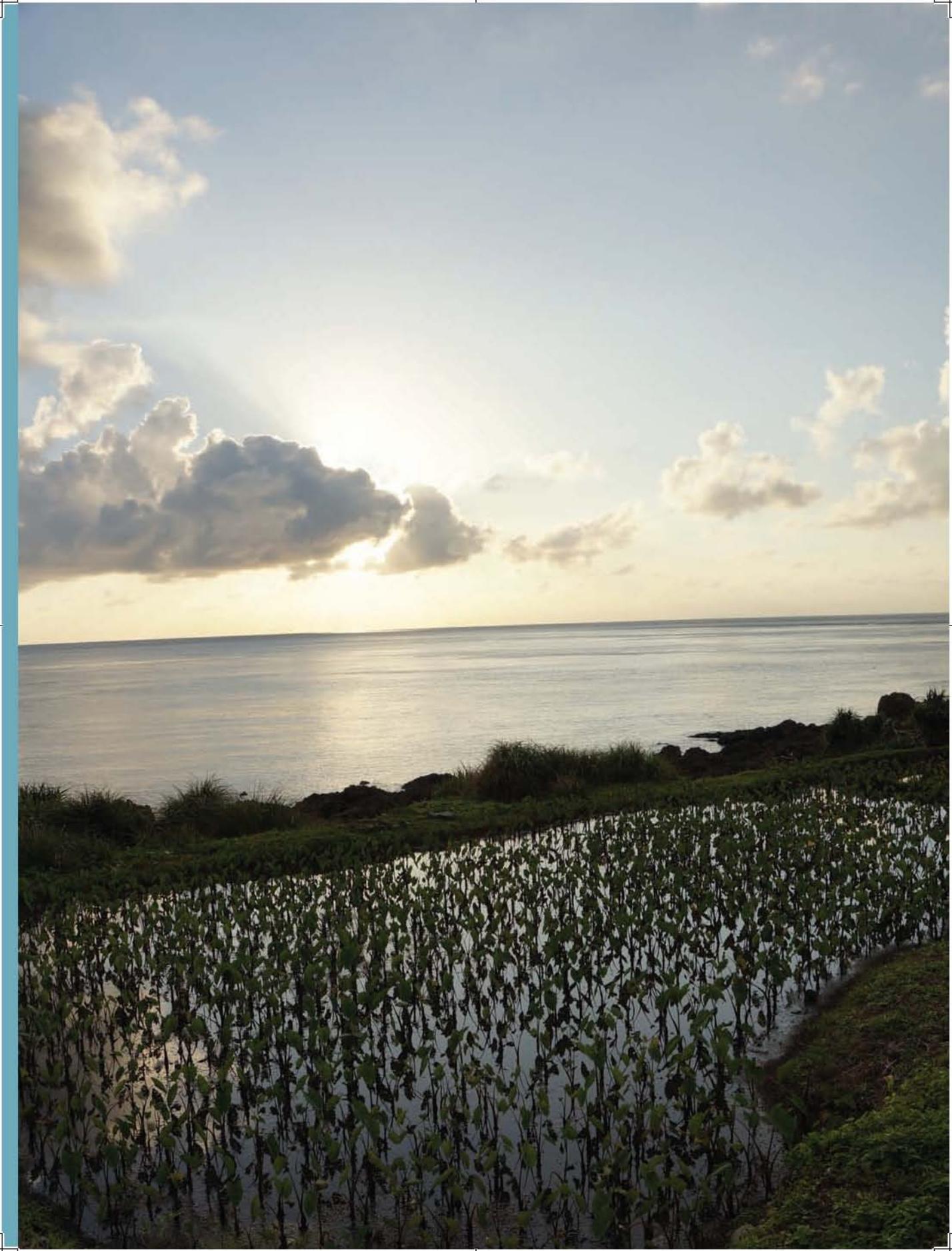
台灣
Taiwan

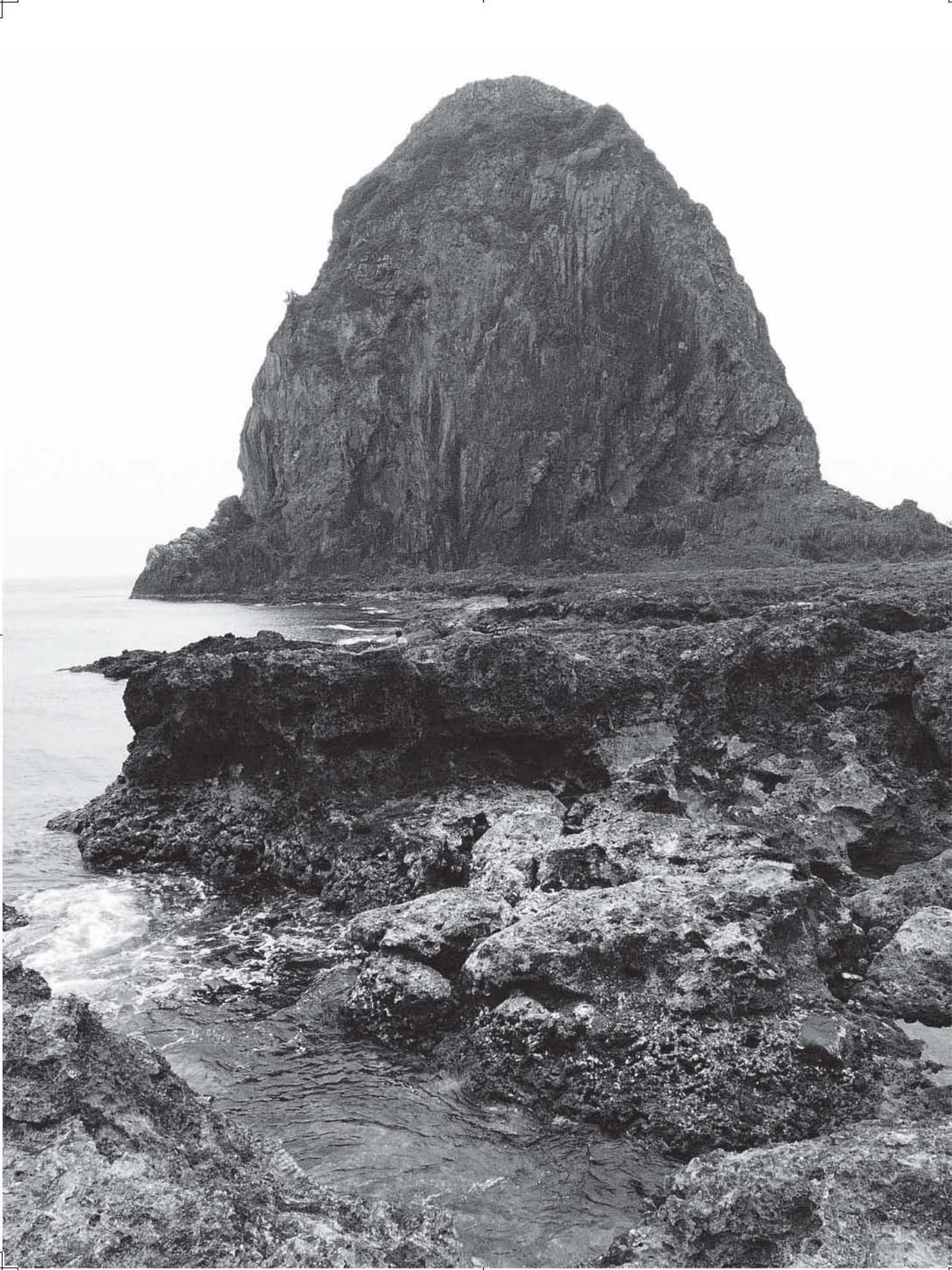
台灣蘭嶼
Orchid Island, Taiwan



菲律賓巴丹群島
Batanes, Philippines







位於太平洋西舷，蘭嶼是串連台灣島及菲律賓群島的火山列島，源於中新世中期 Middle Miocene 至上新世 Pliocene 期間呂宋火山的海脊噴發，熔岩形成的安山岩和玄武岩構成了島嶼主體。堅硬的火山母岩及四周隆起的珊瑚礁，導致島上地形多變，地表土層隨著降雨逕流而沖刷，沿著溪流形成堆積的緩坡地帶，加上肥沃的火山土壤，使得島上的植群繁茂，稍事開墾即可耕作。

黑潮由南向北流經蘭嶼海域，明顯影響了生物相及氣候。島上降雨充沛，平均 3,000 公釐的年降雨量，年降雨日幾達 250 日，因此乾季並不明顯，且全年約有 260 天的強風日，每年十月至翌年二月，全島壟罩東北季風的凜冽吹襲，三月至九月才轉溫暖的西南季風。

蘭嶼全島的面積約 45 平方公里，周長約 38 公里，跑步繞行一圈約需 6 至 10 小時。日治時期鹿野忠雄根據研究，曾提出島上生物地理學的假說，使得此蕞爾小島很快聞名於世。這項假說，根基於十九世紀末到廿世紀初的理論學說—1859 年英國動物地理學者華萊士 (Alfred R. Wallace)，率先提出華萊士線 (Wallace's Line)，即依照動物的地理分布，劃開為東洋區 (Oriental) 及澳洲大陸區 (Australasia) (包含澳洲、紐西蘭與美拉尼西亞) 兩邊。十九世紀末時，赫胥黎 (Thomas H. Huxley) 進一步將此線，往北延伸到婆羅洲及蘇拉威之間，並通過菲律賓群島西側及呂宋島北側，此稱為赫胥黎線 (Huxley's Line)。到二十世紀之初，日人大島正滿和鹿野忠雄，針對島上球背象鼻蟲 (*Pachyrrhynchus*) 和光澤蝸牛 (*Helicostyla okadae*) 實地調查的資料，發現紅頭嶼 (日治時期稱蘭嶼) 與台灣島上動物物種的差異頗大，而與綠島、呂宋及巴丹島相近，進而提出新華萊士線 (Neo-Wallace's Line) 一說，主張此一生物地理的界線，應再向北延伸於台灣及蘭嶼之間，此段延伸的線，因此也稱鹿野線





(Kano's Line)。再其後，1935 年日人金平亮三，透過統計蘭嶼、台灣、菲律賓群島三地的植物，發現有 13 屬 20 種樹木，是台灣缺乏，但蘭嶼與菲律賓共有的，據此描繪出金平線 (Kanehira's Line)。

惟隨著近代更多物種研究的資料，蘭嶼相距臺灣島約 60 公里、與菲律賓呂宋島相距約 380 公里，黑潮往北流動，的確有利散播屬於菲律賓的物種，但以植物種類來分析，島上 800 多種維管束植物，約高達 650 種重疊於臺灣，與菲律賓共有的種類則有 500 種，與其費勁糾葛於蘭嶼的分區隸屬，不如正視蘭嶼位於台灣與菲律賓的交會地帶，自然其生物的組成，融合著兩地特色。

時間加上地理區隔，島上隔離演化出許多特有的生物，又由於位於東南亞熱帶雨林的北界，島上的植群既有雨林相，又兼具海岸植群特徵，諸多因素交互影響，造就蘭嶼成為物種豐富多元的美麗島嶼。





綜合考古證據及口傳資料，達悟族人從菲律賓巴丹群島航海過來，落腳蘭嶼，時間約在晚近這數百年（最早不超過八百年），1906年，日本官方紀錄島上人口約1500人，近年的戶口統計資料顯示，島上人口成長亦不超過3000人，小規模的山田焚墾，維持日常糧食所需，洋流漁汛，則促成獨有的飛魚文化，缺乏大型哺乳動物的先天條件，則粗放飼養雞羊豬等，偶而補充飲食所需，這些綜合資料，顯見島嶼環境的人口承載有限。

日治時期劃設蘭嶼為研究區域，實行刻意隔離政策，一度將蘭嶼孤立於全球經濟變遷之外，停留在自給自足的文化適應初期。1955年起，國民政府推動山地生活改進、定耕農業、育苗造林三大政策，引入的木麻黃，島上首度面臨激烈的林相改變，1970年試種可可、椰子及桂竹，大量外來的物種拓殖進駐，1990年代開始，一連串的河川整治、水泥敷地、港澳工程等如火如荼展開，對於脆弱的島嶼生態而言，造成極大干擾。島嶼現階段短暫的動態平衡，早明顯別於昔日。





The volcanic islet in the Black Current

Geographically, Lanhsu aka Orchid Island, a volcanic islet of the Luzon Arc, is well placed between the Philippines and mainland Taiwan in the west Pacific Ocean. It was formed through the consolidation of hot magma originating from the sea ridge eruptions that happened from Middle Miocene to Pliocene. The island with its steep landscape is composed of the weathering-resistant rocks, which is hard and can only sustain a very thin layer of soil on the surface. Most of the soil would be easily washed away by the rain onto the gentle slopes along the riversides and gradually became the sedimentary lands which later were used to cultivate crops. Though the hard steep rocks and the barrier reefs are found covered all over the island, somehow, the thriving vegetation manages to survive because of the nutritious volcanic soil remaining on top of these areas.

The Black Current that travels annually from the south to the north in the waters around Orchid Island is a crucial factor on the biota and the weather pattern on the island. There is no shortage of rain. The yearly average rainfall is about 3,000 ml and it rains nearly 250 days a year. It is windy all year round, accumulating yearly to 260 days of strong breeze. The northeast monsoon starts from October to February, then it comes the southwest monsoons from March to September.

The size of Orchid Island is about 45 square kilometers, 38 km round the circumference of the island and it would takes about 6 to 10 hours to complete jogging through the whole circle. This island was made known for the first time to the world in a biogeography theory, which was introduced by Tadao Kano during the Japanese colonization.

From the 19th to the early 20th century biogeographers were trying to draw an invisible line that could clearly distinguish Australian biota and Asia biota. In 1859, the “Wallace's Line” was first suggested by an





English zoogeographer Alfred R. Wallace to geographically differentiate the Pacific areas into “Oriental” and “Australasia”, according to the geographic distribution of animals in these regions. In the end of the 19th century, this line was extended which later was called “Huxley's Line” by Thomas H. Huxley extending the existed Wallace's Line up north through the areas between Borneo and Sulawesi, and continued it further passing the west Philippines until

it reached the north of Luzon Island. In the early 20th century, Japanese biogeographers Masamitsu Oshima and Tadao Kano claimed a new idea-- Neo-Wallace's Line, that the existed biogeographic line should keep going north to the areas between mainland Taiwan and Orchid Island, according to their findings through the field study of a ball back weevil species (*Pachyrrhynchus*) and a snail species (*Helicostyla okadae*) on Orchid Island. They concluded these species were taxonomically too different from the specimens collected from mainland Taiwan, instead, they were much closer to the specimens from Green Island, Luzon and Batanes. This newly extended line was later named “Kano's Line”. Later, another Japanese biogeographer Ryoza Kanehira, who compared the flora on mainland Taiwan with those on Orchid Island and on the Philippines, proposed a new line: “Kanehira's Line” based on the findings that there were 20 tree species of 13 genera cohabitated only on Orchid Island and the Philippines but mainland Taiwan to indicate that the biota on Orchid Island and the biota on mainland Taiwan should belong to different zones.

However, recent new findings suggested a different scenerio. Not to mention that Orchid Island is actually far closer to mainland Taiwan geographically (60 Km away with more plants



species co-habitat on both Islands) than to the Philippines (380 Km in distance). Thus, rather than arguing about which zone Orchid Island should belong to, it would be a better idea to regard this place as a buffer zone that has a mixed biota from both mainland Taiwan and the Philippines.

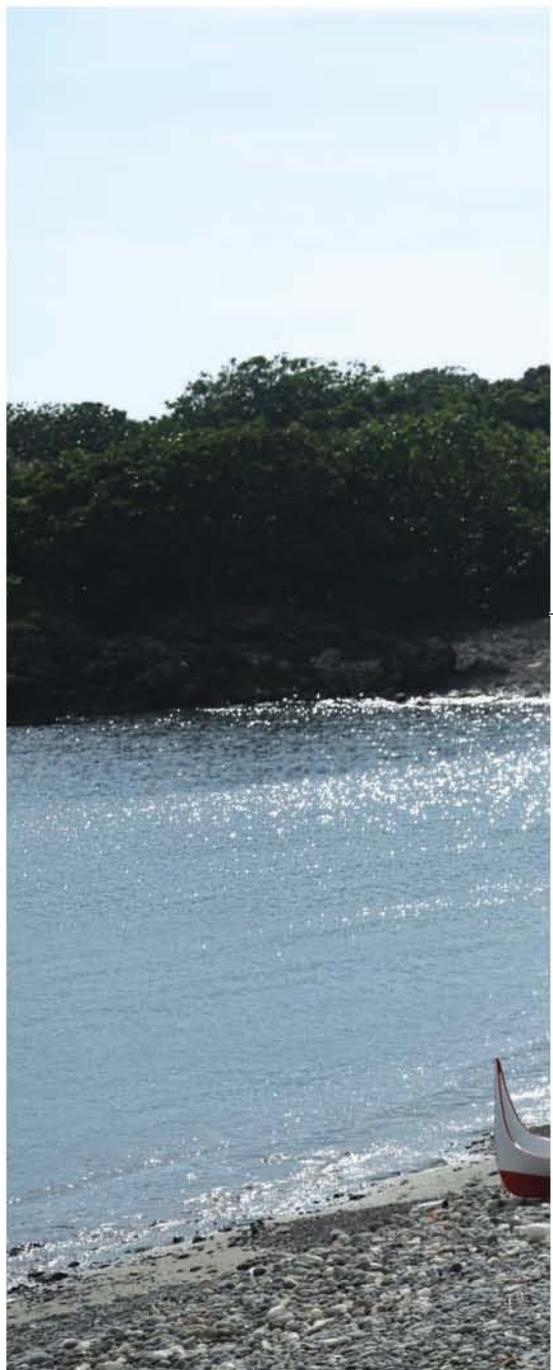
Situated at the north border of the South East Asian subtropical rain forest zone, Orchid Island has both rain forest and the coastal vegetation coexisted on it and in a viewpoint of Island Biogeography, the isolation evolution in time and space had made this little island a beautiful home of unique creatures.

Some 800 years ago, Tao's ancestors started the migrations from Batan Island of the Philippines to Orchid Island. In 1906, according to the population record investigated by then Japanese authority, there were about 1500 residents on the island. Later the population grew, but based on the recent record, the population had once reached its peak in history of merely 3000. With no big animal, the residents relied on the burning-cultivation farming method to produce crops; they bred pigs, chickens and goats to supply the need for meat; they fished in a traditional way. Everyone had his or her own positions and roles clearly assigned in every activity on the island. The self-sufficient life style of Tao on the island seemed to be left undisturbed at the stage of primitive civilization due to the intentional isolation from the governmental economic development scheme during Japanese colonization and not much changed afterwards. Until 1955, when the then Taiwan Government decided to develop the island, followed by the other exercises in 1970 and 1990 onwards, the face of the island and its vegetation has changed dramatically ever since. In those years, many exotic tree and plant species were introduced for the economic growth and a series of waters-related infrastructures were proceeding to improve people's living condition. But due to the lack of the prudent considerations over the potential impacts on the island's delicate ecosystem these actions instead had great impact on Tao society and the lives on the Island.



達悟的神話傳說裡，人類的起源是大洪水後，天神的子女降於島上，慢慢認識環境裡的資源，同時繁衍子嗣。但關於起源地，各部落卻有不同說法，在朗島，人們相信祖先是來自大森山 Ji-yakmemorong、青蛇山 Ji-peigangen、紅頭山 Ji-kakurinam 一帶，屬於山地起源；在椰油及漁人，則傳祖先最早生活在漁人附近的沙灘 Jimasapaw（今蘭嶼機場靠近漁人灣澳 Doygang，到椰油溪下游出海口）一帶，因此是海岸起源；至於最晚建立的野銀部落，還記得祖先來自菲律賓北方的巴丹島 Ibatan，清楚明指，己身來自海外。

起源傳說承襲於族群的集體記憶，達悟族為南島語族中馬來一波里尼西亞語系的一支，各部落遷入的年代不盡相同，因此可以理解，後來的部落之間各有認同，呈現差異記憶。顯而易見的，達悟族人是臺灣南島語諸族之中，唯一還保有航海技術，具備造船遠颺、航行遷移能力的民族，1956 年日本學者馬淵東一，收集到族人 1929 年所繪地圖兩張，圖中咸明世界的中心為海洋，海洋外圍則環繞蘭嶼 Pongso no Tao、小蘭嶼 Dzi-teiwan、綠島、台灣及菲律賓巴丹群島等。







外界對於「蘭嶼」的稱謂，最早出現在中國宋朝的《諸番志》，時記載為「談馬顏國」，到清朝的《臺海使槎錄》，則記為「紅頭嶼」，此一稱謂，後來為日本統治當局沿用，而大航海時期的歐洲輿圖，則標註蘭嶼為Botol或Tobaso。1644年時，荷蘭人記錄島上聚（部）落為11個，到清領時期（1877年）減為7個，追究原因，概為天然災害或人為遷徙放棄。

日籍人類學者鳥居龍藏，在《人類學寫真集—台灣紅頭嶼之部》，提及當地土著自稱為“Yami Kami”，因此推斷Yami為其族群稱謂，至此雅美族成為官方定名。民國36年，國民政府將「紅頭嶼」改稱「蘭嶼」，設蘭嶼鄉治下轄各村，民選首長以管理地方事務，如今島上居民分居於六個部落，順時針依序為紅頭Imowrod、漁人Iratay、椰油Yayo、朗島Iraralay、東清Iranmilek以及野銀Ivalino。截至目前，雖然鄉長及村長皆為民選，但只在對外及名義上擁有領導權，部落的事務，仍然仰仗傳統的方式維持。

達悟的社會以父系世系群為主，「夫妻」是其社會組織最基本的單位，同時也是所有社會關係的核心。陳玉美於1994年的文章指出：「雅美族觀念中三個主要的範疇：以水源為象徵的父系，以母奶為象徵的母系，以及以家為象徵的夫妻單位（婚姻的象徵）及以此





單位為核心向雙邊開展的“親戚”（zipos）。」，「重要的社會活動與儀式亦以夫妻為核心推算」。同時，由於夫妻的明確分工界定彼此權利義務，衍生各盡其份的自我要求，進一步啟動由居住地緣及親族血緣，所組成的生計攸關團體—漁船船團、粟作團體、灌溉團體等，至於部落則為更大的單位，由共居的所有成員組成，擁有漁場、潮間帶、牧地、農地、森林與葬墓地範圍，部落領地是居民日常休憩、活動的特定空間，成員彼此分工及參與管理，其他部落的居民不得擅用擅入，當領域內及部落成員遭受其他部落的挑釁或侵犯，部落其他人將群起維護抗爭。

幾十年來，國家政策所推動的一海砂屋國宅、退輔會農場、軍犯管訓隊、國家公園籌設、核能廢料場建置、自立造屋等計畫，將達悟族人面對外來政權統治，推至不信任高峰。但另一方面，強大的外界經濟誘因，又讓大量的達悟青年湧向台灣，除少部分受高等教育，多數人只能屈居勞力底層賺取貨幣，而島上過往的生活價值，正隨著人口外移而日漸消失。

族人所稱的 Pongso no Tao，意思為「人之島」。回歸自然與人的價值，人／達悟／Tao 隱然成為島民的認同共識，反思著族人的當代處境。



1-2

Pongso no Tao - The Island of mankind



According to Tao mythology, the early occupants on Orchid Island were depicted as the descendants from the children of God who arrived after the big flood. But different villages seem to have their own geographic versions varying from one another in regard to the origin of mankind on the island. One reckoned their ancestors came from the mountainside (mountain origin), another said they were from the beachside (beach origin). On the other hand, Yeying tribe, the villagers know for sure that their ancestors migrated from the Philippines (migration origin).

All the small tribes or sub-tribes based at different villages were probably established at different times when their ancestors started the first migration from Batanes 800 years ago. This may explain why the concept of their origin differ according to their collective memory. And through linguistic research, the language of Tao tribe on Orchid Island is categorized as Malayo-Polynesian, differing from other tribes of the Formosan languages group that live in mainland Taiwan. This obviously matches the latest theory of the origin of Tao.

In 1644 Dutch officials recorded 11 villages (small tribes or sub-tribes) on the island. Later, in 1877, this number was reduced to 7 villages. In 1895, Orchid Island was purposely kept undisturbed as a special research zone during Japanese colonization. Any idea of introducing exotic culture or development was not allowed in order to maintain its natural habitat and the unique traditional





life style. Today, there are 6 villages remaining on the island: Imowrod, Iratay, Yayo, Iraralay, Iranmilek and Ivalino.

In 1956, a Japanese scholar, Mabuchi Toichi, described two maps hand crafted in 1929 by Tao people that placed the ocean at the center of the map surrounded by Orchid Island, Little Orchid Island, Green Island, mainland Taiwan and the Batanes. This finding indicates that Tao is the only tribe among all Austronesian tribes in Taiwan that still retains sailing skills and the ability to build boats. Interestingly, Tao is also the only tribe in Taiwan which does not have the traditions of brewing alcohol, head-hunting, and tattooing. Tao is unfamiliar with hunting and rely only on fishing and agriculture to support their self-sufficient life style.

The tribal name “Tao” was not the official name in the beginning. Japanese anthropologist Torii Ryuzo, in his document of indigenous research on Orchid Island, once mentioned that when he encountered the locals, they were calling themselves “Yami Kami”. He then assumed the term “Yami” must be their tribal name. As a result, “Yami” continued to be used as the official title for the group who lived on Orchid Island. This situation remained unchanged until Tao people became more culturally self-aware. Then the islanders collectively decided to adapt the traditional name for Orchid Island, “Pongso no Tao”, and identified themselves as “Tao” instead of “Yami”.

The social structure of Tao patri-lineage society is mainly based on the Husband-Wife-Family relationship which is the central and fundamental unit for Tao people. There is no obvious class division or hierarchy and no chieftain system in their society.



“Mind your own business” is the key cultural theme to Tao. It does not mean “to be selfish”, instead, it is a culture that every member in the family and in the society would require themselves to fulfill the duties that normally come with their social identities in terms of gender and age, accordingly. It is an attitude of being responsible to who they are and what they should do to cooperate for their survival and existence. However, they do praise each other moderately when achieving something good. To blow your own trumpet or loudly show off personal achievement is regarded as inappropriate.

In Tao, traditionally there are three main civil bodies in each of the villages: the Body of Fishing Vessels, the Body of Cultivation and the Body of Irrigation. Each village consists of inhabitants of the same clan in that area. It is independent from other villages and has its own fishing area, seabed, pasture and farmland. All business is co-managed by people who live in the same village in a concept described above. Such a life style seemed to be well suited to Tao for many years until modern civilization gradually directed it to a different fate.

In recent years, policies made in good faith by the national government to promote the use of the island and improve the life style of Tao people have, ironically, created mistrust between Tao and Taiwan Government. Since, many young Tao people have left for mainland Taiwan seeking jobs and the probability of better life. Eventually, the population on the island decreased, as did traditional values. Fortunately, more recently, the popular tourist business has enabled people to stay on the island. And those who strongly insist on Tao tradition will hopefully one day again bring back the beauty of Tao values to Orchid Island.

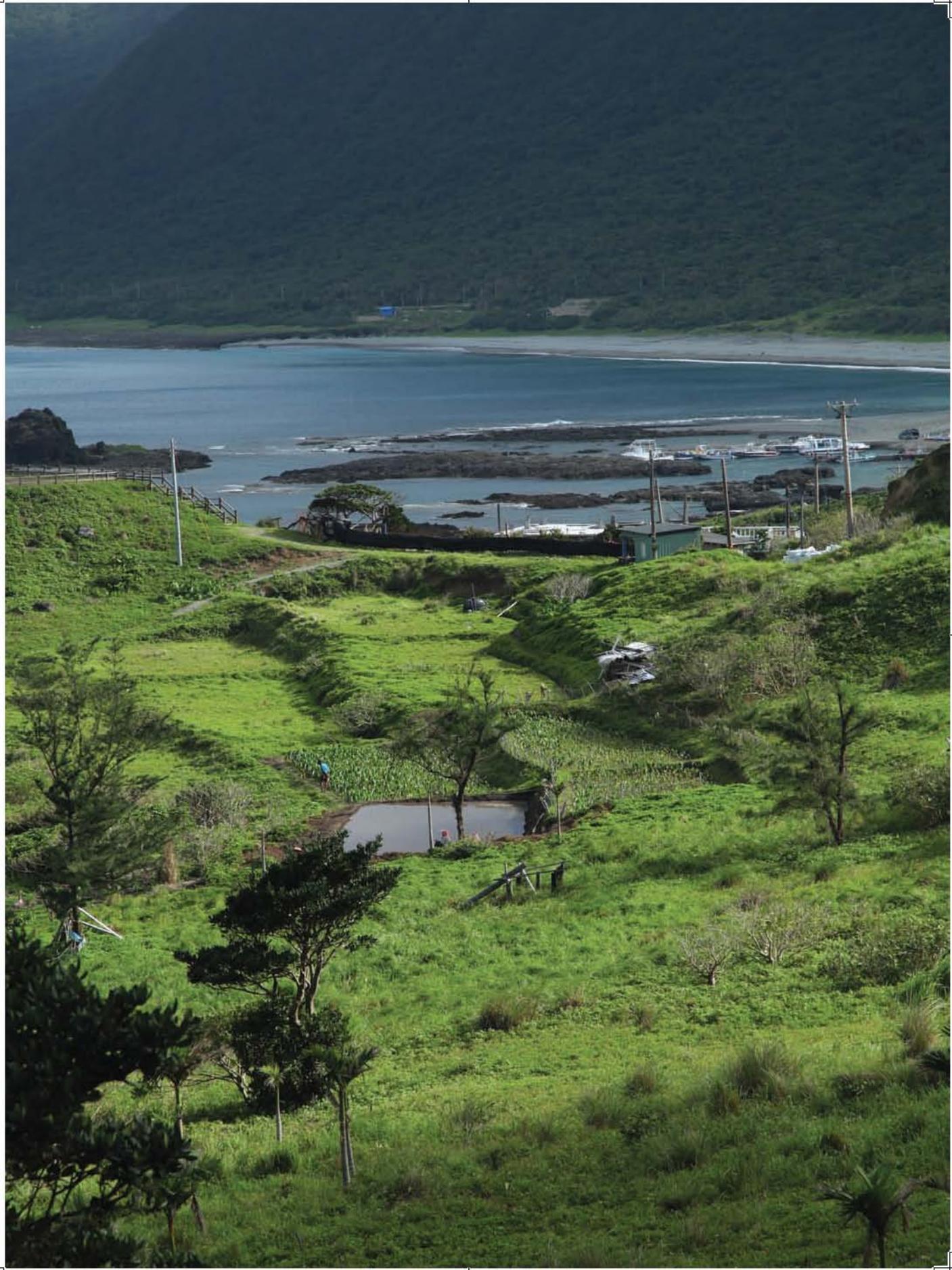


年輕的達悟夫妻，婚後第一個小孩出生前，即著手展開新屋建造，通常新屋 vahay 會緊鄰親友的居住範圍，維繫著密切頻繁的社會互動關係，少有搬離部落範圍或決定遷居其他部落的情形，一旦有這類情事，在過去必須放棄原有部落的空間權力，才允許融入新居之地。

從建造二門家屋，到累積至三門、四門的社會聲望，亟需屋主夫妻彼此協調整合，也因此達悟社會特重男女分工，強調勤勞的價值，回頭在文化裡，相對形成許多二元對應（立）的規範或邏輯。就以家屋為例，四門主屋的東（右）邊門，稱為 sekez，這裡是日出的方向，而西（左）邊的門，則為日落方向（前山後山部落，方向左右則顛倒），清晨太太起床，會推開東邊的門引入陽光，此時男人由 sarey 入口，帶著捕獲的飛魚歸來，而在主屋空間（劃分前後兩室），各設一組爐灶，前室的爐灶靠東，是專屬於女性每日炊食的空間，後室爐灶相對位於西邊，飛魚季期間，殺魚烹煮的任務則由男性負責。

日常生活裡，達悟男女各有專屬的工具及食器，按方位更有不同擺放的位置，女性所負責前室的四個爐灶，還細分不同食物的烹煮。到用餐時，主食和不同類屬的魚，用特定的木盤盛裝，芋和薯蕷置放中間，男人魚 rahet 置於男人魚盤 rarahet，擺在 sarey 側，女人魚 oyod 放入女人魚盤 nanatnganan，放在 sekez 側。不只如此，晚上個人睡覺，頭必須朝海，反之腳則朝山，且不能面對日落的方向，禁忌上死者臉才會面西，那是專屬於惡靈 Anito 的領域。家屋之中，男人睡在 sarey 側，女人則近 sekez 側，如此精密的空間分野，就組成 sekez / 日出 / 出生 / 女性 / 東邊 / 右側的一連串意涵，而與 sarey / 日落 / 死亡 / 男性 / 西邊 / 左側，二元對立。





擅長航海捕魚的達悟民族，主食又產自擁有淡水水源的山上，對空間與方位相對敏感，達悟語裡的 laod 是向著海，有時甚至意指祖先的南方來處，相對的 rala 則指面向山，若未特別言明，族人通常是以海為前方，山背襯在後。

Rala 與 laod 的山海之間，部落以同心圓形狀發散，內而外，依序是平原 karatayanratay（包括水田 kasolian 和旱田 kawakayan）、茅草地 kaviawan、靠山的果樹園 pimoamoan、海灘 pasalan、山 tokon、靠海的礁岩 keysakan。這樣的層層擴展，越靠近部落，屬於女人活動的空間—水芋田，旱芋、甘藷的種植、潮間帶海洋生物的採集、茅草的收割等等，這部份通常由婦女負責，而隨著空間的延伸，果園裡檳榔、荖葉、木瓜、番龍眼、麵包樹... 等採收，這還是男女通力參與的範疇，較為勞累的小米、山藥採收、灌溉水道維護、家族森林、公有林地的管理，逐漸轉化為男性的活動和分工。婦女平時在家屋附近餵養雞、豬，到遠離村落，越靠近深山和海邊的 Anito 住所，相對則越危險，因此轉為男性放養羊隻，礁岩浮潛、獵捕等等的空間。傳統禁忌裡，女性不能參與漁場的勞動。於是 rala 和 laod 之間，男／外／山海／魚／羊，自然與女／內／農田／芋／豬，形成另一組二元的對立象徵。

兩性的分工，意義不在彼此競爭，反而形成相互間的鼓勵，各在專屬權責上頭，扮演恰如其分的角色。男生若能捕獲許多飛魚、從家族森林伐取足夠建屋或造舟的木料，自然獲得社會上其他成員的讚譽；誠如女性將水芋田經營得綠意盎然且收穫可觀、潮間帶能撿拾到量多質優的螺蟹、螃蟹季時以好吃的芋頭糕慰勞男性，同樣獲得眾人掌聲。達悟文化講求分工但協調合作，夫妻一體同心，而不求凌駕突出的個人能力，假使男性潛越了空間

禁忌 makaniaw，到田間去除草、採收芋頭，或是女性進到海裡潛水捕魚，嚴重時意味著（或詛咒）其配偶喪失生命。

夫妻一體的最佳案例，就在主屋落成或大船下水的儀禮那幾日，勤勞的丈夫經年累月伐木，當然也能建好新屋或大船，但若未事先與妻子商量協調，女性就無法在精確的時間點，提供豐盛、蓋滿屋頂或船艙的禮芋數量，達悟社會裡，鰥夫和寡婦無法舉行任何的落成典禮，唯有男女雙方同享落成榮耀，也才能同獲天神的祝福。



達悟的性別與空間

Tao philosophy over gender vs. space on duty arrangement

TOKON

山

mountain

KARATAYANRATAY

平原

farmlands

WAWA

海

sea



RALA 向山
the mountain direction



LAOD 向海
the seaward direction

PIMOAMOAN

果園

the orchards

KAWAKAYAN

地瓜田

sweet potato fields

VAHAY

家屋

main-house

KASOLIAN

水芋田

taro patches

KAVIAWAN

草地

pasture areas

PASALAN

海灘

beach areas

KEYSAKA

靠海礁岩

intertidal areas



The seaward living style

The first assignment for a Tao married couple after the wedding ceremony is to build a lovely house or home, “Vahay”, together. Normally, they would live on tribal land with their close relatives nearby. Such a village formed by people from the same clan is named “Ili”. Each village has its own farmlands, lalang grass fields, fishing areas and cemeteries. The tribal ground is the territory exclusive to these particular village members. They live, socialize and interact with one another closely in the neat tight community. Outsiders or people from other villages would not be allowed to visit without invitation or use this space without permission. Anyone who violates these regulations will be expelled by village people with or without using force in order to protect their sovereignty. Once members migrate to a different village due to marital status or other reasons, they have to give up their original birth entitlement of tribal space so they can integrate smoothly into a new village. Tao society is based on the relationship of consanguinity and where the person lives.

Tao value the cooperative husband-wife relationship in accordance with their separate roles. Based on one's gender, everyone has their own responsibilities and rights in their daily lives and in the society. This can be explained in a simple way by using the housing situations as an example.

All Tao villages and the buildings within are built with a seaward aspect. The structure of a main-house building has a front space with four doors. The side door on the sunrise side (female side) is called “Sekez” and the one on the sunset side (male side) is “Saray”. Everyday when Tao women get up in the morning, firstly they will open the Sekez door to welcome the sunlight; meanwhile, men would have come home with the flying fish through the Saray door.

