

First Guide to Rearing Asian Arowanas

-All you need to know bout keeping Panda Arowanas

亞洲龍魚飼養指南

-龐大龍魚飼養說明手冊



visit us online at
www.arowana.com.sg

This Manual is written in English and Chinese Mandarin.

本手冊使用英文和中文混合編寫。

Information / 請您注意

Along with your Panda Arowana, you will receive a birth certificate issued by Panda Aquatic Centre as well as this manual, which is contributed by us to help you start. We assume that you have basic knowledge about asian arowanas and are clear about how to select asian arowanas. If you are not yet familiar to these important contents, please visit our website at www.arowana.com.sg for details. 您購買的每一尾龐大亞洲龍魚都應該附帶有出自龐大水產中心的身分證明以及本說明書。編寫此說明書時，我們假設您已了解有關於亞洲龍魚和龍魚選購的基本知識，如果您尚不十分明了這些知識，可以在龐大水產中心主頁 www.arowana.com.sg 中獲得這些訊息。

Copyright © 2008 All Rights Reserved.

Panda Aquatic Centre Pte Ltd, Singapore. (CITES Reg. No.: A-SG-506)

Panda Aquatic Centre Shang-Hai Company Limited

版權所有 2008

新加坡龐大水產中心私人有限公司 (華盛頓公約註冊序號: A-SG-506)

上海龐大觀賞魚有限責任公司



KNOW YOUR PANDA AROWANA

了解您所飼養的龐大亞洲龍魚

● Panda Gold Arowana 龐大金龍魚

If you are keeping a Panda Gold Arowana, the first thing you need to know is that, you are keeping neither a Red Tail Gold (RTG) nor High-back RTG. Although Panda Gold is initially crossbred by premium RTG and Cross-back Golden Arowanas, our strict selection on breeders refines and distinguishes Panda Gold Arowanas from RTG and High-back RTG: as Panda Gold has the gene inherited from cross-back golden arowanas, a considerable number of Panda Gold arowanas are comparable to cross-back golden arowanas at adulthood. Nevertheless, these premium Panda Gold specimens are clearly separated from Panda Cross-back Golden arowanas in our sales. Every arowana is sold as it is. For us, it is one of our missions to conserve genes of genuine asian arowanas. For our customers, Panda Gold Arowana is definitely a choice for value.

如果您所飼養的是龐大金龍魚，您首先要清楚的是，您飼養的並不是紅尾金龍魚也不是高背紅尾金龍魚。儘管龐大金龍魚的培育開始於紅尾金龍魚和過背金龍魚的雜交，但是龐大水產中心在雜交選種時使用的嚴格遴選標準，以及在雜交成功後採用的質量精練過程，使得龐大金龍魚擁有穩定而且優異的金質光澤，區別於市場上的金龍魚品種：因為擁有過背金龍魚的基因，不少個體可以達到過背金龍魚的標準。儘管如此，龐大水產中心依然將具有優異表現的龐大金龍魚與龐大過背金龍魚嚴格區分，拒絕將達到過背金龍魚質量的龐大金龍魚提高價格做為過背金龍魚出售。對於我們，這是我們的使命之一：保護純血系龍魚的基因不受幹擾。對於顧客，龐大金龍魚無疑是物超所值的選擇。

● Panda Cross-back Golden Arowana 龐大過背金龍魚

Right from the start of developing Panda Cross-back Golden Arowanas, we have been using strict selection standards on choosing breeders. The most important rule is pure bloodline. After years of gene-refining process (only Panda Cross-back Golden Arowana can be accepted as our breeders) and quality improvement process (only those fulfill our quality standards can be accepted as our breeders), Panda Cross-back Golden Arowanas own stunning golden colorization and cross-back performance, and thus have been adopted as breeders by a number of other breeding farms.

