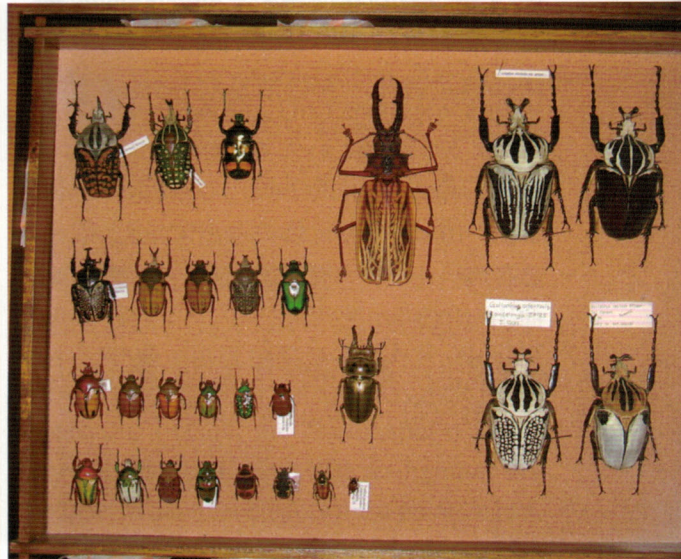


# 標本製作

## Making Dried Specimens



↑ 乾燥毛大象大兜蟲標本。  
Dried *Megasoma elephas*.



↑ 各種乾燥甲蟲標本。  
Various dried beetles.



↑ 各種兜蟲和锹形蟲的乾燥標本。  
Various dried rhinoceros and stag beetles.



↗ 除了成蟲以外，幼蟲所脫的皮也可製成乾燥標本。  
1999  
Other than adults, skins shed by larvae can also be dried and permanently kept.

成蟲死後不要丟棄，可將其做為不但可永久保存又有許多用途的乾燥標本。製作乾燥標本很容易，重點就在短時間內讓蟲體乾燥。

### 標本製作的步驟：

1. 充分用溫水將屍體洗淨 (包括將翅鞘打開清洗後翅)。
2. 將蟲體充分擦乾。
3. 將蟲體放置於保麗龍板上，然後用針交叉固定成想要的姿勢 (用的針大小無拘，好用即可，就是連牙籤都可使用)。若是要做展翅型的標本，將後翅展開後用兩片大小適中的硬紙板夾住，然後用迴紋針固定。完全乾燥後翅膀就會定型。
4. 將蟲體置於你所找得到最乾燥的地方讓其完全乾燥。(這是最重要的步驟。蟲體必需在3-5天內完全乾燥，否則惡臭開始散發、蟲體開始解體。我習慣將蟲體放置於60瓦燈泡正下方的25 cm處。一般3天就會完全乾燥。但不可太過接近燈炮，否則屍體乾燥後翅鞘會分開。)

Do not throw the beetles away after they die. They can be turned into dried specimens, which can be kept for centuries and serve many purposes, including future specimen comparisons. Making dried specimens is easy. The key is prompt drying.

### Procedures to make a dried specimen:

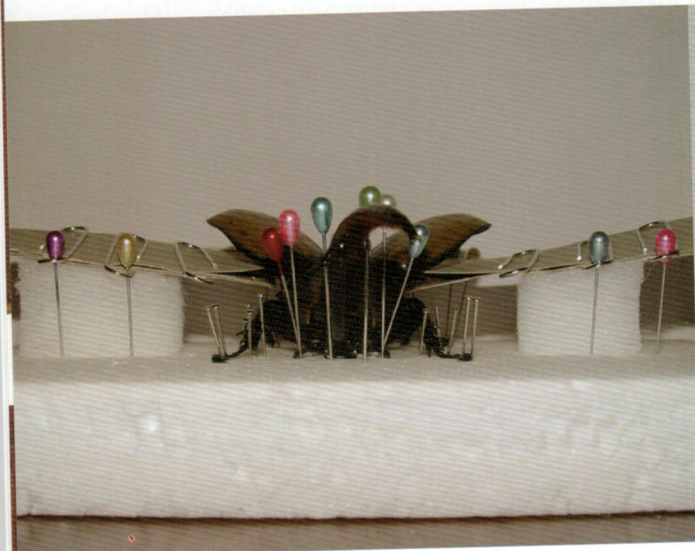
1. Wash the body thoroughly (including opening the elytra and washing the inner wings) with warm water to rid of attached substrate or other debris.
2. Thoroughly dry the body with a paper towel.
3. Put the body on a piece of Styrofoam and use however many pins you need to cross-pin the specimen into the desired position (the pins can be of any thickness or length, as long as they get the job done; even toothpicks can be used). If you want the beetle to take the "flying" position, clip each wing with two cardboards and paper clips. This prevents wings from curling during drying.
4. Put the beetle in an arid area and dry for a few days. (This is the most crucial step. The key is to let the beetle dry out within 3 to 5 days. I keep my beetles about 10 inches underneath a 60-watt light bulb and they dry completely within 3 days. If the beetle does not dry in time, it starts to rot and fall apart. However, don't put the beetle too close to the light bulb or the elytra will open as they dry.)