Entering the main-house, there are two separate spaces: a front







room and a back room. Each room has its own cooking stove and other implements. The front room kitchen is a female-only cooking area for women to prepare daily meals for family; the back room kitchen is for male only to prepare and cook the fish they caught from the sea. Males and females have their own sets of implements for cooking and dining purposes, and where these implements are placed must follow the gender-based rule and Sekez-Saray direction. For example, the front room stove has four cooking pits used to cook different kinds of foods; when dining they use specific wooden plates chosen for staple food and fish dishes. Taros and sweet potatoes as the staple food will be placed at the center on the table. Fish dishes for men, Rahet, use male fishplates, Rarahet, and are placed at the Saray side. Fish dishes for women, Oyod, use female fishplates, Nanatnganan, and are placed at the Sekez side of the table. When in bed, their heads must be towards the sea and their feet towards the mountain. Males would sleep on the Saray side of the bed and females of the Sekez side. It is a taboo that you sleep with your head towards the sunset side, as for Tao only a dead body would be placed like that, as the sunset side of the sea is the home for evil spirits, Anito.

As a result, we can now see a set of patterns determining the relationship between space and gender such as: Sekez/Sunrise/Life/Female/East/Body-Right versus Saray/Sunset/Death/Male/West/Body-Left.





To Austronesian, the sense of space and directions are vital for them to survive in the sea. Tao word “Laod” means “the seaward direction” which can also be an indication of “the south” towards their origin, the Batan Islands. “Rala” means “the direction toward the mountain” or “the north”. Normally, when Tao go for a sea trip, they would travel towards the south, following the Laod direction and back home sailing toward the north, their homeland, the Rala direction.

Between the sea and the mountain, the living and working spaces in a tribal territory are distributed like concentric circles with the village at the center. In an outward order, the spaces would be farmlands (Karatayanratay) of taro patches (Kasolian) and the sweet potato fields (Kawakayan), the pasture areas (Kaviawan), the orchard close to the mountain (Pimoamoan), the beach areas (Pasalan), the intertidal areas (Keysakan) and the mountain (Tokon). The areas close to the village are female working spaces, as it is safer and easier for women. On the other hand, the areas further away from the village would be male working spaces as they might be labor intensive and risky. Growing taro and sweet potato, collecting seafood at the intertidal areas and harvesting lalang grass are categorized as the female duties, whereas harvesting millet and yam, preparing the land for farming and maintaining the water sources can only be executed by males. However, there are also some jobs that require both men and women to complete, such as collecting betel nuts, piper leaves and vines, papaya fruit and

breadfruit, etc.. Women look after chickens and pigs near their home while men herd goats and fish away from it. Traditionally, women are forbidden to work at the deep mountainsides and in the seawaters.

Thus, another set of patterns evolves in terms of the relationship between space and gender: Male/Outsides/Mountain-and-Sea/Fish/Goat versus Female/Insides/Farmland/Taro/Pig.

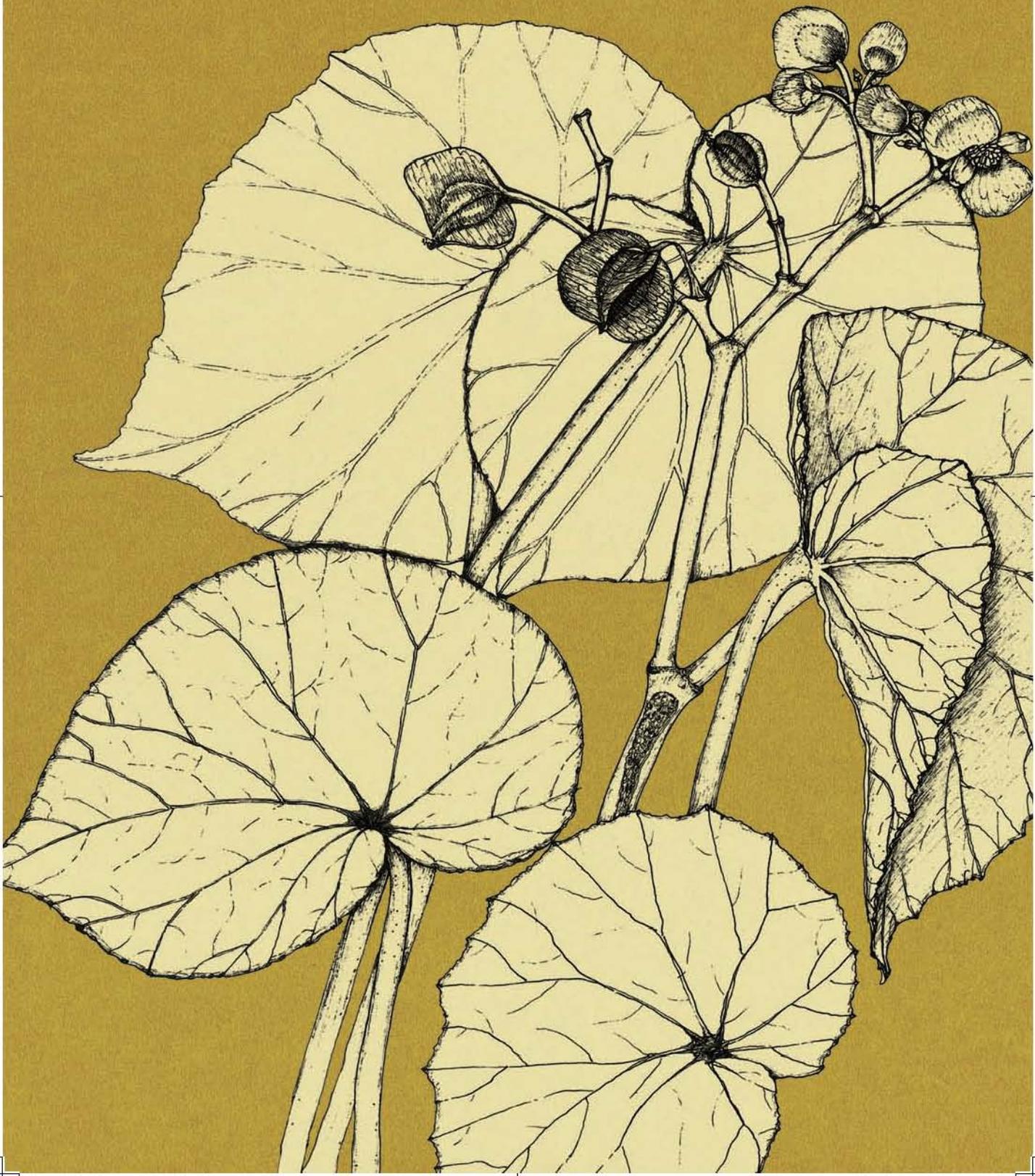
To summarize, the distribution of duties based on gender with both men and women working cooperatively is the key principle and practice for Tao's successful survival on the island. Though Tao society appreciates and honors individual achievement, the culture itself mostly values the collaborated/collective effort, e.g., the flying fish season and the Crabs Festival. A good reputation or the prestigious status of a family unit only comes when the couple works in collaboration with each other in planning carefully years ahead and finally delivering great results, e.g., the ceremonies for newly finished houses and boats. Traditionally, widows and widowers are not encouraged to host such ceremonies as it is against the value Tao people place in the husband-wife cooperative relationship.





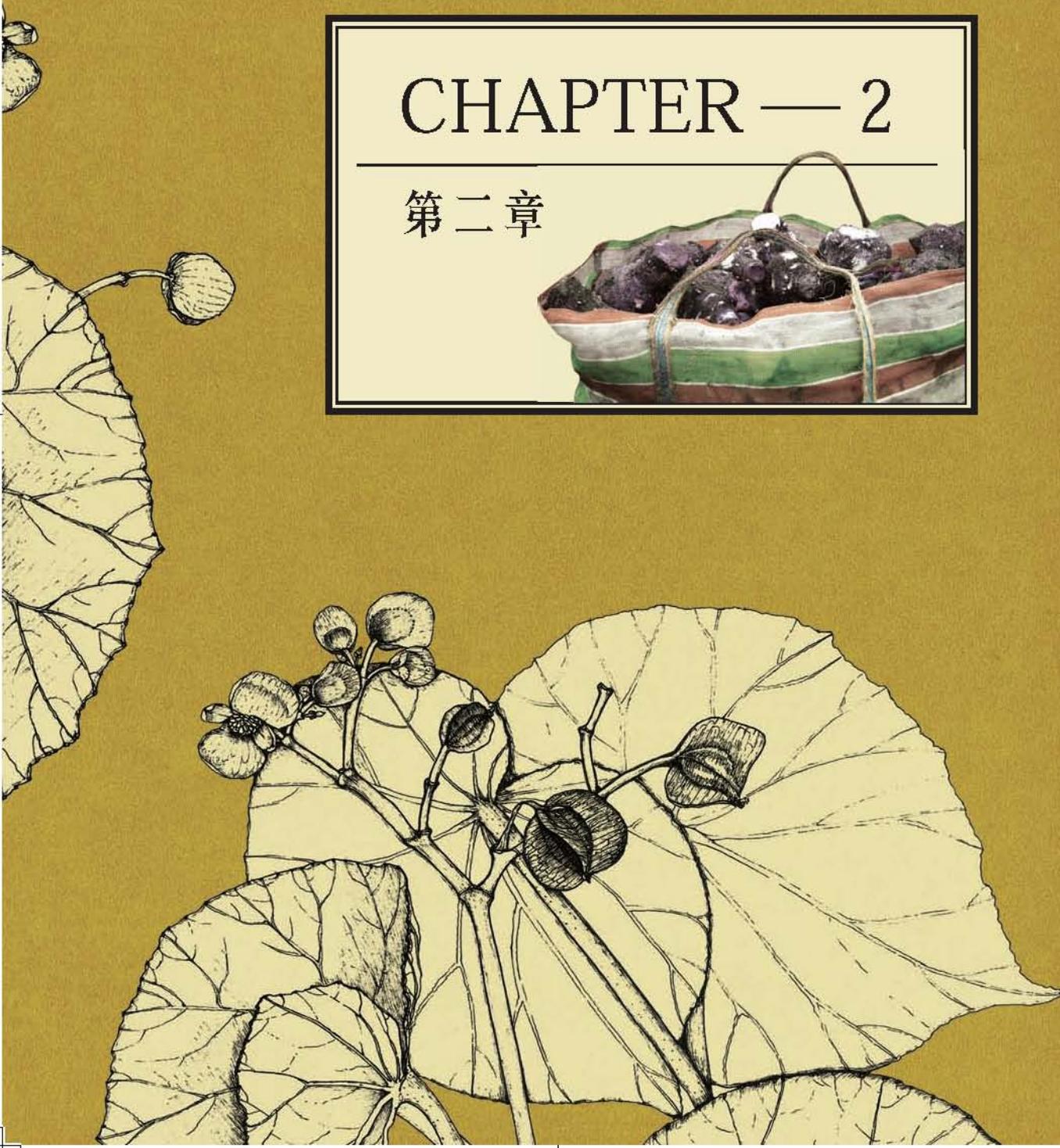






CHAPTER — 2

第二章



一般而言，食物分成主食 kanen（飯）及副食 yakan（菜），前者包括種植在水田的水芋 soli，旱田裡的旱芋 keytan、甘藷 wakay、大薯 ovi 及刺薯蘋 patan，女性每日例行工作即為 mangap so kanen 拿飯，至於小米 kadai，則只出現在特殊儀式及親友饋贈的場合。而後者 maneysavat 找菜，為非預期性勞動，包括男子到海中撈捕各種魚貝，女性到潮間帶採集石蟹 anaw、密毛龍蝦 pai、條紋方蟹 zazasan、長趾方蟹 palatpatan、細紋方蟹 valakawan、九孔 apil、各種螺類，少數更採集山林裡的野生食用植物，諸如蘭嶼大葉毛蕨 tobwo、山蘇 omaom、山棕 behbah、龍葵 omci、蘭嶼秋海棠 esem、昭和草 sikoki。

每個達悟家庭，通常會有數處分散的水芋田，好輪流掘取每日主食，水芋田通常位於山澗溪邊，便於引水灌溉的緩坡帶，故常呈梯田狀，而旱田則是位於山麓地帶或海邊，水源較缺乏的平地或緩坡帶，栽培的作物種類較雜，常見有旱芋、甘藷、小米、大薯、辣椒、甘蔗、香蕉、香瓜等，近來也有人開始栽種一些蔬菜。

林地的維護，主要是砍伐叢生的灌木藤蔓，以漸進式的方式，人工與天然植被交雜，人工選擇的果樹，包括檳榔、番龍眼、柑桔、香蕉等，偶而間雜栽培竹叢，島上特產的水果，原生有大葉山欖 kolitan、台東漆 ingas、番龍眼 acai 等，到天然原生林地帶，則保留或另外植苗作為建材、船材的預留樹種，包括毛柿 kamala、番龍眼、大葉山欖等。

田地開墾的繁重工作，諸如砍伐草木、焚燒整地、修築灌溉渠道及田埂、整建圍籬等，主要由家中男性負責，女性則負責田間後續種植管理的工作，包括補植、採收、除草等，日常維護的工作，通常男性不會插手，除了因應祭典，需要大量的芋頭，這時男人才下田幫忙採收。



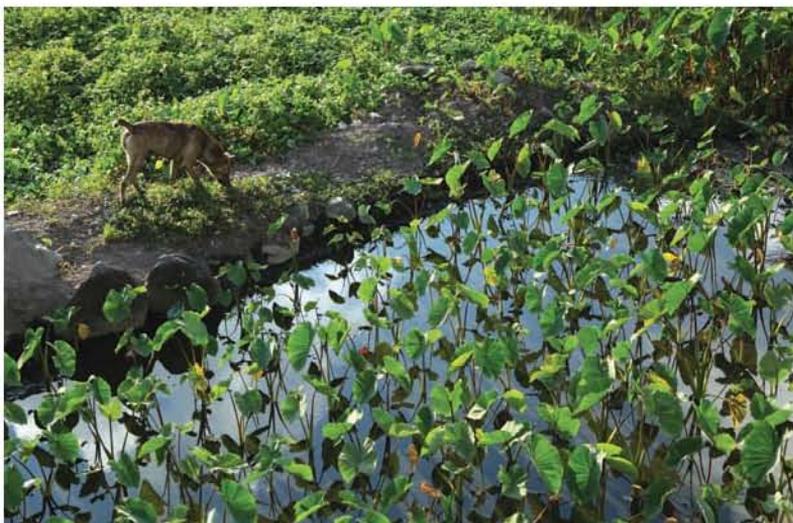


日治時期鹿野忠雄和瀨川孝吉，尋訪了蘭嶼六個部落，在1945年出版的《An Illustrated Ethnography of Formosan Aborigines: Vol. 1 the Yami》一書，記載島上婦女栽培的旱芋5種、秀貴甘蔗 Onas10種、山藥 Ovi15種、甘藷 wakay20種、旱芋 keytan10種、小米 kadai12種、以及一種不熟的甜瓜 viraol、豆 lipau、薑 anaga 和香蕉 vinivu，堪稱過去文獻最為完整的紀錄。

遵循旱作農業進行山田燒墾，將森林砍伐並焚燒後，整理出平整的土地，用來種植各種旱作。種植後的旱田土壤失去養分而放棄，依當時的習慣，前一個耕作者放棄的旱

田接下來可為其他人使用。旱作多為多年生植物，種植後生長，生長後採集，循環的勞動過程較為單調。

旱作以外，最吃力辛苦的工作要算是水田，婦女每日揹著網袋，攜帶簡便掘棒及小刀到山上的田裡，持續地除草、掏除水源口的淤泥，維持田間植土及供水。達悟的傳統價值觀，不允許水田裡有枯萎的芋葉、枯枝等雜物，維持水田的乾淨整齊，自然成了暗中較勁的事。當然照顧水田，主要還是在採收芋頭，成熟的芋頭用掘棒掘取後當下植回芋柄，如此生生不息。







The arduous Tao people

To Tao, the word “Kanen” (staple foods) includes those grown in the paddy fields, such as taro, and those grown on the dry lands (taro/Keytan, sweet potato/Wakay, yam/Ovi and thorny yam/Patan). “Collecting Kanen (Mangap So Kanen)” is the daily routine for Tao females. “Yakan” refers to the non-staple foods. “Searching for Yakan” (Maneysavat) can involve both men and women. Traditionally males are responsible for catching fish and shellfish from the sea and women will be in charge of gathering other seafood such as chitons “Anaw”, crabs ” (Zazasan, Palatpatan, Valakawan)”, Spiny lobster “Pai”, abalones “Apil” and all kinds of sea snails at the intertidal areas. At times, some women would even go further into the nearby bush to collect other edible plants such as Bitter fern “Tobwo”, Bird nest fern “Omaom”, Formosan sugar palm “Behbah”, Black nightshade/ “Omci”, Lanyu begonia/ “Esem” and thickhead/ “Sikoki”.

Every Tao family has several dispersed taro/Soli fields for them to harvest alternately. These terraced fields are often situated at sloppy sites near water sources to ensure easy irrigation. By contrast, the dry-land fields normally locate on plains or at slopes that are close to mountains or the sea, where access to large amounts of water might not be necessary. Common crops that are cultivated on dry-land fields are Keytan, Wakay, Ovi, millet, chili, sugar cane, banana and melon, as well as some vegetables that are just introduced to the farm land lately.

Tao has a semi-natural way of managing forest. They remove shrubs and bushes to grow betel nut, Acai, citrus, banana and bamboos among the existing wild vegetation. The native plant species include Kolitan, lngas and Acai are kept untouched for fruit collecting. In the primary forest zone, some specimen trees such as Kamala, Acai and Kolitan are reserved or have their seedlings replanted for future usage as building materials to build houses and boats.



As to the farm work, labor intensive jobs such as removing shrubs and trees to clear the land, preparing the fields for later cultivation, setting up irrigation systems and fixing the fences, etc. are men's duties. And women are accountable for cultivating crops, weeding and harvesting. Everyone has his or her own responsibility in the fields. The only exception when men would help women with those female tasks is when large amounts of taros are needed for special ceremonies.



During Japanese colonization, Tadao Kano and Kokichi Segawa visited six tribes on Orchid Island and later published a book, "An Illustrated Ethnography of Formosan Aborigines: Vol. 1 the Yami" in 1945. It was at that time the most comprehensive book about the lives of Tao people on the island. There were 5 varieties of Soli, 10 of Onas, 15 of Ovi, 20 of Wakay, 10 of Keytan, 12 of Kadai, and other crops like Viraol melon, Lipau bean, Anaga ginger and Vinivu banana are recorded in this book.

Tao follow its burning cultivation farming method to prepare the field and grow crops. Not long after the bush has been cleared and burned on site, an area would be well prepared and ready for dry-land cultivation. A dry-land field might be abandoned when it is considered to be poor for further use. When this happens, the field is open to others to take over. Dry-land crops are mostly perennial varieties.



If working on the dry-land crops is the toughest job for Tao women, working in the paddy fields could be the second hardest assignment in their daily lives. Every day, each woman would carry a net-bag, a knife and a digging stick to the paddy fields. They do weeding, cleaning the irrigation system and keeping the field in good condition at all times. They will make sure no withered taro leaves, deadwood and other debris are present in the fields to earn themselves a reputation as hard workers. Taro is the main crop cultivated in the paddy fields, after the taro tubers are harvested, the leafy stalks will be planted back to the soil immediately to encourage the new growth.





2-2

水光反射的芋田 ora 地景





芋田風土

在長年陽光充足的島上，水芋田先天的良莠，主要取決於土壤和水源，泉水和溪流水是最重要的淡水來源。泉水稱 atbed，通常溫度較冷，水清澈但營養成分較低；溪流水稱 ayo，混濁而常含砂質，不同的水體加上原來的地質環境，造就了芋田的土質。原本山坡地的壤土叫 etek，水流帶進來含砂的土為 sanosung no nanom，至於湧泉水田的土，有時帶有小石子，則稱 adpowd。

上面的田稱為 makadi ng ngato，下田稱 makate ng laod，水的清澈度、水溫的微細差異、不同水源的溶氧量，自然在複雜的生態環境中，扮演舉足輕重的角色。芋田生育地的差異，經由長年的傳承與試誤，有經驗的達悟婦女就能判斷哪些芋頭適合種在該塊田裡，比如 talaro 適合種在下游的田裡，maseveh 當然是種在泉水的源頭，以此部署所栽植的芋頭品種。依部落旁的山澗或溪流，上游最遠處的水田，稱 lokadovang，靠河的田稱 loderado，鄰近部落的田稱 lokadovang，至於靠海的則稱 lopansana，不同的田能分得的水資源不同，穩定與否影響到水芋的生長。

開墾與繼承

過去，蘭嶼各家財產、芋田由男子繼承，並由婚入的女子負責維護，一旦田園的收成不足，即開始物色新地。新地是無主未拓墾或久遭閒置之地，首要即在探勘水源及坡度，由於蘭嶼是火山噴發形成的島嶼、加上珊瑚礁石的堆積，過去人工未能開墾的領域，拜工具及器械之賜，也逐漸開墾成田，不過整體而言，地景地貌的改變仍然不大，畢竟蘭嶼氣候乾旱季有別，水的來源有限，過去靠著水渠水道的修築，夾雜砍下削凹的木竹管引水，早奠下了大致的基礎。



芋田亟需水的灌溉，因此水權同屬可繼承之列，就算後來有塑膠水管，到上游處取水，仍得遵守原有的繼承倫理。芋田的開墾，在確認水源後，開墾者會以叉開的枝條作記，選擇有水源 akawun 處開闢水田，接著砍除地下的芒草林木，之後順著坡地的斜度，逐層砌石開發成階地，遇到較大的礁岩或石頭，則留置田間，有些日後變作分家的界石 vato。隨著芋田的繼承，同一塊田會越劃越小，有時協助喪禮埋葬的親友，也可能獲得小塊芋田或贈地。過去招贅婚才可能傳給女兒，近代隨著法律的放寬，有人爭取男女平權，甚至零星有土地買賣的情形。

水權維護與紛爭排解

六個部落各有依存的主要溪流或水源，必須費心維持芋田的灌溉水源，溪流或湧泉注入灌溉水渠的上游，早期橫放埋設木條，作為芋田分水的界線，通常以指幅來計。作為引導水流的隔板稱為 radoe，田埂稱 tokad，水道 sawalan，砌石牆則為 Tokad no ora，引水的竹管稱 kawalan。隨著日益現代化，易腐的木條有些用不鏽鋼或水泥面替代，但仍舊刻劃了同一灌溉團體，不同家戶間的水權更迭。





在過去，水源由父系群共同分享，同一父系後代有使用灌溉水源的權力，同時也有保護水權、維修灌溉水源的義務。使用同一灌溉水道系統的人，即為同一灌溉團體的成員，這些成員們共同修築、定期挖整，維持渠道的通暢。而隨著家族繁衍分散、婚配移動、贈地交換，後來的人擁有的水田通常分散數處，一個人可能分屬幾個不同的灌溉團體，因此必須參與不同勞力，這些勞力由家中男子出任，近年許多渠道漸用塑膠水管取代，維護的工作也省事許多。

由於水源有限，一旦發生糾紛，彼此間通常不會相讓，退讓了意味著自家田裡將面臨的缺水窘境，水權繼承分配，以及灌溉團體的勞動參與，就顯得益發重要。隨著土地的繼承與分割，同一塊田可能以界石 vato 分割出不同家人的地權，水權則更是複雜。過去經常發生上游水源遭攔截的事情，引水搶水戰爭，幾乎時時上演，不過基於水權倫理，幾經協調還是會獲得解決，維持短暫的和諧。

達悟族人生性愛好和平，島上的輿論壓力又起著不小的作用，少有糾紛演變到不可收拾情形，少數棘手到無法解決但又互不相讓，終極的手段是訴諸打賭，交付予非自然力量 Anito 決斷，遇到這種情形，雙方會上山砍取一段漢氏山葡萄 kamanrarahet，兩人起誓後砍斷，族人相信一旦到採取這種途徑，有錯的一方必將承擔後果，嚴重危及自己或家人的生命。



Ora, the taro patch

The landscape of taro patch

With sufficient sunlight on the island, the quality of a taro patch depends on its soil and the water source. The water that Tao used for irrigation mainly comes from springs or rivers. “Atbed” (spring water) is comparatively cooler and clearer but contains less nutrient properties for the crops. “Ayo” (river water) is normally sandy and can carry extra nutrient elements with it from up stream. The dry soil on slopes is called “Etek” while the soil carried by river water named “Sanosung No Nanom”. “Adpowd” is for the soil in the fields that use the spring water for irrigation.

According to the locations, different taro patches would be given different names. The upper fields of the terrace are called “Makadi Ng Ngato” and the lower ones are “Makate Ng Laod”. Where the field are located, combined with the characteristics of their water sources used in a particular field, such as the clarity, the temperature of the water and the oxygen saturation in the water, is the key to classify the taro patches for growing different targeted crops. Through lengthy trials carried out from generation to generation, the experienced Tao women are very capable of deciding which field is most suitable for what variety of taro. For example, Talaro variety grows well on lower fields and Maseveh variety are best near the spring origin.

Farming and inheritance principles

Water is essential for Soli fields and thus to Tao, the water right is inheritable and everyone has to respect the arrangement when taking water out of the sources from their legitimate holders. When Tao people want to establish a taro patch, the priority is to find a water source nearby. After a new Akawun (water source) at an un-owned land is discovered and secured, Tao people will claim the ownership of both the water and the land







by marking the area with tree branches. Then a terrace would be built along with the sloping line. Large stones dug out from the land are kept in the field for later usage as Vato (boundary stones) for future subdivision. A piece of land can be subdivided for many reasons. It can be inherited by family members or be gifted away to people who helped out during a funeral. Traditionally only the son, or rarely a daughter with an uxori-local husband, can inherit the land.

As a result, the Soli fields would eventually become smaller and smaller. Recently, due to the gender equality movement and other changes in land law systems, some daughters may win the right to inherit Soli fields and the inherited land can be sold for capital gains.

Irrigation ownership and the solution over disputes

Each of the remaining 6 villages on Orchid Island has its own water sources and irrigating systems. Wooden sticks are used to mark the water ways for each member of the village to legitimately access his water right. Now long lasting materials such as stainless steel and concrete have replaced the easily rotted wooden sticks for the same purpose. The plate used for directing the water flow is called "Radoe", field path is "Tokad", water way is "Sawalan", stone wall is "Tokad No Ora" and bamboo pipe is "Kawalan".





In the past, only the males from the father's side in the family can inherit the water right and it is men's duty to protect and manage the water sources. People who use the same irrigation system form the "irrigation body". All members in the same group would share the responsibility of maintaining the system. Today, some people may own lands located in various areas or have the water rights of different water sources due to their marital status, inheritance and land transactions among other reasons, therefore, a person can be a member of several irrigation bodies but he has to make a lot more effort to fulfil his responsibilities.

Due to the limited water resources, Tao hold their ground tightly in disputes. However, most disputes can be resolved peacefully by these moderate people. But when all other possibilities are exhausted, the ultimate solution is to make a bet or lay a curse leaving the decision to the supernatural force, the evil spirit "Anito". It suggests that all parties should go to the bush together in search of a piece of Kamanrarahet vine, then each hold one end of the vine, after swearing, to pull it apart. Tao believe, once this method is put to use, the party at fault will have to take the responsibility that it may put themselves or their family in danger.

從小跟隨母親到田裡，女孩逐步累積田間的知識及經驗，除草、採收芋頭的勞動是第一步，慢慢地認識芋頭種類，知道各品種合適的栽培條件，同一塊水田，長得好的多種，種不好的則加以更換，種植技術透過試誤來修正，漸漸掌握芋田照顧的法則。

達悟語有詳細的芋頭生物學名詞，芋頭全株稱 soli，食用的根莖部也稱 soli，另外芋柄稱 opi，芋葉為 voong no soli。芋柄長出第一片葉子時稱 maningesa，第二葉稱 manirelua，第三葉稱 manirelo。野長的芋頭植株，側生地下莖及子芋後，子芋會長成新植株，同時擠壓原本植株的空間，形成較大的叢聚，過老的植株，其老葉、母芋會自然腐爛分解，整理芋田的原則，除了移除雜草，更需拔除或留下適當數量的子芋，拔除子芋是為讓母芋長大，留下子芋，則在促成分蘖的繁殖株，從前大部分種類的水芋或旱芋，約二至三年時間採收，少數品種則一年可獲。

過去婦女使用木製掘棒，採收成熟芋頭，如今有些人以較輕易得的金屬鐵管代替，有時也見裁短的鋼筋，一邊削尖使用，端看趁手及攜帶便利與否。採收芋頭原則為當天吃多少收多少，不會多拿，原則上先採收快壞掉的，留下健康的，判斷時審視其莖柄變小，在根莖變弱爛掉前挖開。掘出的芋頭用小刀割下，芋柄則原地種回，但遇到計畫騰空芋田，或這地休耕即將移種新地時，則用芒草捆起整把芋柄，這樣的插穗稱 vonodeng，暫時擱立水深且維持流動的角落，vonodeng 從捆起到發根後種回，通常為七至十天間，久了容易爛掉。

整理芋田所拔除的子芋，有時會集中於田埂一隅，成堆的子芋用土虛掩，稱 paninirum，芋頭因此快速萌生，芋田裡遇植株空缺，即由此選出生長勢佳的植株補上，頗有漢人水稻田插秧時留田份的意味。





傳統對水、旱芋有清楚的認知分類，但婦女有時會試著交換水、旱芋的栽種環境，亦即特意將水芋種到旱地，或將旱芋種入水田，這裡牽涉天南星科芋屬植物對環境的耐受力問題，原本水芋轉作旱地，生長環境逆勢，芋頭生長的速度被迫調整，引發快速分櫟，因此常用在想快速育苗之時，常見籌劃兩、三年後落成禮的夫婦，大量開墾新田前，單一芋種育苗的前置作業。至於後者，有時是將旱芋的品系種到水田，以改變其口感、黏度，增加食用價值。日治時期記錄的旱芋品種，我們調查時發現，很多轉而種入水田，索性執行者多還記得其分野。

若芋頭越長越小，需給田地休息，這時放乾水田進行休耕，待荒棄三、四年或更久，田裡芒草灌木長得夠高，即著手砍伐焚燒入肥，培養地力。休養過後復耕或新墾殖的芋田，通常第一年收成極佳，有落成或新船下水儀禮需求的家庭，就常在這上頭，反覆磋商精密計算。

有些婦女會在水田四角，種植家人喜歡的芋頭種類，她們知道這裡的水流營養環境特殊，因此特別種下適合的品種，同一塊田在不同考量因素，保有不同品系；但若是為了籌備落成典禮，由於所需求的禮芋數量過於龐大，掌控芋田的婦女，這時會寧可改選生長快、成熟期易掌握、不易過老爛掉的品種。

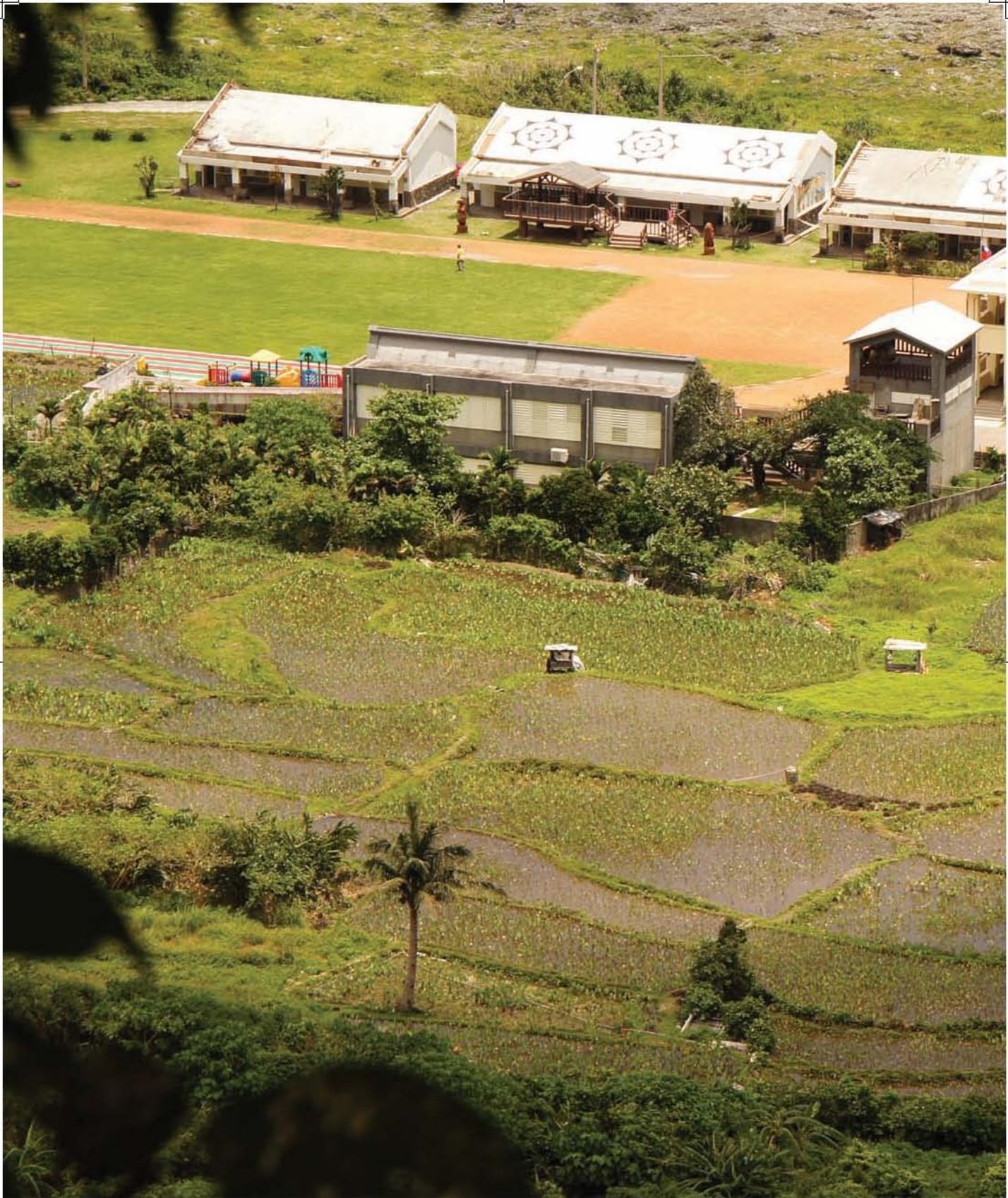
根據鹿野氏調查，1945年記載了水、旱芋共十種，70年以降，本書接手調查時，島上芋頭的品種不減反增，目前統計水芋十二種、旱芋九種，另外同屬天南星科千年芋屬的千年芋一種。探究原因，可能是鹿野等人當年訪調過程太過匆促，疏漏自是難免，再則基礎研究的匱乏和調查方法的限制，相對也影響著最後結果。蘭嶼婦女對芋頭品系的分類，基於葉形、葉脈、莖柄（顏色及條紋與否）、根莖（表皮、切開的內部），乃至烹煮後呈現的口感，比較的性狀

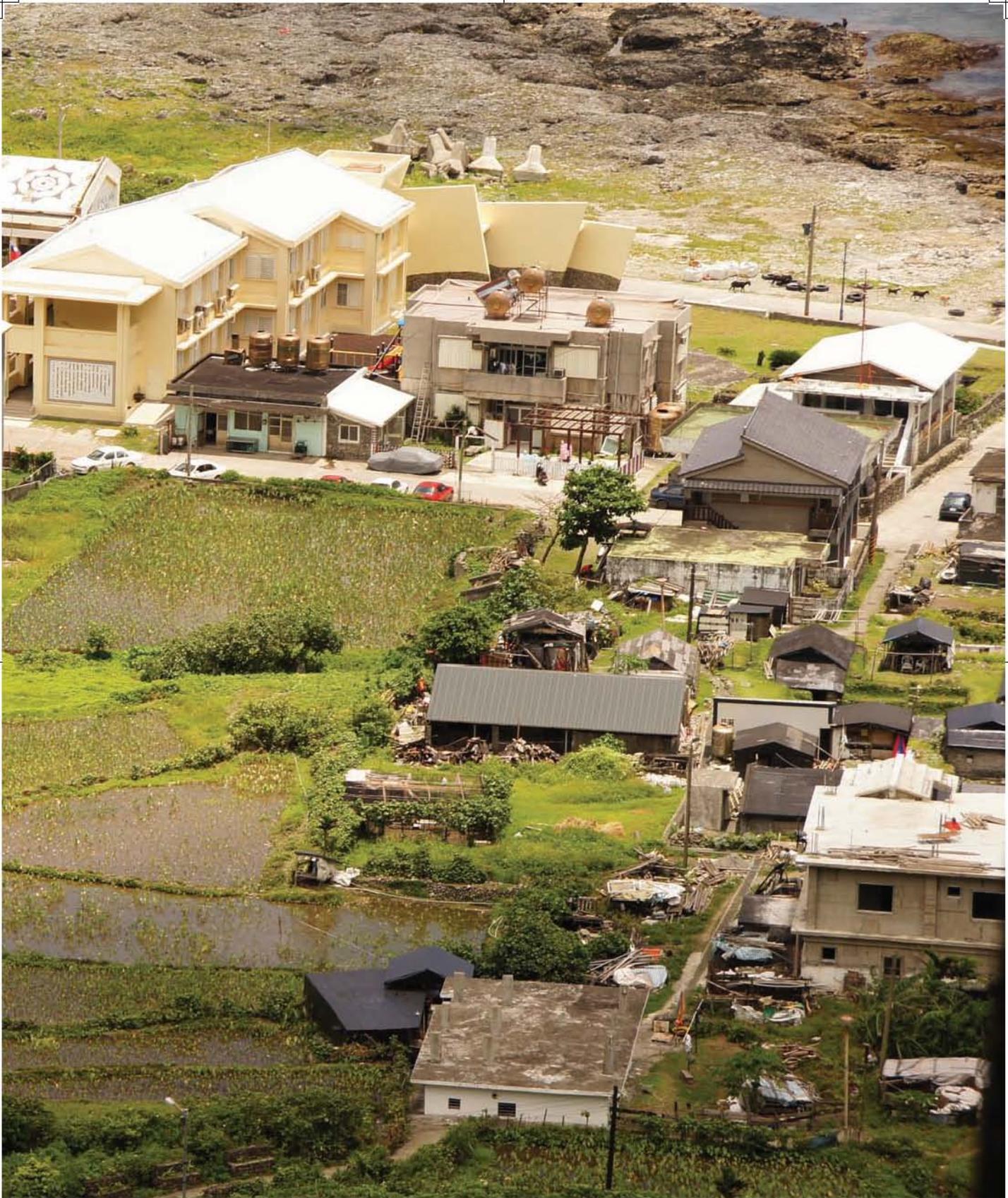


因素雖多，但多數差別卻微乎其微，加上個人的主觀認知、記憶或轉述時的訛誤，以致不同人之間，對所栽培的芋頭品種，亦存在不同的認知描述，研究結果同名異物或同物異名的指稱相信不少，加上水、旱芋可轉換種植環境的兩棲混淆，更增添了研究區辨的困難。

類型 Type	日治 (1945) Japanese colonization (1945)	本研究 (2013) Present (2013)
水芋 Soli	Ararun	Alaleng
	Kanato	Kanato
	Kararo	Talaro (Kalaro)
	Opi-nuviyau	Opinoyayo
	Paton	Paton
		Malaveongatalaro
		Marahet a talaro
		Miipos no karam
		Miney sivoz
		Mowzowzit
	Opiniradoavak	
	菲律賓的 Philippine	
旱芋 Keytan	Magagung-a-miririrao	Mavahengamineyirilao
	Maragut-a-mirak-a-suri	Marahet a rakoasoli
	Masuvu	Maseveh
	Mirak-a-suri	Mirakasoli (Rakoasoli)
	Miririrao	Mavahengasoli
		Cipcipen no karam
		Livas
		Malaktaten (Kalaktaten)
		Mialamaopi
		Vezandehdeh 千年芋屬







The ecological wisdom of Tao people

Tao girls start to gain their knowledge on taro cultivation firstly by following their mother to the field doing weeding and harvesting when they were young. Later, they master the cultivating skills by learning how to distinguish different varieties and of their suitable growing conditions. Further with trials and errors, they learn how to determine which varieties grow best on which fields. A very experienced Tao woman can even detect the soil quality, the water speed, the depth and the temperature of the earth with her feet as soon as she steps into a field.



