



TPCF 雑 誌

**從原住民族的角度看世界** 圖 文 好 看 線 上 版

in Sight.ipcf.org.tw

## isaray tamo o ya mapiveyveken so kaka'asan a tao

## Salute to the **Guardians of Forests**

o pimasaodan no yancomin am, ya akmey macibedbed do kahasan aka no rako a wawa, ano manisibo a mikala so kanen aka no iyakan am. ma dada a mapo do maoran no kahasan aka no pangaa' apan a wawa. Ipihanhan no tao o sibowan a a' akawan, ori o piveyvekenan so maoran no kaasan aka no pangaa' apan. ano manisibo am, tawagan sira o mina ineynapo no kakwa, a omzat do pikalan so isovo a kanen, topa vehvehsa o apen a kanekanen aka no iseysavat. na ipitarek no pangaktoktoan no yacomin aka no dehdeh, ano ingpotan o kanekanen a ji misepai o maoran no isovo a kanen am, jiabalinas o pasavongen no a' akawan.

ya rana mitarek o pimeymasaodan aka no da talilisan no tao siciakwa ya, da rana apen no pangangavangan o a'akawan no yancomin, yaro o malalavayo a ya komala so iweywawalam no kakwa, da rana vangonen o cirecireng aka no anood no kakwa, piamoon no kasnekan no karawan. ya magza o ya talilisan no tao do rako a ili, nakenakmen tamo pala o kakmey mapaneb so kataotao a kapakapia a tomalilis do angangayan, a misimaoli do pimasaodan no kakwa. paslinen o kangay do kaka'asan, aka do keysakan, ipakaliliw so rako a oyowyat no karatayan, pakanakmen do onowned o inanao da jiyaten no kamanrarakehan aka no icivatatao do ili.

ya miparo o ya mangay milingalingay do kaka' asan a tao siciakowa ya, ya padketen o vazay no ya mapiveyveken so kaka' asan a tao do vakong a "原視界", ipacita da no tao so maorang no rako a ka' asan, aka pakacita so vazay da no ya mazikna a mapiveyveken so kaka' asan a tao, ji topazikaza o maraet a banaikbek do panisibowan a kaka' asan, azowain sira no apia cireng, ikasaray no onowned da. isaray tamo o vazay da no ya mapiveyveken so kaka' asan a tao, ta sira o neymakdeng a ya omzat do maoran no rako a karatayan.

The life of indigenous peoples is closely tied to nature. They do not just live in, but also collect and hunt from nature. The high reliance of indigenous peoples on nature helps them to develop the ideology of living with nature in peace while respecting nature. Prior to entering the woods, indigenous peoples will converse with the mountains and ancestral spirits, pray to them for what they need for their daily lives, and they will take what they need instead of being greedy. Different from consumerism, what indigenous peoples believe in is contentment and frugality so as to live in harmony with nature.

The environment of modern day society is completely different from that of the past, and land has been lost in a rapid and severe fashion, so young people have no choice, but to find their identity when they have nowhere to take root. Yet, indigenous peoples strive to find the life patterns of the old days and pass on the idea of respecting nature. In fast-paced cities, indigenous peoples can try to turn their minds off and slow down. They can break free from the confinement of concrete walls and immerse themselves in nature. By spending time in the mountains and deep water, they come into contact with nature to feel its power. That way, they can restore the lessons passed down from the traditions and follow the philosophy of valuing the natural environment.

In the time of the pandemic, more people have started to visit mountains in Taiwan. This volume of 'Indigenous Sight' will lead readers to the mountains and report on the stories of people working in the mountains. In doing so readers will see a diverse view of mountains when paying a visit there. We hope that readers can learn more about the treasure in the mountains and the hard work of those practitioners, and in return, treat nature with respect, and give the practitioners more recognition and praise. Let us pay the guardians of mountains a salute to express our gratitude for their work. Without them, we would not have been able to keep such a natural endowment.

Panirsirngen do yanbonkay Chairman of the Indigenous Peoples Cultural Foundation Maraos XX

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## INDIGENOUS SIGHT

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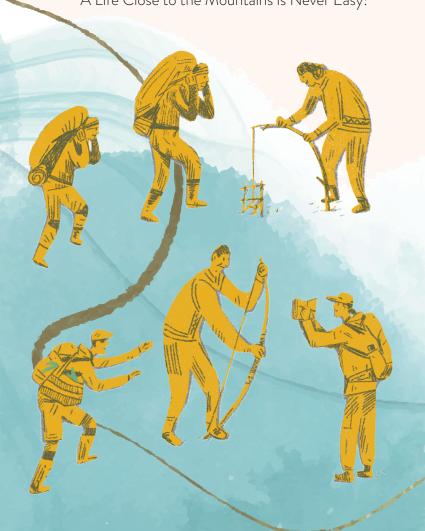
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Bunun Mountaineering Team



A Plant Hunter Who has Collected
Over 30,000 Species
Hung Hsin-Chieh





# Passing the Baton

Approaching the Mountains with Observant Eyes.

#### **Notice for Visitors**

In order to prevent outside visitors from developing stereotypes or misconceptions about the situations of Taiwan's indigenous groups due to lack of knowledge of indigenous cultures, this month's *Indigenous Sight* has invited several outstanding mountain guides and forest experts to introduce the island's abundant ecological resources, as well as the wisdom of indigenous peoples to coexist with nature. We highly recommend you read the following content in detail because it's so informative that you don't want to pass it up.

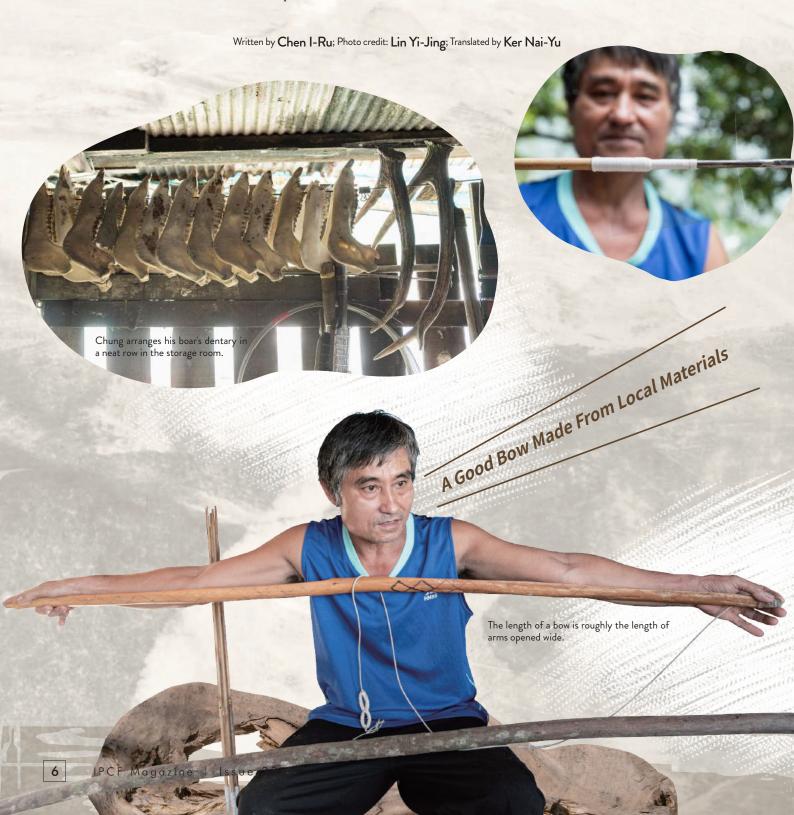
Don't panic if you get lost along the trip. *Indigenous Sight* will always be here at your service and continue to guide you in exploring knowledge of indigenous cultures in depth and enable you to appreciate the beauty of mountains and forests from a different perspective. We hope this journey will help you gain a new vision and energy to join hands with us in the efforts to raise the visibility of Taiwan's indigenous peoples.