↑ 固定展翅型的標本。  
Position specimen.



↗ 展翅型的標本後翅要先用厚紙板和迴紋針固定。  
Clip each wing with two cardboards and paper clips.



↗ 翅膀可以用水族用過濾棉墊高。  
Wings can be elevated with aquarium filter wool.



↗ 厚紙板和迴紋針拆去後翅膀平坦無比。  
Beautiful flat wings after cardboards are removed.

5. 蟲體完全乾燥後小心地將固定針拔除。在眼前的就是乾燥標本，可永久保存。

如果沒時間將死亡不久的屍體立刻製成乾燥標本可先將其冷凍，要製作時再解凍即可。若要冷凍超過3天，一定要先

5. Once the beetle has dried completely, remove all the pins carefully. (The beetle is now a dried specimen and can be stored practically forever.)

If you don't have time to immediately make a dead beetle into a dried specimen, you can freeze it. Be sure to seal it in a small plastic bag if you plan to freeze it for more

將屍體封於密閉的小塑膠袋內才不會脫水。脫水的屍體解凍後仍然僵硬，無法調整姿勢，需用50-60度的溫水軟化。

做好的乾燥標本有很多陳列方式。可以簡單到將其留在原來的保麗龍上也可以精緻到將其陳列於博物館級的木製標本箱中。博物館和學術機構幾乎都在甲蟲右翅鞘的左上方用一根蟲針貫穿，其目的是為了方便移動（只要握住蟲針即可）。但是收藏兜蟲及鍬形蟲的玩家一般都不會於標本身上插針。最主要的原因是大家都捨不得在美麗貴重的標本

than three days or it will dehydrate. Dehydrated bodies remain stiff even after thawing, and will require 50-60°C warm water to soften.

There are many ways to display a dried specimen. It can be as simple as keeping it on the Styrofoam or as fancy as keeping it in a museum quality display box. In museums and academic institutions, it is customary to run an insect pin through the upper region of the right elytra of each specimen. This allows easy transportation of the specimen—simply pick up the pin. But most giant beetle collectors don't do that because



正置於60瓦燈泡下方25 cm處，等待乾燥的標本。2000  
Specimen drying 25 cm below a 60-watt light bulb.

上扎出洞來。要將標本固定於標本箱中的墊子上很容易。只要將每一肢用一對蟲針交叉固定即可。若不放心，可在前胸背板與翅鞘的連接處再用一對蟲針交叉固定。每隻標本都應有一張資料卡。上可記載孵化日、化蛹日、死亡日、產地、累代數等重要資料。台灣相當潮濕，標本需收藏於乾燥箱內，否則遲早

they don't want to damage a beetle by running a pin through it. To affix a beetle onto a piece of foam, simply cross pin each leg. If you want extra sturdiness, you can also cross pin the region between the thorax and abdomen. An information card should be kept for each specimen. Record information such as hatching date, pupation date, death date, origin, generation count, etc. If you live in a humid area, it is best to store your



會發霉、解體。標本箱內也必需放驅蟲劑，否則標本很容易便被害蟲蛀食。

若發現屍體時早已乾燥多時，或是你想要重新調整已乾燥的標本的姿勢，可將其放入溫水中泡大約15分鐘（大型的種類可能需要泡30分鐘）。如此可將其完全軟化。但千萬不要泡太久，否則蟲體有可能解體。泡完以後用衛生紙將其充分吸乾。在屍體完全軟化前千萬不可強行將其彎曲，否則彎曲處斷裂的機率極高。註：有些職業採集者會將活體丟到酒精瓶中毒死。長時間泡過酒精的屍體肌肉過度收縮、彈性變差，無法用熱水完全軟化。當然了，這種屍體不易調整姿勢。

乾燥標本很脆，一碰撞便很容易斷掉。不小心撞斷的標本可用三秒膠粘回。使用三秒膠時有三點要注意：

1. 三秒膠不可擠多，否則不但很不容易乾，而且乾了之後還會變成白色的。
2. 使用三秒膠，或其他種膠水時，連接處必須是完全乾燥的。
3. 若姿勢還沒調整好時三秒膠便硬化，可將連接處再泡熱水，如此三秒膠便會軟化、脫落。再次上膠前必需先讓連結處完全乾燥。

dried specimens in a humidity-controlled room or chest. If you don't, your specimens may grow mold and eventually fall apart. It is also important to use pest repellants in display boxes or pests such as dermestid beetles can eat away your entire collection.