Tao has a very specific terminology for taro. The whole plant is named “Soli”, so is the edible tuber. The leafy stalk is Opi and the broad leaf is Voong No Soli. The first new leaf is Maningesa and the second and the third are Manirelua and Manirelo. After the stalk is replanted back into the field, a new tuber or tubers will develop from the stalk. These new tubers need to be removed to encourage a better growth. By leaving them in the ground unseparated, taro clumps would emerge and then each plant will compete for space to develop its own tuber. This could result in reduced productivity. Most of the Soli can be harvested in about two or three years except for some varieties.



When it is time to harvest taros, women use either wooden sticks or steel rods to dig out the tubers. They only take what they really need. Normally, after the tubers are taken, the leafy stalks will be replanted immediately back to where they were. If the field is planned to be put to rest for a few years or for some reasons these stalks are going to be planted somewhere else, the women would bundle the stalks, wrap them with grassy strings and leave them upwards in the corner of a stream until the roots have developed from the cuttings before replanting them. This process is called “Vonodeng”, it can take from 7 to 10 days to complete. Any longer than that time period will risk the whole bundle getting rotten. “Panirum” is another way of cultivating new taro plants. The baby tubers collected from the mother plants are piled up on the field path and lightly





covered with soil in order to encourage the leaf shoots emerging from the tubers. Then the stronger new plants can be selected to replace the dead ones in the fields.

When the land is running out of nutrient properties, the taro plants or the tubers tend to grow smaller and smaller. When it happens Tao people will drain the whole paddy field and let it rest for a few years before they use it again. After three or more years, the grasses that grow on the land can be cut, burned and reused as fertilizer. The first harvest of new or reused land the best crops so Tao people always coincide their house warming parties or the ceremonies for newly finished boats accordingly.

Based on the study conducted by Tadao Kano in 1945, there were a total of 10 taro varieties found on the island, including both wet-land type and dry-land type. Interestingly, years later, through a further investigation, the number of taro varieties seems to be more than expected. From the 1970s onwards, till the day we started our survey, there are 12 varieties of wet-land type, 9 varieties of dry-land type and 1 other type of taro called “Vezandehdeh” which have been identified. Tao women classify taro varieties based on the form and color of the leaves, leaf veins, internal and external characteristics of the plants, tubers, roots and their taste, a lot of these experiences are opinionated. This can make it difficult to identify the varieties scientifically.

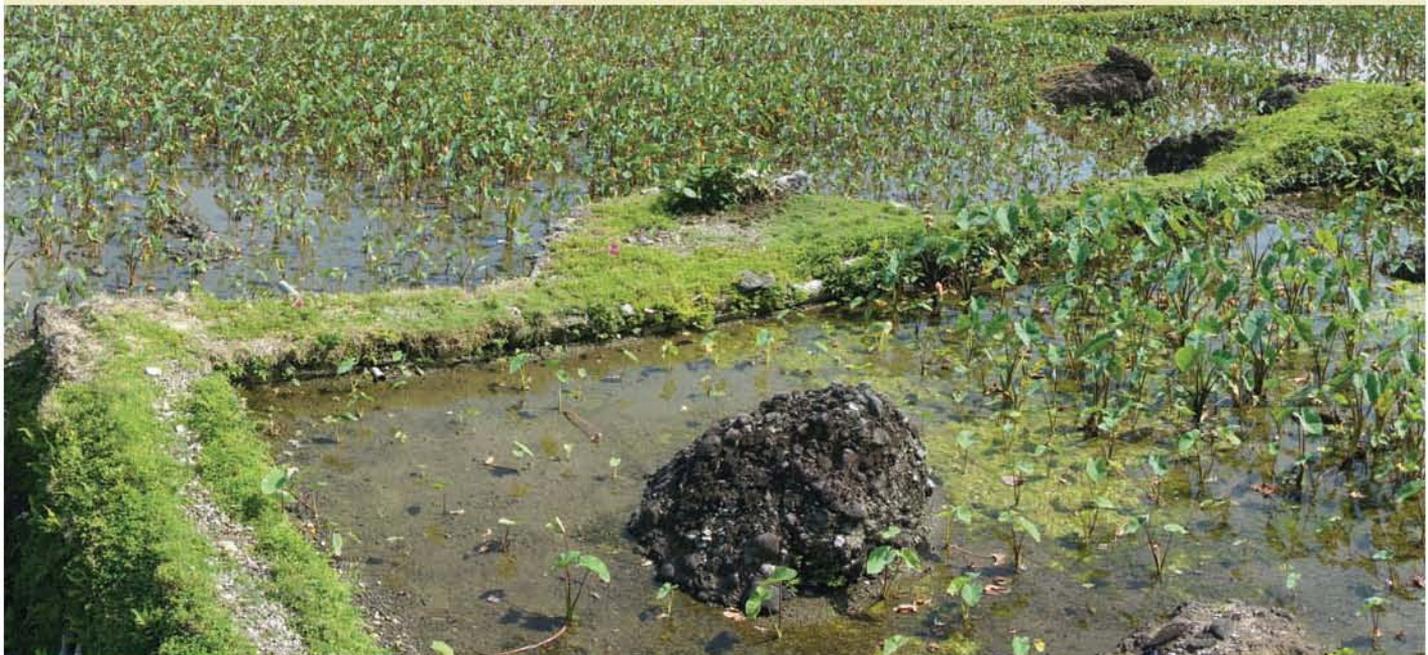
好草與壞草

從小跟隨母親到田裡，女孩逐步累積田間的知識及經驗，除草、熱帶雨林的氣候條件，導致島上植物生長快速，芋田管理另一項重要工作，即在雜草防除，且因各家田地分散，往往這邊的草才拔完，另一頭的雜草早已長高。面對這問題，達悟婦女早已發展出因應對策，凡有人整理的芋田，常見整齊乾淨，田埂綠草茵茵。仔細觀察還發現，原來各家的田還有些微差異各具特色，芋田的雜草管理，採取的是以草治草的原則，以好草來抵制壞草。

達悟語好草為 *apia tamek*，指的是不會長高遮住芋田光線，不會過分搶奪芋田養

分，均一旦有排他性，甚至能保護田埂的矮小草類植群，反之壞草 *marahet tamek* 則常是過度生長不受控制，必須加以防除。

開墾後引水進來的芋田，展開濕生演替，婦女除草過程會優先拔除根系頑固的兩耳草、牛筋草 *aptos*、點頭莎草 *akah*、容易刺人的虎婆刺 *teztez*，或水域邊強勢蔓延的李氏禾 *agalan* 等壞草，並適度留下一些鋪地黍、莎草等高莖草本，或是水蜈蚣 *tamek*、磚子苗等矮些的植株，好提供不耐烈日曝曬的小毛蕨 *balanbang* 或金絲草 *mavuvu* 的遮蔭環境，而當其時，其他矮小的陽性草類，如早田氏爵床 *makayane*、馬蹄金 *galalik*、



雷公根 sarapint、黃花酢漿草 savaw、天胡荽 raga、蛇莓 lagae 等，已漸生長良好，未來田埂的樣貌粗具規模。

接著婦女利用每日穿梭不同水田之便，遇到喜歡的好草，也會挑選適合移植的天候引種，這類草包括可以固著珊瑚礁岩塊，穩固邊坡的越橘葉蔓榕 vaheng、妝點芋田的蘭嶼秋海棠 esem、鐵砲百合 vonitan、馬尼拉芝 pipia a tamek、石板菜 savilog no manok 等，乃至有些從台灣傳入的松葉牡丹、千日紅等園藝品種。

拔除壞草留下好草，有時候甚至特別引

種好草種到自家田裡，善用對植物生長演替的敏銳觀察，植物相剋的智慧，讓旺盛的好草壓抑壞草，降低田裡的勞動頻率，乃至達到護坡或保護石牆的目的。不同人對好草壞草有著認知上的差異，取決的因素還包括除草體力的容忍度、乃至審美觀等，多數認為是壞草的油點草，也有人會著意留下幾株，好在花期時有花可賞，而隨著除草方式的改變，晚近割草機引入，取代過去人工拔草時，討厭的白茅 vocid、水蜈蚣，在急轉的軟繩揮動下，變成柔軟易整的好草。不同工具的演進，也正改變著達悟族人對好草、壞草的分野。



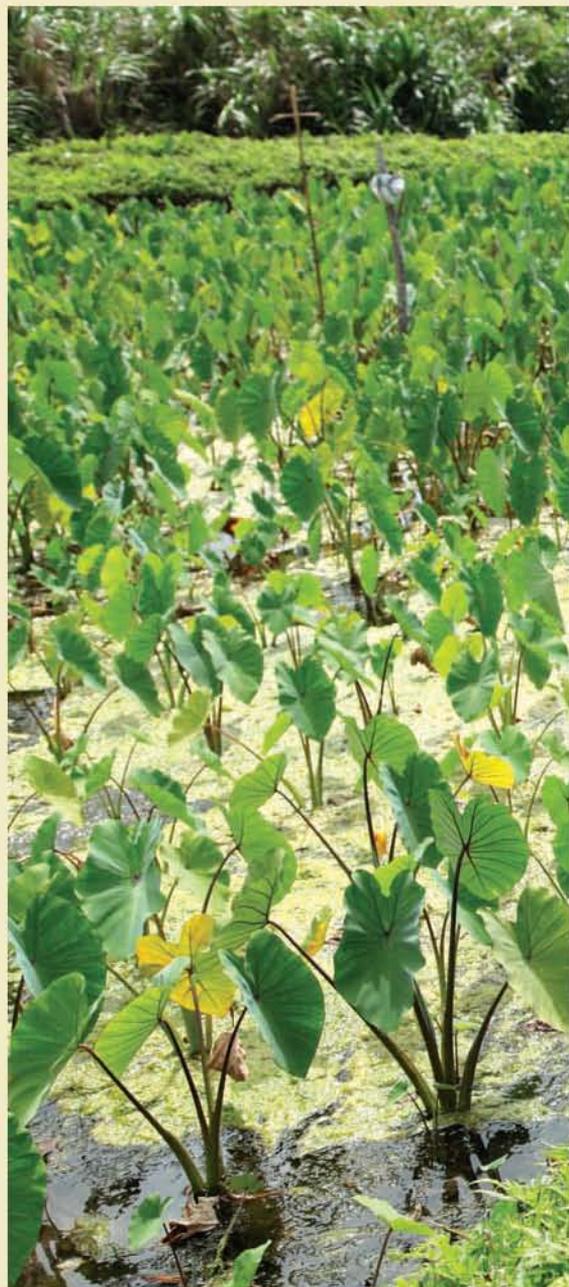
Beneficial plants and weeds

Tropical climate helps the plants grow fast, that includes the unwanted weeds on the Island. Hence, weeding becomes another important task to manage taro patches. Since a long time ago, Tao women have developed a smart tactic to control “Marahet Tamek” (bad grass, weeds) by keeping or growing “Apia Tamek” (good grass, beneficial plants) to replace them in the same fields.

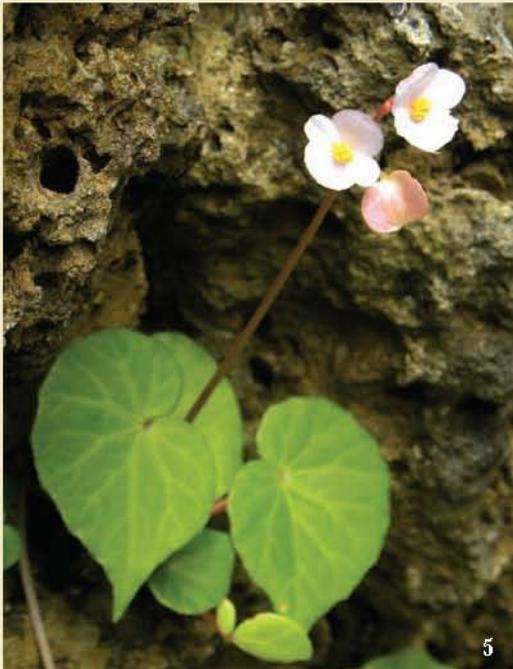
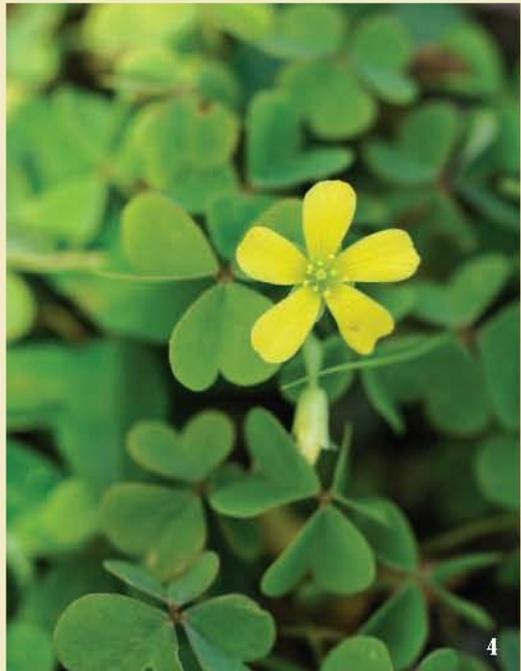
Unlike Marahet Tamek which tend to grow wild and are bad to the taro patches, Apia Tamek are the plants which do not grow too tall so that they will not block the sunlight, they do not compete with taro plants for nutrition either. They grow in uniformity and have the ability to inhibit other weeds from growing, and the ability of helping the nitrogen fixation process. Tao women do not only remove weeds constantly to make place for existing beneficial plants to grow, but also actively introduce new beneficial plants into the fields.

The use of Apia Tamek is a labor-saving method when managing the taro patches. These plants can also strengthen and prevent the terraces and the stone walls from the damages caused by bad grass or other natural forces. But the definition of so-called “Good grass” or “Bad grass” is very subjective, and changes over time.

Today, many people would use mowing machines instead to clear the fields as it is the most convenient way to control the unwanted plants.









好草

Apia Tamek

BENEFICIAL PLANTS

- 1 早田氏爵床 · *Makayane* · *Hayata justicia*
- 2 馬蹄金 · *Galatik* · *Creeping dichondra*
- 3 毛馬齒莧 · *Tamek ifalino* · *Hairy purslane*
- 4 黃花酢醬草 · *Savaw* · *Creeping oxalis*
- 5 蘭嶼秋海棠 · *Esem* · *Lanyu begonia*
- 6 金絲草 · - · *Golden hair grass*
- 7 馬尼拉芝 · *Pipia a tamek* · *Manila grass*
- 8 小毛蕨 · *Balangbang* · *Swamp cyclosorus*
- 9 越橘葉蔓榕 · *Vaheng* · *Vaccinium fig*





1



2



3



4



5



6





壞草

Marahet Tamek
WEEDS

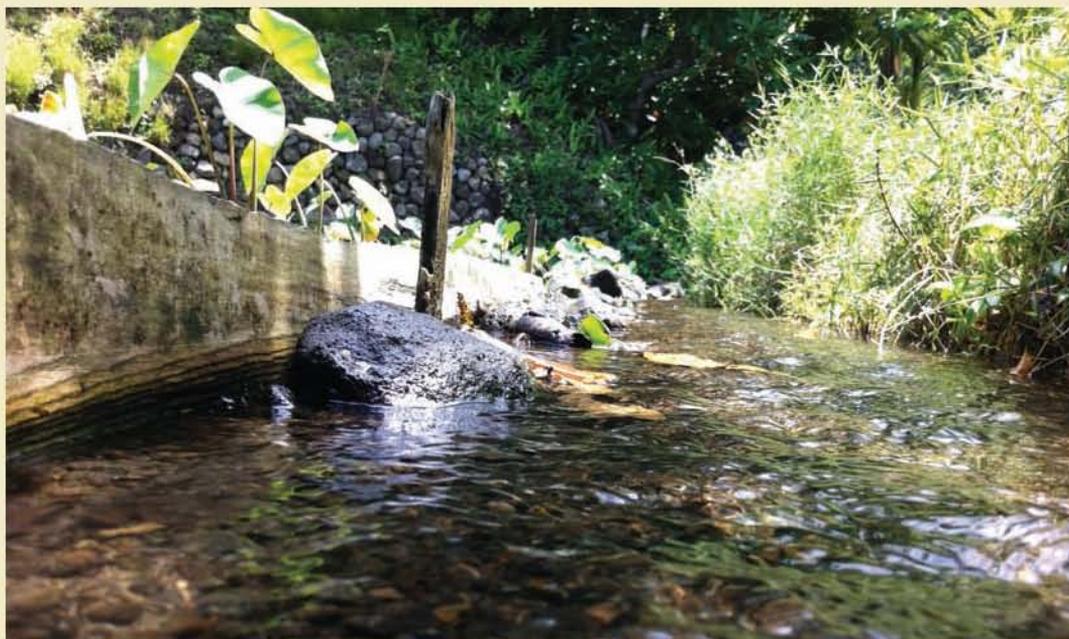
- 1 海岸擬弗蕨 · *Minodn* · East Indian polypody
- 2 竹子飄拂草 · - · Grasslike fimbry
- 3 小葉冷水麻 · - · Artillery clearweed
- 4 蘭嶼小鞘蕊花 · *Lonos* · Lanyu coleus
- 5 覆瓦狀莎草 · - · Flat sedge
- 6 大飛揚草 · - · Garden euphorbia
- 7 大花咸豐草 · *Lapyot* · Hairy beggar's-tick
- 8 牛筋草 · *Aptos* · Goosegrass
- 9 毛果油點草 · - · Toad lily



病蟲害防治

就地取材以火山岩或珊瑚礁岩砌牆，留置田間的大石頭，以最小擾動的近生態工法開闢水田渠道，加上好草壞草的多樣性管理，蘭嶼的芋田，保障季節變化的食物供應，相對提供了田間生物棲息的多孔隙空間，營造芋田文化的獨有美感。我們常可在土堤發現陸蟹 kalan 的洞穴，包括田埂邊的兇狠圓軸蟹 teyngi、毛足圓軸蟹 teyngi，以及較靠近海的紫地蟹 adpi、椰子蟹 tatos、短掌寄居蟹 omang 等，另外麗紋石龍子、長尾南蜥、澤蛙 doladola 等兩爬動物也活躍其間，鵲鴿、磯鷄、白腹秧雞、番鵲等鳥類，則點綴背景其後。

達悟人禁吃鰻魚、鱔魚等會在芋田水裡鑽洞的魚，據說吃了將導致芋田的水源乾涸。平常芋田裡還有川螻、田螺、石螺等螺類，各色各樣的水棲昆蟲活躍其中，芋葉上則有豔麗的各種蜻蛉停棲，各種生物依著傳統禁忌有意無意的保護下，生機盎然。



但這樣的好景，正因這幾年入侵的福壽螺而破壞，外來物種嚴重影響芋田原有的生態，侵擾作用生長，遭福壽螺嚙咬的芋頭，常會分出易爛的子芋。福壽螺量少還能用手抓除，丟棄田埂上曝曬，一旦繁殖過多，則常得採取激烈手段，這時就得排乾田裡的水，藉由乾旱使其死亡，待一段時日後，再把水注回。

芋田的病蟲害不多，但有些仍對芋頭的生長造成影響，棉蚜、葉蟬、根蟻、斜紋夜蛾、條斑飛蝨等，昆蟲叮咬後的芋葉容易感染病害，葉片變色、乾枯為其特徵，嚴重染病的芋頭 i cik，葉片枯黃會開始傳染，婦女們看到，通常會儘快整株拔除，以杜絕後患。

遇到少數昆蟲啃噬芋葉，僅以手抓處理，遇到福壽螺、病蟲害危害嚴重，或覺芋田地力降低，就會選擇休耕，荒廢的芋田復耕前所進行的火墾，除了增加土地肥份，事實上也是排除病蟲害發生的方式之一。



The pest control

Tao apply the natural way to cultivate taro, this has protected the habitats for many animals on the island. For example, the walls made of volcanic stones and coral reefs provide the living space for “Kalan” (a domestic crab) and other crabs, Elegant five-lined skink, Long-tailed skink, “Doladola” (a frog species) and East Asian bullfrog etc. Different birds would also appear from time to time at the same areas.

Culturally, it is forbidden for Tao to eat some fish, such as eels that make holes and live in the taro paddy fields. It is said that anyone who breaks the rule would end up having the fields drained and dried. Apart from fish, snails, aquatic insects and many other creatures also live in the fields. Unfortunately, due to an exotic creature migrating to the island lately, this well-balanced ecosystem has been interrupted.

In recent years, the invasive channeled apple snails have become a serious problem to the taro plants. When their population is small, Tao remove them by hand and expose them under the sunlight on the field paths to die. However, when the population gets too large, the fields have to be drained and abandoned for some time until they are all cleared from the snails before reusing the fields for cultivation.



There are other pests that cause damages to the growth of taro plants. The aphids, mites, Oriental leaf worm moths and Striped leaf hoppers can easily weaken the plants by feeding on them, or transmit diseases when feeding on them. The affected plants are called "idk" (the sick taro) once they have started showing the sign of dry yellow leaves. Tao women would quickly remove the affected plants appearing in the fields to prevent them from further spreading diseases. In addition to removing pests manually, the application of fallow and the burning-cultivating method are the other two ways of pest management on Orchid Island.



芋頭糕

達悟族人烹煮食物的方式，極為簡單。過去用野燒的土鍋盛水，夠家人晚餐及隔天早餐食用的芋頭清洗後放入，水淹不及半滿，蓋上芋葉一同蒸熟，有時其上放置飛魚乾或芋柄，煮熟的芋頭再蓋一會悶透，食用時直接剝皮，配著飛魚乾或調味後的芋葉芋柄。堅守傳統的達悟老人一天只吃兩餐，用餐過程禁忌交談，但這樣的規矩日漸少人遵守，山地生活改進及國民教育的實施，戰後的達悟新生代，早已接受米飯及其他飲食，白米需用貨幣購得，達悟與外頭的經濟交換日深，相對也排擠了彎腰下田的勞力。

二月招魚祭後，達悟男子們即辛勤下水，展開飛魚的捕捉季節。四月，島上婦女會特別製做芋頭糕，這之前，女子





們早已積極捕捉陸蟹，陸蟹摘掉蟹後煮熟，蟹肉搭配軟Q的芋頭糕，再滴上燻烤豬肉的油脂，是犒賞男子們節日的最佳美食，摘下的蟹蟹，用繩索串起吊在屋前，成為太太體貼丈夫的最佳勳章。搗成芋頭糕的芋頭，黏性必須適中，太黏的話不易捶打甚至損傷捶棒，太過鬆垮又缺應有口感，公認最適合製作的品種為 talaro，也有人用 rakoasoli 或 alaleng。吃得到芋頭糕的時機，過去只在四月的螃蟹節（慰勞節），如今則是小孩運動會、男生當兵回來或退伍，甚至平常想吃時也會製作，這幾年也有民宿業者，開始供應於觀光需求。





種植祭儀

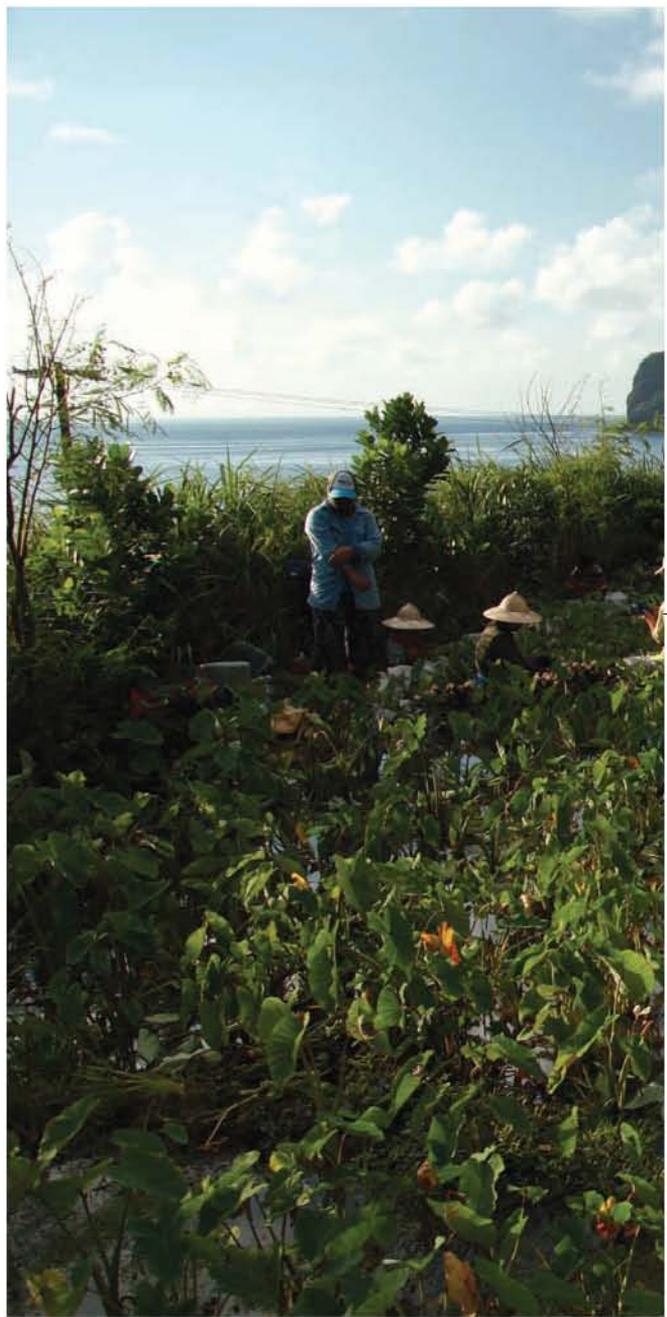
某些部落（朗島、漁人、紅頭等），婦女們會在芋田中間插上等人高的樹枝，上頭穿掛夜光蠓螺 kazab、大法螺 tazokok 或磚磔蛤 kono 等，相信如此可防止惡靈的侵擾。芋田的主人，有時夢到惡靈侵擾芋田，則拿豬的下顎骨、羊角或鐵片到田裡祭拜。當芋田發生大面積的病害，這時會由全村男子手持長矛或咬人狗出動，揮動枝條或武器，希望把惡靈趕入海裡。芋田的管理，雖然是知識的傳承或身體勞作積累所得的經驗，但在信仰的層次，芋田和芋頭都是可商量交談的對象，必須加以鼓勵慰勞，一旦遇到未知的侵擾，則像照顧家人般，必須捍衛保護。



春秋兩季，婦女會盛裝到田裡，舉行芋田的新福儀式，該日一早婦女們著傳統服飾、戴上禮帽，瑪瑙項鍊、銀片首飾等，拿著事先整備的白樹仔 ayon，插在自家田裡，口中唸禱，一方面慰勞土地半年來的辛苦，一方面則期勉祈求下一季芋田的豐收。

家屋落成、新船下水時，需要舉行一連串的典禮，爲了迎接這日的到來，主人夫婦早已準備經年，典禮前最重要的工作，即爲採收禮芋 mangap so soli，通常提前數日，家戶主人會商請親友或船組成員到田裡幫忙。典禮當天，會有主人與賓客間的唱合，稱之爲 isaray o ahakawan（芋頭豐收歌會），這時展示的芋頭包括未帶莖葉的 ninga、帶有莖葉的 miyopi 等鋪滿屋頂或堆滿船溝，最肥美帶莖葉的 maseveh 則吊掛或放置在最顯眼的位置，成爲男女主人或船組成員的勤奮象徵。

祝禱歌會所吟唱的歌詞，常是希望好的 Anito 能保佑芋頭生長，希望芋頭如山崩的落石般滾落，希望芋頭如石塊般堆滿船身，多到提不動載不完，諸如此類期盼讚美的話語，盈斥滿場熱絡氣氛，同時祝禱男女主人長壽健康，船組滿載豐收等，在盛裝主客之間，一答一唱直到結束，嗣後與會的親友和鄰居，將獲分配的豬羊肉及禮芋，這些儀式裡，我們不難看到芋頭在達悟社會裡的重要地位。





Taro cake

The flying fish season starts after “Mivanwa”, a ritual when Tao pray for a good fishing season held in February. In April, Tao women will be ready to thank their hard-working men by preparing a feast of delicacies to celebrate the good fishing season with them. At Crab Festival in April, the Tao women reward their men with crabmeat and taro cakes seasoned with drops of pig fat from roasted pork. Not every taro variety is suitable for making the delicious taro cakes. The Talaro variety is considered to be the best for making taro cakes, but some may use Rakoasoli or Alaleng variety instead. Traditionally, only at Crab Festival could people finally have a taste of the taro cake. Nowadays the taro cakes are more likely a common food and are available for many occasions, which include supplying the needs for tourist business.



Cultivation ritual

In some villages, sometimes women will erect tree branches (about the height of a man), in the taro patches. These branches then will be decorated with seashells such as “Kazab” (Great green turban), “Tazokok” (Trumpet triton) or “Kono” (Giant clam) to keep the evil spirits away from the village. If the owner of the taro patches has dreams about the fields being disturbed by evil spirits, then the lower pig jawbones, goat horns or iron plates will be gathered in the fields by the owner to pray for peace. When a serious pest infestation occurs which is believed to be caused by the evil spirits, all men from the same village would wave their spears and Ahateng (Poisonous wood nettle) branches in an effort to drive the evil spirits back to the ocean.



In spring and autumn, Tao women will put on their best traditional clothes, hats, agate necklaces and the silver jewelry, and then walk into the taro patches for the ritual ceremonies. During the ceremonies, they propagate Ayon branches into their fields and pray to wish well the land and to pray for a good harvest in the future.



A series of parties and celebrations will be held in the village when a new house or a new boat is finished. In order to make sure such events are being done properly, they have to plan it carefully years ahead. Before the celebrations, one of the important tasks in preparation is “Mangap So Soli” (harvesting taros). Due to the vast amounts of taros needed during the events, when the time is right for harvesting, the hosts might have to ask relatives and friends or even the members of the same fishing body for help. On the day of celebration, the hosts will sing interactively with the guests, mainly to worship the taro plants and to wish a great harvest season in the future. This activity is called “Isaray O Ahakawan”.

In the meantime, at the place of the hosts, different kinds of taro tubers, with leaf stalks or not, have been displayed in piles and piles all over the place covering the roof of the new house or filling the new boat. The Maseveh variety of taro, the best of all, with their stalks, will appear at the most eye-catching corner showing everyone the results of the year-round-hard-teamwork of the hosting group.

Through these events, we can see how important Soli is to Tao people. In “Isaray O Ahakawan” activity, the interactive singing often refers to compliments that wish the hosts a great outcome at the end of the taro season. They pray for protection from the good spirits. They hope the crops produce uncountable tubers that would roll towards them like the rocks out of the landslides. They wish productivity will never end filling the boats with many, many, taros. Under the enjoyable atmosphere, the guests pay tributes to wish the hosts longevity and good health. In return, the gift packs that consist of goat meat, pork and the delicious taro tubers would be given to the guests to thank them for taking part in the ceremonies.





CHAPTER — 3

第三章





傳統的達悟社會，沒有酋長或其他政治領袖，生計勞動所凝聚的團體—捕魚、灌溉、粟作團體等，這些由父系世系群所延伸的小型社會組織，成了維護秩序與安定的力量。爲了捕魚，每個部落會有好幾個船團組織，船團（組）的成員爲男子，人數 6-15 名不等，達悟男子在成年後幾乎皆入船團，年輕人藉由出海和長者學習海洋的知識及捕魚技巧。同一船團組織的成員日常生活上，彼此也相互照料。

海上的活動充滿變數及仰賴經驗判斷，成員之間的協調與默契攸關重要，彼此太過密切反而經不起嘲諷，同齡的好友或不同船團成員間的玩笑，諸如你家船雖多，卻還沒造過刻紋 siko 大船等，有意無意觸動達悟男子的榮譽價值，逐漸擴大爲建造下一艘船的意志力。男子決議造船，可能已在海浪中烈日下幾經深思熟慮，萬般盤算後化爲說出口的勇氣，徵詢其他船組成員，一旦獲得同意支持，捕魚勞動期間，遂充斥各種協商，並在終魚祭後，化爲細節底定的具體行動。

造船的重要關鍵，在於家中的森林有沒有足夠的樹木，尤其是作爲龍骨和船首的材料，船的大小由龍骨的長度決定，建造 21 或 27 塊板材的大拼板舟，必須有足等的板根，番龍眼樹 Acai 爲最佳材料，一艘八米的大船，至少需要七米的樹高，過去的丈量，是以繩結作爲標記，依循老船的尺度挑選合適樹徑樹高的材料，過小的樹不作考慮，太大過堅硬的無法下刀，難以施作，缺乏足夠的樹木卻又堅持造舟，只好商借。每個家族都有自己的家族森林，個人管理自己的林地，平時即經常巡護、點名，若有重疊或公有區域，則





在樹木還小時，劃上家族記號，選定的樹木具有先佔權，傳統是用斧頭刻劃，到現代也開始有人直接刻上漢名。達悟男人會在自家的林地，特別撫育想要樹種天然萌發的小苗，護持其成長茁壯，若是新墾林地，有時則刻意引入種苗造林。個人所擁有的林地，通常多塊而分散，巡山耗費許多的時間與精力，父親的林地由幾個兒子共同傳承管理，年輕一輩想取用時彼此協商。為傳承管理家族的林地，父輩從小會帶著上山，教導其辨認家族林地的位置。

籌備木料過程甚至一開始，事實上造舟是船主須與家中妻子協商的大事，因為這意味必須擁有或開墾夠多的田地，種出下水典禮當日，能夠塞滿全船的芋頭，芋頭無法久儲，配合種植的時間就顯得攸關重要。上年紀的老人通常無法再造船，妻子無力配合，自己也沒力氣砍樹伐木。商議一旦底定，男子們會在七月份開始上山砍樹，這段期間約需兩個月，木頭運送下山後，先確認組合第一層，再依序去伐其他層的板材。挑選樹木、削製成合適的板材，到拼組出局部，這些都是相當耗工的事情。傳說中教導達悟人製造拼板舟和耕作技術的祖先，是勇士 Magamaog，也因此刻船紋 siko 前要殺豬，拿板根的舵前也要殺豬，殺豬的目的是對船祝福，舉行過慎重





儀式後，刻下人形紋 Magamaog，再以白色貝灰、紅土和黑煤灰為船上色。

達悟船有各種專有名詞，傳統拼板舟稱 tatala，以別於非達悟的船 avang。再依使用人數，又區分為單人船 pikatangian、雙人船 pikavangan、三人船 pinonongnongan，和十人大船 cinedkeran，最大的船需要 10 個划槳手，每人有各自的功能任務，最有經驗的人擔任船長，船長掌舵、強壯的人則居船首，其餘 8 人分兩排乘坐，各自負責單邊划槳的工作。男人們即便只擁有最小的 tatala，但有了船即與社會團體密切相關。

為了降低出海時的風險，通常男子會將船停在珊瑚礁岩岸的邊緣。上岸後以停放灘頭最右邊的船為尊，位序越高的船越右邊。由於不是每日出海，因此幾乎擁有拼板舟的達悟男子，也都會建造船屋 kamalig，船屋建築可延長船隻的使用年限，通常位於部落灘頭，利於拼板舟進出之處，其三面以珊瑚礁或石塊堆砌，再覆以竹子茅草為頂，建造船屋用到的木板，以菲律賓火筒樹 aninibzawen 最佳，多間船屋彼此相鄰。船屋保護的拼板舟，使用年限可延長到十年以上，至於經年累月日曬、風吹雨淋的船隻，壽命則只有一半或更少。





The birth of Cinedkeran

In Tao society, there is no chieftain system and no political leader. Except for the husband-wife relationship as a fundamental unit, social bodies are formed to keep Tao's living in order according to activities such as fishing, irrigation or crop cultivation. On Orchid Island, each village has several fishing groups or boat/canoe bodies and each group consists of members from 6 to 15 male crews. Young men join these fishing groups soon after they become adults and start gaining knowledge about the ocean, sailing skills and fishing techniques from the elder members. The members of the same fishing group not only work as a team on the job but also help one another out in their daily lives.