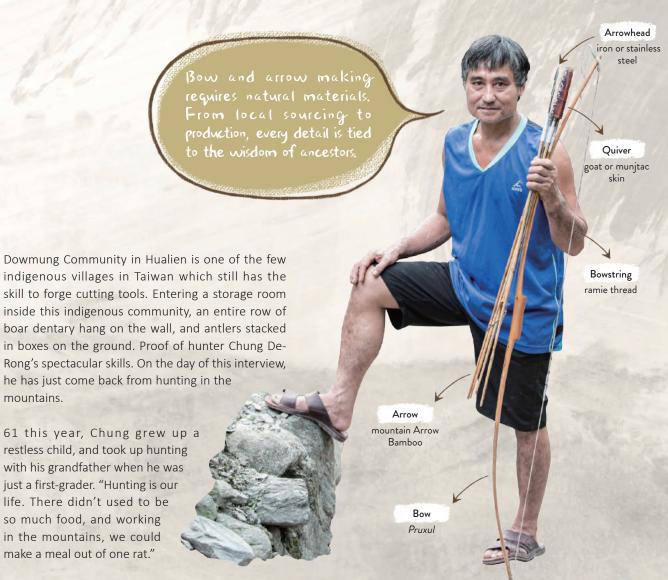


Making Truku Bow and Arrows

# Chung De-Rong

Chung De-Rong began making bows and arrows with his grandfather after his discharge from the military service. Slowly, he shares the steps of bow and arrow making with every detail tied to the wisdom of his ancestors. In this age, when fewer and fewer indigenous persons know how to make bow and arrow, his skill is even more precious.





### Make Your Own Hunting Tools

Chung's grandfather taught by action instead of preach, and showed him how to set traps, make bow and arrow, and differentiate animal trails. Little by little, he learned by heart and came into a hunter of his own before he turned 20. "I saw many boars in the mountains. Grandfather knew that I already know how to set traps, so he sent me hunting alone. It was a little frightening walking in the mountains alone at first, but you get used to it," shares Chung.

Recalling the sense of accomplishment the first time he caught a boar as if it were yesterday, "boars are really smart, the smartest of all animals. You must be able to catch boars to be considered a real man in this indigenous community!" Having mastered the skill and recognized as the Boar Killer, he has captured over 4,000 boars over the decades, sometimes up to 7 or 8 boars per week. His best record is trapping a boar weighing over 150 kilos with a fat layer up to 3 fingers thick, "if I kept all the boar dentary in the storage room, I would've long ran out of room!" Chung laughed heartily.

Chung makes his own hunting equipment and traps, "you must make your own tools." He shares the many taboos elders mentioned when making traps. For example, children and women must not pass in front of the trap or step over it, else it will bring bad omen.

## A Good Bow is All About the Grip

There were no shotguns in the past, bow and arrow were a hunter's best friend in hunting. Chung began learning bow and arrow making with his grandfather after he was discharged from the military service. Picking up a bow he personally made from scratch, he says, "bow and arrow making require natural materials. From local sourcing to production, every detail is tied to the wisdom of our ancestors."

The simple sleek look requires great attention to details, the sourcing and processing of materials alone will take great effort. A traditional bow is made from wood, mostly using *Pruxul*, which is both firm



and flexible, and on some occasions the wood of Common Jasmine Orange. Chung points out that when collecting wood, one must look for those that are perfectly straight and cure the wood over heat once collected, "wet wood tends to be softer and breaks easily."

Curing time depends on the thickness of the wood and the weather, generally taking one to two weeks to cure. Therefore, the best season to collect wood is winter, not only can dry wood be easily found, curing time can also be shortened. Since natural material is used, a finished bow can still be affected by the weather and change accordingly, Chung shares, "if you hunt on a rainy day, the bow will soften from absorbing moisture. You must wipe it down and dry it over heat immediately upon your return, so as to resume the strength of the bow."

Bow making requires cutting the wood to a suitable length around 160 cm, Chung explains, "roughly the length of your arms when you open wide." Then skin the wood with the knife, slowly trimming the thickness and curvature of the bow until it can bend slightly, but making sure it's not too thin so that it will not fracture easily. "Another detail to note is that the grip is the center point, the curvature of the wood above and below the grip must be exactly the same so that force can be evenly applied, or else the arrow will not shoot straight," Chung reminds us.

The bow making steps can be explained one by one, but the slicing and trimming process is all about the experience. Skillfully wielding his knife, Chung comes up with the rough shape of a bow in no time. "Bow making is all about the grip, it must be a comfortable and easy grip." After Chung finishes with the details of the bow, he will attach a small piece of goat horn to the ends of the bow to add strength, so the bow will not easily wear out when standing on the ground.

#### From Arrow to Arrowhead, Detail Makes the Master

Unlike the bow, the arrow is mostly made from mountain Arrow Bamboo, the knots are smaller and the shape straighter. When souring the bamboo, the older the better and less easily fractured. The bamboo must also be dried over heat, wet bamboo breaks easily and is heavier. An arrow is roughly 80 cm long, and can be adjusted according to the length of the bow. Once the length is cut, Chung stacks the bamboo pieces over the fire to shape over heat, and adjust the bamboo so that it becomes perfectly straight. That basically completes the arrow.

The arrowhead is mostly forged out of scrap metal found in everyday life, such as the discard chassis of a car, heated and hammered to shape a sharp edge. Chung shares a simple method to determine whether the arrowhead is sharp enough, "if you can shave with it, it is sharp enough, an arrowhead like that can pierce right through a monkey."

