

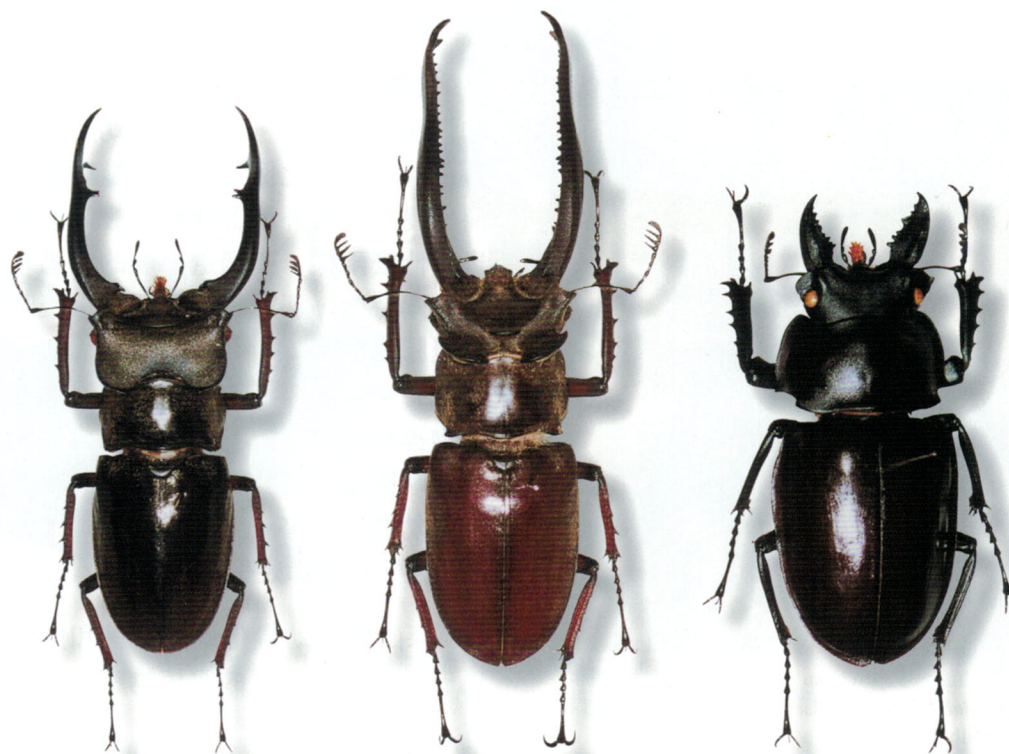
↑ 姬深山锹形蟲。47 mm。2003
Lucanus swinhoi. Taiwan.

深山、圓翅，及鬼豔屬

Introduction to the Genera *Lucanus*, *Neolucanus*, and *Odontolabis*



↑ 炫麗鬼豔锹形蟲。71 mm。2003
Odontolabis spectabilis.



♂深山屬的雄蟲(左二)與圓翅屬的雄蟲外觀差異極大。1999

Lucanus males and *Neolucanus* males look very different. Left two are *Lucanus*.

在第三類的锹形蟲中，飼育者最有機會接觸的應該就是 *Lucanus*、*Neolucanus*，以及 *Odontolabis* 屬的锹形蟲。這三屬的雄蟲長得很不一樣。*Lucanus* 屬(深山屬)的雄蟲頭部長有看起來像是耳朵的隆起，並且絕大部分的種類都有巨大又充滿齒突的華麗大顎。*Odontolabis* 屬(鬼豔屬)的雄蟲只有少數擁有壯觀的大顎，其餘都是單調修長或是粗短的大顎。*Neolucanus* 屬(圓翅屬)的雄蟲幾乎不會出現比胸部還要長的大顎，而且體型全部都是圓胖形。但是這三屬的雌蟲卻都長得很類似，這是因為她們都在相同的環境(腐植土)產卵。雌蟲都擁有發達、適合挖土的前腳脛節。由於她們完全不需要在硬朽木中穿梭，因此身體和大顎都特別寬厚。

Of the stag beetles in the third group, hobbyists are most likely to encounter those in the Genera *Lucanus*, *Neolucanus*, and *Odontolabis*. Male adults from these three genera look very different. *Lucanus* males have head protrusions that look like ears and most have gaudy mandibles. Only a few species in the Genus *Odontolabis* have truly spectacular mandibles. Males in the Genus *Neolucanus* almost never develop mandibles longer than the pronotum. Males in this genus are also known for their round body shape. However, females from these three genera look very similar, because they all lay eggs in flake soil. They all have specialized forelegs for digging, thick mandibles, and a thick body.



皇家鬼豔锹形蟲。67 mm。2003。活體巫世遠提供
Odontolabis imperialis. Live specimen provided by
Wu Shih-yuan



哥吉拉鬼豔锹形蟲。65 mm。2003
Odontolabis gazella.