If a dead beetle has already dried when you find it or if you want to reposition a dried specimen, simply place it in warm water for 15 minutes (giant beetles may need 30 minutes). This softens the beetle. However, do not soak the beetle for too long or it may dismember. Before the beetle is completely softened, do not force it to bend, or you risk breaking appendages. Note: some commercial beetle collectors kill their catch by soaking them in alcohol. The muscles of specimens soaked in alcohol for a prolonged period of time overly contract and become remarkably rigid and no amount of soaking in hot water can completely soften them.

Dried specimens are very crisp and prone to breakage. If you accidentally break a part of a beetle, you can use super glue to reattach it. When using super glue, three points are to be noted:

1. More glue does not mean a stronger bond. If you use too much super glue it becomes creamy and very difficult to dry. Furthermore, excessive glue dries white instead of clear.
2. Use super glue, or any other glue (though not preferred), only when the area of interest is dry.
3. If the super glue dries before the broken part is properly aligned, you can boil the area of interest to denature and remove the glue. Allow thorough drying before applying glue again.

# 如何郵寄活蟲

## How to Ship Live Beetles

懂得如何郵寄活蟲是必須的。有一天你將會需要與別人做活體交換。卵、幼蟲，以及成蟲都不難寄，唯獨蛹，尤其是擁有長角的，比較麻煩。

### 郵寄成蟲的步驟：

1. 將成蟲各自裝入約比蟲體體積大4倍的硬塑膠盒裡。使用的塑膠盒一定要夠堅固，因為不論是兜蟲或是鍬形蟲的雌蟲都非常會鑽挖，鍬形蟲雌蟲的大顎更是可以輕易地把軟塑膠咬破。於盒內裝滿微濕的衛生紙。裝時不要施壓。(裝好後拿起盒子搖動，確認成蟲不會晃動。)
2. 蓋上戳有呼吸孔的蓋子。充分地用膠帶把蓋子固定好，以防成蟲推開蓋子爬走。
3. 找一個可以容納所有塑膠盒又還多出一些空間的硬紙箱。將報紙撕成10 cm寬的長條然後各揉成紙球。
4. 於硬紙箱的底部墊一層報紙球。
5. 把所有裝有成蟲的塑膠盒放入硬紙箱。將多出來的空間全部用報紙球填滿。(填滿後應不再看得見塑膠盒。)

Knowing how to ship live beetles is essential. There will come a time when you need to trade with others. Eggs, larvae, and adults are easy to ship; pupae, especially males with long horns, are difficult to ship.

### Procedures to ship adult beetles:

1. Put each beetle into its own plastic container that is about four times the volume of the beetle (the containers used must be strong as females are excellent diggers that are capable of penetrating thin plastic); the container must have a lid. Fill each container with moist (not wet) paper towels until the beetle no longer rattles when the lid is put on and the container is shaken about. Do not pack with pressure.
2. Cover container with a lid drilled with ventilation holes. Tape around the lid of each container to prevent escape.
3. Find a sturdy cardboard box that can fit all of the plastic containers and still be left with some space. Rip newspaper into strips that are about 10 cm wide and crumble them into paper balls.
4. Fill the bottom of the cardboard box with a layer of newspaper balls.
5. Put all the plastic containers into the cardboard box. Fill all the empty spaces with newspaper balls. (When you are done, you should not be able to see any plastic container.)