Once the arrow and arrowhead is ready, it is time to combine them. Traditionally they used ramie planted by the indigenous community to spin thread, and wrapped tightly and repeatedly around the arrow and arrowhead before finishing with a layer of glue on the outside, increasing firmness. Quick glue wasn't available in the old days, ancestors would apply the sticky cedar sap over the tightly bound ramie thread to prevent the pieces from falling apart. Finally, the skin of goat or Formosan Muntjac is used to make the quiver, holding the arrows together. If all materials are in place and readily prepared, a set of bow and arrows can be made in one day.

## Shotgun Renders Bow and Arrow Useless

Chung used to practice shooting arrows by placing small cans in the distance, only when he could shoot bulls eye three times in a row did he grandfather acknowledged his skill. Due to the densely grown branches in the mountains, the angle of the bow needs to be adjusted when shooting, "if you hold it perpendicular to the body, the bow or the shot arrow could easily get stuck in the branches and vines," Chung explains.

Having hunted at least 200 boars with bow and arrow, Chung believes that even with a shotgun available now, he sees no different between the two, they are both hunting tools. But the bow and arrow win in the lack of sound. "Other animals run away at the BANG of a shotgun," he laughs and then says, "but when the arrow is shot too far, it can be difficult to retrieve."







Mi Mi of the Truku people is one of the few indigenous huntresses with a "hunter certificate" issued by the government. She sees hunting as sacred work combining skills, wisdom, and art, and is dedicated to passing on the glory of hunters.





Hunting is more than capturing wildlife, it is a sacred skill, it is art.

#### Be Well-Equipped and Fully Adjusted to Enter the Mountains

To Mi Mi, every detail regarding hunting is meaningful, "hunting is more than capturing wildlife, it is a sacred skill, it is art." Before setting off, a hunter needs to prepare personally the equipment and traps required and place them in a woven basket. If sleepovers and cooking is required in the mountains, in addition to the necessary knife and shotgun, rice, salt, and a pot are also in line. These tools are essential to a hunter. The female must never touch the equipment of a male hunter, and the traps must be handmade, personally, "when you make your own and pack your own, you are familiar with your equipment and that can prevent danger."

There are many taboos regarding hunting. In addition to being well-prepared equipment-wise, one must also be mentally well-adjusted. For example, when going hunting, there must be no dispute at home, allowing the hunter to set off in peace. "If you're upset, you have no game. Hunters also abstain from promiscuity, which may lead to your death instead of game, and that is one big taboo." Mi Mi reiterates that hunting is "sacred" work, and a hunter must abide by rules, "a true hunter always keep a harmonious household"

The hunter must check the route one week prior to hunting. There are six clans in Dowmung Community, and each clan has its own hunting ground with individual routes for each hunter. "You cannot willfully trespass on other people's route, and even if it's your own clan's route, you must notify others in advance before you enter their hunting ground. It is the rule, it is respect," says Mi Mi.

Before going into the mountains, one must be in awe of the mountains. "You are taking food from the mountains, so you must respect the bequeath of nature." Mi Mi explains that in the old days, elders

With a piece of wood and rope, a trap made to hide among the grass is completed in no time. "As soon as a boar steps on it, its feet will be caught in the loop and become suspended in mid-air," Mi Mi, the huntress of Dowmung Community demonstrates effortlessly the everyday job of a hunter.

Since Mi Mi began hunting with her father at the age of 13, she understood that it is not only a way of life for her people, but also a way to make a living. Hunting provides food as well as produce to sell to the people on the ground. "Men hunt and women weave" may be the general labor distribution among indigenous communities, the Truku people has no rule against women hunting. Anyone can go into the mountains with elders if they are interested. "Women mostly act as assistants, for example setting the trap or carrying the game," Mi Mi says. Even to this day, Mi Mi maintains the habit of hunting with her husband every month.



would sprinkle alcohol and light tobacco in respect, but as they have converted religiously, they pray instead. Despite the different forms, the heart is always in awe.

#### It is the Spirit of a Hunter to Share Food from Nature

In the vast woods, a hunter must possess the skill to observe carefully the footprints of animals and the food they like, in order to find their traces. An excellent hunter can determine the size of an animal simply by one look in the eyes, and they mostly hunt adult animals instead of young ones. To hunt different animals, a hunter must first determine the route animals will pass by and set varying traps along the way. For example, goats tend to walk along the cliffs, so traps must be set on the crossings of different trails, whereas boar traps must be set on spacious flat lands. All of which are wisdom accumulated over the years.

Sometimes a hunter must disguise and take cover in a hut built from local materials and wait silently for a prey to pass by. The reason Mi Mi thinks that hunting is art is because the disguise must be perfect and seamlessly, so as not to be detected by the prey, "animals spend all their time in the mountains, and they know about everything that is going on along this route today, they are very smart!"

When hunting, one must remain quiet, and the

barrel must always point upwards unless firing the shotgun, which does not use a lighted fuze. "You never know who else is in the mountains as well, it's always better to be safe than sorry. You don't want to be greedy and over-hunt either." Mi Mi says that all hunted games must be carried back home, and everything that was given to the hunter must be cherished. Some merchants shoot down deer yet keep only the velvet and discard the entire carcass in the mountains, which is a very serious taboo. A hunter must also share. When you hunt together, you must share equally your game, and share with others in the village after reaching home, "sharing is the spirit of a hunter, it is food from nature, not something you own," explains Mi Mi.

### Hunter should be Revered. How are We Criminals?

Mi Mi may be well-versed in the rules of hunting, but her community once faced discontinuation of the hunting culture. The story begins from the Wildlife Conservation Act enacted in 1989. The Wildlife Conservation Act stipulates that protected wildlife species must not be hunted and may face up to three years sentence if violated; unprotected wildlife species may only be hunted within the "hunting area" demarcated by the city/county government. However, no city/county government in Taiwan has demarcated hunting areas, therefore the Wildlife Conservation Act is basically announcing that the entire Taiwan is a "no hunting zone".

In 2004, the Wildlife Conservation Act was amended with two articles concerning indigenous peoples, namely if hunting is required by traditional culture or rituals and ceremonies, strict regulations will not apply. However, detailed bylaws were not announced until 2012, with some contents still contradicting indigenous cultures. For example, the government requires that application must be made to the city/ county government prior to hunting, stating the personal information of the hunter, area and time of hunting, and the estimated number of animals to be hunted. But such estimation is a serious violation of indigenous taboo, "when you hunt, it is up to nature to decide how much you may hunt, it is taboo to predict such number, you will end up with zero if you do," Mi Mi says without a smile.

"When hunting used to be prohibited, we were all afraid of being caught, and stayed as far away from the police as possible. Hunting is our life, yet such lifestyle is against the law right here in the traditional territories of indigenous peoples." Mi Mi admits that seeing indigenous people being caught one after another was really hard to watch, "hunter should be revered, how are we criminals?"

