↗ 大黑豔鍬形蟲的卵帶有一點淡綠色。2006。林琨芳攝

M. tarandus eggs carry a tinge of green. Photo by Ralf Lin

幼生時期的特徵：筆直的大顎。由於有這樣的共通點，這兩種鍬形蟲的採卵方式以及幼蟲的飼養方式一模一樣也就不奇怪了。

目前為止，最適合大黑豔鍬形蟲產卵的材質是仍有活菌的雲芝木和靈芝木。如果是已經乾燥過再加水的雲芝木或是靈芝木，其效果就如同使用一般大鍬用的產卵木，母蟲並不青睞，但運氣好時仍然會產少數的卵。由於活菌雲芝木或是活菌靈芝木均不容易取得，因此可使用1000 cc雲芝菌絲瓶代替，但整體上雌蟲仍然偏好產卵木。使用活菌產卵木時，先於容器底部壓實約5 cm的木屑，之後在表面放置產卵木，最後用木屑將產卵木覆蓋至四分之三處。如果使用的是菌瓶，一樣先於容器底部壓實5 cm的木屑，接著只要將菌瓶打開橫放即可，不需將其埋沒。由於雲芝菌相當不耐熱，請務必控溫26^{0}C以下，理想溫度

the only ones with mandibles without any curves. They have retained a trait of stag beetle larvae: straight mandibles. With them sharing such a unique trait, that their larvae also have identical substrate needs is not surprising.

Up to this point, the best breeding material for ***M. tarandus*** has been decayed logs with living mycelia of Reishi (Ling Chi) ***Ganoderma lucidum*** or Turkey Tail (Yun Zhi) ***Trametes versicolor***. Decayed wood for "regular" stag beetles such as ***Dorcus*** simply don't work, or with very poor performance, with single-digit egg counts. As logs with living Reishi or Turkey Tail mycelia may be difficult to find, one-liter Turkey Tail kinshi bottles can be used as a substitute. However, females generally prefer logs. When using logs, first pack the bottom of the breeding container with 5 cm of compressed decayed wood flakes. Then place the log horizontally on the flakes. Finally, fill the tank with decayed wood flakes until the log is three fourth covered. If using Turkey Tail kinshi bottles, first also pack the breeding container with 5 cm of compressed decayed wood flakes. Then open the lids of the kinshi bottles and place them horizontally on the flakes. There is no need to bury the bottles. Turkey Tail mycelia are intolerant of heat. The temperature of the rearing environment must not exceed 26^{0}C, with 22^{0}C being ideal. Oviposition takes place 3-14 days after female enters Turkey Tail kinshi bottle. Females tend to oviposit eggs against the bottle wall. When eggs are observed, and the female has left the bottle, the bottle can be retrieved. Allow the female to rest for a

為22^{0}C。雌蟲鑽入菌瓶3-14天後開始產卵，並喜歡將卵產於木屑和容器的交接處。當發現有卵粒時，而雌蟲又已經離開菌瓶，即可將菌瓶取出。讓母蟲休息個幾天以後便可再放入新的菌瓶。菌瓶內的卵無須挖出，幼蟲孵化後可直接吃菌。大黑豔鍬的卵期15-20天。如果使用的是活菌產卵木，從母蟲開始鑽產卵木2個月以後便可以收成幼蟲，平均值為10隻幼蟲。雌蟲一生可產大約40粒卵。飼養的過程中別忘了全程提供食物。

最適合黃金鬼鍬形蟲的產卵木為活菌靈芝木。用一般大鍬產卵木也會產卵，但效果不佳。黃金鬼鍬形蟲也可用雲芝菌瓶採卵。產卵箱佈置方式以及收成時機比照大黑豔鍬。每次收成平均值為15隻幼蟲。雌蟲一生可產大約45粒卵。

