

情有 毒 鍾的相依

山漆與大黃金花蟲

Poisonous Dependence

Wax Trees (*Rhus succedanca* Linn) and Golden Leaf Beetles
(*Podontia lutea*)

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大黃金花蟲以山漆為主要食草。
Golden leaf beetles feed mainly on wax trees.

山漆普遍分布於臺灣中、低海拔，每年秋冬時節葉片轉紅，總能為山林增添繽紛的色彩，也是吸引許多遊人欣賞紅葉的主角之一。然而，山漆不宜近距離接觸，因為它汁液中含有漆酚，一旦皮膚碰觸到，會造成皮膚不適、甚至腫脹，令人痛癢難耐。

習居山林的太魯閣族原住民，對於山漆也是又愛又怕。由於山漆的樹幹又直又堅固，可作為棟樑之材。太魯閣國家公園砂卡礑流域的太魯閣族人，過去常取山漆的樹幹作為興建房屋時的樑與柱，然而取材的過程中，皮膚難免沾到山漆樹液，也會讓人吃盡苦頭。如何解除皮膚的不適？太魯閣族人有獨到的方法，就是到山漆樹前，口中反覆唸著，把患者的名字和山漆樹交換，例如：「我是山漆，你是XXX。」如此，皮膚的痛癢就可不藥而癒。

Wax trees are widely distributed in the mid and low altitude areas in Taiwan. Their leaves turn red in autumn and winter, adding splendid colors to the mountains and attracting tourists. Wax trees are basically untouchable as their sap contains urushiol, which, when in contact with humans, may cause skin irritation, swelling, itching or even unbearable pain.

The aborigines of Taroko Tribe also develop a love-fear relationship with wax trees. As the trees' straight and sturdy trunks make perfect construction materials, the Tarokos living in the Shakadang River would use the trunks to build their houses. In the process, they would inevitably touch the sap and get hurt, but they also developed a unique way of relieving the discomfort. In fact, they would stand in front of the wax tree, switch the name of the patient with that of the tree, and murmur repeatedly, "I'm the wax tree, and you're [name of the patient]. This was said to work wonders in relieving the pain.





大黃金花蟲的一生從卵、幼蟲、蛹到成蟲，幾乎都是在寄主植物山漆樹上度過。圖為交尾中的大黃金花蟲。
Golden leaf beetles spend nearly their entire life on wax trees. In the picture shows two beetles that are mating.

在過去的部落生活中，醫藥不發達，生活的一切都仰賴大自然的供給，原住民族群在取用自然資源的同時，也接受人力無法改變的大自然現實，以及自然環境可能帶來的傷害。他們用交換名字的方式來解除山漆帶給他們的不舒服，雖然很難用現代「科學」來解釋，但不難瞭解他們順應自然及對自然敬畏的態度。

山漆又稱木臘樹，在分類上屬漆樹科，在臺灣陽光充足的地方都不難見到它的蹤跡。它的分布除了臺灣之外，也遍及中國大陸華中、華南、喜馬拉雅山、印度等地區，很早就被視為經濟樹種。主要是其種子含有豐富的油脂，可製成蠟燭和肥皂。而它的樹液常常令人聞之色變，但卻可割取蒐集，製成器皿上的塗料，當汁液乾燥後，對人體就沒有負面影響了，不僅可以保護器皿，更發展出精美的漆器文化。

In the past, when the aborigines weren't medically advanced and had to depend on Nature for various daily supplies, they also came to realize the many possible threats posed by the environment. It may be difficult to explain with modern science why exchanging names may relieve pain caused by the sap, but somehow it shows the people's reverence for the Nature.

Classified in the Family *Anacardiaceae*, wax trees are distributed in sun-drenched places in Taiwan, central and southern China, the Himalayas and India. They are regarded as economic plants as they are rich in oil, which can be made into candles and soap. The sap, though often dreaded, has no negative impact on human bodies once dried. As a result, dried sap can be used as paint on wares for protective or decorative purposes.