It takes a lot of consideration and willpower for a man to decide to build a new canoe as it will be a significant issue like welcoming a new life to the family in Tao society. After consulting other crews and having their full support during fishing season, the carefully drafted plan will be carried out after Teyteyka, the ritual that indicates the end of flying fish season, and finally turned into reality.

After the plan has been carefully drafted, the next key factor for constructing a canoe successfully is to find enough timber from their family forest, especially the specific type of material for keels and bows. The size of a canoe is determined by the length of the keel. To build a big canoe requires a sufficient amount of buttress roots and Acai (Fiji longan) has been known to produce the best buttress roots for a canoe. Each family of a village has its own forest with a family mark on the trees to indicate their ownership. A person may own several patches scattered in different sites so indeed it will take a lot of time and effort to manage these family forests properly. Moreover, a family forest is sometimes co-owned by sons who inherited from their father, therefore the use of the resources has to be pre-discussed between the stakeholders. In order to







keep it in the family in the long run, Tao fathers would bring along their boys when they were still little to teach them how to locate their family forests.

To Tao, building a new canoe is a big event, particularly for the owner's family. It needs thorough consideration and cooperation between husband and wife when the building decision is made. Before the launching ceremony for the new canoe, the hosts shall make sure that they have enough taros to fill the new canoe as part of the ritual process. Once the taro tubers have been harvested, they can't be kept for long. Timing of the growing and harvesting of taro must be synchronized to the building time frame.

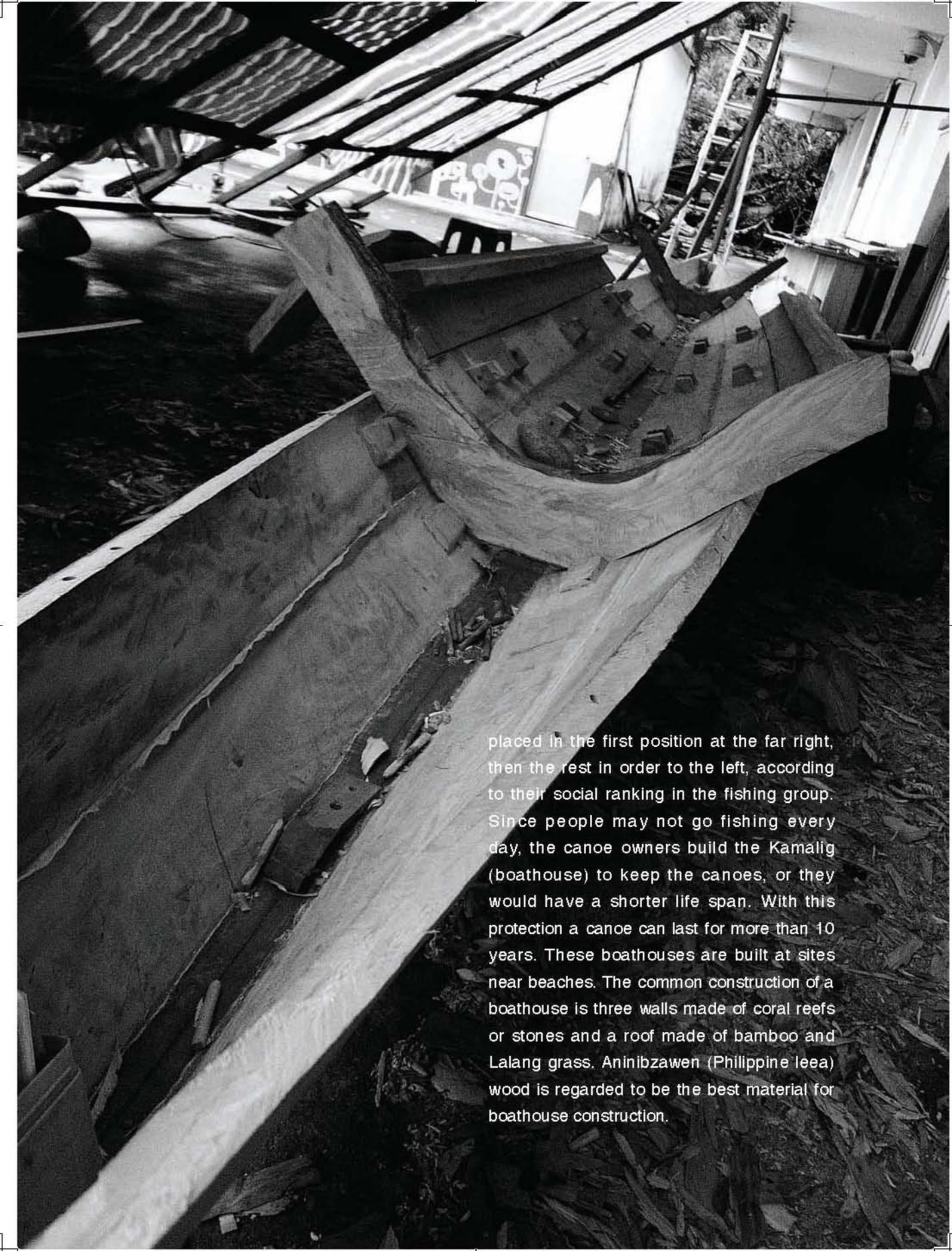


After the whole plan is finalised, the men would set off to start collecting timber in July. Pigs would be killed as sacrifice before carving Siko (totem) on the canoe and before taking the buttress roots for the rudder, to bless the new canoe. After a ritual, a human figure of Magamaog, a legendary hero who is said to teach Tao canoe making and crop cultivation, will be carved on the canoe. Then the canoe is painted with colors made from white shell ashes, red soil and black charcoal ashes.

Tao has specific terminology for boats. The traditional Tao canoe is called Tatala and a non-Tao style boat is Avang. According to its capacity, a canoe made for a single man is Pikatangian, a two-man canoe is Pikavangan, for three it is Pinonongnongan and a canoe for 10 people is Cinedkeran. On a Cinedkeran, the most experienced man serves as the captain who steers the canoe; the strongest man sits in the front and is in charge of two oars while the other eight men take places in two rows and each operates one oar. As long as a man owns a Tatala, even just a small one, he can then holds a better social status in the society.

Canoes are normally docked at the coral reef edge to reduce risks when setting off from the shore. The most precious canoe is





placed in the first position at the far right, then the rest in order to the left, according to their social ranking in the fishing group. Since people may not go fishing every day, the canoe owners build the Kamalig (boathouse) to keep the canoes, or they would have a shorter life span. With this protection a canoe can last for more than 10 years. These boathouses are built at sites near beaches. The common construction of a boathouse is three walls made of coral reefs or stones and a roof made of bamboo and Lalang grass. Aninibzawen (Philippine leea) wood is regarded to be the best material for boathouse construction.

拼板舟

拼板舟具三層船身，原則是底重上輕，堅固又沉重的番龍眼 acai 生長快速，自然成了最佳選擇，而船首板通常選用蘭嶼烏心石 porow，船尾板因必須支撐舵，因此會選長在峭壁、葉子圓圓大大的欖仁舅 itap 使用，船首船尾的板材無硬性規定，主要來自板根，上山取板根時，凸出地表部分不用太大，根據經驗只要往下挖掘，通常會有所獲。

處理好龍骨後，第二層可用較輕的麵包樹 cipoo，不過仍可用 acai 或是 itap，最上層最輕選用 cipoo 或者榕樹，若考慮堅固也可用 acai，只是如此一來，划行時雖然平穩，卻極為耗力。造船最重要的樹種為 itap，槳 avat 的話選 porow、槳架 irasan 則為蘭嶼控木 malavoa。

拼板的過程，會取小葉桑 pasek 削切成筷子般寬度大小，作為船板之間的榫接，板縫之間，最後取來蘭嶼花椒 varok 根部棉絮狀的纖維，圍繞馬尼拉麻 avaka 外層，成為極佳的填縫材料，防水滲入的功能極佳。

Tatala

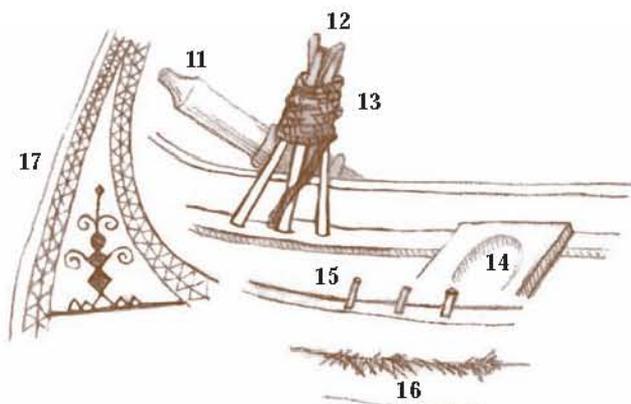
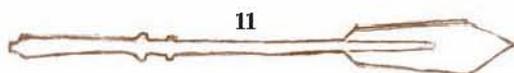
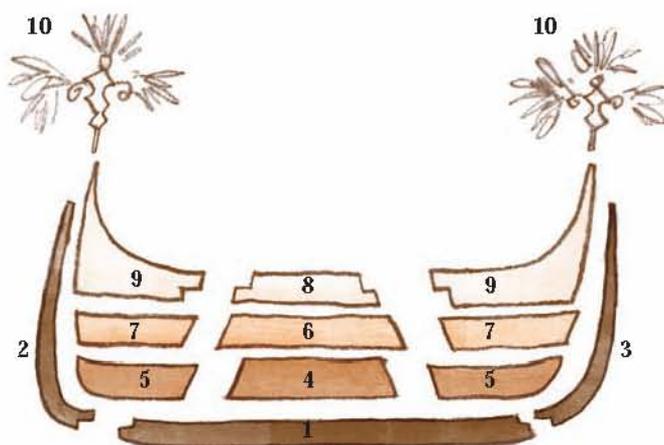
The body of a Tao canoe comprises three layers of construction. The bottom layer would be the heaviest part of a canoe to keep it stable in the water, and Acai (Fiji longan) which produces the heaviest timber is the ideal material for it. There is no strict rule on which wood should be used for bows or sterns, though timber of buttress roots from some tree species are most commonly used for these parts. Porow (Lanyu michelia) is normally selected for making bows and Itap (False Indian almond) with its strength is used for sterns. After the keel is done, for the second layer of the body a lighter wood such as Cipoo (Breadfruit tree) would be chosen, but Fiji longan and False Indian almond can also be used for the same purpose. As to the upper layer, Tao people utilize the lightest wood such as Breadfruit tree and Banyan. Sometimes Fiji longan is used for its toughness to build the upper layer, however, that would make the canoe harder to row due to its heavy weight. Overall, False Indian almond is the most important tree species for canoe construction, Porow is for making oars (Avat) and Malavoa is for the oar-locks (Irasan).

In the building process, Pasek (Small-leave mulberry) wood pieces are shaped into wooden nails and used as jointing material. Finally, the cotton-like cilia from the roots of Varok (Leaves entire prickly ash) wrapped with the Avaka (Manila hemp) fibers, for their joined waterproof ability, are used as filler in the cracks between wooden sheets to keep the canoe water-tight.



拼板舟 Tatala 的構造

Structure of the Tao canoe



龍骨 Ipanwan :

1. 船底龍骨 Rapan: 台東龍眼 acai
2. 船首龍骨 Panwan: 蘭嶼烏心石 porow
3. 船尾龍骨 Ipanwan: 欖仁舅 itap

第一層 Pataw na :

4. Pataw na: 欖仁舅 itap
5. Kavosan do pataw na: 欖仁舅 itap

第二層 Pavaken :

6. Pavaken: 蘭嶼赤楠 pangoon、大葉山欖 makazat
7. Kavosan do pavaken: 蘭嶼赤楠 pangoon、大葉山欖 makazat

第三層 Pangawudan :

8. Pangawudan: 麵包樹 cipoo、大葉山欖 makazat、欖仁舅 itap
9. Pakalatenn: 麵包樹 cipoo、大葉山欖 makazat、欖仁舅 itap

裝飾及其他結構 :

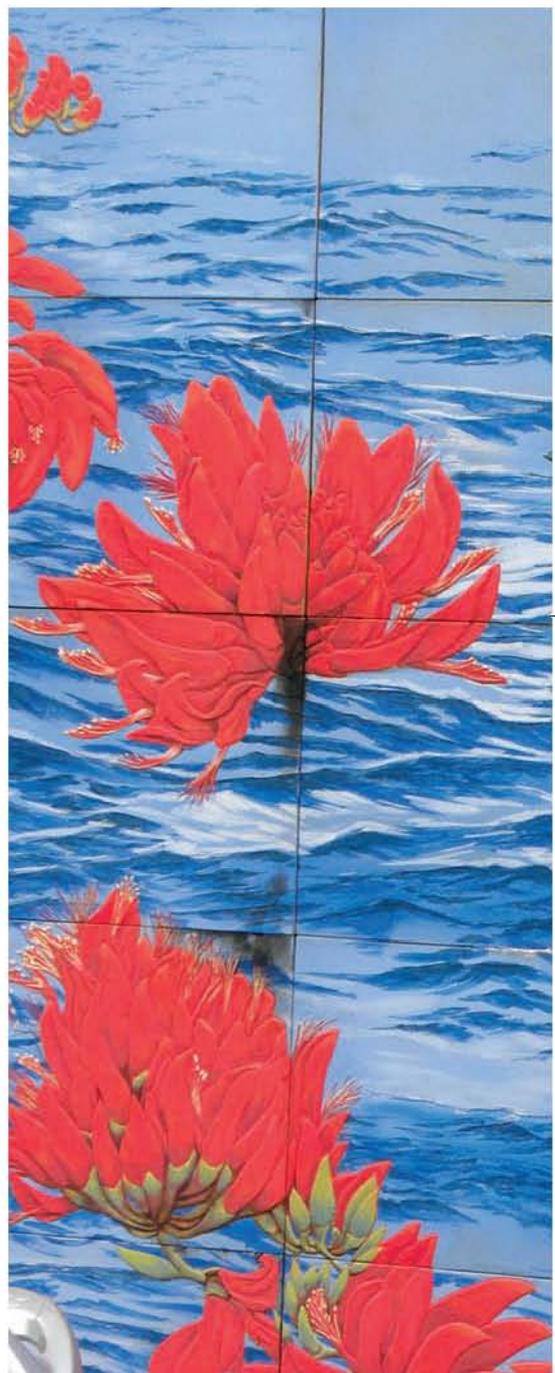
10. 船飾雞羽 Morong
11. 船槳 Avat: 蘭嶼烏心石 porow
12. 槳架 Irasan: 蘭嶼桫木 malavoa
13. 槳繩 Kolili
14. 座板 Lilisan: 蘭嶼木薑子 mazingas
15. 木釘 Yoray: 小葉桑 pasek
16. 填縫: 蘭嶼花椒 varok、馬尼拉麻 avaka
17. 船身繪圖筆: 林投 ang



飛魚 alibangbang 來了

循著黑潮的流動，每年二月起長達四至五個月，是蘭嶼島上捕捉飛魚的季節。過去以刺桐 sebang 花開，作為判斷飛魚 alibangbang 到來的記號。傳說此時黑色的飛魚王帶領其他的飛魚迴流，因此剛開始，漁人們是以白天舟釣或夜晚火把引魚的方式，捕獲數量最少的黑鰭飛魚 mavaheng so panid mabazangbang，黑鰭飛魚忌用火烤，在登岸時即必須剪掉翅鰭，族人相信，如此失去飛翔能力的領路飛魚王，依序其後的各種白鰭飛魚、紅鰭飛魚 mabazangbang so panid、白翅飛魚 sosowoen、紅斑鰭飛魚 matazetezem so panid、kakalaw、loklok、sanisi 便會被一網打盡。

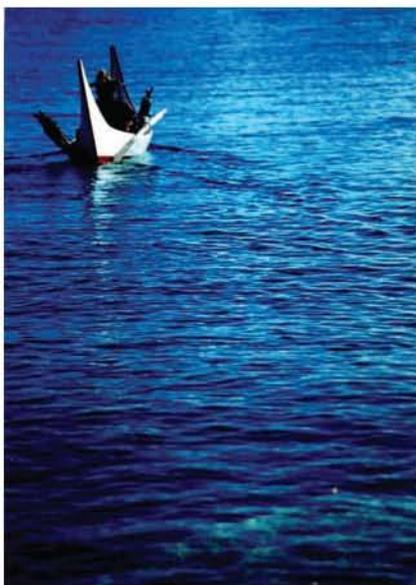
每年二月招魚祭 Mivanwa，昭告了飛魚季節的序幕，招魚祭的舉行，是飛魚季的第一個儀式，所有漁人會穿上祭典服飾，包括銀色頭盔、銀色項鍊。先將船從船屋裡移出，在海岸邊排成一排。漁人上船後，會唸一段咒語：「各地飛魚快來我們這裡，讓我們捕撈！」唸完咒語後，漁人上岸，以指尖沾雞血，將沿岸的鵝石 kazazakad 塗上雞血，以召喚飛魚往岸邊聚集。塗上雞血的 rara 被帶回家，供接續而來的飛魚祭典使用。依照飛魚汛期，族





人的一年可分為三段：飛魚季 Rayon、飛魚終了季 Teyteyka 與冬季 Amiyan。其中長達六、七個月的飛魚季節，含括許多大小的慶典儀式，統稱為 Rayon，這些祭典包括：漁船結成祭、飛魚漁祭、船組招魚祭、大船初漁祭、船組解散祭、小船初魚祭、個人漁獵終止祭、飛魚終食祭、飛魚乾收藏祭和飛魚終食祭 ... 等。

在達悟族曆法計算的十二月，約是國曆五月，所有的小船會從船屋 kamalig 移到海邊，進行修補、裝飾。五、六月是小型船捕捉飛魚的時節，船隻在白天出海，早晨族人駕小船，帶著午餐和很多作為飛魚餌的溪蝦出發，使用長線接連著鉤子的工具捕飛魚，一條約 30 公尺長的重線 obid，一條約 5 公尺較輕的線 ikatan，線端則連著形狀特殊的鉤子。魚線的一頭固定在槳托，另一端拋出約 30 公尺長距離，小船尾隨在後，當線被扯動，表示魚上鉤了。在四到六月的 Papatataw 和 Pipilapila 期間，捕魚船隊會在夜晚出海，判斷飛魚魚群後，船組成員中的首席 sangat 會高舉火炬，利用火炬誘捕飛魚靠近，其餘的船員則伺機甩動長柄捕網，以捕捉飛魚。





捕獲的飛魚經過特殊刀法處理抹鹽後，以林投根製成的繩索吊掛日曬或晾乾，各部落處理飛魚的方式不一，紅頭部落是由背穿繩吊起，其他部落則是由頭部入手。族人的傳統是在地下屋裡煙燻飛魚，煙燻時使用上好的番龍眼木，歷時三天，火勢必須時時看管，燻得好的飛魚充滿自然光澤及香氣，保存期限相對延長。選用的木柴不取蘭嶼赤楠 pangohen，據經驗容易起煙，燻得看守的人眼淚直流。而無論如何，每年的飛魚乾皆必須在飛魚終食祭前吃完。

與飛魚有關的一切，左右了達悟人的信仰甚至宇宙觀，捕捉飛魚成為達悟族人最重要的社會生活重心。早期族人的傳統地域概念僅止於台灣、綠島及巴丹群島，藉由星象和潮流的指引，解開繫繩 ovay，駕著張有小型帆的拼板舟在海上穿梭，漁團組織更是發展出各種禁忌。飛魚祭期間，族人需遵守不能下海撈捕珊瑚礁或其他底棲魚類的規範、不能搭上別的船團的船、不能越過別人的屋頂、女性不得碰觸船隻與漁具等。而個人捕獲的飛魚，只能在部落內互贈。至於食用飛魚的禁忌更多，包括不可在溪水及海岸清洗魚，魚目必

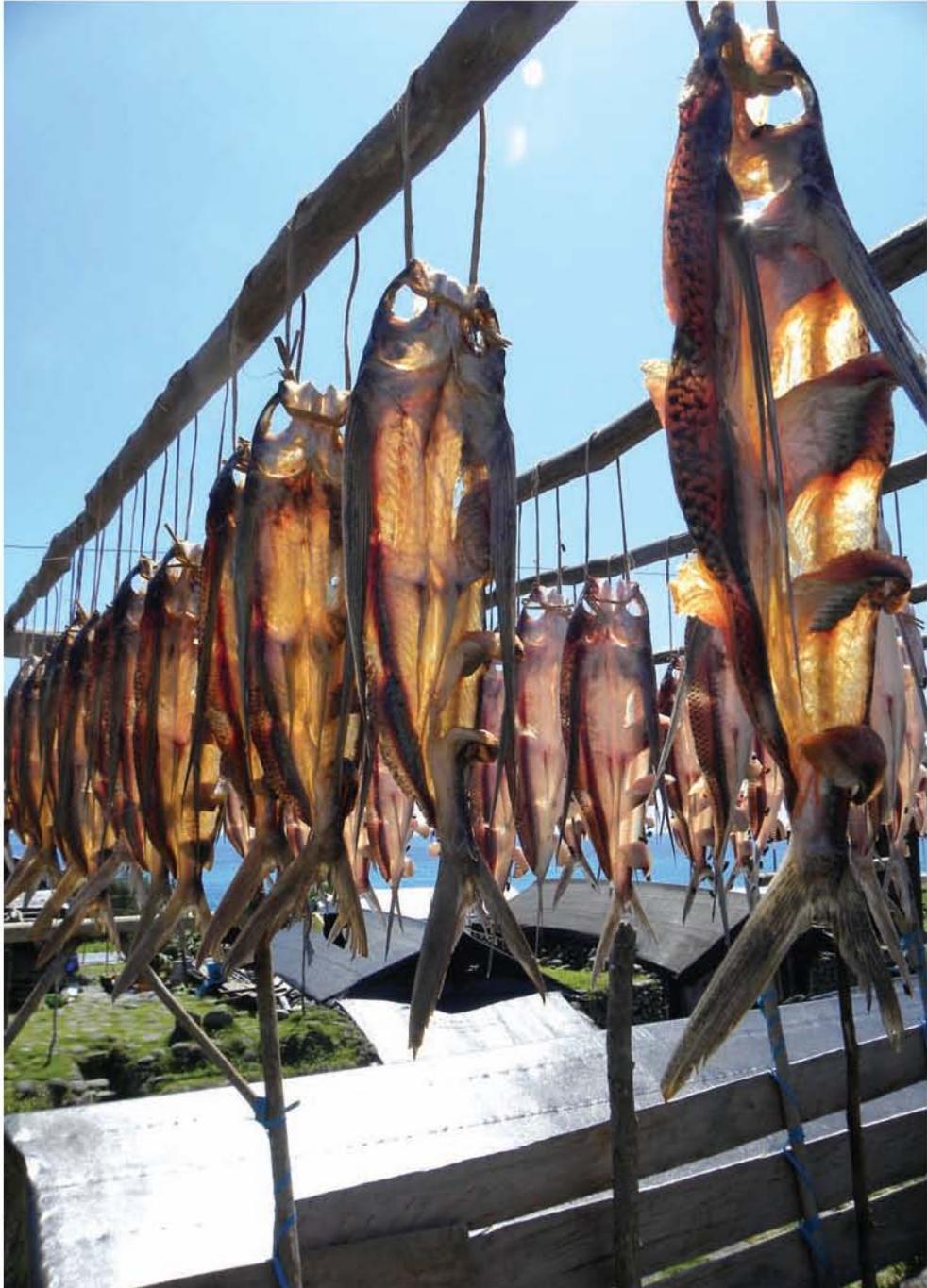


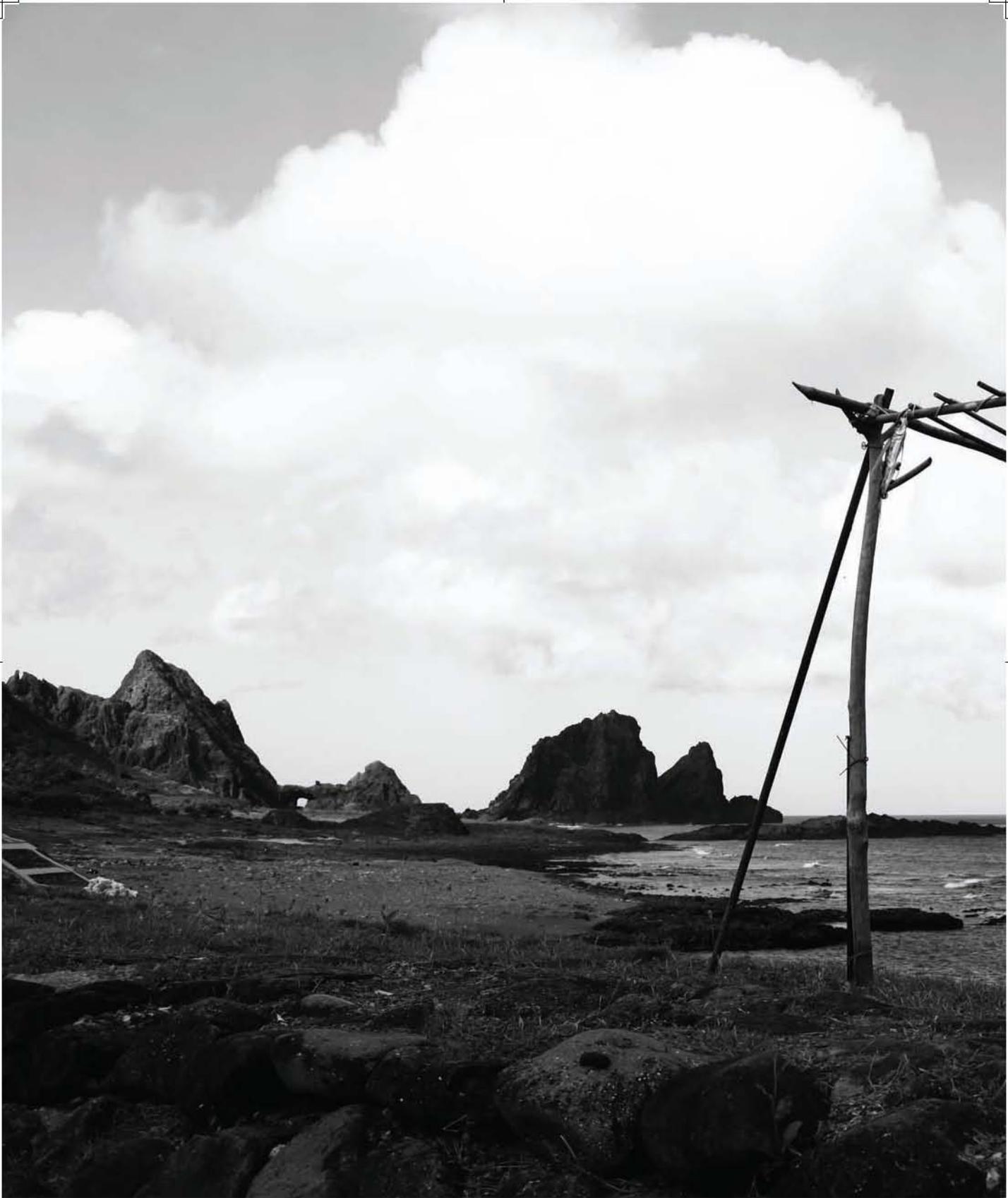
需生吃如此防止往後遇到的飛魚逃脫、飛魚不可切掉鱗尾、不可切塊必須整條食用、不吃掉到地上的飛魚等。另外，飛魚季期間，不可食用薑、豆、柑桔和螺，若家裡有其他魚種的收穫，必須先吃完才輪到飛魚。

過去族人曾將飛魚與其他海鮮同煮，據說食用後生瘡，往後捕到的皆為病魚，因此黑翅飛魚王託夢，教導耆老煮 zanegen 飛魚時，應分不同的鍋子，以和煮 dengdengen 尋常的食物，有所分別。族人原就依不同位階、性別、年齡區分，食用不同種類飛魚及海產，木盤區分肉盤／魚盤，魚盤再細分儀式性／非儀式性、飛魚／其他魚，非儀式性魚盤再下分男人魚盤 raratan／女人魚盤 nanatnganan。通常男人吃較腥的男人魚 raet，女人則享用真正的魚 - 女人魚 oyod，木盤大小與樹種不拘，但女人盤有時會雕刻裝飾紋，有別於男人盤。

藉由魚的分類以及飲食專用的陶器與木盤，清楚規範出家中性別與階層，不同需求的使用者，享用不同的資源，如此減少彼此間競爭。對資源的有效利用，符合生態學中之資源區隔利用或分配利用。這樣邏輯，也體現在飛魚季時，僅捕捉飛魚而不抓其他魚種；飛魚季後不捕捉飛魚，即使不小心入網，也必須放回海中，隨著季節更替，利用不同資源且不過度使用，這對其他魚種的生存極為重要。









Here comes the Alibangbang

Starting from February, Alibangbang (a collective term for all flying fish of different species) arrive with the Black Current. Sebang (Coral trees) blossom signaling the beginning of the flying fish season which will then last for four or five months. It is said that the flying fish king, a Mavaheng So Panid Mabazangbang (Black-fin flying fish), would lead the others back to the waters near Orchid Island this time every year. Tao believe that the capture of the king species should guarantee a good fishing result for the whole season. Thus, the very beginning of the fishing activities is to catch this rarest species by angling during the day or attracting them with torches to be captured by night. It is forbidden to roast Black-fin flying fish when cooking them. In addition, once Black-fin flying fish are caught, their fins must be cut off so that they could not lead other fish to an escape, so then the other flying fish species would be caught easily.

The flying fish season is officially launched with the first ritual, Mivanwa (a ritual which aims to evoke the flying fish groups), in February. During the ritual, all fishermen would dress traditionally plus wearing special armor and silver-colored necklaces. Tao canoes are carried out from their boathouses and lined up in the waters closed to the shore. They get on board, then cast the spell, "The flying fish from all directions, please come to us and let us catch you lot!". After that, the fishermen will return to land and use their fingers to spread chicken blood on Kazazakad (the cobblestones) as a part of the ritual that calls up the flying fish to coastal areas. When they finish the process, Rara (the stones covered with chicken blood) are brought home to be used for later ceremonies. Traditionally, Tao divide a year into three phases according to the flying fish season: Rayon (the flying fish season), Teyteyka (the end of flying fish season), and Amiyan (the winter). Rayon sometimes





can even last for six or seven months and during that period of time many rituals and festivals can be expected.

In May, equivalent to the 12th month (the end of the year) on Tao calendar, all canoes are taken out from the boathouses for maintenance. In May and June, Tao use small canoes in the morning to fish by day. And as well from April to June, the fishing troops depart and go fishing at night. In the night, if the fish swarms are spotted, the leader of the fishing group will raise the torch to attract flying fish for the other members to use nets with a long-handle to catch the fish.





Once the fish are caught, prepared by a specific cut, and covered with salt, all fish then would be hung with strings made of screw pine roots and left under the sun to dry. Different villages may hang fish in different ways. In one village, a fish is tied up through its back, and in other villages it may be hung by the head. Fiji longan wood is the best material used to smoke fish for Tao, they smoke the fish in their traditional submerged buildings for three days then store them for later consumption. Fine control of the smoking process will help achieve a nice natural glossy look with a beautiful smell and make the smoked fish last longer. According to their experience, some woods are not suitable for fish smoking as they may produce too much smoke and make it difficult for people to watch the fire. In any case, all stocks of smoked flying fish should be finished by the End of Flying Fish Consumption Season.



Flying fish and the flying fish fishing activities are the center of Tao's social life that has a significant influence on Tao's belief and their world view. Many traditional rules have to be followed during flying fish season.

For instance, it is not allowed to collect the pieces of coral reef or sea lives in those areas, crews of one canoe should not board other canoes, no crossing over other peoples' roof and females should not touch canoes or any fishing equipment etc. Furthermore, the captured flying fish can only be shared within the village where the captor belongs.

There are also many taboos concerning eating flying fish, e.g. fish should not be prepared in rivers or at sea; the eyes of the fish have to be eaten raw to prevent fish escaping from a later capture; the tail fins should not be removed; a fish should not be cut into pieces, instead, it needs to be cooked as a whole; and the fish is not eaten after being dropped on the floor beforehand etc. Besides,



no intake of ginger, beans, citrus and conches are allowed during flying fish season. If there are fish other than flying fish bought to the house, those fish have to be consumed before eating the flying fish.

In a legend, it said that Tao ancestors once cooked the flying fish with other seafood then got sick after eating the mixed dish. And it even got worse, after that, all fish captured were becoming ill and no good for consumption. Thus, one night the king of Black-fin flying fish taught the elderly in their sleep that the flying fish need to be cooked separately from other food by using different pots and different plates in order to be consumed safely.

In a Tao family, gender and ranking determine what kind of fish and household utensil (ceramics or wooden plates) he or she can have. Men normally eat fish with a stronger smell while the women enjoy “real fish” Oyod (women fish). As for wooden plates, despite no specific regulation in regard to the size and kind of wood used to make them, the plates for meat can't be used for fish. The fish plates can be further classified into ceremonial plates and non-ceremonial plates; flying fish plates and other fish plates. The non-ceremonial plates include Raratan (male plates) and Nanatnganan (female plates). Unlike Raratan, the Nanatnganan sometimes are decorated with carvings.

In Tao society, these regulations on food distribution and on utensil usage reduce the conflicts between users and between users and nature. They incorporate the “resource partition” idea in ecology. Such a concept can also be seen in fishing regulations, e.g., during the flying fish season, no other fish species should be caught and when the flying fish season has finished, no flying fish capture would be allowed. It is important to take advantage of different resources only in the right season for the sake of sustainability.