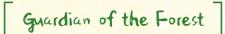


#### No Hesitation, Carry On the Hunting-Culture with Resolution

To solve the prolonged problem of secret hunting, the Forestry Bureau of Council of Agriculture under Executive Yuan organized a collaborative program between 8 forest districts and 11 indigenous villages or organization in 2017 and put forward the "Indigenous Hunting Self-management Program", returning the right of hunting management to indigenous communities, and helped indigenous people to obtain the hunter certificate to hunt legally. Therefore, Dowmung Community in Xiulin Township established a hunters' association, formed collaboration with Hualien Forest District Office and National Dong Hwa University, and became the second indigenous community in Taiwan in 2019 to issue hunter certificates. Mi Mi and her husband are both founders.

To qualify for a hunter certificate, one must take courses in traditional rules, hunting skills, and gun safety, and finally be approved by elders to pass. The certificate must be renewed every two years, and the hunter must follow the rules to continue qualify as a hunter. Over 90 indigenous persons have acquired the hunter certificate in her community so far, among which a dozen or so are female, mostly the wife of male hunters.

Mi Mi points out that, "it is better to have a legal hunter certificate. Hope that we can continue our hunting culture in a safe environment, so that our children and the society can see that hunting is more than just capturing food, it is about skills, wisdom, culture, and art, which are all closely connected to our lives." Putting behind the shadow of hunting prohibition, the indigenous community is now on its way to resume the former glory of hunters.

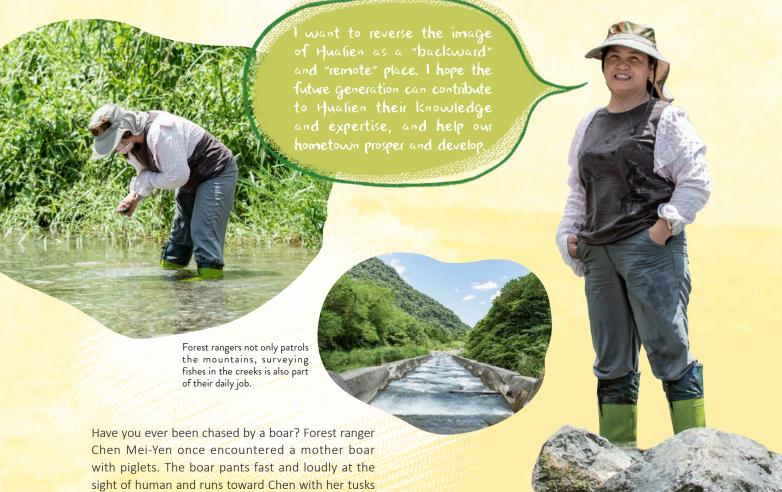


# Chen Mei-Yen

The forest ranger oversees everything in the mountains. Despite the heavy workload, Chen Mei-Yen, a Pangcah person from Taipei, tends to the forests with energy and passion every day because she sees Hualien as her hometown.

Written by Liu Li-Shou; Photo credit: Lin Yi-Jing; Translated by Ker Nai-Yu





with piglets. The boar pants fast and loudly at the sight of human and runs toward Chen with her tusks revealed. Chen felt the hair on her back stand up and ran with all her might without thinking twice, only when she steered well clear of the boar did she finally feel safe. Other than the boar, she has also been attacked by hornets. But none of the dangers ever stopped her love for this job. Chen believes that the perk of being a forest ranger is spending all her time with nature, and co-existing with different creatures. It is her duty to maintain the balance of the ecology.

Born and raised in Taipei, Chen has never adapted to the fast pace of the city and has always yearned for Hualien, where she used to spend her childhood vacations. To her recollection, the sky of Hualien was always crystal clear, and you could see paddy fields right downtown. She has fond memories of exploring the paddy fields with her cousin. "I felt my pressure relieved whenever I see greenery and wondered how much better life would be living in Hualien." Chen grew very tired of her work in the city, and long harbored the idea of leaving it all behind.

In 1980s, in response to the enactment of the Indigenous Peoples Employment Rights Protection Act, job openings for indigenous peoples were released by Motor Vehicles Offices and Departments of Environmental Protection throughout Taiwan.

Originally working at the Motor Vehicles Office, Chen noticed that Hualien Forest District Office had job openings. She immediately applied for a transfer, and finally returned to her long-desired Hualien in 1995.

## Loving Her Job However Tough It May Be

Turning on her radio and GPS, Chen begins her work with fully energy every day. She oversees the area south to Baibao River and north to Shuhu River, measuring a total of 1,278 hectares. Overseeing forestation and tending, supervising, clearing garbage, patrolling to prevent deforestation, removing of alien species, reward forestation verification, inspecting the mines, and stakeout, her job reaches far and beyond. "Going deep into the mountains or putting out forest fires would be the men's job, but work that requires communication, such as promoting local training or policies, women tend to have a much better result," says Chen.

Although the workload is heavy and tedious, Chen still has a lot of fun. The forest is an open area, many people illegally occupy roadside areas and charge accordingly, so they must record the process in



disguise to obtain evidence of such crime. "Once I received a complaint that a parking lot was charging people against the rules, so I put on my flip-flops and wandered around pretending that I was a tourist shopping for food." Even though she found it funny thinking back to it, Chen also shares with graveness, "but we do work here on a regular basis, and they all recognize us. Sometimes we are afraid that they will get back at us for interfering with their business, after all, we're out in the open and they're not."

In addition to such violations, it is also the forest ranger's duty to address illegal mining. The area Chen oversees covers the Feng-Tien mine, although now shut down, the jade stone inside is still extremely valuable and targeted by many illegal miners. Upon receiving a report, the forest ranger must stakeout the route the illegal miners might take leaving the mountains and examine the tire marks after the vehicles pass through, measure the weight of the vehicle to determine whether or not there could have been illegal mining going on. The process is challenging but Chen enjoys it very much, "every mission teaches me something new."

## It Takes the Entire Community to Build the Ecology

Once populated with paddy fields, Hualien downtown is now filled with buildings instead, with Shoufeng

remaining the last paradise. Chen feels deeply the importance of environmental conservation and says with assertiveness, "biodiversity is our only way out, we must preserve the original environment."