毒高一尺 魔高一丈

山漆的毒性總是讓人敬而遠之，但它身懷毒性也是有原因的。「毒」對它而言，是重要的保護作用，含毒的樹汁讓許多動物不敢靠近，是許多葉片能保持完整、不被破壞的原因。

但道高一尺，魔高一丈，有些昆蟲竟隨著山漆演化，能適應它的毒性，甚至以山漆為主要食草。大黃金花蟲便是其中之一。

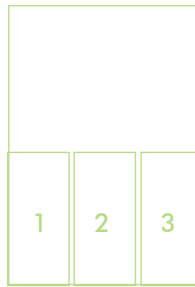
大黃金花蟲是臺灣金花蟲科昆蟲中體型較大的一種，體長大約1.4至1.7公分，體色鮮黃，非常美麗，它的一生從卵、幼蟲、蛹到成蟲，可說都是在牠的寄主植物山漆樹上度過。雖然大黃金花蟲以山漆為食草，但並非在每棵山漆樹上都能找到大黃金花蟲的蹤影。太魯閣台地步道上有一棵山漆，算是太魯閣台地上唯一的一棵。幾

The One that Fears No Poison

In fact, wax trees are poisonous for a reason: the toxic sap bears a protective function as it keeps animals off, allowing the tree leaves to remain intact.

However, some insects seem to triumph over wax trees, and manage to evolve accordingly. They not only get used to but even feed on wax trees. One such example is the golden leaf beetle.

Golden leaf beetles (family *Chrysomelidae*) are bright yellow insects measuring about 1.4 to 1.7 cm in length, and they spend nearly their entire life on wax trees. Despite the fact that the beetles feed on wax trees, they are not always present on all wax trees. There is one wax tree along the Taroko Terrace Trail, and it's also the only one there. Back in a few years ago, many golden leaf beetles were found on this tree and there



1. 太魯閣國家公園台地上的山漆樹。
The wax trees on a terrace in Taroko National Park.
2. 大黃金花蟲所產下砲彈型的卵。
The bomb-shaped eggs laid by the golden leaf beetle.
3. 大黃金花蟲之成蟲(下)與幼蟲(上)。
An adult beetle (at the bottom) and a larva (at the top) of the golden leaf beetle.





揹著排遺的大黃金花蟲幼蟲。

A larva of the golden leaf beetle that carries feces on its back.

年前，在這棵山漆樹上發現棲息著許多大黃金花蟲，葉子上處處可見昆蟲的咬痕，尤其每年4、5月繁殖旺盛的季節，整棵樹上的大黃金花蟲可說是熱鬧又忙碌，剛長出來的嫩葉甚至一度被吃到精光。成蟲在樹上完成交配後，會選擇剛冒出的新葉產下一顆顆砲彈狀的卵，當卵破殼而出，幼蟲便開始努力啃食山漆嫩葉。

大黃金花蟲的幼蟲也是全身鮮黃，然其背部卻有一坨深黑色的東西，經仔細觀察，原來是幼蟲本身的糞便。幼蟲將糞便塗在身上，是為了要遮掩鮮黃的體色，讓自己看起來「不可口」，也讓天敵不輕易發現牠的行蹤。

這種「屎詐」的招數通常可以輕易矇騙過大部分的鳥類或其他天敵，讓牠可以安然躲過危機。但若碰到較精明的鳥，仍有可能會遭遇被吃下肚的危機，只是吃了山漆的金花蟲，由於身體也藏著毒性，通常獵食者也是興趣缺缺。

were bite marks everywhere on the leaves. In April and May, when the beetles start breeding and feasting on wax trees, the new leaves could be completely eaten up. When the adult beetles finish mating on the trees, they would go to new leaves to lay their bomb-shaped eggs. When the eggs are hatched, the larvae soon start to bite the leaves.

The body of a larva is bright yellow, but on its back sits something black – its feces. Larvae apply their feces on their back to cover part of their bright body color. This would not only make them appear less tasty, but make their whereabouts less apparent to their enemies.