大船下水祭典 Micicinedkeran

新造船隻進行刻紋 siko 後，不論大小船，都需要舉行新船下水典禮 Mapabosbos，大船建成下水前，更需要隆重盛大的大船下水典禮 Micicinedkeran。

慶典舉行前數日，船主與船團家屬們即開始忙碌，除了成員們共同到水芋田採收兩三年前即已大量種植的禮芋，男子們驅趕儀式所需的豬羊入欄，在邀請賓客與會之餘，船隻的 siko 上也開始上色，嶄新的大船是船主的榮光。

下水儀式的前一天清晨，男性開始把跟禮芋放到船上，要堆高蓋滿整艘船隻，才足以榮耀辛勤的成果，接著以甘蔗及各種水果點綴儀式地點，船主家屋頂則吊掛山羊角作為裝飾。下水典禮當日清晨醒來後，族人互相問候並稱頌即將展開的美好慶典，緊接著男人們開始宰殺豬羊，用石子堆計算所分派的肉類；女人們則開始集中分配船上的禮芋，食物的分配會一直到持續到中午，午後與新船建造有關的成員親戚們，會從各地聚集前來，絕多數族人持長刀、帶著銀盃等儀式裝飾，盛裝準備參與新船的下水儀式，下水儀式開始前，新船成員身上穿戴著儀式服裝，圍著新船坐下。觀禮的賓客手持著魚叉和刀，則在房屋和庭園圍住，待船員們上船，祈求船隻未來出航順利和捕魚豐收的儀式正式開始。

下水典禮開始時，由船主準備一鍋裝了小米的水，稱作 paluk，船員上船後，將他們的刀浸到 paluk 中，然後用這把刀刮磨船體，同時向他們的祖先祈求豐收。另外，將雞血塗抹在船舷邊。到需要較多人力來驅除惡靈的 Manhaway 儀式時，除了船員、船員的親戚，村裏擁有船的其他男人也會共同參與，在指揮者的引導下，每 20-30 人分為一組，每組以小隊方式從四個方向往新船前進。男人們繃緊肌肉、握拳顫動、大聲尖叫、大聲踩步，持續這些動作，直





到船邊。接著，所有恫嚇的男人們圍繞新船踏步，持續唸著驅除惡靈的咒語。在驅除惡靈的咒語和充滿喜悅的叫聲伴隨下，新船被男人們抬起，船上站著舵手，男人們將新船拋上拋下，就這樣船隻一路運到海邊。驅除惡靈的儀式到此告一段落，新船下水。儀式結束後，受邀的親友秩序領走分好的禮芋及肉類。

整個下水儀式，與會賓客不斷褒讚：「好多的水芋、香蕉和甘蔗啊！」。船主和賓客交互吟唱歌詠芋頭豐收與新船建造的傳統古謠，如此富饒的景象，船家與部落之間，瞬間滿溢熱絡祝福及船主幸福的自豪。晚餐後，村子繼續熱鬧騷動，年輕的男女圍繞在工作房，唱歌或拍手，旁邊的空地上，一群女孩開始跳舞，這麼持續通宵到天明。

Micinedkeran

A Mapabosbos (new boat launching ceremony) has to be held for a new canoe of any size once the traditional Tao canoe/boat has been built and traditional patterns have been carved. When a large canoe is finished to this stage, a bigger ceremony called Micinedkeran would be carried out to celebrate its birth, like a new born baby.

A long list of duties would be carried out days before the ceremony. The family members of the owner and members from the same fishing group will be busy with preparations. The taro plants which were planted 2 or 3 years ago would have reached their maturity in time for the launching ceremony, their tubers ready to be collected. Males herd pigs and sheep back to the stall in preparation to be slaughtered. The Siko (carvings) of the new canoe can start being painted with colors.

In the early morning the day before the ceremony, men have been filling the canoe with taros show their pride in all the effort made that led to such an achievement. Plenty of sugar canes and different fruits are displayed all over the venue for the ceremony. Goat horns would have been hung on the roof top to decorate the house to show who owns the new canoe.

On the day of the ceremony, men kill pigs and sheep and gift the meat to people in the village. This time, stones are used to mark and record the distribution. On the other hand, women are busy distributing taros to guests. The food distribution process can last till midday. In the afternoon, before the new canoe is launched into the waters, the new crews for the new canoe will all dress in traditional style sitting around the new canoe in a circle. Other guests holding fish forks and knives would surround the house and the front yard.



When all the crew members finally get into the new canoe, the ceremony officially starts.

In the beginning of the launching ceremony, a pot of Paluk (mixture of water and millet as the "millet water") is prepared aside by the canoe owner. When the crew members take turn to move into the canoe, they will soak their own knives into the millet water, and then scratch the canoe with these knives and at the same time pray to their ancestors for good fishing outcomes. The sides of the canoe would also be smeared with chicken blood. Next, another ritual is under way.

Manhaway, a bigger ritual which aims to drive away bad spirit, requires all crew members, their relatives and every man who possess a canoe in the same village to participate. On the command, all participants will be divided into four groups, each with 20-30 men. From four directions, each group approaches the new canoe with members having their muscles flexed, fists clenched, and they shout sharply while stamping feet and moving towards the new canoe. When all groups finally reach it, men keep on stamping around, shouting and casting evil-driven spells with joy, then they lift up and down



the new canoe (with its new leader of the new fishing crews on board) in the air while gradually carrying it to the sea to complete the ritual. When the ritual is over, all guests are rewarded with plenty of meat and taros to thank them for their participation.

Through the whole ceremony, the guests constantly praise "What an abundant feast, so many taros, so many bananas and so many sugar canes! ". The canoe owner and guests chant interactively in traditional tunes to worship a good harvest of taro and the new canoe. The air is full of blessing and pride, good wishes and happiness. After dinner young men and women get together in Makarang (the workshop). They sing, clap and dance until the sun rises again next morning.



冬暖夏涼的傳統家屋 Vahay

島上週期性的季節變化，夏季颱風和冬季東北季風的肆虐，族人發展出獨特的住屋形式，沿著自然的緩坡切割，傳統主屋建造成地平面下，周遭以石塊堆疊圍住，利於排水且可吸熱降溫，如此一來既耐風災且冬暖夏涼。

蘭嶼地下屋的設計，除適應當地環境，同時也考慮了功能需求，完整的傳統家屋單元，還分地下主屋 vahay、工作房 makaran 與涼台 tagakal。建造時 vahay 的屋樑，定與海岸線平行，makaran 則與





海岸線垂直，兩者皆面向海面。主屋 vahay 以門數作為區分，屋內可分為三層平台，依序最內層略高於前一層，進入主屋後第一平台為客廳，第二平台為臥室與廚房、第三平台為倉庫與燻飛魚場所，隨著每日炊事煙薰，日久木頭薰黑成天然的保護層。

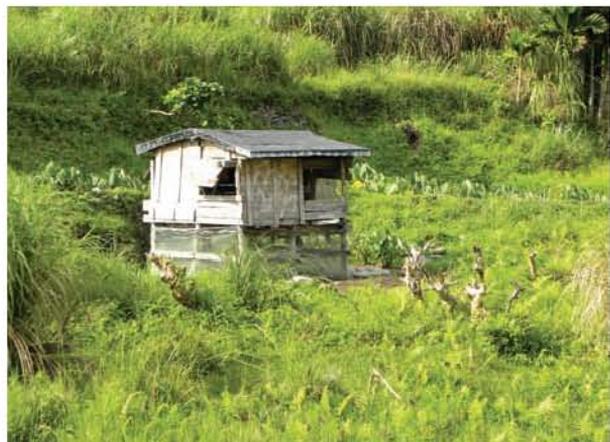
剛結婚的年輕夫妻，只可建造有二門的 vahay，或是住在父母親的工作室，直到婚後生了小孩，開始建築有三門的 vahay，隨著家庭成員漸次增加，夫妻的孩子結婚又生孫子後，夫妻也因孫子的誕生而改了第三次名字，此時方可建築四門的 vahay。決定建屋後，男子上山砍樹，動手前會跟將砍的樹木祝禱，邀請樹木作為宗柱照顧家庭，作為屋板遮蔽風雨，並請它在倒落時選好適當位置，如此才動刀砍伐。主屋的結構，會選質地堅硬，直徑最大的番龍眼 acai 和麵包樹 cipoo 作為宗柱，其餘柱子用直徑較小的蘭嶼柁木 malavao、大花檻木 mazacayi 或棒花赤楠 bali 等。這些屋柱擇定，其他部分才採較為輕軟的木頭，避免結構太重而壓倒，至於地面的板材，會選用蘭嶼赤楠 kalenden、綠島榕 anongo，cipoo 或 acai。同理，門片選擇質地較輕的木材，板材與樑柱樁接的地方，同造舟一樣，會以小葉桑 pasek 削為木釘，綁紮的繩索則選蘭嶼省藤 vazit，兼顧耐用。最後屋頂覆以八丈芒 ayo 或白茅 vocid，以隔絕雨水日曬。

主屋始建前須先備好所有木料，藉由親族的幫助，因此落成時舉辦儀式以款待答謝，與大船下水儀式類似的是，落成當日親友在盛情邀請下與會，帶來飛魚乾或其他賀禮，屋主則宰殺豬羊等禮肉，收成禮芋塞滿地下主屋，覆蓋滿屋頂，用以彰顯財富。雙方的古調吟唱直到翌日清晨，屋主以禮肉和禮芋餽贈親友後才結束。

前述住屋的單元中，工作房 makarang 為位於主屋旁的高腳屋，族人用來儲存器皿，補盤、製陶、杵小米或織布的工作空間，周圍以卵石砌成口字形外牆，內僅一房，分為地上部分與地下室部分。地上部天花板設有儲物架，平時為工作場所，冬天族人花很多時間在此修補木盤、陶碗，織布。地下部較寬敞，若家庭小孩成員多亦可在此就寢。Makarang 也當作兒子婚後蓋 vahay 前的臨時住所，更可做為年輕男女齊聚交誼，歡唱拍手歌的場地。Makarang 木料選擇上，屋柱可選擇的樹種很多，包括羅庚果 kamalasojo、蚊母樹 kamalasojo、賽赤楠 marozis、呂宋水錦樹 orin 等，地板採用 marozis 或 kalenden，其他板材則有蘭嶼福木 awanan 或紅楠，以紅葉藤 oris 固定紮綁，仍以小葉桑 pasek 木釘樁接屋頂，覆蓋了八丈芒 ayo、白茅 vocid，以泰山竹 kawalan 綁紮。







到蘭嶼的人，一定會被涼台 tagakal 的愜意吸引，tagakal 的功能，提供島上夏日太過炎熱時，乘涼、編織、發呆、看海的空間，甚至夜晚也會在 tagakal 過夜。Tagakal 的選材與 makarang 類似，屋柱採用 acai、cipoo、呂宋毛蕊木 gala 或四脈麻 mavoo，建造時以四到八根柱子作為骨架，屋樑可用 kalenden 或 marozis，亦使用 oris 固定紮綁，用 pasek 木釘樁接，屋頂亦採用帶根的 vocid 或 ayo，根上葉下，成束纏綁排列鋪蓋，並以 kawalan 夾住茅草避免為風吹散。

Tagakal 在夏日酷熱的蘭嶼非常重要，日常生活上，傳統家屋旁邊的 tagakal 由於長期使用，因此較為考究木料，由於是干欄建築，離地約 30 到 60 公分，因此設有長梯利於出入。涼台除了乘涼與工作，也是最重要的社交場所，通常男人也會在此觀測天候海象，決定是否出海，甚至飛魚季的行事，船主或經驗豐富的成員也會在討論決定後，在此公告其他船團成員知悉。有時水芋田旁也蓋有供婦女休憩的簡易 tagakal，提供田間勞動中防曬休息的空間。到了近代，涼台也與時俱進，出現各種不同的現代材質，至今全島仍隨處可見。

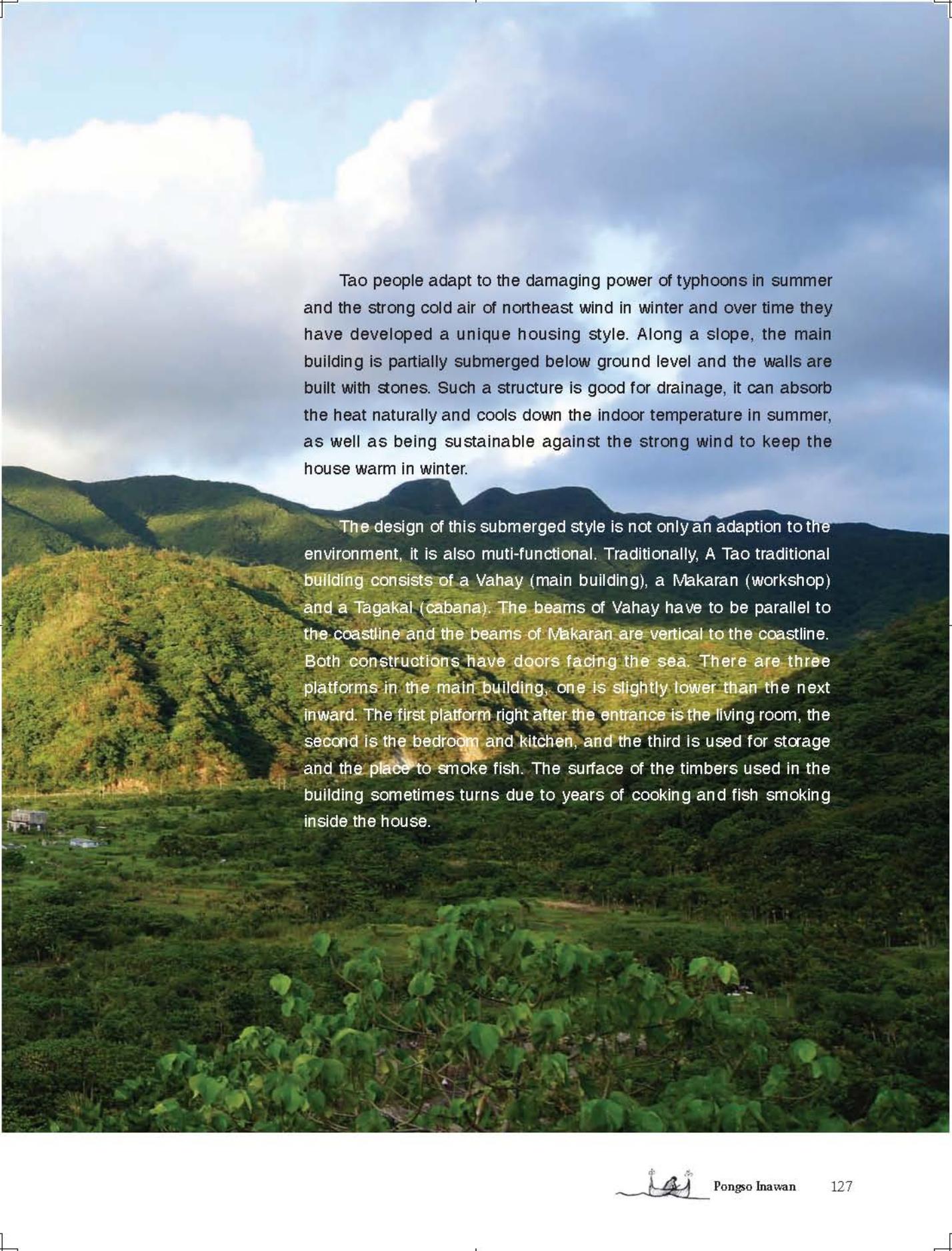
前述三個家屋的單元構成，通常會圍繞著一塊屋院空地 inaorod，這裡除了新屋落成時作為儀式的場所，平常則作曬魚之用，同時也是家族重要的聚會空間。為了美化庭院，族人會鋪上美麗的卵石，種上認為最好的草—馬尼拉芝 pipia a tamek，有時砌牆間也會刻意種上越橘葉蔓榕 vaheng 以添點綠意，inaorod 周邊則點綴蕨艾 mangot no kakawan 增添美觀，vahay 前的空地，常會特別安放二至三塊直立的扁平靠背石 pananadengan，中間最高大的一顆代表男主人，左邊次高為妻子，如有第三塊是代表兒子。靠背石的方向與主屋一樣背山面海，在一日工作結束後，全家可以舒服的倚著靠背石看海，向年輕人傳述經驗，許多達悟文化與傳說，便在 pananadengan 時光中口傳至今。一旦家人離世，則將代表石放倒，遠道的親友一見，便可知屋主近況。



3-4

Vahay- Tao traditional building

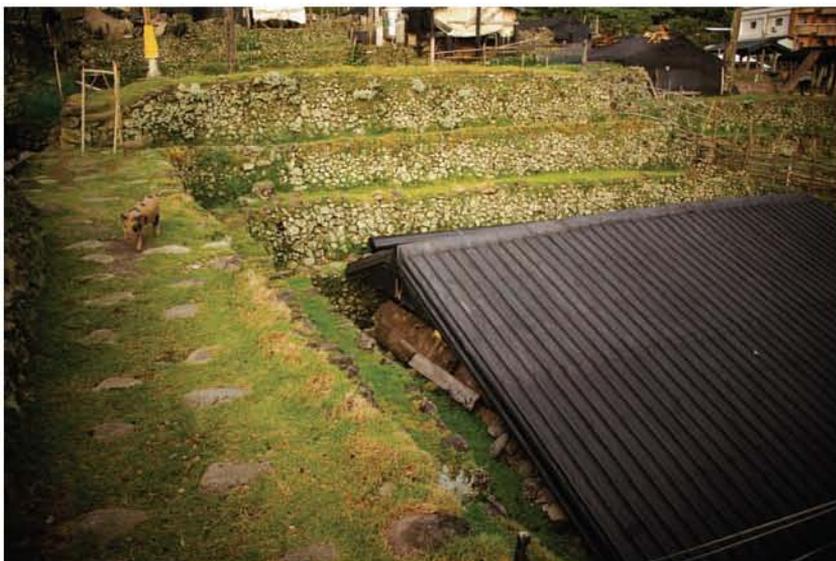




Tao people adapt to the damaging power of typhoons in summer and the strong cold air of northeast wind in winter and over time they have developed a unique housing style. Along a slope, the main building is partially submerged below ground level and the walls are built with stones. Such a structure is good for drainage, it can absorb the heat naturally and cools down the indoor temperature in summer, as well as being sustainable against the strong wind to keep the house warm in winter.

The design of this submerged style is not only an adaption to the environment, it is also multi-functional. Traditionally, A Tao traditional building consists of a Vahay (main building), a Makaran (workshop) and a Tagakal (cabana). The beams of Vahay have to be parallel to the coastline and the beams of Makaran are vertical to the coastline. Both constructions have doors facing the sea. There are three platforms in the main building, one is slightly lower than the next inward. The first platform right after the entrance is the living room, the second is the bedroom and kitchen, and the third is used for storage and the place to smoke fish. The surface of the timbers used in the building sometimes turns due to years of cooking and fish smoking inside the house.



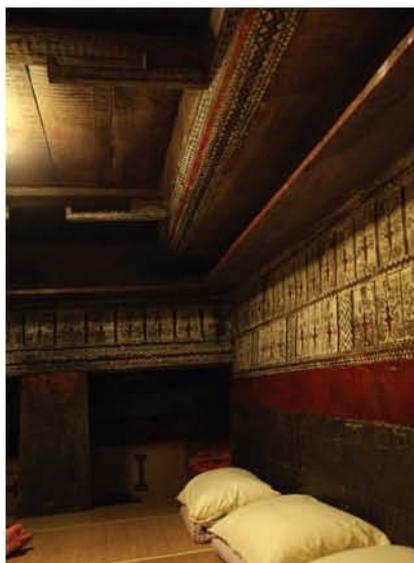


Newly wedded young couple would build a house that has a main building with only two doors. Some choose to live in the workshop at their parents' place until they can afford to build their own house in the future. After a child is born and the couple have their names changed accordingly, then a three-door Vahay can be constructed.

But a four-door Vahay can only be built for a couple who have become grand parents, who by that stage may need a bigger space to cater for their expended family. According to Tao tradition, both for husband and wife, their names will be changed again for the second time when their first grandchild has been born.

After the couple have decided to build their own house, the husband goes to the family forest to find the right trees for the new house. Before the trees are cut down, he will deliver a prayer and invite the trees to join and to support the family by becoming the main pillars of the house, and the roof to protect them from rain and wind. He also asks the trees to select the right places to fall before he starts cutting them down.





The thick and solid trunks of Fiji longan and Breadfruit tree are ideal for the main pillars for house while other trees such as Malavaoa (Cuming pencilwood), Mazacayi (Big flower pencilwood) or Bali (Club-shaped flower eugenia) that produce thinner trunks can be used as small pillars in supporting the structure. To prevent the house from collapsing, more woods may be chosen to further support the house. Timbers used for the floor are from Kalenden (Lanyu eugenia), Anongo (Hairy nerved fig), Breadfruit tree or Fiji longan. The jointing materials are the wooden nails made from Small-leaved mulberry (the same as for the making of canoes) and the strings from Batan cane. To finish it, the roof will be covered by Japanses silvergrass or Lalang grass.

Without the help from the relatives and other members of different social groups, all wooden materials would not be collected efficiently and be ready for the construction in time. Therefore, when the house is finally finished, a house warming party or ceremony will be held on a grand scale, like having a new canoe or a new



born baby, to show gratitude to the guests who have helped in the process and to thank them for participating in the ceremony. Similar to Micinedkeran, the ritual for the new canoe launching ceremony, all invited guests bring dry flying fish and other gifts to the host family. In return the host family would kill pigs and goats for meals to treat the guests during the party and as gifts for them to take home. Taro tubers that have been collected coinciding with the completion of the house will be displayed all over the place, covering the floor and the roof of the new house as a symbol of prosperity. Traditional chanting continues interactively in a party lasting till the next morning, when guests are given meat and taros before they leave for home.

Makarang, the workshop building, is located beside the main house as a suspended construction with pillars supporting it from underneath. It has a horse-shoe shaped stonewall built around it. It consists of two parts, the one-room structure above and the basement space below on the ground. Tao spend a lot of time in winter in the upper level to repair plates, make ceramics, to pound millet and to weave, meanwhile the place between the ceiling and the roof is used



for storage. The basement is a larger space and can accommodate members when the family gets too big. Makarang can also become a temporary home for the married son and his wife before they complete their own house. Or it can simply be a social center for young people.

The three-sided walls are made of cobblestones. The wood used as pillars on the upper and the lower levels may come from Kamalasojo (Paniala or Flowers acemes distylium), Marozis (Willow-leaf eugenia) and Orin (Luzon wendlandia) etc.. Willow-leaf eugenia or Lanyu eugenia are often used for the floor. Other trees such as Awanan (Lanyu garcinia) or Red machilus can also produce useful timber for the construction. The vine of red leave of autumn and the wooden nails of small-leaved mulberry are again used for jointing purpose. Japanese silvergrass and lalang grass are tied with Kawalan (common bamboo) to be used as roof covering.

Tagakal (cabana) is the place for chilling out, weaving, dozing, sea viewing and sometimes for sleeping overnight. The building materials of Tagakal construction are similar to those used for the workshop. The thick trunks of Fiji longan, Breadfruit tree, Gala (Furry gomphandra) or Mavoo (Leucosyke) are used as main posts (4 to 8) to support the structure and tripinnate eugenia or acuminate acmena are for beams. The vine of Red leave of autumn and the wooden nails of Small-leaved mulberry are again used for jointing purposes. Japanese silvergrass and Lalang grass are tied with Kawalan for roofing.

Tagakal plays an important role in Tao's life over hot summer days. For it to be a long lasting construction, the wooden materials are carefully selected. The floor of Tagakal is 30cm to 60cm above the ground and can be accessed with a stair case. Tao males would check the weather and the sea conditions in Tagakal before making any decision regarding fishing. Any flying fish season related issues or decisions will also be addressed here to all members of the fishing







group. Sometimes a simple Tagakal can be built next to taro patches for women to have a rest. Nowadays, most Tagakal are constructed with modern materials and they can be seen everywhere on the island.

The three fundamental units of a Tao house, the main building, the workshop and the cabana, are often built surrounding Inaorod (a courtyard). As well as being used for the house warming ceremony, the courtyard also provides space for sun-drying fish and for family gatherings. To make this place look nice and tidy it is paved with cobblestones and decorated with Pipia A Tamek (Manila grass) in the courtyard itself, and the Mangot No Kakawan (Chinese mugwort) grown around the edge. Vaheng (Vaccinium fig) is also planted on the wall to add a bit of green color to the site.

In front of the main building, there are 2 to 3 Pananadengan (flat rocks used for people to lean against) erected in the courtyard. The largest and the tallest one in the middle represents the husband, the shorter one on the left is for his wife and the smallest one, on the right, is for their son, if they have any. Like the Vahay, Pananadengan are also placed facing seawards. Tao people like to enjoy the seaview and lean comfortably against these rocks together with their family in the courtyard after a long working day, while the seniors share their experiences and Tao legends with the youngsters. Once a family member has passed away, his or her stone would be laid down to indicate the death of that particular person.



家屋

族人的傳統住屋單元有：地下主屋 vahay、工作房 makaran 與涼台 tagakal。

主屋 vahay 以門數作為區分，屋內可分為三層平台，依序最內層略高於前一層，進入主屋後第一平台為客廳，第二平台為臥室與廚房、第三平台為倉庫與燻飛魚場所。

A Tao housing

A traditional Tao housing consists of a Vahay (main building), a Makaran (workshop) and a Tagakal (cabana). Depends on the family stage (married, with children, number of generations etc.), a Vahay has different number of doors. There are three platforms in a Vahay, one is slightly lower than the next inward. The first platform right after entrance is the living room, the second is bedroom and kitchen and the third is storage and the place for fish smoking.

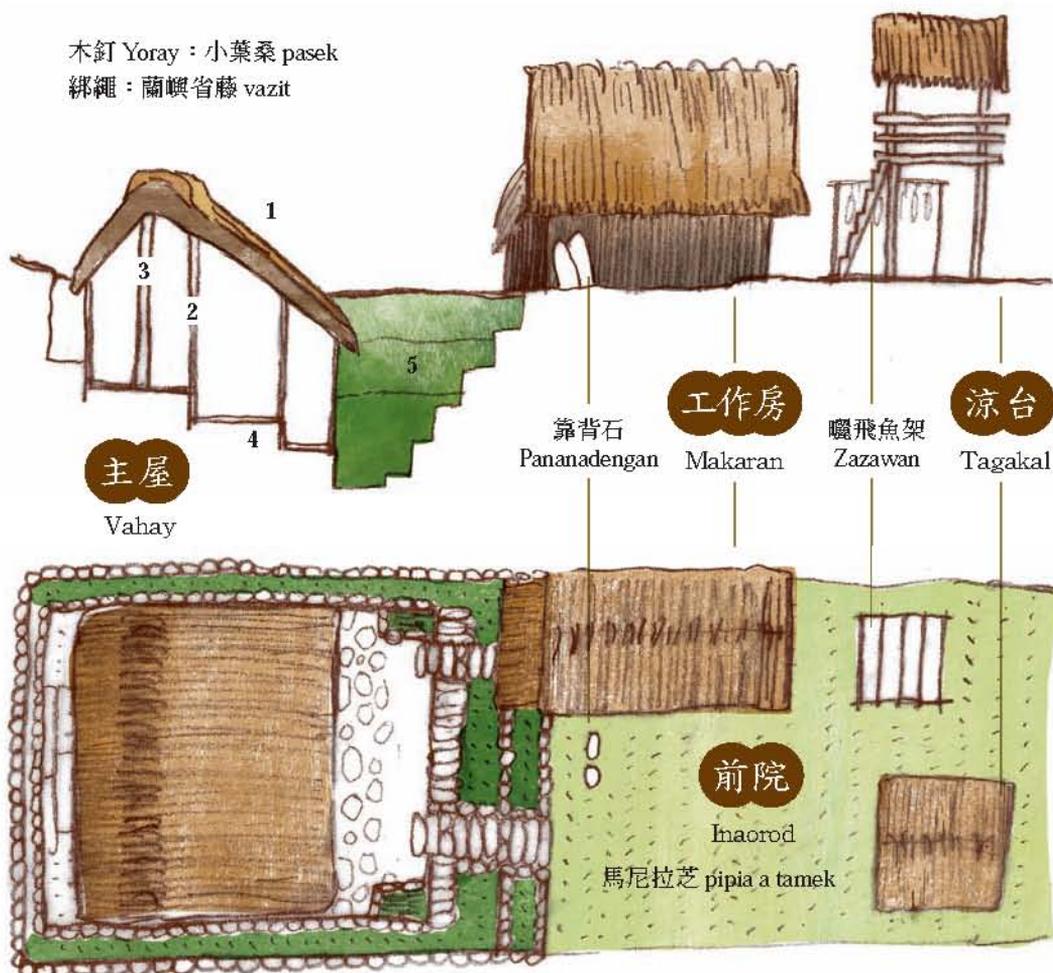


家屋構造

Structure of the Tao housing

木釘 Yoray : 小葉桑 pasek

綁繩 : 蘭嶼省藤 vazit



1 屋頂 Atep : 八丈芒 ayo、白茅 vocid

2 柱子 Ai : 蘭嶼椆木 malavoa、大花檉木 mazacayi、捧花赤楠 bali

3 宗柱 Tomok : 台東龍眼 acai、麵包樹 cipoo

4 地板 : 蘭嶼赤楠 pangoon、綠島榕 anongo、麵包樹 cipoo、台東龍眼 acai

5 石牆 Atoy : 蘄艾 mangot no kakawan、越橘葉蔓榕 vaheng







CHAPTER — 4

第四章

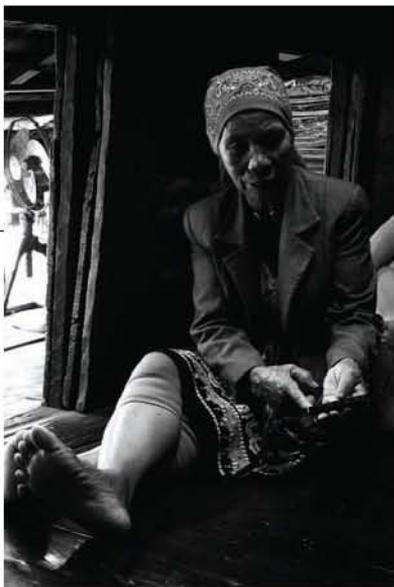


蘭嶼島上的動物及植物，皆是長時間從菲律賓板塊地帶或台灣島上拓殖而來，逐漸適應這座島嶼，甚至進一步演化成獨特新種，蘭嶼生物相具現了整個演化過程，來自不同陸塊的物種在島上共存共榮。

深諳季風洋流的達悟族人，可能面臨原生地資源使用的壓力，展開多次擴遷，最後選擇了落腳蘭嶼，在這座不大的島上安身立命，日久發展出睿智利用島嶼資源的本事。譬如藉由飲食禁忌與分類的規範，取用調節，分散島上某些物種消耗過度的風險—飛魚季期間，禁止到近海珊瑚礁一帶活動，好讓底棲魚類和其他生物休養生息；傳統海岸線礁岩一帶，則經常是墓地所在，Anito 信仰保障了這裡密布的林投 angō、棋盤腳樹 kamanrasahet、黃槿 ganot 等濱海植物不受人為干擾，這些植物能防風定沙，同時也是海岸許多物種生存的緩衝地帶，淺海區孕育各種魚蝦苗，相對也維持了海洋物種間的食物鏈結。

至於芋田種植，更是處處隱含著令人讚嘆的生態知識：芋田的放墾，依隨土壤地力、水源供應、儀禮需求等原則；雜草管理，則利用植物生剋演替的原理。每位達悟婦女，承襲於長輩及自身所累積的勞動知識，有人甚至是腳踩入田土，即能感知土壤黏稠度、水流緩急、水的深度、陽光照射後水的溫度變化等，知道每一寸田土適合哪一種芋頭品系，從而部署栽培。

不斷試誤及用身體領會而得的知識邏輯，發展出自成一格的種植知識。旱田與部落周邊的山林，也在低限度的環境使用開發下，以符合生態的方式管理維護，一方面保存了豐富多元的作物品系，同時也讓野生物種的多樣性得以維持。低度的環境干擾與開發，體現在島上獨特的地下屋建築，沿著緩坡興建，砌石通透以利排水，



這樣的住屋抗風避震、冬暖夏涼，涼台則提供休憩與社會交誼的空間，這些都是處於盛行風吹拂的熱帶島嶼環境下，所發展出的傳統智慧，擺放至今日，堪稱綠建築的最佳典範。

社會制度方面，達悟族人著重的兩性分工機制，則框定了個人能力，好確保效能，以夫妻為核心的主軸，進一步拓展納入社會其他的成員，因應不同功能，組成不同的群體或團體，而身體的勞作與有效管理的資源累積，則豐厚了地位的象徵。社會的價值看待，糾葛著傳統沿襲、倫理德性、乃至互助合作等。



The fragile Island

The animals and plants on Orchid Island were originally from either the Philipenis Sea Plate or mainland Taiwan. Most of them took a long time to adapt to the environment and eventually establish their own population, with some of them evolving into endemic species. The unique biota of Orchid Island is vivid evidence of a multi-origin, evolutionary process.

Tao, a tribe with profound knowledge on currents and monsoons, left their previous homeland and migrated to Orchid Island possibly due to the pressure to find new resources for their expanding population. For years, in order to survive on this tiny island with limited resources, Tao people learned how to utilise what they had on the island in a sensible way without the risk of running out of resources. For instance, it is forbidden to visit the coral reef areas during the flying fish season, this provides the opportunity for sea life in those particular areas to recover from food-collecting activities. The taboo that stops people visiting cemeteries as Tao believe the evil spirits, Anito, could bring misfortune if they pass through these areas, is another example, as such cultural regulation indirectly leaves the strand plants such as Ango (Screw pine), Kamanrarahet (Indian barringtonia) and Ganot (Coast hibiscus) undisturbed from human activities. Consequently, the survival of these plants with their ability to stabilize the sandy environment, not only helps secure the habitat but also serves as buffer zones for many creatures, which results in a more stable food chain in the sea.

The ecological knowledge of Tao on taro cultivation is even more impressive. The productivity is the combined result of well-organised execution in the preparation of taro patch, the control of soil condition,





the water supply and the needs for ritual and ceremonial purposes. Amazingly, they have even developed a bio-control method by using beneficial plants in weed management in the taro patches. With the knowledge passed on from generations, and their personal experience, Tao women can even detect the soil consistency, the water flow speed, the depth of the water, and water temperature with their feet once they step into the field, and are able to match the most suitable taro variety.

Tao value personal contribution based on the rights and responsibilities determined by gender difference. Everyone would do his or her best to fulfill the duties that Tao people have in their society to ensure a stable and efficient community. The husband-wife relationship is the core of the social structure, it is also the foundation for other social groups to be established from according to different social activities. A reputation of hard-working labor and the accumulation of resources out of well management would enhance one's social status. How a person is judged by others is influenced by tradition, ethics, moral and one's willingness to cooperate with another person and with groups etc.