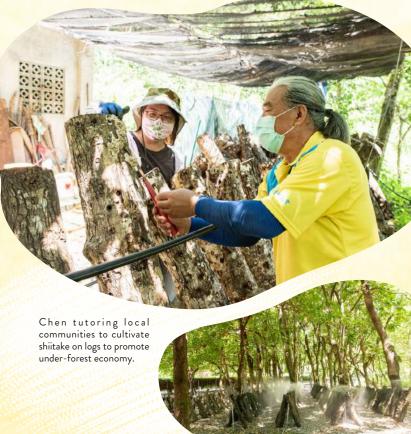
With a pair of binoculars, Chen would stand under the blazing sun and survey the impounding reservoir, searching for signs of Sacred Ibis, an alien bird species. The area surrounding Li Chuan Aquafarm, which is known for its Golden Clam, and Huaike Bridge, face issues of alien bird species gathering and pillaging food, forcibly occupying the habitat of waterfowls including egret and Blackcrowned Night Heron. In response, the Forest District Office activated the Alien Species Removal Program, enlisting the help of hunters in Dowmung Community to search and remove alien species. "It takes the entire community to build the ecology." Chen believes that combing public and private forces and getting the communities to work together, they can effectively increase the awareness of local environmental protection and realize sustainable ecological development.

For example, forest engineering in the early years largely involved cement, cutting of the water way of Lao River, destroying natural habitats, and leading to the extinction of various species. The Forest District Office now uses local material to build fishways, facilitating the spawning migration of fishes while

monitoring the migration effect of the fishways, and regularly inspecting the number of fish species. Furthermore, the Forest District Office work with indigenous communities to promote the Satoyama Initiative, building man-made trails with environmental-friendly methods and materials, maintaining the biodiversity and resource balance. Chen shares with delight, "the birds and dragonflies have all returned, the environment is slowly resuming its former glory."

## Bring Back the Youth and Work to Revitalize the Communities

Not only the environment, but indigenous communities also require revitalization. Rinahem Community sits in the area Chen oversees, where the elders could sing beautiful traditional songs, yet the youth is nowhere to be seen. The younger generation is essential to passing on the traditional songs, yet to bring them back, there must be incentives of steady jobs.



To facilitate the under-forest economy, the Forestry Bureau promotes shiitake cultivation on logs in Rinahem Community, with forest rangers tutoring and aiding the residents. But it's not east to cultivate shiitake in the mountains. You need to first build a storage reservoir and connect the pipes, and to "wake up the shiitake", the logs must be flipped to hit the ground repeatedly. It is labor-intensive and the youth are not willing to continue such work. Falas, the former chairperson of Guangrong Community Development Association in Shoufeng Hualien, aged 60, says that even though the cost has yet to be recovered, he is still willing to lead in building local economy. He believes that only when the local indigenous population are willing to invest will the youth be willing to return home.

"If the youth returns, they can help protect the rivers and fishes, and develop in-depth community tourism for indigenous communities." Chen believes that the younger generation is quick to learn and filled with creativity, they can integrate local resources to develop the community, "I want to reverse the image of Hualien as a 'backward' and 'remote' place. I hope the future generation can contribute to Hualien their knowledge and expertise, and help our hometown prosper and develop."



## Bunun Mountaineering Team

There is a group of people packed with weight, making the difficult journey along the dangerous trails in the mountains. They are the driving force behind many mountaineering dreams fulfilled, and the anonymous heroes assisting academic research and renovations and repairs in the mountains. They have an official title the Mountain Worker, but the public generally call them the Porter.



Some indigenous persons have lower academic achievements, making it harder for them to find jobs, and can only stick with what they have. There is no academic threshold to this line of work, if you are mentally and physically well, strong built, then you can make your way.

Mountain workers live and work alongside mountains over the years, cultivating extraordinary stamina and knowledge of the mountains.



the highest density of mountain workers in Taiwan. The Bunun people living on the two sides of the Central Mountain Range are familiar with the mountains because they live in such proximity, and such advantage makes them a perfect candidate for such work. Chuan Jiang-Ching from Kalibuan Community is 53 this year. He began working as a mountain worker at the age of 35, and has been a guide for the TV program Made In Taiwan for 15 years.

Chuan began hunting with his father in the mountains as a 6<sup>th</sup> grader, and is no stranger to the mountains. He stayed in the village for farming after his discharge from the military service. "I've never left home before, I don't know what the world is like out there," he shares amidst laughter. He began looking for other jobs because the price for agricultural produce was dropping, "I didn't have money to buy pesticides and could barely make ends meet, someone referred me to the porter work, and later on I started the Bunun Mountaineering Team."

### Even Physical Labor can Increase Value by Providing Quality Service

"In the old days we were treated simply as laborers, people would leave the equipment on the ground and expect you to carry all of them up the mountains, no limits to the weight." Chuan recalls vividly how it was normal to be packing 40 to 50 kilos at once, without a set rate to the wage, "roughly around \$2,500 per day, at best \$3,000 - \$3,500, but the company took a \$500 cut." A mountain worker not only carries the weight, but is also in charge of finding water source, set camp, cook, and occasionally serve as a guide. The work is heavy and tedious without insurance, if you get hurt, you're on your own. Chuan says reluctantly, "jobs are hard to come by, so you stick with what you have."

After a few years, Chuan wanted to change the working environment of porters. He established the Bunun Mountaineering Team in 2012, and became the first to set rules up front, among many precedence, in the industry. For example, he is the first to set the maximum luggage weight at 25 kilos, surcharge at \$200 per kilo; wage per day increased to \$4,000, the company takes no cuts and assists mountain workers to take up accident insurance policy, labor and health insurances.

"When I first increased the price, everyone said that I would not last long, but we proved to others with our service that we are worth the price." Chuan says that for incidence, when passing by places with dangerous terrain, they tend to the safety of their



clients, and they have team porters keeping clients company at all times, "the clients don't mind the difference in price, our service trumps everything." Last year, Chuan further raised the wage to \$5,000 per day, setting the highest standard in the industry.

## Stay Healthy and Slowly Work Up Your Strength

In addition to commercial mountaineering, in the event of mountain engineering, trail maintenance, mountain hut refurbishment, academic research, and photography, mountain workers are also required to assist carrying construction materials, equipment, and instruments up the altitude. They are the true heroes behind the mountain engineering works and accessing knowledge of the mountains in Taiwan.

The Bunun Mountaineering Team currently has 41 members, 60% Bunun people and 30% Atayal people, including female members, and some non-indigenous members. Chuan explains that there is no academic threshold to this line of work, if you are mentally and physically well, strong built, join the team and you're good to go, "the first time will be led by someone experienced to show them the routes and the know-how, then it's up to them to work with colleagues to lead their own teams."

The threshold may be low, the challenges are plenty, and the first obstacle is weight-carrying. Age 24 with

5 years of experience, mountain worker Chang Chin-Hao recalls, "the first time I packed that weight up the mountains, the more experienced colleague made it look so easy while I could barely keep up!" A new recruit from last year, Ku Feng-Nien follows by saying, "the first time I went on a mission, Chang was walking behind me and singing, I was exhausted and didn't understand how he still had the energy to sing!" Sharing the trick with us, they say that the weight must be concentrated up and center on the back, with the headband sharing 70% of the weight and the shoulder straps 30%. Despite the trick, the physical strength required is built up from the missions.