This trick usually works well with many bird species and other enemies, but when it comes to carrion birds, golden leaf beetles still risk being devoured. Luckily, the beetles also contain some poison, since they feed on the poisonous wax trees, and this gives predators less incentive to prey on them.

「人性」演化 珍愛生命

大黃金花蟲的幼蟲在一次又一次蛻皮後逐漸長大，每個階段也都揹著糞便保護自己，直到終齡幼蟲階段，體型碩大，只見牠們甩掉一身的糞便，以鮮黃亮麗的姿態，大大方方在樹幹上遊走。最後來到樹下的泥土地上。

為何要爬到地上？仔細翻看，發現泥地裡的土塊中竟有些是完整無缺、成規則的橢圓；有些則是破裂成一半，內部中空而平滑。原來，這正是大黃金花蟲的「土蛹」，終齡的幼蟲下到地面就是為了結蛹而來。在一堆土塊中若不仔細觀察，根本無法看出其中玄機！也不得不讓人再次佩服其高明的「詐術」。

大黃金花蟲一生中各種高明的欺敵詐術，是保障自己延續生命與基因的絕招；對於山漆而言，讓自己逐漸演化出毒性，設法拒絕成為動物的食物，也是一種自我保護的方法！許多植物常常為了不讓動物啃食它的葉片，而演化出讓動物食不下嚥的物質，但是一旦有動物適應這種物質，植物往往又會演化出更強烈

爬到地面準備結蛹的大黃金花蟲幼蟲。

A mature larva of the golden leaf beetle is coming down to the ground, ready to develop into the pupa.

Humanlike Evolution

The larvae of golden leaf beetles grow in size each time they molt. At these stages, they still carry feces for protection. Then as they finally develop into mature larvae, they'll rid themselves of the feces, show off their bright body color, walk on the tree trunk and finally come down to the ground under the tree.

They bother to come down to the ground for a reason. Taking a closer look, one would find out that some oval-shaped clods of mud buried underground are intact, while others are hollow and smooth ones broken into half. It turns out that these clods are the cocoons formed by the mature larvae. They cunningly camouflage themselves with mud and this sophisticated trick is yet another amazing technique for deception and protection.

Golden leaf beetles play clever tricks to ensure the continuation of their lives and genes. Similarly, wax trees are poisonous so that they stay unharmed. In fact, many plants evolve to develop some inedible substances within themselves to repel predators. However, some animals do

大黃金花蟲之土蛹。

The clod-like cocoons formed by golden leaf beetles.





大黃金花蟲與山漆間的互依關係，展現了大自然中「人性」一面。
The dependence of golden leaf beetles on wax trees shows a "humanlike" side of the Nature.

的物質作無言的反擊。而動物總還是能設法適應毒草，甚至最後也只能適應某些特定的植物，這也是大黃金花蟲對山漆情有「毒」鍾的原因。

生活的周遭，有許多的生命演化總待人們去留心觀察與體認，大黃金花蟲與山漆間的互依關係，或者狡詐或者自私，為了生活下去，牠們展現了大自然中「人性」一面。珍愛地球的真意，不應只是在環境遭受破壞或物種面臨瀕絕才開始去珍惜，微觀生活，將可發現更多值得珍愛的生命奇蹟。🌿

get used to these substances. In this case, the plants have to develop even stronger toxins as a countermeasure. But in turn some animals still manage to adapt to certain plants, and this is also why golden leaf beetles are particularly fond of wax trees.

Evolution takes place almost everywhere around us. The dependence of golden leaf beetles on wax trees may be interpreted by some as canny or selfish, but it shows a "humanlike" side of the Nature. If we care more about things taking place around us, we'll surely be pleasantly surprised to find out many of these relatively undiscovered miracles of life. 🌿

簡介 Profile

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Lin received his master's degree from the Department of Tourism, Recreation and Leisure studies, National Dong Hwa University. As a contracted interpreter in Taroko National Park, where he has served for more than twenty years, Lin has long been dedicated to the work of environmental interpretation and environmental education. He has written *Walking into Taroko: Gorge Trail* and *Walking into Taroko: Hehuan Mountain Trail*.