日治時期雖然實行隔離統治，但島上已接觸外界文化，1949年後國民政府，則推動一連串的山地生活改進政策，資本主義邏輯與所謂的現代物質文明，逐漸紮根瓦解著達悟人的傳統價值，戰後的世代不再以 soli 和 wakay 作為主食，甚至有人嘗試改種水稻，意味原本水旱田農作已不再至關重要，隨著下田頻率與種植面積的逐漸減少，與台灣島的交易貿易仰賴日深，演變到近年，動輒颶風切斷對外界交通聯繫，島上物資很快吃緊的情況時有所聞，島上斷糧問題只能倚賴外界揖注。

這短短幾十年，卻是蘭嶼自然環境所受最劇烈的衝擊，行政單位幾次重大措施，島上居民經歷過軍犯管訓時期，經歷退輔會農場的錯誤開發，經歷早年木麻黃造林所導致的家族森林混亂，另外還有水泥港澳的興建工程，嚴重破壞傳統拼板舟的停泊海灣，海砂屋國宅的興築，更在當年成為笑柄。更嚴重者，則是七〇年代末，台電核廢暫時貯存場的設置，當年以欺瞞的手段操作，到如今遲遲無法遷除，核廢的夢魘始終猶如惡靈，揮之不去。

外在物質變遷，島上青壯人口紛紛出走台灣，端靠出賣勞力賺取貨幣，很長一段時間，部分達悟男子在台灣以板模等低階工作維生，九〇年代初，台灣省政府推展自力造屋措施，島上水泥房雨後春筍般一棟棟冒出，雖提供島民返鄉建屋的工作機會，這批台式建物卻因無法調節島上高溫，只好無日無夜運轉著進口的冷氣。

國家政策挾持龐大優勢，引進資本主義的主流思維，公共行政的操作，幾乎相異傳統互惠的交換機制，轉變成預算編列／採購招標的思維，一連串的水泥敷地如火如荼展開，其中，溪流進行的水泥化護岸，快速破壞了淡水水域生物的生存環境，將人阻隔；海洋的消波塊及石籠工法，則取代掉自然海岸；無處不在的混凝土擋土







牆，除了極度醜陋，也斷絕了人和生物的連結。核廢場的回饋金以及離島建設基金的投入，幾年前在島上蓋起了通往天池的人工步道，水泥重修港澳、夷平海岸的工程，天秤颱風災後的重建，更是變本加厲，使得島上滿目瘡痍。

島上的觀光活動，始於 1967 年政府宣告開放蘭嶼，首先允許了外資進入，隔年開元港設港，台商旋即設立蘭嶼觀光育樂公司，興建「蘭嶼別館」。1971 年蘭嶼解除山地管制限令，1972 年，開始有固定航班的輪船和飛機往返，餐館、民宿、雜貨店，以及海岸邊為觀光架建起的涼台，逐漸成為新的部落風景，觀光最熱絡時期，島上困擾的是遊覽車帶來的無盡喧囂與交通問題。

好在這些年來，觀光遊憩的觀念改變，生態體驗與族人自主經營的模式，正逐漸成形。只是令人憂心的情況仍不時可見，以過去受到禁忌保護的蘭嶼角鴉 totoo 為例，夏日觀光旺季的夜晚，可能得面臨數百人在林內，拿著手電筒和錄音機進行「夜觀」的衝擊。其他情況，還有過去夜間不能停留的軍艦岩等小島，成為野外烤肉的所在；無人帶領下，觀光客亂闖芋田、傳統家屋區隨意拍照；禁忌女性登船碰觸的拼板舟，也因玻璃纖維船的引進，漸漸鬆綁，發展出新模式；民宿供餐或島上文化美食的招待，則成為島上有限龍蝦數量的消耗修羅場。

放任市場需求而不加以管理，島嶼的生態枯竭，幾乎是無可避免的未來。異族觀光或是生態旅遊會是族人的最後救贖？我們能為這個小島做些什麼？

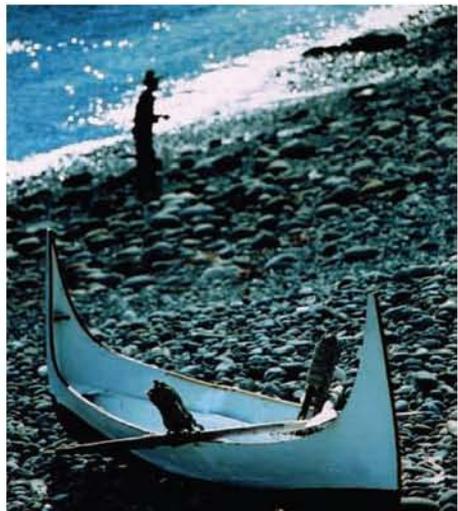


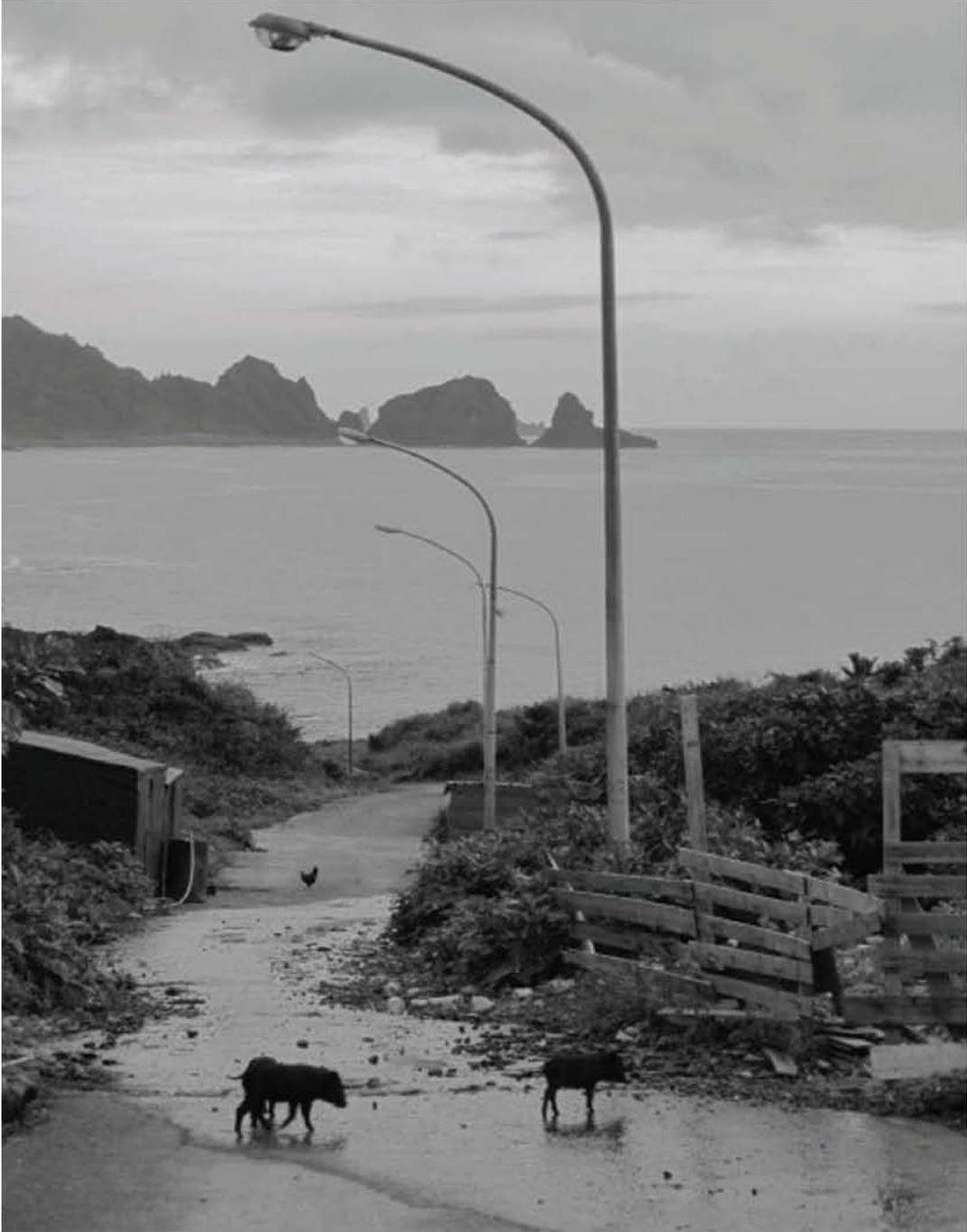


4-2

The impacts of capitalism

Despite the protective measures instated during the Japanese colonization which aimed to leave the environment and Tao's unique life style undisturbed, Orchid Island still has had exposure to the outside world, so changes were inevitable. From 1949, the Taiwan government carried out a series of projects to improve the living standard for Tao on the island, but these careless ideas of capitalism and modern civilization, instead, had shaken the foundation of Tao's traditional life style, even further transforming it and its host environment into an unwanted saga. Today, taro and sweet potato are no longer the staple foods to Tao, and some people even replace them in the fields with rice. Trading with mainland Taiwan in goods becomes a more reliable business than its own self-sufficient farming, Unfortunately, the modern life style that comes with such changes does not come cheaply. In recent years, the poor supply of food and material after the typhoon season due to inadequate transportation is an obvious example.







As the life style changes in time on the island, young people start moving to mainland Taiwan for job opportunities. Most of them earn their living by working in labor intensive sectors such as scaffolding for buildings. Although in the early 90s, Government set up a scheme to encourage Tao immigrants to return to the island by offering them financial support to build their own home. Many concrete buildings were constructed which, it is now realized, are unsatisfactory for living in under the island's weather conditions. Unlike Tao traditional housing which can regulate the temperature in a natural way, the temperature inside the concrete houses would often get too high on hot days and need to be constantly cooled down by air conditioners.

Under government bureaucracy, more concrete was poured into Orchid Island without the consent from Tao people, which was bad for the natural environment. Concrete river dykes quickly destroyed the habitats of fresh water organisms during construction. The use of armored concrete blocks along the seashore and gabions in the river not only broke the beautiful view, but also kept humans at a distance from nature.

Tourist businesses on Orchid Island started from 1967 when the Government allowed investments from outsiders. Kaiyun Harbor was built the year after ready to cater



for the potential trade. And then, Lanyu Recreation Company and Lanyu Hotel owned by people from mainland Taiwan were soon established. In 1971, the restrictions on accessing the island were lifted by the Government. In 1972, ferry-boat and flight services started on a regular basis between Orchid Island and mainland Taiwan. From then on restaurants, private accommodation, dairy shops and commercial cabanas had become the new landscapes on the island, along with problematic noise and tour buses. Thus, without proper management, we have to wonder how long the beauty of this island can last.

So what can we do to make positive changes?



多數的達悟族人早改信基督宗教，深入信仰底蘊的教會機制，在各部落間起著重要的影響，每個部落附近都有禱告山，種植了芋田管理會用的好草，以及綠美化植栽，形成一個環列著背靠石的神聖空間，居高臨下營造出心靈的寄託。當古老信仰碰撞外來宗教，的確造成許多傳統的消失，同時羅馬拼音記載的聖經，保存下珍貴族語，而幾位神職人員，甚至積極書寫達悟的傳統，肩負文化傳承的使命。

傳承文化，改善過去發生的問題，開創未來的美好想像，把人找回來，是凝聚部落共識重要的第一步，但是島上除了軍公教人員，就業機會實在有限，觀光發展的需求，吸引了一部分的蘭嶼青年回流，同時也有效排擠外地財團的進駐。島嶼環境的乘載量有限，如何避免過度商業化的削價競爭，遵守祖先的禁忌，不要竭澤而漁，規範出自治協定，運作合乎生態的旅遊模式，已是當務之急。

認清蘭嶼是一個資源有限的小島，思考永續經營的模式，正如同里山倡議所面對的山村海港案例，蘭嶼的農田海洋生態系，以及世居部落真正的人 Tao，正體現了里山里海生活的真義。當傳統交匯現代文明，傳統生態智慧可能是維繫里海島嶼生態的新契機。而對蘭嶼來說，更重要的是傳統部落文化與生態智慧，如何透過現代化的詮釋，傳承給下一代。另外逐漸也有人提出：既然海岸線工程的功能，是爲了能防風定沙，那麼更應該讓原生植群，如茂密的林投 angu 植群取代消波塊與石籠，如此不但永續自然，同時也擲節下經費。而面對高度仰賴外界補給，提高主要糧食的自給率，增加主食 kanen 中的傳統作物的比重，則可對抗颶風天災斷糧的窘境。

達悟族人正在創造自己的未來，漁人社區發展協會，在部落旁設置了芋頭的保種園區，藉由觀光因應下的解說教育，同時傳承芋



頭文化，保存芋頭品系（操作面還有改良空間）；紅頭社區發展協會的生態步道營造，吸引了不少遊客（解說介面可以縮小），這些無論如何，都是居民自行倡議，自動自覺的開始。除了各部落組成的社區發展協會，蘭嶼部落文化基金會在許多部落有心人士的努力下，希望能作為發展蘭嶼達悟民族未來永續願景的民間機構平台，建構蘭嶼公共願景與對話機制，培力蘭嶼在地工作者及青年夥伴，並積極與外界發展協力夥伴關係，為蘭嶼願景提供相互對話與學習的空間。

經過數年的努力，蘭嶼部落文化基金會成為台灣第一個加入 ICCAs 的團體，ICCAs 為原住民族與社區保育區，由在地部落組成具有決策權的治理單位，以當地社群為主體，管理、維護與保育當地的生態資源，期望能確保族人的生存與當地資源和環境的永續使用。另有許多環境公民團體，如台灣環境資訊協會等，試圖作為保育媒體與資訊平台，極力促成島內與國際間的對話。

如同台灣島的縮影，個人、家族、部落到國家事務的公民參與實踐，無可避免地，這些已是下一代島民必須面對的挑戰！



4-3

The sustainable socio-ecological management





Retaining traditional knowledge, encouraging Tao migrants to return to their homeland, and correcting the mistakes made in the past could all be crucial steps in reuniting Tao community on Orchid Island. Apart from being public servants, job opportunities on the island are very limited. However tourism has created vacancies for young people to return to work or even to run their own business on their lands. This is a positive change. But how to extend that change into something more constructive for the future of this island has to be carefully planned. Working closely in cooperation with one another, following the tradition from Tao ancestors in using the resources wisely and promoting the eco-tourism could also be critical for its sustainability.

The traditional ecological knowledge (TEK) of Tao had clearly shown how its people could live on limited resources sustainably from its lands and the ocean, which is a typical example of socio-ecological management (Satoyama Initiative). This management model has also been recognized as the key to keep human beings and nature coexisting without breaking the balance for survival in many countries. Therefore, in order to maintain the stability of the whole socio-eco-system on the island, taking actions to pass on this traditional knowledge to future generations in cooperation with modern civilization is vital. Recently, some people suggest the near-natural engineering that derived from TEK can be the answer to correct mistakes made in the past, e.g., replacing concrete blocks and gabions with planting Ango (Screw pines). It is not only environmentally friendly, but also economical. As to the food and material supply crisis after the natural disaster, re-exercising the traditional cultivation methods and increasing the growing ratio of traditional crop varieties such as taro and sweet potato that used

to be the staple foods on the island, may easily solve the problems which occur during typhoon season.

Today, Tao people are more aware of their unique identity, the future of Orchid Island is actually in their own hands. For many years, each of the six remaining villeges, seperately and collectively, with the help from different organisations, have been woking hard and trying to rebuild their way of life to their own vision.

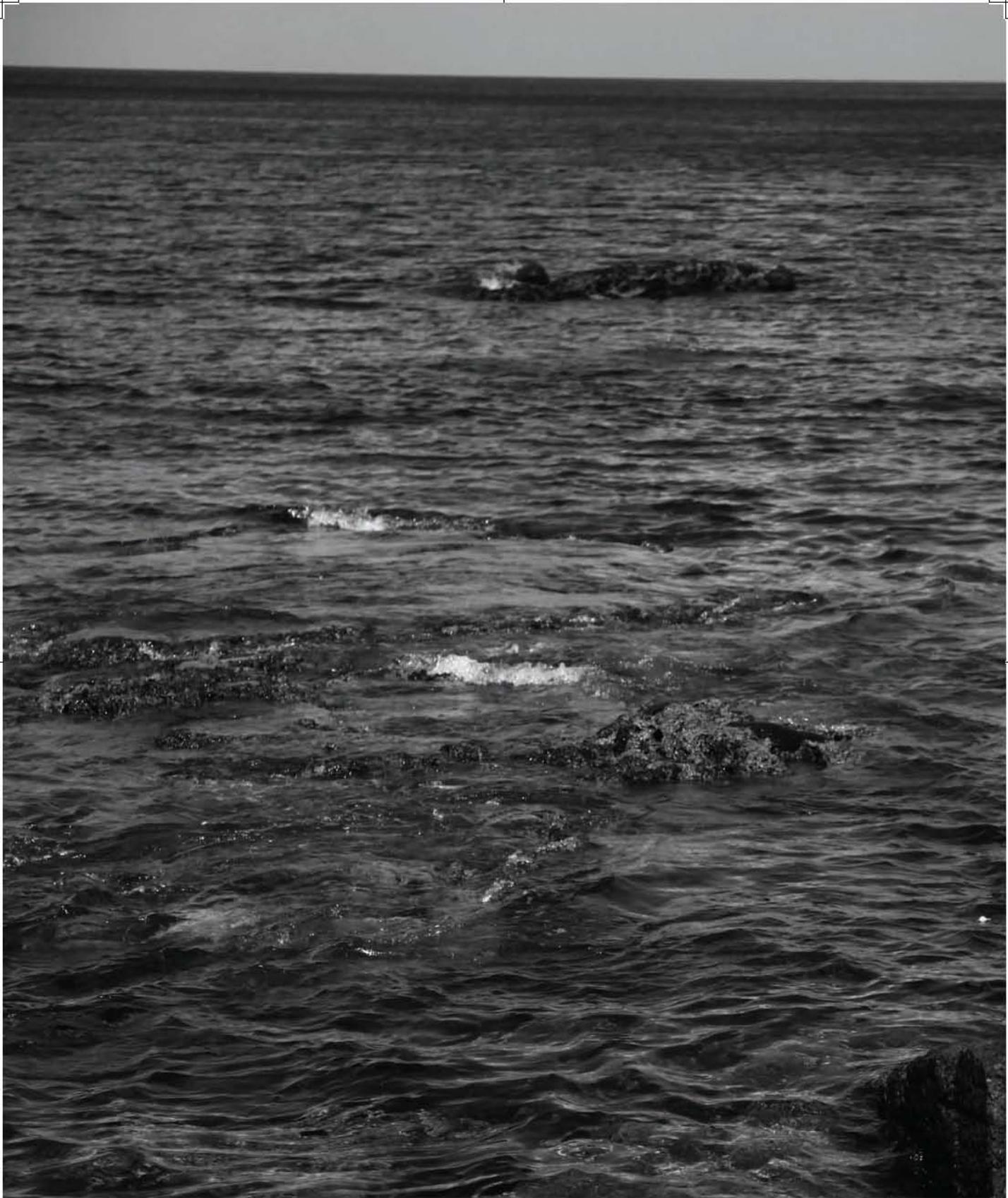
Finally, the effort has been paid off as the community organisation, the Tao Foundation, was set up to oversee the sustainable development of the island and proudly, it later became the first Taiwanese

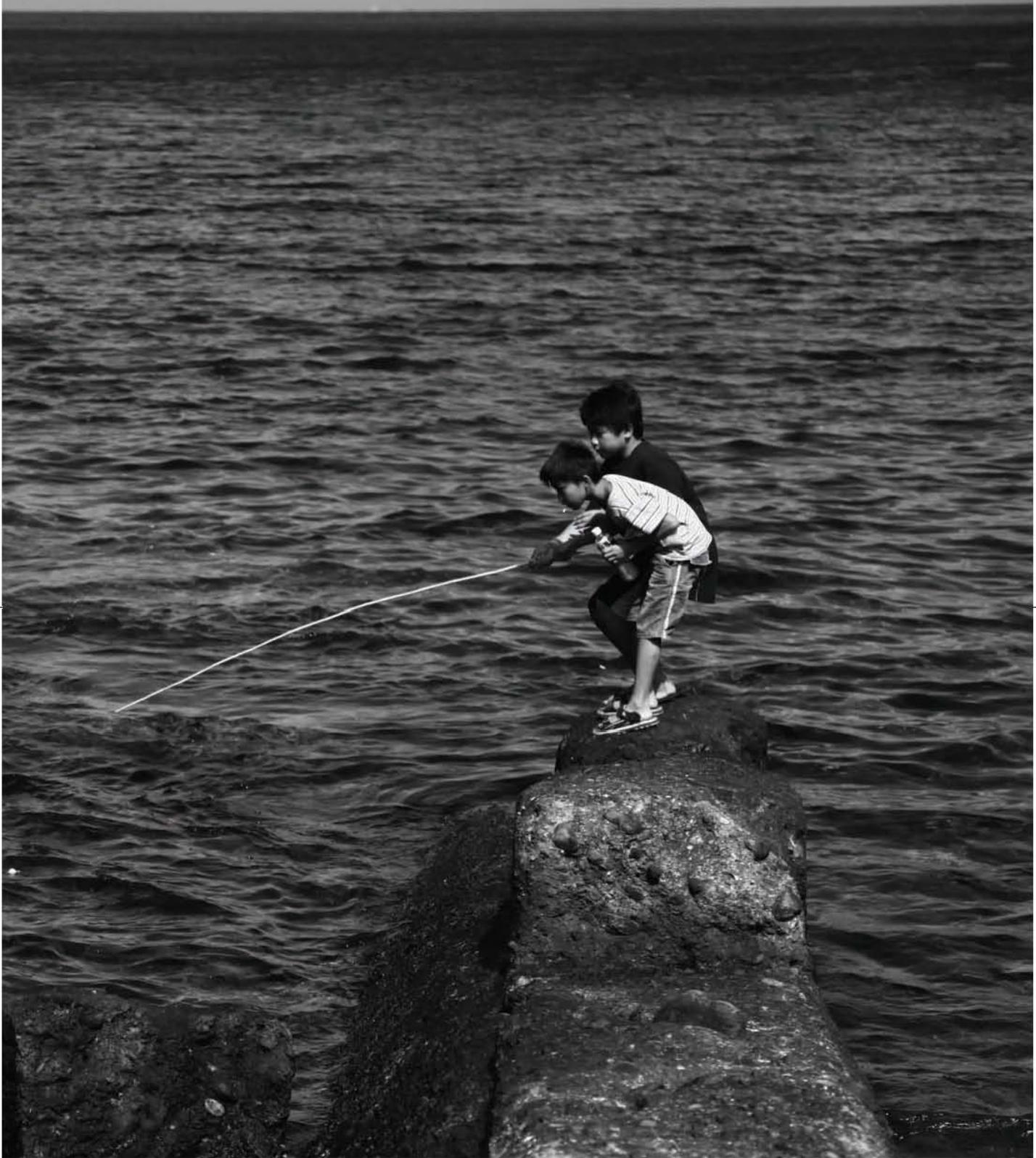
body to join the international organisation, the Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs). With the support from ICCAs, Tao could install effective self-governance and learn how to take the responsibility of managing and conserving the natural resources sustainably. Meanwhile, other associations, such as the Taiwan Environmental Information Center that serves as a platform also provides help for Tao to exchange conservational information and to communicate with the rest of the world. The future of Orchid Island is opmistic.

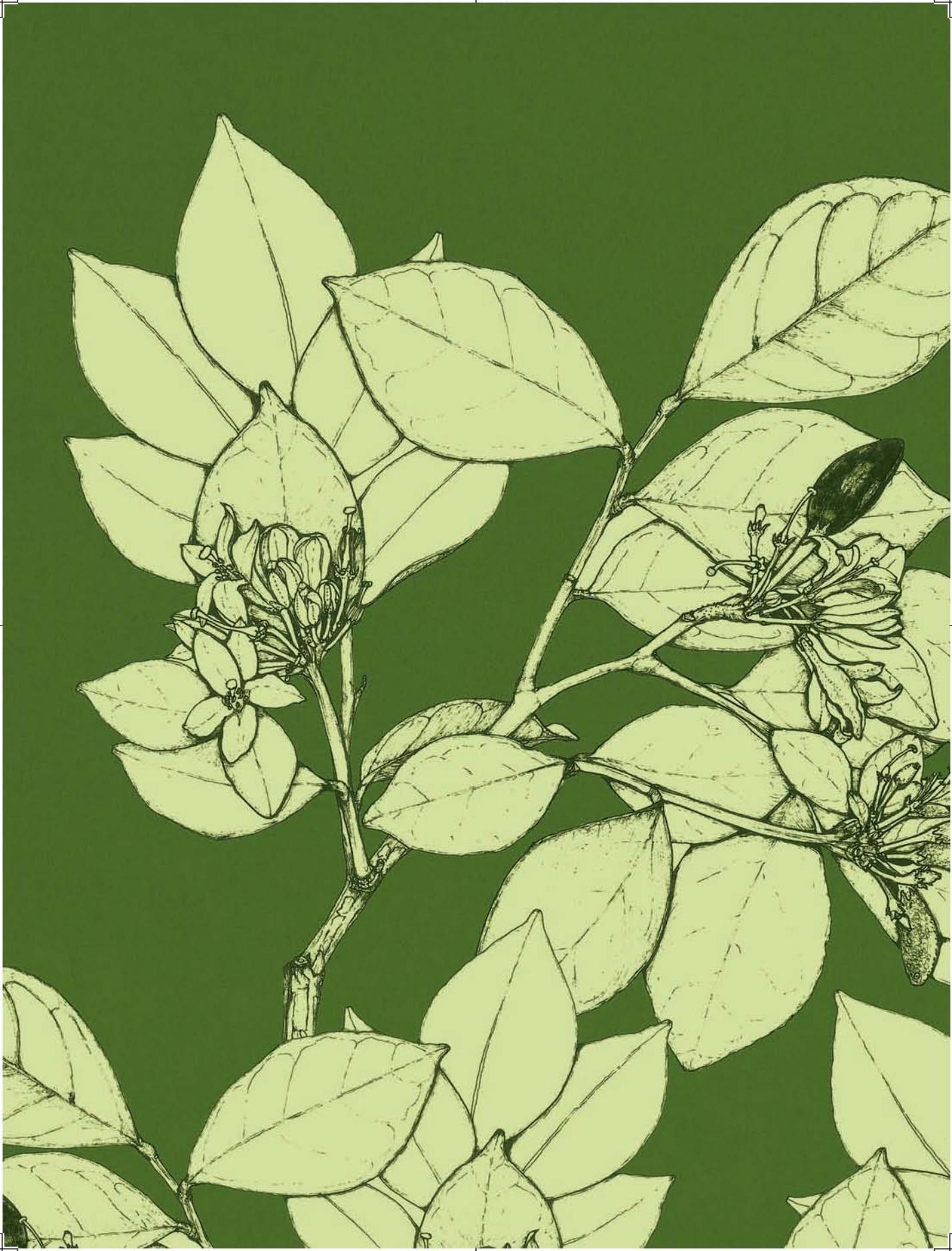
It is not an easy task. The younger generation of Tao must understand there will be inevitable challenges ahead of them.







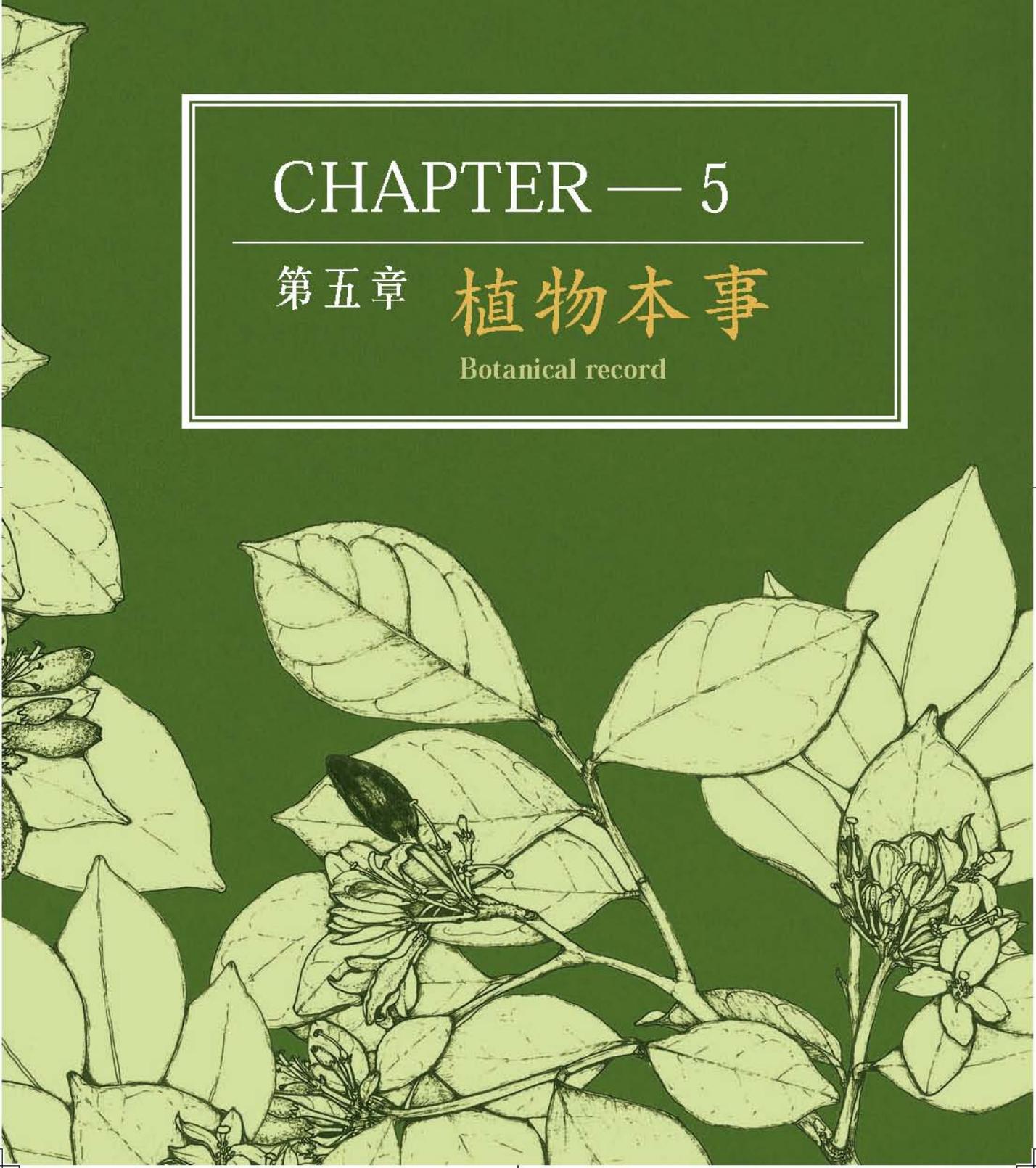




CHAPTER — 5

第五章 植物本事

Botanical record



飯

Kanen

Cuisine

千年芋 (里芋)

達悟語：Vezandehdeh

科名：Araceae 天南星科

學名：*Xanthosoma sagittifolium* (L.) Schott

英名：Tannia, Yautia, New cocoyam

千年芋原產於南美洲，由於地下塊莖富含澱粉，生長快速且產量高，引入馴化到世界其他地區。南島語族分布的菲律賓、新幾內亞以及密克羅尼西亞等地原住民，以千年芋為主食。

在蘭嶼另有一種紫柄千年芋 (*Xanthosoma violaceum* Schott)，族人通稱兩者為 Vezandehdeh，意思是漢人的，因為這是被引進栽植的芋頭，通常種植於旱地邊緣或林下，節慶或聚會時會取來蒸食。

Vezandehdeh of South America origin, with its starch-rich tuber and the fast growing and highly productive character, was introduced and had adapted well into many countries. It is the staple food for the Austronesian that live in the Philippines, Papua New Guinea and Micronesia islands.



There is one other taro species *Xanthosoma violaceum* Schott also named Vezandehdeh by Tao on the island. Both species are indicated as exotic plants by its Tao name meaning "Han's taro" or "outsider's taro". It is normally cultivated on the edge of a dry field or under the trees and only harvested to steam the tubers for consumption during special gatherings.







飯

Kanen

Cuisine

甘藷

達悟語：Wakay

科名：Convolvulaceae 旋花科

學名：*Ipomoea batatas* (L.) Lam.

英名：Sweet potato

在蘭嶼 Wakay 是僅次於水芋的第二重要作物，日治時期記載有 20 種，十月以後在墾殖後的山坡上扦插藤莖，數個月生長後，五月後即可大量種植在收成後的小米田裡。

由於時代演進，目前蘭嶼僅餘主要的 4 種甘藷：最傳統的蘭嶼白色地瓜 Wague，台灣來的白色細葉種，台灣來的紫色深綠葉種，以及菲律賓來的黃色深綠葉種。



On Orchid Island, after Soli (Taro), the second most important produce is Wakay. It had 20 varieties on record during Japanese colonization. There are two steps in preparation for Wakay cultivation. Cutting propagation proceeds firstly at the prepared sloping area after October as nursery to produce more cuttings. Then a few months later, those new cuttings would be transplanted into the harvested Millet field after May. At the moment, there are four varieties remaining on the island: Orchid Island white flesh type Wague, white-narrow-leaved and purple-dark-green-leaved varieties from mainland Taiwan and, the yellow-dark-green-leaved from the Philippines.



飯

Kanen

Cuisine

小米

達悟語：Kadai

科名：Gramineae (Poaceae) 禾本科

學名：Setaria italica (L.) P. Beauv.

英名：Millet



日治時期蘭嶼記錄到 12 個品種的小米，其中最廣泛種植的品種是 Arai, Richai, Raga, 和 Borok, 從前一年可兩穫，十二月在背山不被風吹的平地播種，或是五月在收成過的土地上播種。小米除了平時食用，並視為病人的營養品。族人認為神喜歡小米，視其為神聖作物，具有特別的意義。

小米在許多儀式場合所不可或缺，甚至會在每年七月份舉行小米收穫祭 (Apiavenan)，不過收穫祭並非年年都會舉行。收穫祭時族人會展演打米舞，勇士們邊舂米邊唱歌，而婦女們列隊跳著膾炙人口的頭髮舞，如波浪般反覆甩動頭髮。

During Japanese colonization, Kadai was recorded to have 12 varieties. Arai, Richai, Raga, and Borok were the varieties mostly cultivated. Tao used to harvest Kadai twice a year. It would be sowed in December at less windy flat land and in May again after the first harvest. Except for its daily consumption, it is also regarded as a special nutritious food for patients. It is sacred for Tao and has unique meanings. In many ritual ceremonies, such as Apiavenan, the Kadai harvesting festival, which is held in July for most years, Kadai must be presented as a god-sent gift. In Apiavenan, males would do the Kadai Pounding Dance and females would do the famous Tao Hair Dance to celebrate the event.



飯

Kanen

Cuisine

芋

達悟語：**Soli**

科名：**Araceae** 天南星科

學名：*Colocasia esculenta* (L.) Schott

英名：**Taro**

芋是南島語族在東亞區最重要的糧食作物，水芋被蘭嶼人視為最美味的作物，全株都可以食用，在達悟文化中占有舉足輕重的地位，芋田影響達悟人的社經地位，同時水芋種植更充分體現出達悟人的生態智慧。1956年鹿野忠雄和瀨川孝吉曾調查到旱芋和水芋品種各10種。

達悟人遵循旱作農業的山田燒墾模式，將森林砍伐並焚燒後的土地，用來種植芋頭等作物。芋頭種植屬於婦女的工作，芋頭的採收沒有固定的季節和時間，只要有立即需要使用的情況下就會進行採收，採收時只採收富含澱粉的塊根處，切下的葉桿立即種回田畝，缺乏塊根的葉桿生長緩慢，一到兩年後才會收成，因此芋頭雖然美味但產量有限，種植管理過程需耗費大量的人力。

To Austronesian in East Asia, Soli is the most important crop. It is treasured by Tao. The whole plant is edible. It holds a very significant position in Tao culture and Soli fields often indicate the social status of Tao people. It was recorded to have 10 varieties each of the dry-land type and wet-land type Soli, by two Japanese, Tadao Kano and Kokichi Segawa, in 1956. It is Tao women's job to grow Soli. Tao's ecological wisdom is also shown in Soli cultivating methods. It is cultivated and harvested randomly whenever Tao people need and when it is time to harvest, only the tuber will be taken and the leafy stalk immediately propagated back to the soil. Though this way of cultivating Soli sustains the limited resource, it is indeed labor-intensive and time-consuming as the new growth develops slowly over one or two years before being ready for harvest.



飯

Kanen

Cuisine

大薯

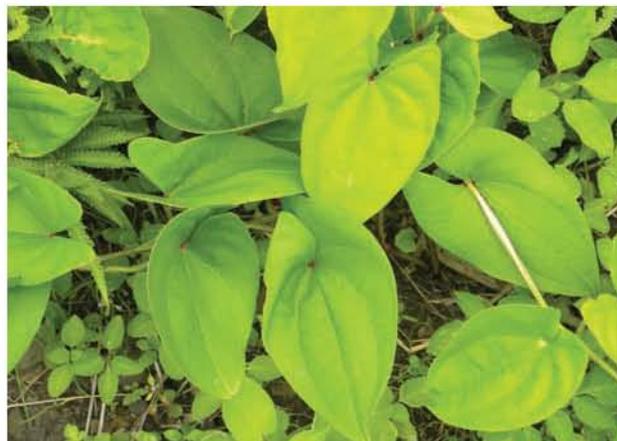
達悟語：Ovi

科名：Dioscoreaceae 薯蕷科

學名：*Dioscorea alata* L.

英名：Yam, Chinese yam

又稱薯蕷，大薯的塊根就是我們常說的山藥。長在較深的土裡，雖然好吃但挖掘費力，水芋和甘藷種植是女人的工作，大薯因為較耗體力，通常由男人種植。一月的時候，男人清除向陽坡上的樹林後，沿著樹木邊緣種植，同年九月至翌年四月間即可採收。日治時期曾經記錄到 15 種山藥，目前僅餘主要的 2-3 種。



The tuber of Ovi has a name of common yam or Chinese yam in the market. Its root grows deeply into the soil and requires an effort to dig it out when ready. For Tao, it is the women's job to grow taro and sweet potato but cultivating Ovi is quite labor consuming so men are in charge of that mission. In January, Tao men would plant Ovi alongside the trees on the sunny sloping areas and harvest the tubers from September till April the next year. It was recorded to have 15 varieties during Japanese colonization but now only two or three remain on the Island.





飯

Kanen

Cuisine

刺薯蕷

達悟語：**Patan**

科名：**Dioscoreaceae** 薯蕷科

學名：*Dioscorea esculenta* (Lour.) Burkill var.
spinosa R. Knuth

英名：**Thorny yam**



中文名又叫甘薯。有別於薯蕷，葉子是圓的。Patan 莖部和根部都有刺，取用時須小心，地下的白肉塊莖像馬鈴薯，不能生吃，煮完冰過更好吃，口感脆脆的。冬天是收成的時期。

Different from Ovi, Patan has round-shaped leaves. The edible tuber has white flesh and a similar taste to potato that needs to be cooked before eating. The thorny stem and root need to be treated with care. The crunchy texture of the cooked tuber tastes better after being kept cold in the fridge. Harvested in the winter.



菜

Yakan

Side-dish

秀貴甘蔗

達悟語：Onas

科名：Gramineae (Poaceae) 禾本科

學名：*Saccharum officinarum* L.

英名：Sugar cane



雖然沒有萃取糖的方法，族人喜歡咀嚼與吸吮甘蔗的莖，是以前時代拜拜、房屋落成、各種祭典時，小孩喜愛的零嘴，現代的祭典已不再使用。植株需摘除老葉才能抽高，六月、七月種植在村落的空曠處，種植一年後砍來食用，近年來放養在野外繁殖的山羊數量漸多，山羊會啃噬田間的甘蔗葉片，所以很難活、長不高。

日治時期曾記載有 10 個品種，今已不復見。

Although Tao do not refine sugar from Onas, it has been one of Tao people's favorite snacks and is an important offering. Onas is also used for special ceremonies such as housewarming party. Every year between June and July, Tao will grow Onas in open land inside the village, defoliating the old leaves to encourage it to grow tall, then harvesting the cane a year later. Unfortunately, since goats range freely in the wild, Onas leaves are often damaged by them and end up never grow tall.

It was recorded to have 10 varieties during Japanese colonization.





Yakan

Side-dish

粗莖麝香百合

達悟語：Vonitan

科名：Liliaceae 百合科

學名：*Lilium longiflorum* Thunb. var. *scabrum* Masam.