大黑豔鍬形蟲和黃金鬼鍬形蟲的幼蟲收成後一定要用雲芝菌瓶飼養。使用任何其他菌瓶或是發酵木屑只會養出小型個體。收成時如果有一齡幼蟲可先將其飼養在由原產卵木磨成的木屑中，待轉二齡一個星期後再連同部分原木屑投入菌瓶，如此可確保幼蟲有緩衝區域，不必立刻被迫吃菌。幼蟲從孵化到轉三齡大約需要3個月的時間。頭幅較小的雌蟲可換瓶到850-1000 cc的菌瓶，雄蟲換到1500-2000 cc的菌瓶。每3個月換一次菌瓶，以防菌絲劣化。大黑豔鍬形蟲的幼蟲期9-12個月。最高體重達22公克的幼蟲羽化成大約65 mm的成蟲，30公克的幼蟲羽化成大約75 mm的成蟲。40公克的幼蟲有機會羽化成超過80 mm的成

few days before placing new bottles. Eggs do not need to be retrieved from the bottles. Egg duration is 15-20 days. If logs with living mycelia are used as the breeding media, the ideal time to retrieve larvae is 2 months after the female first burrowed into them. The average harvest yields 10 larvae. Each female is capable of laying up to 40 eggs.

The most suitable breeding media for ***Allotopus*** stag beetles are logs with living mycelia of Reishi (Ling Chi) ***Ganoderma lucidum***. Regular ***Dorcus*** logs work to an extent, but by no means well. Breeding tank setup and larvae retrieval identical to those of ***M. tarandus***. The average harvest yields 15 larvae. Each female is capable of laying up to 45 eggs.

M. tarandus and ***Allotopus*** larvae must be reared with Turkey Tail kinshi bottle. Any other method yields death or extra-small adults. If first instar larvae are retrieved, temporarily rear them individually in sawdust made from the log they are found in. After the larvae have turned second instar for a week, they can be transferred to Turkey Tail kinshi bottles. When transferring them to kinshi bottles, make sure a portion of the original substrate is also transferred to the kinshi bottles. This is to make sure that there is a "buffering" zone so that larvae are not forced to eat kinshi right away. L1-L3 takes about 3 months. Female larvae (ones with smaller heads) should then be transferred to 850-1000 cc bottles. Male larvae should be transferred to 1500-2000 cc bottles. Substrate change should be performed every 3 months. Larval duration for ***M. tarandus*** is

蟲。雌蟲方面，12公克的幼蟲羽化成大約42 mm的成蟲，15公克的幼蟲羽化成大約48 mm的成蟲，16公克的幼蟲羽化成大約50 mm的成蟲。前蛹期30-45天，蛹期約1個月。羽化後蟄伏3-4個月。過蟄伏2-3個月後可以進行交配繁殖。大黑豔鍬形蟲過蟄伏後壽命約1年。黃金鬼鍬形蟲部分，羅森伯基黃金鬼鍬形蟲、馬場黃金鬼鍬形蟲，以及莫瑟里黃金鬼鍬形蟲等三種大型種類的幼蟲均可以在孵化5個月後長到25公克。最高體重達20公克的幼蟲羽化成大約70 mm的成蟲，25公克的幼蟲羽化成大約75 mm的成蟲。雌蟲方面，15公克的幼蟲羽化成大約48 mm的成蟲。幼蟲期8-10個月。前蛹期以及蛹期各約1個月。蟄伏期2-3個月。過蟄伏2-3個月後可進行交配繁殖。過蟄伏後成蟲可活4-6個月。

9-12 months. 22-gram larvae become adults around 65 mm. 30 grams around 75 mm. 40-gram larvae may become adults over 80 mm. For females, 12-gram larvae become adults around 42 mm. 15 grams around 48 mm. 16 grams around 50 mm. Pre-pupa period is 30-45 days. Pupa period lasts about 30 days. New adults stay inactive for 3-4 months. Allow adults to become active for 2-3 months before breeding. Once active, ***M. tarandus*** adults live for about a year. For the three larger varieties of ***Allotopus***, which are ***A. rosenbergi***, ***A. m. babai***, and ***A. m. moseri***, larvae become 25 grams three months after hatching. 20-gram larvae become adults around 70 mm. 25 grams around 75 mm. For females, 15-gram larvae become adults around 48 mm. Larval duration is 8-10 months. Pre-pupa and pupa period each lasts about 30 days. New adults stay inactive for 2-3 months. Allow adults to become active for 2-3 months before breeding. Once active, adults live 4-6 months.