The peak mountaineering season is from March to November, when a mountain worker spends an average of 25 days per month in the mountains, physically-demanding to say the least. Chuan smiles, "going home is like a dream, you barely make it down the mountains and the next day you're making your way up there again at dawn." Working in the mountains require top shape physically and strength-wise. Chuan recalls that he once had mild flu symptoms before setting off on a mission, and when he arrived up in the mountains, mountain sickness kicked in and triggered pulmonary edema and hydrocephalus. A helicopter was called in for emergency rescue and he ended up in the ICU for 5 day, "when you're physically unwell, going up the mountains could be life-threatening."

## Danger Lurks Everywhere and Mountaineering is All About Willpower

Other than physically and strength-demanding, dangerous and inaccessible routes also pose challenges. TV program Made In Taiwan once shot the hiking of the Central Mountain Range trail, in which the entire route was hacked open by mountain workers, and they had to overcome issues of getting lost and not finding water source. It took the team 28 days to complete the shoot. Chuan shares that on this specific mission, only one supply run was planned, and everything had to be carried on their backs with every mountain worker packing at least 50 kilos, "we were young back then and had plenty of strength, we were invincible!"

The first mission Ku went on was also a real shock to him. They were taking the Northern Section 2 O-shaped trail, and passed by a steep cliff with no path at all, the only way through was to swing over, "I was out of my wits on the first mission! I finally understood how dangerous this line of work is. On my return trip, I kept debating whether to keep doing this or not." But nothing beats the boss battle, the ever-changing weather. Chuan says, "if mountain accidents occur, it must be because of the weather.



There is great diversity in mountain terrains in Taiwan, if the road is steep coupled with bad weather, life can become very difficult for mountain workers.

We're all fragile at times like that, taking three steps forward but one step back. The ones in the front would pull while those ones in the back would push, all relying on willpower to pull through." Rain and wind at 3,000 meters above sea level is nothing like on the ground, sometimes ice falls with rain during autumn and winter, and it hurts so much more when hit. "At times like that, I really wonder why on earth I'm here, and what I'm doing to myself," Chang says.

Chang recalls once during a bad weather, they were on a steep slope almost perpendicular to the Southern Section 3 trail, and a member of the team slipped and fell down by 200 meters. He tried his best to carry that person up the ridge, where they could wait for the helicopter to hoist the wounded away, "I thought he was going to die, it's a good thing we managed to save him." Before that, Chuan also witnessed a team leader falling to his death at the same spot.

Working in the mountains is difficult and dangerous, and they need to take up part-time jobs to ride out the low season. Chuan admits that most indigenous persons have lower academic achievements and mostly took on labor works, "mountain workers pay at least twice the wage of general jobs, so we bet our lives on it." Packed heavy, the anonymous heroes carry with them food and equipment people depend on once in the mountains, and the mountain culture of Taiwan, all on their shoulders.



A Plant Hunter Who has Collected Over 30,000 Species

# Hung Hsin-Chieh

With part indigenous lineage, Hung Hsin-Chieh, the Plant Hunter, spends his days traveling the forests and mountains alone, just so that every species of flora can be recorded and not lost in time or the environment.





When this National Geographic program was released, the story of Hung Hsin-Chieh, the Plant Hunter, became well-known. Aged 48, Hung is currently a research assistant at the Dr. Cecilia Koo Botanic Conservation Center (KBCC for short), the largest conservation center for tropical plants in the world. Spending his entire life in the mountains and with plants, to date, he has collected over 30,000 plant species. Many rare species were conserved because of him.

the bottom of the tree watching him dumbfounded.

Nicknamed Agai, Hung fell in love with plants at the age of 10. "I've been hyper-active since a child, can't sit still for one moment!" Hung says that he has no interest in books, can't sit still in the classroom, and instead spends his time on the wetland across from his childhood home, "I would catch mud fish and frog there, or climb up trees to look for bird nests." Once he found *drosera peltata* in the wetland, an insectivorous plant covered in slime to catch insects. Out of curiosity, he caught some insects and placed them on the plant, "I saw the leaves react to the insects and found it interesting, so I brought it home to plant." Afterwards, whenever he sees special wildflowers and grass, he would bring them home to plant and thus began his connection with plants.

## Taking Up Part-Time Jobs Here and There So He could Have Time Collecting Plants

Hung didn't continue studying after graduating from middle school, not because he had no interest in books, but that he only had interest for books on plants. The more plants he collected, the more he wanted to learn about them, so he began buying plant field guides, "if the book has plant photographs and names, I will buy it." Even though he wasn't fluent in English, he studied hard at the Latin names of the plants. He even built a greenhouse to house the thousands of plants he collected, "there are so many species of plants, I will never get to the end of them," says Hung.

Before joining KBCC in 2017, in order to have time to collect plants, Hung worked only part-time, never full-time, "I've done as many jobs as there are plants," he laughs heartily. From construction, plumbing, historic building restoration, landscape and horticulture, and farming, you name it, he's done it. He even worked as a porter for four years in the 4th inventory of forest resource by the Forestry Bureau of Council of Agriculture, Executive Yuan, carrying 40 kilos each time they set out and traveled throughout the mountains in Taiwan.



Naturally athletic, Hung could tell at a glance the species of the plant with his radar-sharp eyes and the vast knowledge he accumulated over the years. In 2012, KBCC partnered with International Cooperation and Development Fund and National Museum of Natural Science on the 5-year Solomon Islands Vegetation Resource Survey and Flora Compilation Project. Referred by a friend, Hung joined the project in 2015.

### Every Collection is Fueled by My Own Sense of Mission

After ending his work as a porter, for a while, Hung had difficulty even walking and always wore knee braces. But the opportunity to participate in an international project doesn't come around often, so he agreed to join despite his physical difficulty. "I'm only a middle school graduate, so deep down I always feel inferior, there was no way I'd pass up on an opportunity like this! My legs are still intact, so keep climbing I will!"

Despite the physical condition, he demonstrated outstanding skills, be it cliffs or a tree standing 8-stories high, he moved with such ease that he amazed even the local indigenous persons. From 2015 to 2017, Hung spent a total of 230 days in the Solomon Islands with very fruitful result, including the collection of *Arachnis beccarii var. imthurnii*, an orchid species with the longest leaf, and *Phlegmariurus phlegmaria*, a lycophyte with the longest leaf. They were all brought back for restoration, reproduction, or preserved as a specimen. Such feats were also documented and revealed to the public by National Geographic for the first time, wowing the world with such an amazing character from Taiwan.