英名：Easter lily

粗莖麝香百合就是俗稱的鐵炮百合，與台灣常見的台灣百合不同種。台灣百合花瓣與萼片具酒紅色條紋，葉較細狹，粗莖麝香百合花瓣內外皆純白，葉較寬短。粗莖麝香百合生長在日照充足的草地上，青青草原上有較大的族群。族人早期取其鱗莖食用，Vonitan 意思就是可以片片剝下的意思。



Vonitan is also known as the Easter lily. It grows in clumps on the open sunny grass fields and has long petals of pure white color. Vonitan leaves are wider and shorter compared to other similar lilies. The often-sighted Taiwan lily found in mainland Taiwan has narrower leaves and flowers with wine-red stripes on its petals and calyx lobes are a different species. Tao consume Vonitan bulb as food. "Vonitan" means "it can be peeled clove by clove."





菜

Yakan

Side-dish

鈍葉大果漆

達悟語：Kanizing

科名：Anacardiaceae 漆樹科

學名：*Semecarpus cuneiformis* Blanco

英名：Varnish tree



分布於菲律賓、印尼蘇拉威西和蘭嶼，生長在開闊坡地的陽性樹種。漆樹科植物有毒，但成熟的紅色果托可食。依照個人體質，很多人會產生嚴重的過敏反應。

Varnish tree, distributed in the Philippines, on Celebes Island of the Republic of Indonesia and Orchid Island. It prefers growing on the open sunny sloping area. Kanizing belongs to Anacardiaceae (varnish tree group) that is poisonous, for some people getting too close to it may build up a serious allergic reaction. The red hypocarpium of its ripe fruit is edible.



菜

Yakan

Side-dish

檳榔

達悟語：Avoa

科名：Palmae (Arecaceae) 棕櫚科

學名：Arcea catechu L.

英名：Betel nut palm

在蘭嶼除了 Avoa 檳榔以外，還有特有種的山檳榔 Apo no roaw。Avoa 在日治時期已有引入紀錄，常被種植在田的周圍，成為族人的嗜好品，搭上白灰夾入荖藤 Gaod 食用。台灣檳榔習慣夾荖葉，在蘭嶼味道更濃烈的藤莖成為檳榔加味首選，在節慶宴客、求婚或討好心上人，婚宴時是必備的嗜好品。

Apart from the betel nuts variety Avoa, the species Apo no roaw, which is endemic, can also be found on the island. Avoa was introduced during Japanese colonization and planted around the fields. Its nuts are habitually chewed together with Gaod stem pieces and lime stone paste. In mainland Taiwan some people chew it with Gaod leaves instead, but on Orchid Island the Gaod stem provides a stronger flavor, and combined with Avoa is an essential treat for the guests at wedding parties and other ceremonies. As well Tao offer them as gifts when proposing marriage or friendship.



菜

Yakan

Side-dish

綠島風藤

達悟語：**Zangkap**

科名：**Piperaceae** 胡椒科

學名：*Piper kwashoense* Hayata

英名：**Philippines pepper**

綠島風藤又叫做菲律賓胡椒，分布於中國南部、綠島與蘭嶼。在蘭嶼共有五種胡椒屬植物，其中荖藤 Gaod、多脈風藤 *Piper interruptum* Opiz var. *multinervum* C. DC.、綠島風藤 Zangkap 常被食用。族人喜歡將胡椒的藤莖夾入檳榔內食用，味道相當嗆辣。



Zangkap is also named the Philippines pepper and distributed in south China, Green Island and Orchid Island. There are five Piper species on the island, among them, *Piper betle* L., *Piper interruptum* Opiz var. *multinervum* C. DC. and *Piper kwashoense* Hayata are mostly consumed. Tao love to chew betel nuts with the pepper vine due to its hot and spicy flavor.





菜

Yakan

Side-dish

稜果榕

達悟語：**Labnoy**

科名：**Moraceae** 桑科

學名：***Ficus septica* Burm. f.**

英名：**Angular fruit fig**



稜果榕在蘭嶼島上處處可見，沿公路、聚落、耕地生長，夏季秋初常見結實累累，果實可食，但族人選擇留給島上最大型的哺乳動物 - 白鼻心 Panganpen。木頭並未被利用。

Labnoy is everywhere on Orchid Island, it grows along the road, around villages and farmlands and produces lots of edible fruits in summer and early autumn. Tao keep them for the biggest wild mammal in the bush, Formosan Masked Civet (Panganpen), as they feed on the fruit during the season.



Yakan

Side-dish

蘭嶼大葉毛蕨

達悟語：**Tobwo**

科名：**Thelypteridaceae** 金星蕨科

學名：***Cyclosorus kotoensis* (Hayata) Shieh**

英名：**Bitter fern**



蘭嶼特有種蕨類，又叫做苦苦菜，味道苦苦的，是一種具藥效的蔬菜，清淡的水煮法可以吃出原味，喜歡苦味的族人認為吃了可以降火。市場可以買到山上種的嫩芽，一小把可以賣到 50 元，比味道不苦但有澀味的過溝菜蕨 Arabi 貴。

Endemic species on Orchid Island. Tobwo fern's other name is "the bitter vegetable" due to its taste. Tao believe its bitterness has medicinal properties that may ease some medical conditions. Tao prefer Tobwo to be lightly boiled before eating it. In the market, a bunch of Tobwo leaf buds with their strong bitter taste is more expensive than another less bitter fern vegetable Arabi.



菜

Yakan

Side-dish

蘭嶼秋海棠

達悟語：Esem

科名：Begoniaceae

學名：*Begonia fenicis* Merr.

英名：Lanyu begonia



Esem 主要分布在菲律賓巴丹島、琉球西表島以及臺灣的綠島、蘭嶼及恆春半島，在蘭嶼生長在珊瑚礁岩或田埂邊的疊石上，葉形和花朵十分美麗，亦引入台灣進行園藝種植。莖吃起來是酸的，孕婦相當愛吃，族人通常沾鹽生吃，老人說花梗和花苞吃了會啞，藉由忌諱可以讓 Esem 繁衍。因應觀光需求，常可以買到冰沙與果汁。

Esem mainly distributed on Batan Island of the Philippines, Iriomote Island of Okinawa in Japan. In Taiwan, it is found on Green Island, Orchid Island and on Hengchun peninsula of south Taiwan. On Orchid Island, it grows on the stone fences around the fields or on the reefs. Due to its beautiful leaves and flowers, it was introduced to mainland Taiwan for the horticultural market. The leaf stem has a sour taste and is popular among pregnant women. Tao normally dip the stems in salt and eat it. The elderly often say it will turn people mute if they consume the flowering parts in an effort to sustain growth. Tao people sometimes make icy drinks or juice from it for tourists.



菜

Yakan

Side-dish

蘭嶼樹杞

達悟語：Payin

科名：Myrsinaceae 紫金牛科

學名：*Ardisia elliptica* Thunb.

英名：Lanyu ardisia

Payin 是長在旱田旁的小灌木，提供勞動婦女田埂旁遮蔭的所在，Payin 果實成熟呈紫黑色，從前時代水果少，媽媽會摘鹹鹹甜甜的果實回去讓小孩高興，現代有人釀製 Payin 酵素，成為高貴的養身飲品。



Small shrubs. Payin grows aside the dry field. It provides shade for the women whenever they need a break from farm work. Its fruit turns dark purple when ripe. In the past when there were not many choices of fruit, Tao mothers would pick Payin's sweet but salty fruit to treat their children. Nowadays, modern technology has helped turn this wild delicacy into a luxurious health drink.





Yakan

Side-dish

蘭嶼蘋婆

達悟語：Langtak

科名：Sterculiaceae 梧桐科

學名：Sterculia ceramica R. Brown

英名：Lanyu sterculia



中大型喬木，長在向陽的坡地上。Langtak 是”咬一咬”的意思，族人喜歡採集果實，打開果核剝去內種皮，生吃時有清脆的聲響。

Medium to tall trees. Langtak grows on the sunny sloping area. “Langtak” means “to crunch”. Tao like to collect the nuts from the fruit. It has a crunchy sound when eating it raw.





舟

Tatala

Canoe

大葉山欖

達悟語：Kolitan

科名：Sapotaceae 山欖科

學名：*Palaquium formosanum* Hayata

英名：Formosan nato tree

Kolitan 需要後熟，剝皮後才能吃，由於形狀像芒果，被族人稱為蘭嶼芒果。Kolitan 的木材是造舟的重要樹種，具板根且質地輕軟，舉凡船舷側板、座椅、船槳都可以使用，魚盤也可以用這木材製作。近來偶而可見族人採集果實，賣給好奇的觀光客。

Kolitan fruit needs to be kept for after-ripening and peeled before eating; Tao call it Lanyu Mango due to their similarity in shape. The tree has buttress roots, its timber is soft and light, an important material for canoe making as well as for fish plates.



舟

Tatala

Canoe

番龍眼

達悟語：Ciai, Acai

科名：Sapindaceae 無患子科

學名：*Pometia pinnata* J. R. Forst. & G. Forst.

英名：Fiji longan



原產於波里尼西亞、新幾內亞、馬來西亞和菲律賓的大型喬木，根據花粉證據，蘭嶼島上的番龍眼，可能是人為引入。早期是族人重要的水果，黏滑而甜的果肉相當受歡迎。木材紅褐色，可做地下屋宗柱、牆板、踏腳板、地板。因為質地堅硬不反翹，拼板舟的龍骨必須使用 Acai，板根可製船首及船尾。飛魚的木盤、織布機都由此重要木材製成。

Tall tree. Evergreen arbor. Native plant distributed in Polynesia, Papua New Guinea, Malaysia and the Philippines. According to the study of its pollen, Ciai aka Acai, the plant growing on Orchid Island was possibly a species introduced by man. Its fruit was an important fruit to Tao, made popular by its sticky but sweet flesh. Its timber has a red-brownish color and can be used as the heart post (Tomok) of Tao traditional submerged buildings, as well as for wall panels, stepping boards or floors. Acai wood is hard and solid and very suitable for building the keels of Tao canoes and the timber from the buttress root can be used for making bows and stems; as well as for making fishplates and weaving machines.







舟

Tatala

Canoe

毛柿

達悟語：**Kamala**科名：**Ebenaceae** 柿樹科學名：***Diospyros philippensis* (Desr.) Gurke**英名：**Taiwan ebony, Taiwan persimmon**

分布在菲律賓和台灣，Kamala 是”沉重”的意思，其心材非常沉重，是珍貴的上等木材，用途極廣，舉凡生活用材，杵、刀鞘、釜柄、船槳、船板、匕首套、水芋收穫棒、以及需要耐重不易腐壞的木頭，都可加以使用。果實可食。

Distributed mainly in the Philippines and Taiwan. “Kamala” means “heavy or ponderous” to indicate the character of its heartwood. Kamala heartwood is very precious as it can be manufactured into long lasting devices for heavy duties, such as pestles, sheaths, handles of hatchets, knife cases, paddles, boat sheets and the harvest sticks for taro. Its fruit is edible and often consumed by people.





舟

Tatala

Canoe

小葉桑

達悟語：Pasek

科名：Moraceae 桑科

學名：*Morus australis* Poir

英名：Small-leaved mulberry

族人非常重視此種樹，因為它能結合不同的木板。Pasek 是重要的填縫材料，主幹可當成曬魚柱或支架，心材則削成竹筷粗細的木釘，用在建屋或拼板舟的木材接合上。

Tao value Pasek very much because of its ability in jointing different timbers. It is a very useful source as jointing material or filler, and the core timber can be shaped into wooden nails for the construction of buildings and Tao canoes. Tao also use its trunk to make hanging frames to sun dry fish.



舟

Tatala

Canoe

麵包樹

達悟語：**Cipoo**

科名：**Moraceae** 桑科

學名：*Artocarpus incisus* (Thunb.) L. f.

英名：**Breadfruit tree**

廣泛分布於太平洋各島嶼的大喬木，全株都可利用，麵包樹的種類與品系繁多，在坡里尼西亞是重要的澱粉來源。蘭嶼有兩種，本種較常利用。

Cipoo 也就是紅色的意思，其木材是紅色的，族人利用板根作為拼板舟的船首和船舷側板，製造拼板舟第一步，需要找到足夠大的板根才能撐起較大的舟體，樹幹可為宗柱、搗小米的臼，木板並廣泛使用在各種場合。果實烤食或煮食，非常芳香可口且富含澱粉，種子亦可食用。

Tall trees. Widely distributed on the Pacific islands. It is an important starch source in Polynesia. The whole plant is useful to Tao. There are many varieties of Breadfruit tree. People can find two species on Orchid Island, this species Cipoo is more often used by Tao. "Cipoo" means "red" to describe the color of its timber. Its buttress roots are used for the bows and hulls of Tao canoes. For Tao, the first step of building a canoe is to find buttress roots big enough to form the body of the canoe. Cipoo trunk can be erected as the heart post of the main house (Vahay) or turned into mortars, and its boards are useful for many other construction purposes. Its fruit is rich in starch and tasty to eat after it is cooked or roasted. The seeds are edible too.







舟

Tatala

Canoe

蘭嶼肉桂

達悟語：Kazaka

科名：Lauraceae 樟科

學名：*Cinnamomum kotoense* Kanehira & Sasaki

英名：Lanyu cinnamon tree

Kazaka 是香味的意思，肉桂屬植物的樹皮具有香味，木材早期用來雕刻小船，但已很少見。因為園藝市場的需求，僅分布在蘭嶼的特有種 Kazaka 被大量採集，目前路邊生長的個體是近年復育的植株。



Kazaka is endemic on Orchid Island. "Kazaka" means "aroma" to indicate the beautiful smell from its bark, a character that is also shared by other cinnamon plants. In the past, it was used for ornamental toy boat carving but that is hardly the case these days. Recently, due to the demands of the horticultural market, wild Kazaka plants have been widely collected and not many are left on its original sites. Now the trees commonly seen on the roadside are all cultivated specimens.



舟

Tatala

Canoe

蘭嶼花椒

達悟語：Varok

科名：Rutaceae 芸香科

學名：*Zanthoxylum integrifolium* (Merr.) Merr.

英名：Leaves entire prickly ash



蘭嶼花椒是僅分布在蘭嶼和菲律賓的原生植物，複葉，紅色果實，枝條上有刺，可以長成高大的喬木。根部具有棉絮般的毛絨，因此廣被用做填縫材料，圍繞馬尼拉麻 *Avaka* (*Musa textilis* Nee.)，塞在拼板舟上每塊船板相接的隙縫，可防水滲入。家屋木板上也可見使用的蹤跡。Varok 是輕飄飄的意思，除穢儀式時不幸的事情也會隨根毛飄散。

Tall trees. Varok is a native plant only distributed in the Philippines and Orchid Island. It has compound leaves, thorny branches and it produces red fruit. The cotton-like root hair is collected and used as filling material for Tao canoes or buildings. Tao people would wrap a mass of Varok root hair with *Avaka* (*Musa textilis* Nee.) fiber to fill the cracks between the wooden sheets on Tao canoes to prevent them from leaking. "Varok" means "light as a feather", and the hope is that during a cleansing ritual misfortune would also be carried away with the root hair.



舟

Tatala

Canoe

欖仁舅

達悟語：**Itap**

科名：**Rubiaceae** 茜草科

學名：*Neonauclea reticulata* (Havil.) Merr.

英名：**False Indian almond**

海岸林或溪谷旁森林的大喬木，族人使用頻度很高的樹木。樹皮可捶打製成戰鬥服內層，葉片可當作鍋蓋。枝條可做曬魚架，板根可以砍下來做船尾和龍骨，木頭也可做房子的地板、拼板舟坐墊、船槳用。

Big trees. Itap grows in the forest that is close to the shore or beside the valley and is frequently used by Tao. Itap bark can be treated to make the inner layer of armor. Its leaf can be a lid for the cooking pot. The bigger branches can make frames for sun-drying fish. Its buttress root is used to build the sterns and keels of Tao canoes, and Itap timber is used for floorboards in the house, the seating parts and paddles of canoes.





Vahay

Housing

大花赤楠

達悟語：Kalenden

科名：Myrtaceae 桃金娘科

學名：*Syzygium tripinnatum* (Blanco) Merr.

英名：Tripinnate eugenia

果實像圓形的小蓮霧，因為種子很硬且大，難以下嚥，容易哽到，因此稱為 Kalenden(哽到)。森林裡可見到大樹，整根樹幹可以拿來做房屋的桁。

The fruit of Kalenden looks like mini Wax-apple/Bell fruit, its seeds in the center are hard and big, Tao people very often choked when consuming the fruit so the word "Kalenden" meaning "choked" was given. Available in the forest, its whole trunk can be used as rafters or the ridge beams of buildings.



白茅

達悟語：Vocid

科名：Gramineae (Poaceae) 禾本科

學名：*Imperata cylindrica* (L.) P. Beauv. var. *major*
(Nees) C. E. Hubb. ex Hubb. & Vaughan

英名：Lalang grass

可拿來蓋房子用，整株帶根的 Vocid 曬乾綁成束，倒吊鋪滿屋頂，就是很好的防水絕緣材料。製陶、引火也都要 Vocid 當成燃料，因此每個村子有自己的採集專區。

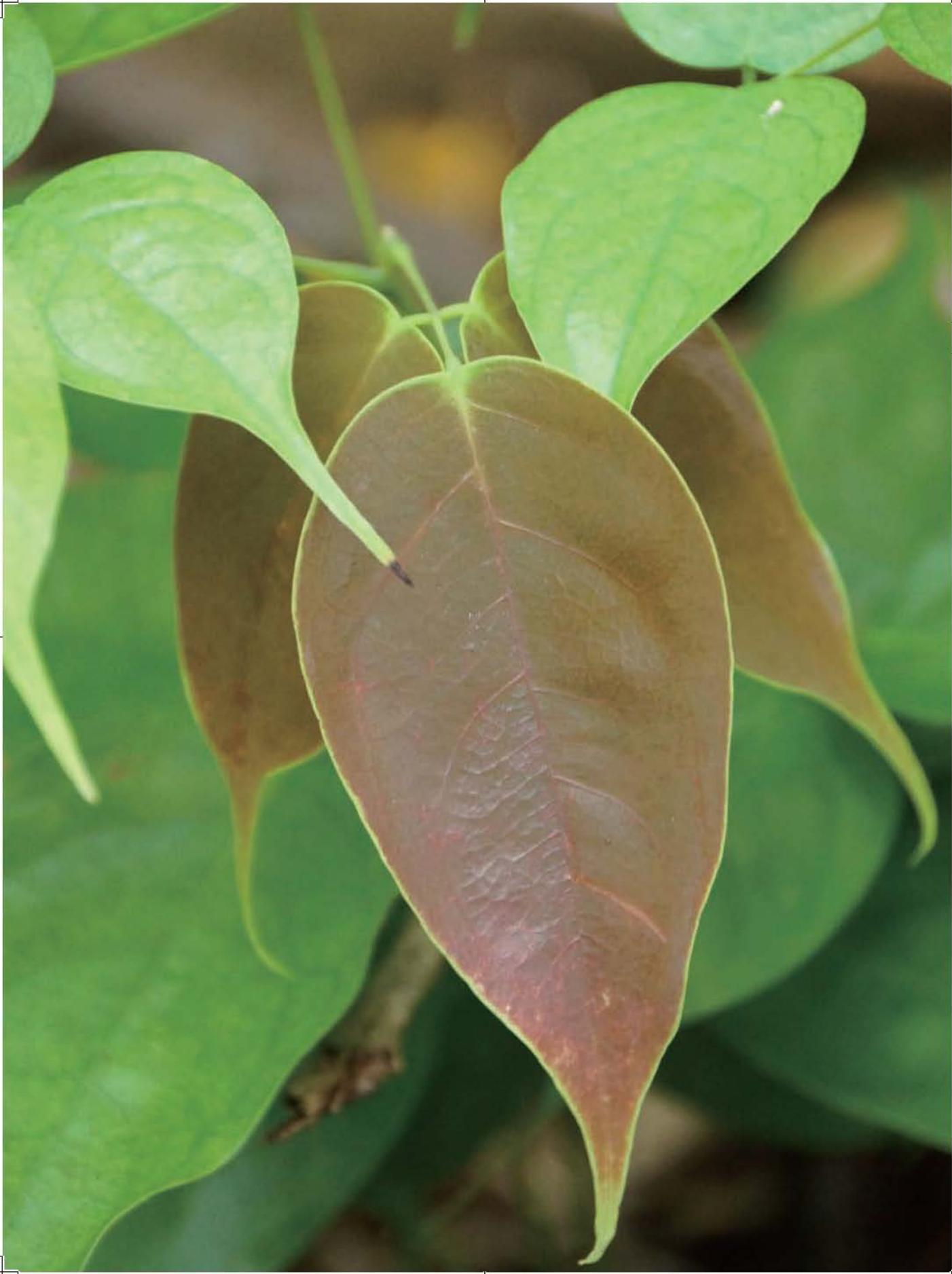
The whole Vocid plant can be used for building rooftops on the outer side as waterproof coverage and as well as the material for burning pottery or setting a fire for any purpose. Every village has its own Vocid patches.











屋

Vahay

Housing

紅葉藤

達悟語：Oris

科名：Connaraceae 牛栓藤科

學名：*Rourea minor* (Gaertn.) Leenhouts

英名：Red leaf of autumn

藤狀灌木，攀爬於原始森林林緣，奇數羽狀複葉，幼葉呈現美麗的鮮紅色，故得秋葉紅的美麗英名。Oris 是”綁牢”的意思，族人經常用來網綁固定涼台、船屋的樑柱板，但禁止使用在主屋上，怕家人被綁牢（病痛）無法工作。

Lianoid shrubs. Oris normally climbs against trees and grows at the outer side of primary forest. Oris has alternate pinnate compound leaves. It is also named “Red leaf of autumn” for its young leaves that always show a beautiful vivid red color. “Oris” means “to tie-up” to indicate that Tao often use it to combine materials to build boat houses and cabanas (Tayakal), but it is forbidden to use it on the main domestic buildings (Vahay) as it may impose a negative force on health which may stop people from working.





屋

Vahay

Housing

馬尼拉芝

達悟語：Pipia a tamek

科名：Gramineae (Poaceae) 禾本科

學名：Zoysia matrella (L.) Merr.

英名：Manila grass



廣泛分布於熱帶亞洲，Tamek 泛指草，Pipia a tamek 是最好的草，因此族人特別栽植在住屋周邊美化環境，穩固砌石，婦女也會特別栽植在田埂，不但因草短而容易管理，更是勞動婦女勤勞的指標。

Widely distributed in tropical Asian area. "Tamek" means "the grass" and "Pipia a tamek" means "the beneficial grass". Tao grow it around their houses to decorate the environment or to help strengthen the stone construction. It is also planted on footpaths between fields by women. It is short and easy to manage. Females who have planted this grass to enhance their environment are regarded as being good laborers.



屋

Vahay

Housing

菲律賓火筒樹

達悟語：**Aninibzawen**

科名：**Leeaceae** 火筒樹科

學名：***Leea philippinensis* Merr.**

英名：**Philippine leea**



蘭嶼有兩種火筒樹，菲律賓火筒樹是一回羽狀複葉，火筒樹則是三到四回羽狀複葉。菲律賓火筒樹是珍貴的木材，達悟名 Aninibzawen 是”硬的像鐵”的意思，質地相當堅固，通常用來蓋房子，住屋、船屋、涼台，兄弟分家後拆屋其木頭，甚至會代代相傳。



There are two types of leea on Orchid Island. Aninibzawen leaf is pinnatifid, another leea is tripinnatifid or decompound pinnatifid. Its timber is hard and precious to Tao. “Aninibzawen” means “hard as iron”. It is a good material for buildings, boathouses and cabanas (Tayakal). The used timber from old family properties is valuable and some people would even pass it on from generation to generation.



Vahay

Housing

越橘葉蔓榕

達悟語：**Vaheng**

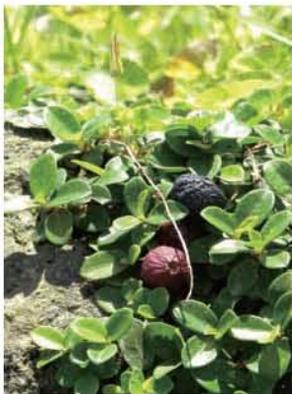
科名：**Moraceae** 桑科

學名：*Ficus vaccinioides* Hemsl. & King

英名：**Vaccinium fig**

特有種植物，分布於台灣東部以及綠島蘭嶼，匍匐藤本，Vaheng是”黑色”的意思，小而成片生長的隱頭果是黑色的，因而得名。種於田邊護坡固土，還有裝飾功能，是田裡的好草，同時也會在住家附近石牆種植為綠美化植物。

Endemic species and a creeping vine, distributed on the east part of mainland Taiwan, Green Island and Orchid Island. “Vaheng” means “black” because of the color of its edible fruit (syconia) that forms a black patch during the fruit season. A good plant to have in the field, it has the ability to hold soil to protect the edge of the field. It is decorative and commonly grown against stonewalls around the house.





屋

Vahay

Housing



蘭嶼木薑子

達悟語：**Mazingas**

科名：**Lauraceae** 樟科

學名：*Litsea garciae*Vidal

英名：**Lanyu litsea**

分布於爪哇、馬來半島、菲律賓和蘭嶼的中喬木。有別於台灣常見的樟科木薑子屬植物，葉片非常大，生長在山區原始林下，木材較鬆軟，早期用於搭蓋屋頂，但植株數量漸少，遂逐漸少被使用。

Medium trees. Distributed on Java, Malayan peninsula, the Philippines and Orchid Island. Mazingas has very big leaves that can be differentiated from other *Litsea* (Lauraceae) species in mainland Taiwan. It grows under the primary forest in the mountain. Its timber is comparatively soft and was used to build rooftops in the early days. Now due to its decreasing population, it is used less for that purpose.





器
品

Saod

Tools

長果月橘

達悟語：Vanai

科名：Rutaceae 芸香科

學名：*Murraya paniculata* (L.) Jack. var.
omphalocarpa (Hayata) Swingle

英名：Lanyu jasmin orange

枝幹韌而堅硬，適宜製刀把、斧柄或工具手把，是非常好的木材。特有種植物，灌叢生長在山麓海邊，開花時有香味，和台灣的月橘（七里香）最大的差異在果實長而尾尖。

Shrubs. Endemic species, distributed from the shore to the mountain foot on Orchid Island. Its woody body is tough and hard, and can be turned into very good timber, suitable to make the handles of knives, hatchets and other tools. Vanai has fragrant flowers. Its long-shaped fruit with a sharp end is the key difference from other similar species on mainland Taiwan.



蘭嶼芋

達悟語：**Angsed**

科名：**Araceae** 天南星科

學名：*Schismatoglottis kotoensis* (Hayata) T. C.

Huang, J. L. Hsiao & H. Y. Yeh

英名：**Lanyu schismatoglottis**

蘭嶼森林是天南星科植物的大本營，陰濕的溪谷加上雨林的氣候特別適合它們生長，蘭嶼芋在林下與其他天南星植物混生，由於葉形優美，族人宴客時會特別取來當食物的襯墊，葉片亦可飼豬或攜帶食物。

The forest on Orchid Island, with its shady, wet and rainforest-type of weather, is an ideal host environment for many Araceae plants. On the island, Angsed grows mixed with other Araceae plants under the trees. Its beautiful leaves are used by Tao as food mats at parties, as food wrapping material, and can be fed to pigs.



蘭嶼柿

達悟語：Kanarem

科名：Ebenaceae 柿樹科

學名：*Diospyros kotoensis* Yamazaki

英名：Lanyu persimmon

枝蘭嶼的特有種小喬木，名字是”尖”或”不怕危險”的意思。在飛魚季期間不可以砍來當柴燒，否則會發生危險。木材可作為杵、織布機的理經棒、或拼板舟的柱板。

Small trees. Endemic species on Orchid Island. “Kanarem” has the meaning of “sharp” or “fearless”. It is forbidden to chop it for firewood during the flying fish season or something bad may happen. Tao turn its wood into pestles, textile warp sticks and the boat sheets for Tao canoes.





器

Saod

Tools

蘭嶼觀音座蓮

達悟語：Paptok

科名：Marattiaceae 觀音座蓮舅科

學名：*Angiopteris palmiformis* (Cav.) C. Chr.

英名：Lanyu vessel fern



分布於菲律賓北部與蘭嶼，數量很少，Paptok是”易折”的意思，葉片很容易由葉枕處折斷，在山上遇到大雨，族人會立刻折斷大葉片來遮雨。

Distributed in the north of the Philippines and Orchid Island. Its population is very small. “Paptok” means “easy to break” to indicate its leaves are very easily broken off from its pulvine. When the heavy rain comes, Tao will use its big leaf as an umbrella.



巫

Toyon

Ceremony

月桃

達悟語：Azngas

科名：Zingiberaceae 薑科

學名：*Alpinia zerumbet* (Pers.)

B. L. Burt & R. M. Smith

英名：Butterfly ginger, Shell-flower ginger

月桃在蘭嶼的意義有別於台灣其他南島民族，在日常生活中具有禁忌，年長者忌諱使用月桃綑綁物品。喪禮等涉及惡靈 Anito 的儀式性場合，月桃取代了原先芋葉的功能，喪家包飯以其葉盛物。離開墓地時爲了驅趕 Anito，可以用月桃或咬人狗除靈。葉片可搭棚。

Azngas plays a very different role on Orchid Island and Taiwan. It is a taboo plant which is only used for funerals (to wrap food) or expel evil spirit—Anito.

When leaving a cemetery, Tao people would use Azngas or Ahateng to keep away Anito. The leaves could be used for roof material.





巫

Toyon

Ceremony

牛筋草

達悟語：**Aptos**

科名：**Gramineae (Poaceae)** 禾本科

學名：***Eleusine indica* (L.) Gaertn.**

英名：**Goose grass**

難以拔除的野草。Aptos 代表”消失”，例如抓到飛魚後，可以潔淨飛魚，吃飛魚前在飛魚上揮一揮，讓不好的東西依附在 Aptos 上，之後丟棄，讓吃飛魚者能保健康，是一種除穢用草。象徵著讓惡靈 Anito 消失。

Though Aptos is a tough weed and very hard to get rid of once it has established in the field, Tao value it and use it for cleansing purposes. For instance, Tao would wave this grass over flying fish after capture and before eating them, then dump the grass to brush off the evil spirit “Anito”, so the consumers will not have trouble after eating the fish. “Aptos” means “to disappear”.



巫

Toyon

Ceremony

白樹仔

達悟語：Ayon

科名：Euphorbiaceae 大戟科

學名：*Gelonium aequoreum* Hance

英名：Swamp gelonium



特有種植物，原生於台灣南部、綠島、蘭嶼的白樹仔，是耐海風鹽霧的海濱植物，材質緻密是製杵的工具材，並為優良的薪炭材。

Ayon 生長快速，在蘭嶼的春天和秋天，婦女會盛裝下田，慎重的在水田中央插下 Ayon 的枝條為土地祝福，春天是祈求上蒼讓芋頭快快長大；秋季的 Ayon 則具有保護的意義，盛裝的女農在田裡插下一段 Ayon 默禱，感謝土地的辛勞，請您休息，從這時起讓我來保護您。

Endemic species, distributes only on the south of mainland Taiwan, Green Island and Orchid Island. Ayon is wind and salt tolerant, a fast growing species and normally grows on the seashore. The hardness and high density of its timber is regarded as excellent firewood and good for making pestles. Twice a year, Tao women would dress up for a ritual in relation to propagating Ayon. In spring, they stick the branches into the taro patch to pray for a good crop. And in autumn, fully dressed women would repeat the ritual, praying in silence to protect and to thank the land and wish it a good rest.



巫

Toyon

Ceremony

刺桐

達悟語：**Sebang**

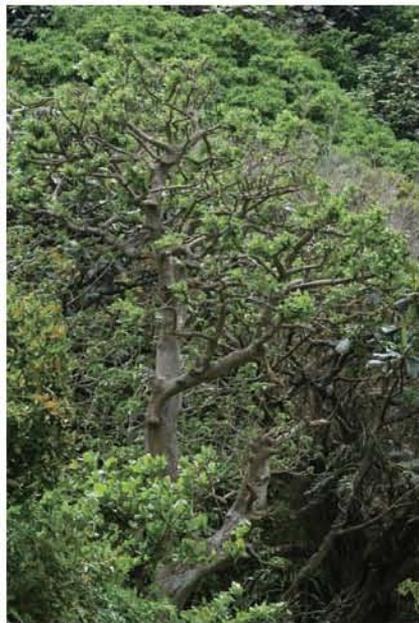
科名：**Leguminosae (Fabaceae)** 豆科

學名：*Erythrina variegata* L.

英名：**Coral tree**

刺桐是南島語族重要的象徵性民族植物，幾乎分布在所有南島語族國家，Sebang 指的是”鬆軟的木材”，在蘭嶼木材較少利用 Sebang。三月初全株紅艷的花朵，綻放在林緣，昭告了飛魚季的開始，傳說此時黑色的飛魚王帶領其他的飛魚迴流。漁人村路口及機場旁森林原先有相當大的植株，同時族人在水芋田旁扦插作為籬笆，近年來由於入侵種刺桐釉小蜂危害，最後一株位於紅頭山登山口的刺桐已於 2012 年死亡。未來若欲延續飛魚季的傳統，應該考慮重植具有抗蟲能力的刺桐樹。

Sebang is a symbolic ethnic plant for all Austronesian and can be found in almost all the Austronesian regions. “Sebang” means “soft-grained wood” and Tao seldom use it for timber. However, its vivid flaming red flowers bloom in early March, which for Tao is the call for the beginning of the flying fish season when it is said in a legend that at this time of year a black flying fish king would lead the swarm to return. Sadly, such custom may no longer apply due to the outbreak of an invasive wasp, *Quadrastichus erythrinae* Kim, which has happened in recent years, and that resulted in the whole Sebang population on Orchid Island being gradually weakened and entirely destroyed in 2012. Replanting Sebang with the resistant variety has been suggested if Tao wish to revive the custom.





巫

Toyon

Ceremony

咬人狗

達悟語：Ahateng

科名：Urticaceae 蕁麻科

學名：*Dendrocnide meyeniana* (Walp.) Chew

英名：Poisonous wood nettle



蘭嶼有兩種咬人狗，本種廣泛分布於菲律賓與台灣，葉面上具有毒腺毛，被咬人狗的葉子碰到發癢，可用秋海棠 (esem) 的莖去化解。達悟語 Ahateng 是”迴避”的意思，咬人狗具有多重的象徵意義，主要是祈福和避災，由於惡靈用 Ahateng 害人，因此喪葬過程中族人反用此樹化解除靈。

There are two species of poisonous wood nettle on Orchid Island. Ahateng is the one widely distributed in the Philippines and Taiwan. Its leaf is covered with fine poisonous hairs that may cause a skin allergy on contact. When this occurs, Tao will apply the sap from the stalk of Esem (Lanyu begonia) for relief. "Ahateng" means "avoidance", it has many symbolic meanings to Tao mainly about wishing well and seeking protection from disaster. It is said that the evil spirits harm people with Ahateng, therefore, Tao will use this plant for cleansing in a funeral.







巫

Toyon

Ceremony

棋盤腳樹

達悟語：**Tova, Kamanrarahet**

科名：**Lecythidaceae** 玉蕊科

學名：***Barringtonia asiatica* (L.) Kurz**

英名：**Indian barringtonia**

東亞區熱帶海岸林的樹種，大型喬木，生長在海濱地區，夜晚開花，雄蕊眾多，大型果實形狀似粽子，多纖維重量輕利於海漂。因為村落附近海邊經常是墳場，剛好也是棋盤腳生長的地區，此區經常可見角鴞、珠光鳳蝶，這些生物遂成為達悟族禁忌碰觸的植物，Tova是”必遭遇災禍”的意思，Kamanrarahet是”極不祥”的意思，在日常生活中，連說出名字都是禁忌，有詛咒別人死的意味。近來生態觀察的遊客常會撿拾棋盤腳果實進入民宿，殊不知已觸犯耆老的忌諱。跟漢氏山葡萄一樣，棋盤腳的樹根也扮演社會仲裁的功能。



Tova, aka Kamanrarahet, is a seashore plant, an evergreen medium arbor that grows in the tropical East Asian area along the coastline. It flowers at night with a lot of stamen shown. Its giant fruit that looks like a triangle rice ball is full of fiber, light, and can float. Tao graveyards are normally located around the villages close to the sea and often overlap with Tova's habitat. This may explain why “Tova ” means “inevitable calamity” and “Kamanrarahet” means “extreme misfortune”. People are not even allowed to name it in case someone would be cursed by others saying it. Other animals, such as Lanyu scops owl and Birdwing butterfly, often associate with these areas are therefore treated as taboo, and approaching them is forbidden. Recently, eco-tours became popular on the island and some people would accidentally bring Tova fruit into local hostels unaware of the violation against Tao's tradition.