6. 蓋起箱口後用膠帶封好。(若之前衛生紙及報紙球都有把各空間填滿，此時把硬紙箱拿起搖晃，內部應不會發出任何聲音。若有聲響則需要開箱再塞入更多的填充物。填充物是必須的，因為它們能防震；紙箱在運輸的過程中是會被丟來丟去的。)

#### 郵寄卵或幼蟲的步驟：

不會在運輸期間孵化的卵可以裝在同一個硬塑膠盒內，但是不要讓卵粒互相觸碰。幼蟲則要各自分裝。以稍微施壓的方式，先在容器底部裝一層約3 cm的腐植土或是顆粒極細的朽木屑，然後把卵粒或是幼蟲放在腐植物表面。接著再用腐植物把容器填滿。裝滿後稍微施壓使腐植物不會鬆動(蓬鬆的腐植物很難達到避震的效果)。接下來的步驟如同以上的2至6。

#### 郵寄蛹的步驟：

1. (寄蛹時一定要做好萬全的防震措施。牠們非常脆弱，一旦被震到則有可能破裂流血至死。千萬不要郵寄化蛹不到5天或是會在運輸期間羽化的蛹。若是強行寄出，蛹很有可能死亡或是羽化成嚴重畸形的個體。) 將蛹很輕微地用捲筒形的衛生紙包大約15圈。
2. 在硬塑膠盒底部鋪一層厚厚的微濕衛生紙。把蛹放入硬塑膠盒內，然後將多出來的空間再用微濕衛生紙填滿。接下來的步驟如同之前的2至6。

6. Close the cardboard box and tape it up. (If you did a good job filling the plastic containers with moist paper towels and the cardboard box with newspaper balls, you will not hear any rattling sounds when you shake the cardboard box. If you hear a lot of rattling, you need to open the box and pack more newspapers or moist paper towels. It is very important that the beetles are properly cushioned so they don't get shocked during transit. It is possible that the box gets thrown around.)

#### Procedures to ship eggs or larvae:

Eggs that will not hatch during transit may be packed together in one plastic container. However, make sure eggs don't touch each other. Larvae should be packed individually. With only slight pressure, pack the bottom of the container with 3 cm of flake soil or fine decayed wood flakes. Place egg or larva on the surface of the substrate. Fill container all the way to the top with more substrate. Pack with light pressure so the substrate is not loose. The next steps are identical to steps 2 through 6 from above.

#### Procedures to ship pupae:

1. (Proper cushioning is the key to shipping pupae. They are notoriously delicate; any shock during transit could send them bleeding to death. Never ship pupae less than five days old or pupae that will eclose during transit. If you choose to do so anyway, pupae either crack and die or become severely deformed adults.) Wrap (with very light pressure) each pupa in at least 15 layers of toilet paper.

... it up. (If  
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### Larvae:

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如果不急的話，天氣炎熱或是極度寒冷的時候最好不要寄蟲。如果非寄不可，我強烈建議用厚的保麗龍箱取代硬紙箱，因為保麗龍有絕佳的隔熱效果。如果是大熱天的話，可以在保麗龍箱內加少許冰塊（冰塊可裝在塑膠袋內或是用冷凍寶特瓶）。使用保麗龍箱時記得要戳出一些小的透氣孔。在氣候狀況不佳的時候寄蟲，一定要使用隔天就會送貨到府的服務。如果只為了省錢而使用較慢的服務，收到的很有可能是死蟲。另外一個小秘訣則是黃昏的時候再把包裹拿去寄，如此可以避免一天當中的高溫期。

幼蟲可在紙箱內存活數個星期，但成蟲必需儘早抵達目的地，因為牠們需要餵食。雖差距頗大，但不論是寄幼蟲或是成蟲都應讓牠們儘早到達。

2. Layer the bottom of each plastic container with plenty of moist paper towels. Put the pupa in the container and fill all remaining space with more moist paper towels. The next steps are identical to steps 2 through 6 from above.

If not in any hurry, it is best not to ship beetles in hot or cold weather. If it must be done, replace cardboard box with a thick Styrofoam box, as Styrofoam is an excellent insulating material. If shipping in hot weather, a small amount of ice may be added to the Styrofoam box (ice can be sealed in a plastic bag or a frozen plastic bottle with water and not be used). Make sure small ventilation holes are made on the Styrofoam box. It is crucial to use the fastest delivery service. Another tip is to ship the beetles in late afternoon to avoid peak heat.

While larvae can be in the mail for several weeks, adults need to reach the destination much sooner because they require feeding. Despite the discrepancy, always use the fastest mail service you can afford.



↗包在微濕衛生紙中的高砂鋸锹形蟲。  
*P. Motschulskii* in moist paper towel.



↗把裝有成蟲或是幼蟲的容器放入紙箱中，然後用報紙球或是報紙條把紙箱填滿。  
Put containers with adults or larvae in cardboard box and stuff with newspaper balls or strips.



↗用報紙填滿後就可以把紙箱蓋起來。  
Close box when fully filled with newspaper.