↑莫瑟里黃金鬼鍬形蟲雌蟲。41 mm。2007
Female ***A. moellenkampi moseri***.

↗鑽入雲芝菌瓶產卵的莫瑟里黃金鬼鍬形蟲雌蟲。2007
Female ***A. moellenkampi moseri*** burrowing into Turkey Tail kinshi bottle.

鋸鍬屬

The Genus *Prosopocoilus*

在談過第一類中最具代表性的***Dorcus***屬之後，現在介紹第二類中最具代表性的***Prosopocoilus***屬。此屬是鍬形蟲科中，僅次於***Aegus*** (肥角鍬形蟲) 屬的第二大屬，大約有160個已知的種類。全世界最長的鍬形蟲也是這個家族的成員。這一屬的中文翻成「鋸鍬形蟲屬」，因為幾乎每一個種類的大型雄蟲都有充滿齒突又修長的大顎，看起來就像鋸子一般。雄蟲的大顎雖然沒有***Dorcus***屬的有力，但是手指頭被夾到還是有流血的可能。此屬的鍬形蟲顏色變化多端，從漆黑到棕黃到棗紅到混色都有。這一屬的鍬形蟲繁殖時大多偏好中朽木，有些種類甚至會在腐植土中產卵。

After having discussed the most representational genus ***Dorcus*** in the first group, we now turn our attention to the most representational genus in the second group—***Prosopocoilus***. This is the second largest stag beetle genus, with about 160 known species. The longest stag beetle also belongs to this genus. Almost all the species in this group possess large and highly-denticled mandibles. ***Prosopocoilus*** stag beetles come in multiple colors, from jet black to brown to red. Females in this genus prefer middle decayed wood; some would even oviposit in flake soil.

鋸鍬屬的典型產卵環境佈置如下：

1. 於飼育容器的底部壓緊5 cm深的微濕發酵木屑。
2. 在表面橫放數根微濕的中朽木。
3. 用任何腐朽程度的微濕木屑將中朽木埋沒。
4. 在表面放置防止成蟲翻倒的攀抓物。

The typical breeding tank setup for *Prosopocoilus* is as follows:

1. Compress 5 cm of fermented decayed wood flakes at the bottom of the container.
2. Place 2-3 moist middle decayed wood on top of the compressed flakes.
3. Add regular decayed wood flakes until the logs are fully covered.
4. Place perches on the surface to prevent adults from tumbling over.

↗ 壓緊微濕發酵木屑。
Compress moist fermented decayed wood flakes.

↗ 放入微濕中朽木。
Add moist middle decayed wood.

↗ 加入微濕一般朽木屑。
Add moist regular decayed wood flakes.

↗ 完全覆蓋。
Cover completely.

整體上而言，鋸鍬屬的幼蟲不論是發酵木屑或是菌絲都可以養出大型個體。但要注意的是，有些個體會產生排斥菌絲的現象。也因此，最保險的做法是在發酵木屑中埋入一小塊菌絲，如果幼蟲長期下來都不啃食，往後換瓶時便不要將此個體投入菌絲瓶。整體上而言，吃菌絲的幼蟲羽化後會比吃發酵木屑的來得大。

Generally speaking, both fermented decayed wood flakes and kinshi bottles can be used to rear ***Prosopocoilus*** larvae. However, some individuals may refuse kinshi. As a result, the safest procedure is to keep a small piece of kinshi in fermented decayed wood flakes. If the larva never touches the kinshi, make sure this larva is not transferred to a kinshi bottle in the next substrate change. On average, larvae kept in kinshi bottles become larger adults than those kept in fermented decayed wood flakes.

↑氣勢凌人的大顎。敬典長頸鹿鋸鍬形蟲。116 mm。2003。
活體魔晶圓提供
Imposing mandibles. *Prosopocoilus giraffa keisukei*.

長頸鹿鋸鍬形蟲

Prosopocoilus giraffa

→西山氏長頸鹿鋸鍬。100 mm。2003
P. g. nishiyamai.