漢氏山葡萄

達悟語：**Kamanrarahet**

科名：**Vitaceae** 葡萄科

學名：*Ampelopsis brevipedunculata* (Maxim.) Traut.
var. *hancei* (Planch.) Rehder

英名：**Hance ampelopsis**

Kamanrarahet 代表著極不祥，和棋盤腳樹的名字一樣，蘭嶼海岸林的三種葡萄科植物，漢氏山葡萄、三葉崖爬藤 *Tetrastigma formosanum* (Hemsl.) Gagnep.、蘭嶼岸爬藤 *T. lanyuense* 都叫這名字，族人對此植物與名字充滿忌諱。

這是執行蘭嶼律法的重要植物，當雙方家庭遇到紛爭，土地糾紛、搶奪水源、男女關係，無法順利排解時，嚥不下一口氣的對方會取來 Kamanrarahet 藤，在眾人見證下發誓，如果理虧的一方不道歉，一刀兩斷後，據稱天理昭昭，短期間理虧者的家庭必招致不幸；土地水源最終判賠存活的贏方。若不知誰犯錯，亦會將藤圍成圈，吊掛在事發地點，造成恫嚇效果。

“Kamanrarahet” means “extreme misfortune”. On Orchid Island, it and *Tetrastigma formosanum* (Hemsl.) Gagnep., *T. lanyuense* (all three are Vitaceae plants) and Indian barringtonia (Tova) share the same Tao name. All plants and the name itself are taboos to Tao. This plant bares a significant function in law in Tao society. For instance, when disagreements arise among people over land use, water rights, relationships, family issues, etc., and a justified solution can't be found, the Kamanrarahet vine would be cut in half in front of all parties involved as a curse in seeking justice. After that, Tao believe those at fault would have something bad happen to them, therefore the unharmed party must be the one that should be handed the dominant rights. If that did not happen, a wreath of Kamanrarahet would be placed on the spot of the incident as a warning.





巫

Toyon

Ceremony

雞屎藤

達悟語：Rai

科名：Rubiaceae 茜草科

學名：Paederia foetida L.

英名：Chinese febrifuge

亞洲廣泛分布的多年生藤本植物。和葛藤一樣在蘭嶼都叫做 Rai，早期族人無法養育胎兒時，將 Rai 木質化的藤綁在腰部，三個月以下的胎兒可流產。另一個方法是游泳，冷冽海水導致子宮收縮亦可達流產目的。

Perennial vine. Widely distributed in Asia. On Orchid Island, this plant and Kudzu vine are both called "Rai". In the past, Tao used it to terminate an unwanted pregnancy earlier than three months by tightly wrapping the woody vine around the waist until the baby was miscarried. As well Tao women would swim in cold seawater to trigger a uterine contraction to get the same results.



巫

Toyon

Ceremony

蘭嶼馬蹄花

達悟語：Kavovoyo

科名：Apocynaceae 夾竹桃科

學名：*Tabernaemontana subglobosa* Merr.

英名：Lanyu crape jasmine



分布在菲律賓及蘭嶼的灌木，達悟名是”走開”的意思，具有祈福驅邪的意義，老人家生病時，配戴可以驅趕惡靈。

Shrubs. Distributed in the Philippines and Orchid Island. “Kavovoyo” means “to go away”. It can be used to wish well or for cleansing purposes. When the elderly got sick, Tao would have them wear Kavovoyo to drive away the evil spirits believed to be the cause of their illness.







商

Mamalit

Trading

青脆枝

達悟語：**Kamnavoag**

科名：**Icacinaceae** 茶茱萸科

學名：*Nothapodytes nimmoniana*
(J. Graham) Mabb.

英名：**Fetid tree, Stinking plant**

廣泛分布於印度南部到中南半島、中國一帶，台灣僅分布於綠島和蘭嶼，在蘭嶼到處可見，族人取其枝條當作薪柴或圍籬，種子是小孩子的玩具。台灣因為日本人推廣藥用而大量收購，曾經為少數採集者帶來財富。

Widely distributed in south India, the Indo-China peninsula and Mainland China. In Taiwan, they are found on Green Island and established everywhere on Orchid Island. Tao use its branches for firewood and to build hedges; children would play with its seeds for fun. Due to its medicinal property, it once attracted many buyers from mainland Taiwan and that brought fortune to a few collectors.





Trading

桃紅蝴蝶蘭

達悟語：Gociozang

科名：Orchidaceae 蘭科

學名：*Phalaenopsis equestris* (Schauer) Rchb. f.

英名：Pink moth orchid



蘭花在蘭嶼通稱為 Gociozang，桃紅蝴蝶蘭僅分布於菲律賓與小蘭嶼，是台灣地區僅有的兩種原生種蝴蝶蘭之一，亦稱為小蘭嶼蝴蝶蘭或姬蝴蝶蘭。在蘭嶼本種蘭花與紅花石斛 *Dendrobium goldschmidtianum* F. Kranzl. 具備商業價值導致極大的採集壓力，本種為目前野外僅存個位數植株，是極危 (CR) 的物種。

Gociozang is a collective term to Tao for all orchids found on Orchid Island. But this pink moth orchid, which is distributed in the Philippines and on Orchid Island, with another species, red-flowering *Dendrobium*, *Dendrobium goldschmidtianum* F. Kranzl, are the only two native moth orchids found in Taiwan. Both have a great commercial value that has led to a threat on their survival in their habitats in recent years. Now with this particular species as only a few plants remain on the Island it has been categorized as critically endangered (CR) and needs to be conserved.



商

Mamalit

Trading

薏苡

達悟語：Agegey

科名：Gramineae (Poaceae) 禾本科

學名：*Coix lacryma-jobi* L.

英名：Adlay, Job's tea

Agegey 在野地的水邊自然拓殖，族人幾乎不食用，由於現代的觀光需求，會採集堅硬的總苞用以串珠做項鍊。

Agegey grows wild on the wetland. Tao rarely use it for food but will collect its involucre to make necklaces and sell them to the tourists.









Mamalit

Trading

蘭嶼羅漢松

達悟語：**Pazopo**

科名：**Podocarpaceae** 羅漢松科

學名：*Podocarpus costalis* Presl

英名：**Lanyu podocarp**

蘭嶼有兩種羅漢松，其中蘭嶼羅漢松在開放觀光後，由於園藝市場的需求，很多族人大量採伐販賣為園藝樹木，導致目前除了難以採集的老人岩頂外，在島上僅見山區存留少數的大葉羅漢松 *Podocarpus macrophyllus* (Thunb.) Sweet。早期族人使用直徑 50 公分以上的 Pazopo 作為舵架，較小者則加以保護。

There are two *Podocarpus* species on Orchid Island. Both Pazopo and another species, *Podocarpus macrophyllus* (Thunb.) Sweet, have been subjected to commercial activity and widely collected by Tao then sold to the horticultural market since the island opened for the tourist business. Now only few plants of these two species remain at some specific locations on Orchid Island. In the old days, Tao only used the bigger trees (over 50cm in diameter) for building rudder frames and would leave the small ones alone until they reached maturity.





Vasil

Fishing

八丈芒

達悟語：Ayo

科名：Gramineae (Poaceae) 禾本科

學名：*Miscanthus sinensis* Andersson var.

condensatus (Hack.) Makino

英名：Japanese silvergrass

族人有時也稱八丈芒為蘆葦或芒草。Ayo 的用途很多，整捆綁起帶回，成束點火當火把，供晚上抓螃蟹照明，或捕飛魚時作為誘魚的光源。日常生活，除直接作為繩材外，捆綁姑婆芋葉片可以攜帶食物。參加喪禮後要跟著芒心一起帶肉回家，避免惡靈靠近。

傳統坐月子的食物禁忌很多，導致產婦缺乏蛋白質食物，此時先用八丈芒綁好一小束芋頭嫩葉，以水煮沸並加一些海水調味，產婦食用後就不會停奶水。

Ayo has been utilized locally for many purposes. A solid bunch of Ayo can be used as a fire torch when going crab hunting at night or as a light trap to attract flying fish. Commonly used as string or woven rope, as well in combination with Chinese taro leaves for food wrapping. It is said to have some ritual properties, e.g. taking some meat with the tender pith of Ayo home from a funeral gathering can keep the evil spirit away.

Traditional taboos make women recovering from giving birth unable to consume enough protein, so it is suggested that a small bunch of edible taro leaves tied with Ayo string boiled and seasoned with sea water for consumption will guarantee the continuing production of breast milk.







Vasil

Fishing

文珠蘭

達悟語：Vakong

科名：Amaryllidaceae 石蒜科

學名：*Crinum asiaticum* L.

英名：Chinese crinum, St. John's lily

亞洲廣泛分布的海濱植物，棉質外種皮利於海飄，有助於島嶼間傳播。Vakong 是”紙”或”滑動”的意思，撕下文珠蘭的葉鞘用繩索連結成串，末端綁上石頭，丟入海中可以驅魚入網。汁液塗抹傷口可止血。製作生石灰時，經常用葉片包住磚礮貝製成的石灰塊，避免破裂。

Seashore plant, widely distributed in Asia. Its seeds can float and travel in the sea between islands. “Vakong” also means “paper” or “slip” in Tao. Its leaf sheaths can be tied up in a cluster with stones and thrown into the sea to chase fish into the net when fishing. In the quicklime making process, Tao use its leaves to wrap the Giant clam to prevent it from cracking in the fire. The sap of Vakong can be applied on wounds to stop bleeding.



漁

Vasil

Fishing

馬鞍藤

達悟語：**Valino**

科名：**Convolvulaceae** 旋花科

學名：*Ipomoea pes-caprae* (L.) R. Br.
subsp. *brasiliensis* (L.) Oostst.

英名：**Beach morning glory**

海濱砂岸生長的爬藤。野銀村的達悟名爲 Ivalino，相傳野銀村的巴丹島祖先，渡海來蘭嶼，上岸地點在海邊很大株的 Valino(馬鞍藤)旁，因此得其村名。用馬鞍藤流出的乳汁擦拭蛙鏡，可以防止潛水時起霧。

Valino is a climber that grows on sandy beaches. One village on Orchid Island was named Ivalino after a giant Valino was spotted on site when the villagers' ancestor arrived from Batan, a small island of the Philippines, a very long time ago. Applying its sap to the inner side of goggles stops the lens fogging when diving in the sea.







林投

達悟語：Ango

科名：Pandanaceae 露兜樹科

學名：*Pandanus odoratissimus* L. f.

英名：Screw pine



蘭嶼環島生長著茂密的林投叢，日治時期的紀錄裡，經常可見族人在林投叢間驅趕惡靈的畫面，傳統生活中，並不會刻意種植林投，若在田裏更會除掉，因為婦女常覺得不美觀。成熟如紅色鳳梨的果肉可生食，果肉纖維可製成畫筆，替拼板舟上色；嫩葉心亦可煮食；採集支柱根整理後製成曬飛魚的細繩。

由於開發與海岸隨意的焚墾，造成林投的消失，目前部分海岸段刻意重植林投，希望能成為天然的防坡堤，降低颶風大浪時對農田房屋的威脅。

Ango grows in groups alongside the coastline on Orchid Island. In a Japanese document from the old days, Tao performing an exorcism in Ango bush was commonly sighted. Traditionally, it would not be man-cultivated, instead, Tao women thought it was untidy and would destroy it if found in the farmland. The flesh of ripe red pineapple-like fruit is edible and the fiber from the fruit can be turned into pen brushes to color Tao canoes. The center of the top new growth is tender and edible. Its stilt root can be collected to make string for hang-drying flying fish.

Currently, Ango bush is disappearing on the island as a result of the unregulated development and ill-planned burning-cultivation. That has raised concerns and made the authority decide to reinstate the growth of Ango population in order to form a natural breakwater that hopefully would prevent the civilization on the island from severe damage by typhoons and strong waves in the future.







Vasil

Fishing

蘭嶼魚藤

達悟語：**Malanoso**

科名：**Leguminosae (Fabaceae)** 豆科

學名：***Derris canarensis* (Dalzell) Baker**

英名：**Lanyu jewelvine**



木質爬藤，將莖搗碎後，丟入潮池可以用來毒魚。編織成圓環掛在田裡可防老鼠。

Woody climbing vine. It has a medicinal property and is used as an animal anesthetic. For example, Tao would pound or smash Malanoso stems, then throw the mass into the water to paralyze the fish so they can be collected easily afterwards. Tao would also place a wreath made of Malanoso in the field to keep rats away from the crops.



編

Manaod

Weaving

落尾麻

達悟語：Aramay

科名：Urticaceae 蕁麻科

學名：*Pipturus arborescens* (Link) C. Robin.

英名：Dalunot

分布於菲律賓、琉球和台灣的灌木，台灣主要分布在東海岸及綠島、蘭嶼，外型似放大版的小葉桑，葉背白，是重要的纖維植物。採集一年生的枝條，取纖後可織布或採捻為飛魚釣線，編織成漁網，收集葉片可餵羊。

Shrubs. Distributed in the Philippines, Okinawa and Taiwan. In Taiwan, Aramay is an important fiber plant and mainly grows on the east coast, Green Island and Orchid Island. The back of its leaf is white and it looks similar to but larger than Small-leaved mulberry (*Morus australis* Poir). The fiber taken from the one-year-old branches can be used for clothes weaving and making fishing line or fishing net. Tao use its leaves to feed the goats.



蘭嶼竹芋

達悟語：Nini

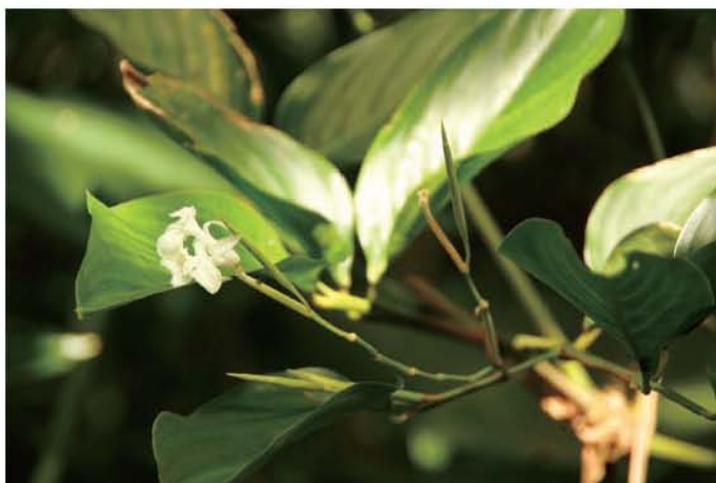
科名：Marantaceae 竹芋科

學名：*Donax canniformis* (Forst. f.) K. Schum.

英名：Cannalike dona

廣泛分布於東南亞、菲律賓、蘭嶼等地區，是全國唯一的竹芋科植物，僅分布在蘭嶼的潮濕溪谷或林下陰濕地。單葉具有如竹桿的葉柄，白色略透明的小花自夏季至秋季間開花。族人採取葉柄與枝幹編織製成細工小編物。

Widely distributed in South East Asia, the Philippines and on Orchid Island. In Taiwan, Nini that grows in damp valleys or on wet ground under the trees on Orchid Island is the only Marantaceae plant found in the whole Taiwan. The petiole of its simple leaf looks like a mini bamboo stick. The small and translucent white flowers bloom from the summer to the autumn. Tao use its petioles and branches to weave small fine crafts.





蘭嶼省藤

達悟語：**Vazit**

科名：**Palmae (Arecaceae)** 棕櫚科

學名：*Calamus siphonopathus* Mart.
var. sublaevis Becc.

英名：**Batan cane**

僅分布於菲律賓巴丹島及蘭嶼的木質藤本植物，Vazit 是刺的意思，藤可作繫繩用，地下主屋或高屋可以使用，剝製纖維製成各種編織物，背帶、籐器、籐盾、籐帽、籐甲、織布機背帶，或捲繞纖維成圈，上面可擺置陶壺或熱鍋。

Liana vine. Distributed only on Batan Island of the Philippines and Orchid Island. "Vazit" means "thorns". Its vine can be used as strings or ropes to bind the building materials for the construction of the main domestic house (Vahay) or workshops (Makaran). The fiber processed from Vazit can be woven into many products, such as belts, containers, shields, helmets, armor, weaving belts and placemats for hot pots.







藥

Kosozi

Medicines

食用樓梯草

達悟語：**Royroy**

科名：**Urticaceae** 蕁麻科

學名：***Elatostema edule* C. Robin.**

英名：**Broadleaf elatostema**



植株揉碎後有綠油精的香味，因此被稱爲”蘭嶼的綠油精”，同時在野外被蚊蟲叮咬，甚至老人的眼翳病，塗用汁液都具有功效。

When rubbing Royroy, it can have a smell like Green Oil, so it is also named the Orchid Island Green Oil. It is said that the sap is effective against insect bites and the eye disease “Pterygium” that affects the elderly.



蘭嶼肉豆蔻

達悟語：Gago

科名：Myristicaceae 肉豆蔻科

學名：*Myristica ceylanica* A. DC. var. *cagayanensis*
(Merr.) J. Sinclair

英名：Cagayan nutmeg



原生於菲律賓、綠島及蘭嶼的大喬木。Gago 是點火的燈油的意思，種子富含油脂可點火，同時也是極佳的染劑，混和豬油、鹽巴、炭灰塗抹身體可以治病。木材可以製船板。種子販賣到台灣做為觀賞植物用途。

Big tree. Native species distributed in the Philippines, Green Island and Orchid Island. "Gago" means "the lamp-oil" because its seeds are rich in flammable oil that can be used to set a fire. It is also a wonderful dyeing agent. A paste made of Gago oil, pig fat, salt and charcoal ash is an external remedy for some medical conditions. Its timbers can be used for boat building and as well Tao sell seeds to mainland Taiwan for the ornamental plant market.









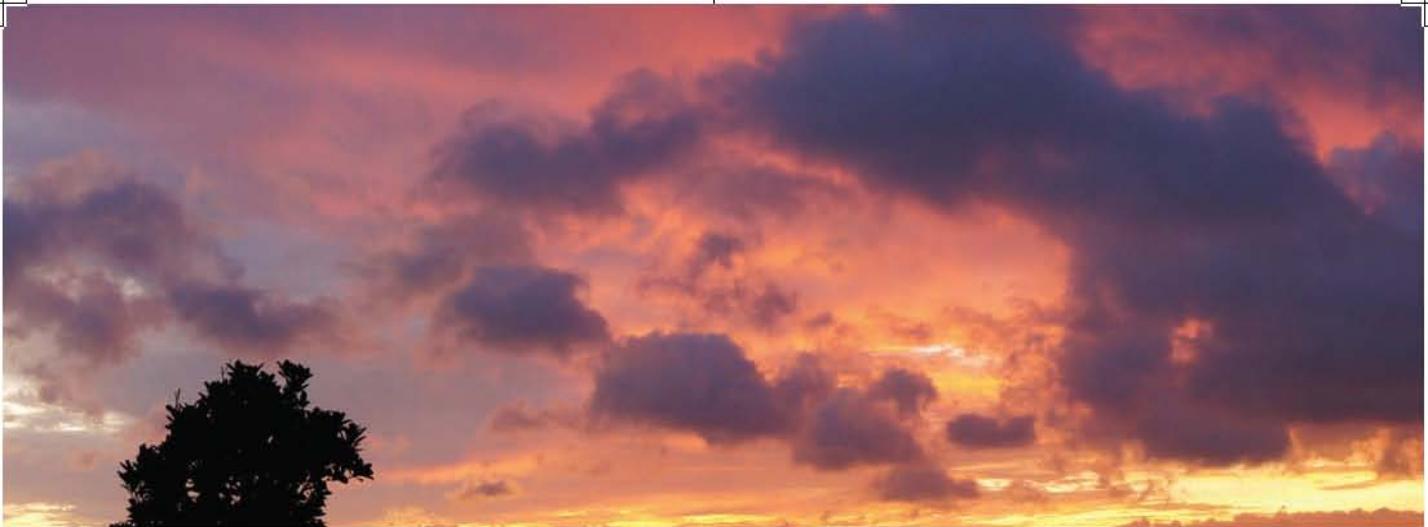


謝辭

本書的起點，源於早年參與中研院暑期的田野調查，夜間躺在環島公路上，就著滿天星空紀錄 totoo 叫聲，潮浪拍岸聲中，一名旅台族人停下機車，問我蘭嶼到底哪裡好，大家幹嘛來觀光？他說台灣可好多了，有卡拉 OK 有夜生活，當我提出蘭嶼的動物植物星光海洋種種原因都無法說服他，一時語塞。很多年過去，期間見識過送炭到蘭嶼，一群善心的學生挨家挨戶，從一個村掃街到另一個村，當所有活動結束，人員離去，只見所有垃圾靜靜躺在青青草原。也曾有過板模工大舉回鄉建設的自力造屋時期，熱熱鬧鬧的蓋出不夠部落味的水泥格局。然後曾經喊停的國家公園又在島上設置辦事處。蘭嶼是這樣一個島，大抵上外人參與的努力大多適得其反，包括學術研究，究竟給島上帶來什麼好處呢？於是我們想為這個具體而微，幾乎是台灣生態政治縮影的蕞爾小島，做一點事。

濃綠色殺蛇山襯托著寶藍色天空，在水芋田映照出倒影，連續幾年的訪談過程中，感謝許多朋友們的協助，謝謝以下受訪者：江早鳳、江百琦、江春妹、呂西美、李冬妹、李鳳英、周秀蘭、周碧彩、施彩蘭、曾秀雲、黃堅里、





蔡月香、謝施梅玉、謝曾馬如、鍾忠雄、蘇瑞清 ... 等，一再被我們叨擾。參與訪談的過程，有賴張雯靜、吳宜穗、洪宗佑、鄭光辰以及其他間斷幫忙的學生們，陳科廷的加入增添了豐富的芋頭經驗，對本書是不可或缺的存在。更感謝財團法人蘭嶼部落文化基金會，Sutej Hugu 斛古·貝邁赫特、Sinan Mavivo 希嫻·瑪飛狀、Siaman Misiva 王桂清 ... 等朋友的熱情協助，特別在天秤風災的忙碌過程中仍協助我們。謝謝過程中曾經協助我們的瑟郎冰沙小舖、262bar、東清自救會，特別是周秀蘭女士多年來一直有耐心的協助驚鈍的作者，從拼音到傳統知識；裴家騏與盧道杰老師、陳淑貞主任更是在研究過程給予最多的支持。鄭漢文校長是所有蘭嶼愛好者的精神支柱。陳俊欽的蘭嶼建屋資料以及 Syaman Rapongan 夏曼·藍波安的造舟知識提供了參考的依據。感謝蕭建軍、林瑩淇、Kevin 的英譯、賴郁雯的校正、曾麗俐老師的插畫、張慧娟的美編，感謝陳科廷、傅詩敏、黃嘉隆、黃美英、余勝焜等朋友提供寶貴的圖片。陳建文、邱文良、呂勝由對於植物種類的審校。最後感謝林務局王守民先生、林國彰科長、管立豪組長及李桃生局長，長期以來的支持，及台灣環境資訊協會瑞寶、秋芳的協助。

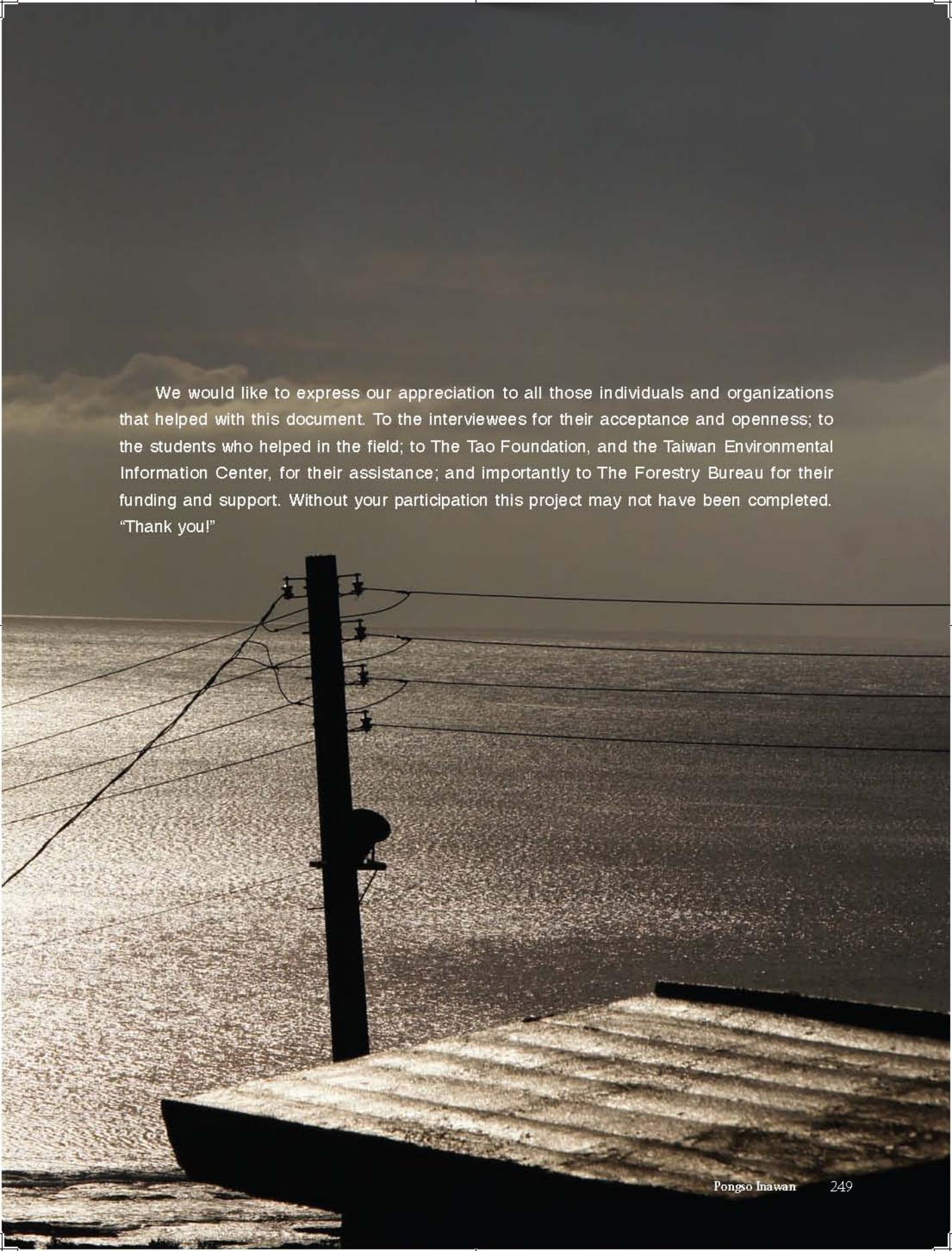
閱讀完本書的讀者們，下次到蘭嶼，希望您能成為島嶼生態文化的守護者。





Acknowledgements

The idea of writing a documentary originated from a field trip for Taiwan Academia Sinica during the summer many years ago. When one night I was lying under the sky full of stars on the main road of Orchid Island, a Tao man who was living in Taiwan at that time stopped his motorbike and asked “What attracts tourists to visit Orchid Island, I don’t get it? Why do people come here for a holiday?” He suggested that life in Taiwan was much better than on this island. “There are Karaoke, interesting night life etc. over the ocean.” Well, if the animals, plants, the twinkling stars and the surrounding sea could not be more convincing, nothing else could be said to him. But what can we do to make people understand the true beauty of this island? Although we have seen many projects, both positive and negative, happening on this island in recent years, some activities conducted in a good faith unfortunately ended up to be disasters. Therefore, we think it is time for us to do something more constructive and hopefully this book can orchestrate changes for the better.



We would like to express our appreciation to all those individuals and organizations that helped with this document. To the interviewees for their acceptance and openness; to the students who helped in the field; to The Tao Foundation, and the Taiwan Environmental Information Center, for their assistance; and importantly to The Forestry Bureau for their funding and support. Without your participation this project may not have been completed. "Thank you!"



延伸閱讀

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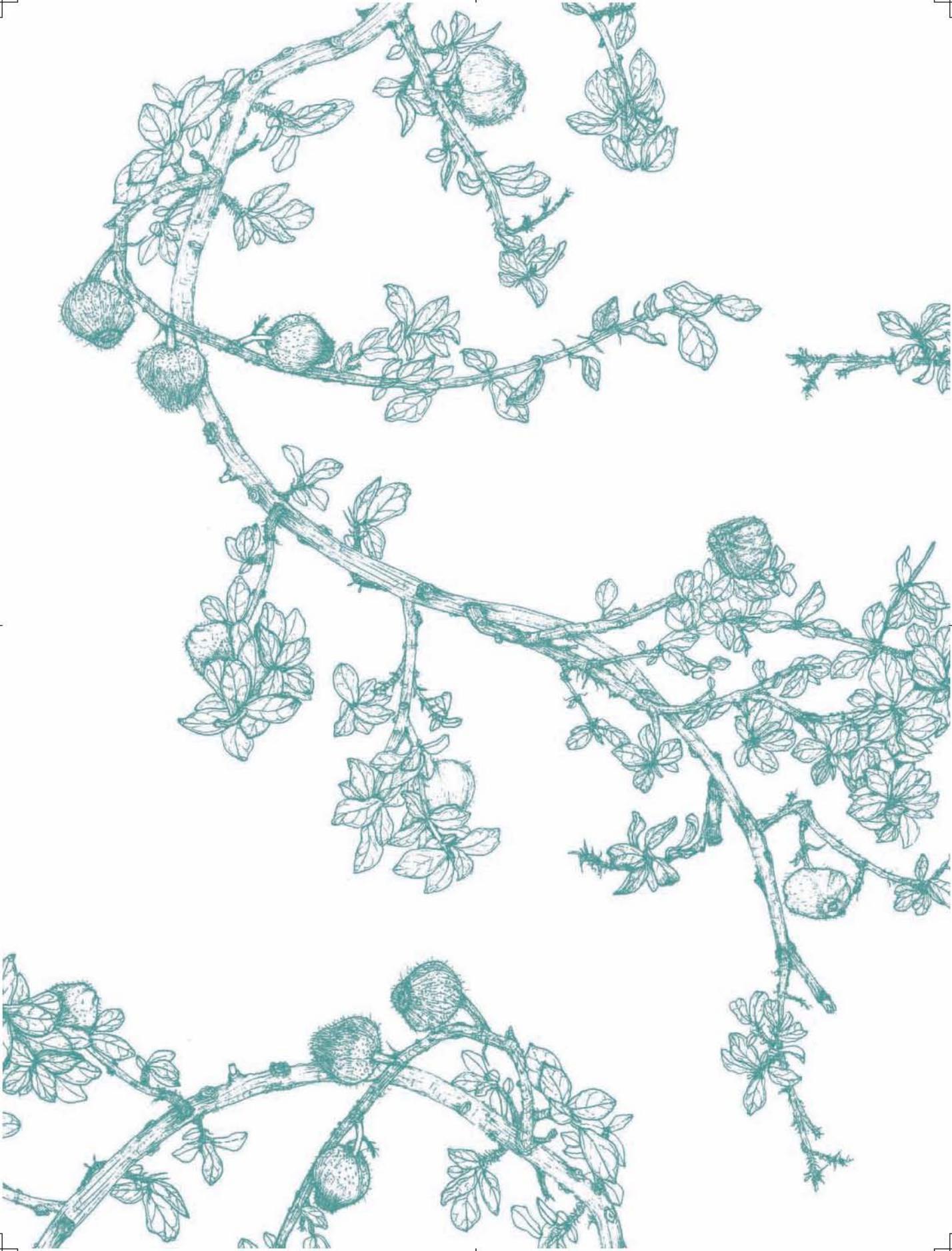


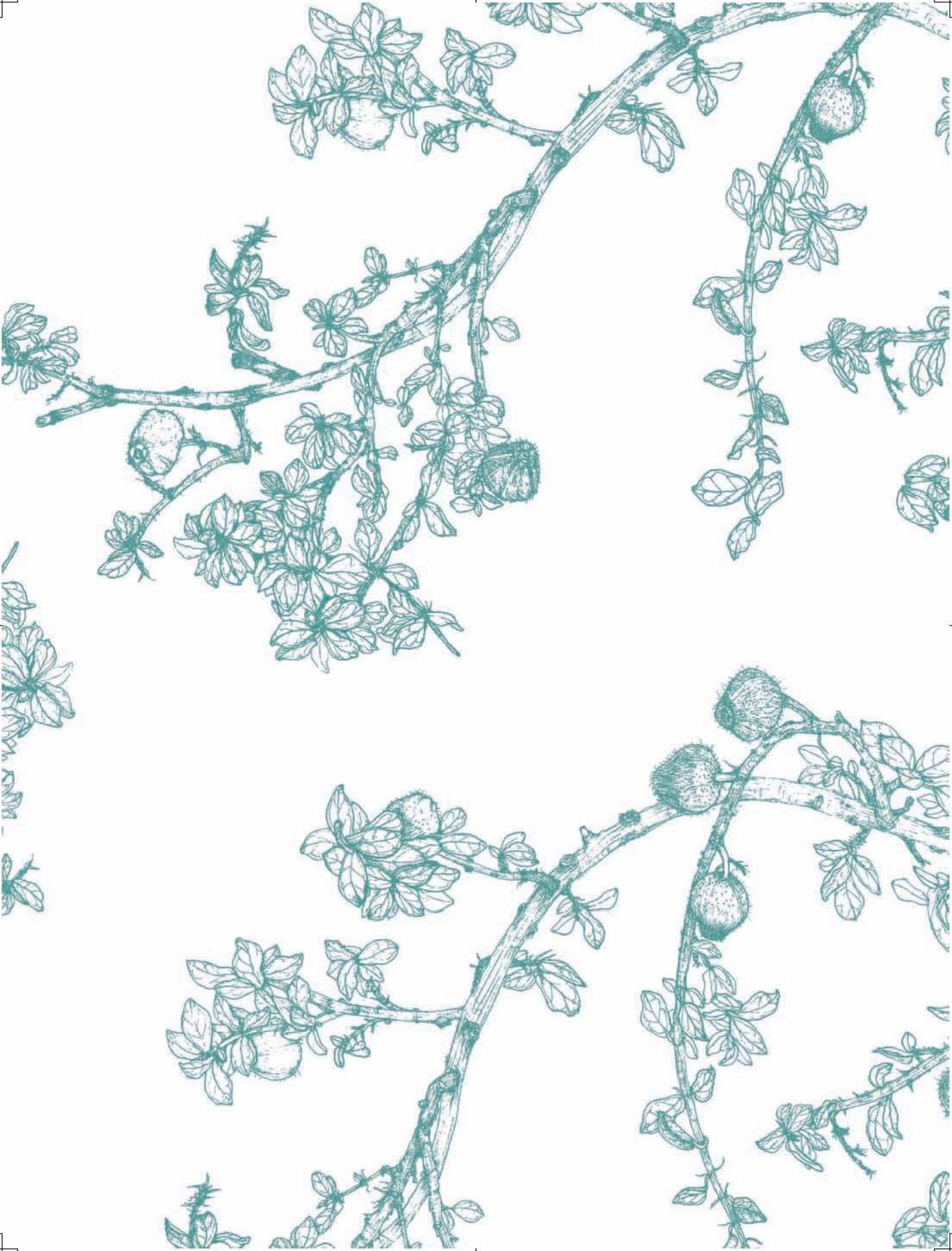
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婆娑伊那萬：蘭嶼達悟的民族植物 /
董景生、黃啓瑞、張德斌撰文，-- 初版 --
臺北市：農委會林務局，臺灣環境資訊協會，民 102.12
256 面・24 公分 × 18 公分
ISBN 978-986-04-0321-3(平裝)
1. 植物 2. 達悟族 3. 社會生活 4. 臺灣
375.233 103001000

婆娑伊那萬 - 蘭嶼達悟的民族植物

PONGSO INAWAN-THE ETHNOBOTANY OF TAO ON ORCHID ISLAND

發行人 Publisher / 李桃生 Tao-Sheng Lee

策劃 Planning / 楊宏志 Hung-Chih Yang、管立豪 Li-Hao Kuan、
林國彰 Kuo-Chang Lin、王守民 Shou-Ming Wang

主編 Editor / 董景生 Gene-Sheng Tung

撰文 Authors / 董景生 Gene-Sheng Tung、黃啓瑞 Aits Butal、張德斌 Te-Pin Chang

英文翻譯 Translator / 蕭建軍 Chien-Chun Hsiao、林瑩琦 Ying-Chi Lin、K. B.

攝影 Photographs / 張德斌 Te-Pin Chang、陳科廷 Ke-Ting Chen、吳宜德 Esay Wu、
黃啓瑞 Aits Butal、洪宗佑 Tsung-Yu Hung、董景生 Gene-Sheng Tung

美編 Designer / 張慧娟 Hui-Chuan Chang

插畫 Illustrations / 曾麗俐 Li-Li Tseng、陳科廷 Ke-Ting Chen、張慧娟 Hui-Chuan Chang

出版 Published / 行政院農業委員會林務局 Council of Agriculture Executive Yuan, Forestry Bureau

臺北市杭州南路一段 2 號 <http://www.forest.gov.tw/> TEL:(02)2351-5441

社團法人台灣環境資訊協會 Taiwan Environmental Information Association

臺北市文山區萬隆街 38 號 <http://e-info.org.tw/> TEL:(02)2933-2233

印刷 / 成陽印刷股份有限公司

出版年月 / 中華民國 102 年 12 月

版(刷)次 / 初版一刷

定價 / 新臺幣 460 元

展售處 / 國家書店：臺北市松江路 209 號 1 樓 (02)2518-0207

五南文化廣場：臺中市中山路 6 號 (04)2226-0330

GPN：1010300119

ISBN：9789860403213

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