# ★ 沉醉兜鍬二版作者簡介 ★

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或許有來生，但是今世只有一個。既然來了，盼留下深刻的足跡…

*There may be next life, but there is only one this life. Hope to live this one to the fullest.*

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- superintendent of PSK Ecology Center
- consultant for Taiwan's various beetle shops
- webmaster of various Taiwan and international insect forums
- international record holder of largest captive-bred specimens for various species of beetles

我有一個理想：希望能讓大家了解昆蟲、喜歡昆蟲、進而愛護自然、珍惜生命

*I hope through understanding insects, loving insects, people protect nature and treasure life*

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電話：02-2917-9500  
網址：<http://shop.ekeo.com.tw/bugsmall/>
- **蟲磨坊 Insect Mall**  
地址：台北市士林區大東路79號  
電話：02-8861-4090  
網址：<http://www.insect-mall.idv.tw/>
- **魔晶園 Magic Park**  
地址：台北縣板橋市北門街55號1樓  
電話：02-2968-9703  
網址：<http://www.mpinsect.com.tw/>
- **熱帶蟲林有限公司 Tropical Jungle**  
夢蟲無我 (台北店)：台北市羅斯福路五段170巷39號 電話：02-2930-6319  
夢蟲無我 (新竹店)：新竹市北區民主路253號 電話：03-542-8518  
夢蟲無我 (台中店)：台中市西屯區逢甲路225巷31號 電話：04-2452-5967  
網址：<http://www.mybugs.com.tw/>

## 台中地區 Taichung Area

- **大鏟的家 Home of Dorcus**  
地址：台中市西區樂群街216巷2號  
電話：04-2378-0507  
E-mail：[dorcuschang@yahoo.com.tw](mailto:dorcuschang@yahoo.com.tw)
- **黑潮甲蟲俱樂部 Black Tide Beetle Club**  
地址：台中市西屯區櫻花路32號  
電話：04-3508-4178, 0981-104-029  
E-mail：[gost\\_10000@yahoo.com.tw](mailto:gost_10000@yahoo.com.tw)
- **蟲藝 Beetle Art**  
地址：台中市北區錦南街18號  
電話：04-2233-9126, 0930-985-246  
網址：<http://tw.myblog.yahoo.com/a0422339126>

## 台南地區 Tainan Area

- **兜鏟蟲林 Beetles-jungle**  
地址：台南市成功路501號  
電話：06-228-0674  
網址：<http://beetles501.myweb.hinet.net/>

■ 蟲居林專業昆蟲館 Insect Forest  
地址：台南市永福路二段5號  
電話：06-228-0396, 0988-121-205  
網址：http://tw.myblog.yahoo.com/renjia-qwe/

■ 魔力甲蟲館 Magic Beetle  
台南店：台南市青年路211號 電話：06-226-7234  
新化店：台南縣新化鎮太平街174-1號 電話：0915-345-190  
網址：http://www.molibeetle.com

## 高雄地區Kaohsiung Area

■ 甲蟲出沒 Bugs Haunt  
高雄店：高雄市楠梓區旗楠路2-2號 電話：07-351-0547  
鳳山店：高雄縣鳳山市保泰路149號 電話：07-723-1042  
網址：http://tw.myblog.yahoo.com/bugs-haunt

■ 甲蟲世界 The Kingdom of Beetle World  
地址：高雄市小港區漢民路653號  
電話：07-806-4168  
網址：http://tw.myblog.yahoo.com/beetleworld-20071222

■ 亞馬遜昆蟲專賣店 Amazon Insects  
地址：高雄市三民區義華路159巷34號  
電話：07-398-0708  
E-mail：e1981124@yahoo.com.tw

■ 綠色工坊有限公司 Green Workshop  
五福店：高雄市新興區五福二路45-1號 電話：07-282-7881  
興中店：高雄市苓雅區興中一路82-3號 電話：07-338-2997  
網址：http://www.greenworkshop.com

## 宜蘭地區 Yilan Area

■ 蟲蟲底家 The Insect's Nest  
地址：宜蘭縣羅東鎮興東南路131號  
電話：03-957-6320  
E-mail：finidi@ms37.hinet.net

## 飼育用品製造商 Feed Producers

■ 大肥豬昆蟲飼育用品製造廠  
Max Piggyfat Insect Feeding Facilities  
電話：0928-720-448  
網址：http://www.piggyfat.com/

## 網路論壇 Internet Forums

■ 安妮的昆蟲世界  
網址：http://www.insectweb.org/