鬼豔屬的幼蟲長得非常特別。牠們的腹部特別肥大。圓翅屬的幼蟲腹部也算肥大，但是比例上沒有鬼豔屬誇張。深山屬的幼蟲外觀上則和一般锹形蟲幼蟲沒什麼兩樣。不過這三屬的幼蟲有一個共同特徵，那就是牠們受到干擾時會用後腳摩擦中腳，發出「噦噦呱呱」的警告聲。但是這種警告聲只有幼蟲在腐植物裡時才會出現，這是因為後腳和中腳的摩擦必須再和腐植物產生共鳴。如果把幼蟲抓出來，雖然牠們還是進行腳部摩擦，但是卻幾乎聽不到聲音。

深山屬的幼蟲化蛹前，就和兜蟲幼蟲一般，會把週遭的腐植物壓擠成一個

Odontolabis larvae almost look strange. They have a huge abdomen. *Neolucanus* larvae also have a big abdomen, but not as exaggerated as that of *Odontolabis*. *Lucanus* larvae look just like any other stag beetle larvae. However, the larvae of these three genera share something in common. They all have the ability to produce warning sounds by rubbing their hind legs against middle legs.

彩虹鬼豔锹形蟲。36 mm。2003
Odontolabis kazuhisai.





↑ 鬼豔、深山，以及圓翅屬的雌蟲均長得很類似，尤其是大顎。
Odontolabis, *Lucanus*, and *Neolucanus* females all look very similar.

橢圓形的空間，而且蛹室通常會和飼育容器有接觸，如此幼蟲可以減少體力的消耗（因為有一邊已經是硬的了）。但是鬼豔屬和圓翅屬的幼蟲化蛹前卻通常會做和容器沒有接觸的土繭型蛹室。土繭型蛹室並不是單純擠壓出來的空間，而是幼蟲費盡心思用唾液和糞便黏出來的蛹室。由於是用唾液和糞便黏出來的，土繭型的蛹室幼蟲只做一個。如果飼育者不小心把一角弄破了，幼蟲可能還黏得回去；如果飼育者把整個土繭都弄破了，幼蟲就修復不了，而且很有可能精疲力竭死亡。由於土繭通常和容器壁沒有接觸，因此飼育者幾乎都是在換土時才發現土繭的。也因此，在換腐植物時，動作要格外地輕柔，以免把土繭給弄破了。如果有數個星期都沒有看見幼蟲在容器壁活動，幼蟲就很有可能已經開始製作土繭。

Lucanus larvae, like rhinoceros beetle larvae, make a pupal cell by compressing the substrate around them into an oval shape and the cell frequently comes in contact with the container wall. However, *Odontolabis* and *Neolucanus* larvae usually make cocoon-like pupal cells that do not touch the container wall. These cells are specialized cells made with excrement and saliva. And larvae can only make it once. If the cocoon cell is lightly damaged, the larva might be able to fix it. If the cell is crushed, the larva will not be able to make another one and most likely die from exhaustion. Because these cells usually don't come in contact with the container wall, hobbyists often don't notice their existence until during substrate change.

If you want to open a cocoon cell to observe the eclosion process, you must make sure that the larva has already become immobile. It is best not to open a cell within



↗ 鬼豔屬的幼蟲腹部特別肥大。2006
Odontolabis larvae have a huge abdomen.



↗ 大圓翅锹形蟲的土繭。2003。活體林琨芳提供
Pupal cell of *Neolucanus maximus*. Live specimen provided by Ralf Lin



↗ 很小心用工具刮出一個小開口。2003。活體林琨芳提供
Scrape out an opening with great care. Live specimen provided by Ralf Lin



如果要把土繭挖開觀察，飼育者一定要很確定幼蟲已經失去活動能力，否則一定會造成幼蟲的負擔。發現土繭後，2個月內最好都不要有動作。2個月後可以很小心地用小刀片等工具從土繭的一端開始慢慢地刮，直到刮出一個微小開口。如果土繭裡的還是幼蟲應馬上把土繭埋回腐植物中。如果看見的的確是蛹，可將洞口剝得更開好方便觀察。如果看見的是蛹的尾部則到土繭的另一端再刮開一個洞口。最重要的是，挖開觀察時絕對不要剝掉超過1/5的土繭，而且能夠剝開的部位為蛹的頭部的正上方，否則蛹有可能羽化失敗。剝開後最好把土繭的一半埋於腐植物中，以保持水分；埋好後再輕輕地蓋上一層保鮮膜。如此便可以觀察蛹的發育和羽化的過程。

two months of discovering it. After two months, use a small razor or the like to very gently scrape one of the ends of the cell until a small opening is achieved. If what you see is a larva, bury the cell back in the substrate. If what you see is a pupa, the cell can be opened a little bit more. It is important not to open more than 1/5th of the cell and only the portion above the head of the pupa should be removed. Keep the cell half buried in the substrate to retain moisture. The opening should be covered with a piece of kitchen wrap.

← 已經羽化，但仍然蟄伏於土繭中的大圓翅雌蟲。50 mm。2006。活體林琨芳提供
Newly eclosed *Neolucanus maximus* in pupal cell. Live specimen provided by Ralf Lin