After the project ended, Li Chia-Wei, CEO of KBCC urged Hung to join them. Hung hesitated for a while but later decided that it's about time for him to settle down, and the comprehensive facility at KBCC could provide good care for the plants he collected. He said yes to the invitation, and began his first full-time job at the age of 44.

Hung may not have a high academic achievement, but the masters and doctorates working with him all called him The Master, because he could also discover plants no one else can. He says in earnest, "every plant I collected in the wild is based on my

own sense of mission, I hope to salvage more rare plants." This sense of mission drove him to risk his life over and again. Once he discovered the rare *Vanda lamellata* on a cliff in Orchid Island, where many people could see it but not reach it. Without hesitation, he climbed up the cliff 80 meters high, "if I slipped, I would break every bone in my body, but it was such a rare opportunity that I grasped without thinking twice," Hung smiles in recollection.

## Entering the Mountains Alone Doing the Most Dangerous Job in Taiwan

Hung has traveled the mountains and forests in Philippines, Vietnam, Laos, and China, once spending up to 200 days in a year in the mountains. Frequenting the mountains all by himself, people describe his job as "the most dangerous job in Taiwan". Hung explains, "you can imagine the kind of danger one will face entering the mountains, where we take not the well-managed trails but paths we cut through ourselves."

Other than the unpredictability of the weather, there is also animal invasion. Hung has been bitten by bees and snakes, and with his natural lack of



Ballpoint pen sketch of Cypripedium formosanum by Hung.

the sense of direction, he once lost his way in the central mountain range for an entire 14 days. To survive, he swallowed even leech and dung beetle, "I was dying." Hung shares his near-death experience unaffectedly, "I lied dying on the ground and a pair of Formosan yellow-throated martens came near and considered me food. When animals dare to approach you, you know how bad it is for you." Mustering all the strength left in him, Hung grabbed the head of the Formosan yellow-throated marten and banged it hard against the ground. It became his food instead.

Even though unknown danger lurks every time he enters the mountains, Hung never stopped. "I am elated every time I collect a rare plant species!" He says with a sigh, "I'm from the bottom of the society, plants provide me a way to escape the reality. Every time I enter the mountains, I feel like these are the treasures I've collected."

In addition to a natural talent for plant collection, Hung also excels at painting, turning the plants into his paintings. He even hopes to take part in the top three art exhibitions in the world with botanical paintings of endemic species in Taiwan. He plans to become a botanical artist should he one day be physically unable to collect anymore, and use his painting to preserve the most beautiful form of plants. "I don't have any grand plans, I collect to my fullest and paint to my fullest, and that's enough." We learned of the Plant Hunter's story from his down-to-earth and sincere storytelling, and we know that there's more to





植物獵人



Plant hunter 洪信介

## Deciphering Ecological Knowledge

## Plants are Incredibly Useful!

Having spent their entire lives with nature, indigenous peoples developed their own ecological wisdom, allowing them to co-exist with the mountains using their knowledge, be it in response to climate change, animal behavior, or plant use. Considering the fact that supplies in the old days were not as abundant, plant resource applications in our ancestors' lives were critical, and could be discovered everywhere from food, clothing, housing, medicine to religion.

Written by Kuo Po-Jiun; Illustrated by Lin Jia-Dong; Translated by Ker Nai-Yu

## Pigeon pea

#### Used as food and medicine

Although taro, millet, and sweet potato are well-known staple food for indigenous peoples, pigeon pea is not to be forgotten. The Pangcah, Atayal, and Bunun peoples all consume pigeon pea as staple food. The protein level is high in pigeon pea, and very good for the stomach and digestion; consuming pigeon pea root stew can also alleviate fever and detoxify while stopping the bleeding and pain. Pigeon pea is rich in zinc and minerals, and many ethnic groups consume it to increase fertility.



## and in everyday life

Prior to dietary influence from the non-indigenous society, taro was an important staple food for indigenous peoples. Taro is extremely adaptive to the environment, tolerant to drought, heat, and humidity with few insect diseases, and easy to plant in either field, paddy field, or mountain land. It is often the main feature on many dining tables. In addition to food, the taro leaf is broad with a thick stalk, useful as emergency umbrella in the rain. The Paiwan people also chops the taro leaf as antidote for bee stings and insect bites.



## Giant Elephant's Ear

### Used as medicine and in everyday life

Resembling taro in appearance, the Giant Elephant's Ear is extremely viable and often see in wet environments. The Giant Elephant's Ear is poisonous and cannot be consumed, but its gigantic leaf is extremely useful. In the wild, the leaf can be used to carry water and as umbrella; when building temporary hunting or construction huts, the leaves are often used to cover the roof and provide shield from wind and rain. In daily life, the leaf is used to wrap food, for example when a hunter comes back from hunting and shares the game, the leaf of the Giant Elephant's Ear is used to wrap the meat. Most importantly, accidental brushes against stinging nettles including Urtica thunbergiana and Dendrocnide meyeniana, causing the skin to irritate, applying the sap of the Giant Elephant's Ear can help alleviate the symptom.



## Used in everyday life, rituals and religious ceremonies

Before there were shampoo and shower gel, Chinese Soap Berry was the best cleaning produce. The pulp of Chinese Soap Berry has saponin, foam is produced when rubbed in water and can be used to wash and clean. With its amazing cleaning function, the Paiwan and Makatao peoples use the Chinese Soap Berry seeds as the divine beads in divination, and apply to blessing, healing, or fortune-telling in indigenous communities. The Bunun people even name their children dahu, in the namesake of dahudahu, the Chinese Soap Berry, a symbol of health, fitness, and bearing many children.

## Ring-cupped Oak

## Used in hunting, and as building material, plant dye

The ring-cupped oak is nicely flammable and enduring, can burn even when the timber is wet. It is commonly used for daily wood burning and fire divination. With its hardness, the ring-cupped oak twig can be made into slings, the branch as spear, and handle for hoe and knife, and the trunk as mortar for dehulling the rice. The hunter also uses ring-cupped oak to make stakes to capture animals, and keep them from escaping. The texture is so strong that it can even be used as building material. Also, ring-cupped oak is a natural plant dye for color.

According to the sun-shooting legend of the Bunun people, there used to be two suns in the sky. One day, a baby died from the strong blazing heat and became a lizard. The father and older brother of the baby decided to avenge by shooting down the sun. They shielded themselves from the sun with the Formosan Palm leaf, and shot down one of the suns from between the leaves. The legend shows how durable Formosan Palm is to the sun and heat.