在培育龐大過背金龍魚伊始，我們就在選種上使用嚴格的遴選標準，其中最為重要的標準就是基因純淨。經歷多年的基因純化（祇有龐大龍魚才可以做為親魚繼續繁殖）和質地提升（祇有色澤和體態符合質量標準的成年龐大過背金龍魚才可以選做為親魚），龐大過背金龍魚擁有了非常出色並且穩定的表現。由於基因純淨，龐大過背金龍魚已被相當數目的其它繁育場選定為過背金龍魚種魚。

● Panda Red Arowana 龐大紅龍魚

Since maturing process of red arowanas is relatively long and red arowanas are highly chased, a lot of unethical practices have been used by traders and even some breeders to enhance the red color. These practices can be found in our Service Page online. Hobbyists should be aware of these practices to avoid being cheated. Besides, it is important for hobbyists to know that red arowanas, with thousands of fancy names such as Chilli Red, Blood Red, etc., are all the same. These names are just given by people based

on their different red colors. These names are only suitable for adult red arowanas, and naming young red arowanas with fancy names is baseless, because red colorization is highly flexible before their adulthood. Development of the red color depends on the environment. And this can be decided by you, the owner of a young red arowana. Thereby, it is definitely unnecessary to throw more money just because of a fancy name, which you can simply develop by yourself as long as your red arowana is genuine (fake red arowanas' colorization is hard to control). To conserve this rare variety and to provide aquarists with genuine red arowanas, Panda Aquatic Centre chose genuine red arowanas as breeders at the start of Panda Red Arowana breeding, and insists on using our own Panda Red Arowanas as breeders. Today, Panda Red Arowana has become a symbol for 'Authentic' and 'Genuine'.

由于紅龍魚的成熟期較長，需求高，因而針對紅龍魚的造假手段最為眾多。您可以在我們的服務頁面上找到這些手段和判斷方法。我們希望您能明白，紅龍魚祇有一種，它在市場上所有的名稱，例如辣椒紅龍、血紅龍等，都是紅龍魚成年後色質穩定到某一種紅色時才人為賦予的名稱，所以它們絕非不同類型的紅龍魚。幼年時為紅龍魚賦予這些名字更是不科學地做法，因為此時紅龍魚尚未成熟，紅色色質靈活易變。而且，成年後的紅龍魚色澤取決于幼年成長中所處環境的顏色，祇要血系純淨，紅色的發展完全可以由飼主來控制。所以您并不需要額外的花費來買一個您自己也能培養出來的名字。為保育這一珍稀物種，使得飼主可以飼養到真正純淨血系的紅龍魚，在培育龐大紅龍魚之初，我們就堅持對純淨基因進行嚴格控制。今天，龐大紅龍魚已經成為可信賴和純血系的象徵。

A Perspective of Lasting Quality. 着眼于未來的質量。

Resulting from our years of efforts made on quality control, the quality of Panda Arowanas is not only for today, but also for future. This quality uniquely belongs to us, a breeder with a perspective of lasting quality and a mission of bringing values to our customers.

龐大龍魚的質量不僅在于現在，更在于未來。這是多年來我們堅持嚴格質量控制的結果。這是屬於龐大的質量，一種使得價值延續至未來，并隨時間不斷提升的質量。

Colorful.



"Colorful means Genuine."

Like these flowers, a genuine asian arowana means potential in future, while a colorful arowana is fascinating. But colorful does not mean genuine. Which will win in future?

Think Again.

Genuine.



Panda Arowanas
develop genuine beauty,
not illusions.

Find out more at
www.arowana.com.sg

HELP YOUR PANDA AROWANA SETTLE DOWN

將您的龐大龍魚釋放入缸

At the moment, we assume that your aquarium has been well prepared and ready to use, as this is the prerequisite work before bring your arowana home. However, if you haven't done this yet, please do ask a friend or a fishshop keeper to help you taking care of your arowana for several days, before your aquarium is completely set up. For detailed preparing steps, please refer to our Service Page online.