Formosan Palm

Formosan Palm can be found everywhere, so it is extremely wide used in the indigenous society. The large feather-shaped leaf can be used to make a broom. It is also a good decoration for rituals and ceremonies. In the wild, small animals, such as the masked palm civet, consumes the fruit of Formosan Palm. Therefore, hunters will place traps around the perimeter of Formosan Palm based to the behaviors of the animals, and lure the animals with the fruit. In addition, the tend leaves of the Formosan Palm can also be used to stop the bleeding.

The Kanakanavu people hosts the river festival after typhoon seasons. Since the traditional male garment is red, to prevent the bright color from attracting evil things, the male would cover themselves with raincoats made from Formosan Palm. After the ceremony ends, the Kanakanavu people will stack stones on top of the Formosan Palm raincoats to mark the river sections, notifying the river god that this is the range in which their people will be fishing, and ask that the river god protect their safety and bless them with good harvests.



### Mucuna Macrocarpa

## Used in everyday life, and as plant dye

Mucuna macrocarpa has bright red sap which can be used as red dye. The stem is strong and flexible, and very useful in tying up things. The Rukai and Paiwan peoples build swings for rituals or weddings, and the main rope for the swing is made from Mucuna macrocarpa, which shows its tenacity.



## Yellow Rotang Palm

## Used as food and building material, and in everyday life

Yellow Rotang Palm is an important rattan species in the indigenous society. It can be found everywhere from backpacks, baskets, headbands, reinforcement of housing structure to fastening of traps, the highly flexible and strong Yellow Rotang Palm with great plasticity is always used. It is said that in the old days, if a hunter fails to hunt any game, he will gather some Yellow Rotang Palm home for daily use instead of coming home empty-handed. The use of Yellow Rotang Palm is diverse, the stem is sweet and can be cooked as soup or salad, a common wild vegetable dish.

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## How to differentiate poisonous plants in the wild?

- Plants with milky sap, such as the mulberry family and composite family, are more or less poisonous and must be consumed with care.
- When in doubt, place a piece on the tongue, and if it feels stingy or spicy hot, do not go on to consume it.
- Wild vegetables and fruits that are consumed by bird, wild rat, or mammals can often be consumed by man as well. Plants that are intact within the moving range of herbivores should be left alone, because even animals know it cannot be consumed!
- Everyone knows that colorful plants should best be left alone, but colorful wild mushrooms are not necessarily poisonous, while the less colorful ones are not necessarily safe either, so it's best to steer clear from all mushrooms.

# A Life Wose to Aglimpse at History through Objects the Mountains is Never Easy!

Recent years have seen a growing trend of people taking delight in outdoor activities, particularly hiking and camping. People are often seen to go to the mountains fully equipped, eager to experience the pleasure of getting close to nature. In fact, one doesn't need to rely on any modern tools or gears to achieve coexistence with nature. All that they need for survival can be sourced from the mountains. Now let's set off to explore the treasure trove of nature and wisdom left behind by our predecessors!

Written by Kuo Po-Jiun; Illustrated by Lin Jia-Dong

## Sharpen Your Intuition by Learning to Identify Natural Features

In the past, the natural environment in Taiwan was way more primitive and less explored than it is now, where there are trekking routes well planned for hikers to follow. With this being the case, how did our ancestors decide on which way to go when surrounded by tall trees and unique, unfamiliar plants?

Despite their close ties with mountains and forests for generations, indigenous people are not necessarily born with a good sense of direction. They appear to be so simply because they have spent a long time in the wild and thus develop a sharper sense of observation. Take for example the 2021 historical drama series "SEQALU: Formosa 1867" produced by the Public Television Service (PTS). One of the scenes features Jie, a Seqalu descendant, losing his ways when entering the forest. Therefore Umi, the daughter of the community leader of Seqalu-Lonckjau 18 Community, teaches him to mark directions by knotting leaves, suggesting the Seqalu people should know where they come from and where to go.

In modern times, when community elders lead young people on their first trip into the mountains, they tend to impart knowledge about nature along the



way and ask them to mind some specific features of the environment. For example, they must learn such things as to take a turn upon seeing a huge tree hole or change direction at the sight of certain species of trees. Such actions, though, could be hard for those who live in the lowlands to comprehend. But when you live with the environment long enough and become familiar with it, you'll naturally develop a sharp intuition about changes in the surroundings.



The above text is only an example of how indigenous people develop their unique ways of life surrounded by the natural environment. What is exemplified cannot serve as a wilderness survival guide. Do not apply it to the situation where you are stranded in the wilderness in urgent need of rescue.



## Momads in the Mountains Recycling Woods for Multiple Uses

Wood is a precious resource in the forest. In the past, when there was no gas available on cold days, indigenous people would make a fire in their houses to keep warm. They also burnt firewood for cooking and boiling water. Every household had to prepare an adequate amount of wood to maintain their daily life. Apart from serving as a fuel source for heating, wood also played an indispensable role for the construction of houses, barns, and workers' huts.

Thanks to such a heavy reliance on wood for everyday use, indigenous people tend to plant and harvest trees in rotation to prevent the depletion of wood resources. They would grow crops in a fixed area and cut wood from it for several years before changing to another block of land. This approach allows the land enough time to recuperate, which ensures sustainable land use.

#### Unlimited Valor with Bow and Arrow at Hand

Before the introduction of firearms, Taiwan's indigenous peoples used bows and arrows made of woods that are more elastic and less prone to breakage such as orange jasmine (*Murraya Paniculata Jack*). In the past, bows and arrows served not only as a common tool for hunting but also as an important weapon in armed clashes. However, as firearms and ammunition became increasingly popular, they gradually fell into disuse and faded from people's daily life.

Archery is a crucial skill in traditional indigenous society. Many of Taiwan's indigenous groups use it to symbolize the coming of age of boys by demonstrating their skills and achievements at the initiation rituals. This suggests these young adults are qualified to protect their homeland if needed in the future. In addition, since the risks of hunting and fights are rather high, one must be familiar with his weapons and obtain a clear understanding of their usage. In light of this, it is required that every hunter make their own bow and arrow personally, and no one else is allowed to touch it.



## To Love, Approach, and Protect the Mountains

Leading a life with close ties to the mountains, indigenous people are gaining access to diversified job opportunities related to mountain forests as mountain activities become popular. Take, for example, mountain worker we cover in this issue. This job allows them to bring their specialized knowledge and skills into play by guiding visitors across the mountains and into forests, ensuring a safe adventure even in the mountains where supplies may not be available. Also, as human activities are having a dramatic impact on the mountains,

there are forest rangers who serve as protectors of the environment and play an active role in ecological preservation.

As the saying goes, "distance is the soul of beauty." The public at large tends to have an imagination about mountains and forests with a desire to explore their hidden natural beauty. This is simply because these places are not easily accessible in most people's daily lives. As we get closer and closer to the mountains, it becomes important that we pay more respect to nature and keep a proper distance for appreciation of its beauty.