我們假設您的整個水族系統已經設置準備完畢，這也是您在購買龍魚之前應該已經做好的事項。如果您還沒有做好這些準備，不要貿然行動，可先將龍魚寄養在您附近的有條件的水族店或朋友家中。您可以訪問我們的服務頁面，那裏您可以找到詳細的準備過程。

If your tank is ready, you are just one step away. Do release arowana into your tank as soon as possible, since oxygen in the bag is on its way to be exhausted. Generally speaking, there is no standard releasing process. The only thing you need to do is to ensure a smooth change in the water where your arowana lives in, as arowanas suffer from intense change in temperature and pH. To avoid any risk, you may follow the steps suggested below.

如果您的水族系統已準備就緒，您祇有最後一步了。請盡快將龍魚從袋中釋放入缸，因為袋內的氧氣正在被不斷地消耗。整個操作過程並無固定的步驟要求，但是必須保證龍魚所處的環境可以平緩地變化，即溫度和 pH 不能有劇烈的變動，否則對龍魚將是致命的。為避免風險，以下是我們提供給您的參考步驟。

The process basically includes two steps: First, smoothly match temperature. Second, smoothly match pH. 入缸的步驟並不複雜，本質上可以分為兩方面：首先讓溫度平衡，然後讓 pH 平衡。

1. Keep the bag sealed, place it into your tank and wait for 20~30 mins. Let water temperature inside the bag gradually match with outside.
將裝有龍魚的袋子直接浸于缸中，進行水溫交換 20~30 分鐘。
2. After temperature transition, open the bag (Meanwhile the bag should be still placed in your aquarium to avoid temperature gap rising again). Add a small amount of aquarium water into the bag and repeat this manipulation every 2 minutes. In the event of overflow, bail a part out into another container. (The water from shops may contain germs or parasites, which will reproduce in your aquarium if you let too much of the water flow into your tank. Arowana's immunity can be affected after being transferred into new environment and thus your arowana can be infected by these germs or parasites.)
溫度平衡後，打開袋子，將缸中的水少量多次的加入袋子中，每次間隔 2 分鐘左右。這個過程中不要將袋子拿出水族缸以免再次出現溫度的差異。如果少量多次注水的過程中袋子接近漫溢，請將一部分水汲出到其它容器中而不要倒入缸中。（因為水族店的水往往伴有細菌或寄生蟲，過多的溢流會污染水族缸。龍魚經歷搬運過程在入缸後免疫力會降低，大量繁殖的細菌或寄生蟲會借機感染龍魚。）
3. After about 5 sessions of water filling, the pH gap can be dramatically reduced and it is time to release the fish into your tank. Bail and discard most of the water from the bag, sink the bag into your aquarium, open the bag and let your arowana swim into its new house. Please do not use fishnet to catch and



transfer the fish, especially the arowana longer than 18cm. It is risky to do so because arowana will get frightened and may jump out of the fishnet and get injured.

大概經過 5 次注水，pH 差異就會顯著降低。這時龍魚就可以入缸了。將袋子中的大部分水抽到額外的容器中，袋子沒于缸中，袋口水平敞開，讓龍魚緩緩游入缸內。我們建議飼主不要使用漁網到袋子中去捕撈再轉移到缸中，這樣極易發生龍魚受驚躍出而受傷的危險。

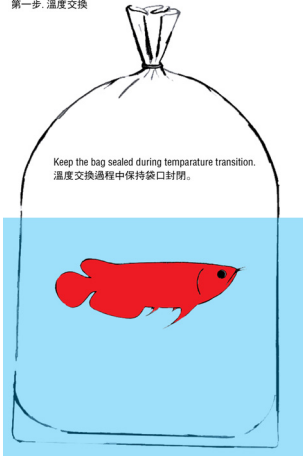
4. Fatal accidents caused by temperature, pH or toxic ingredients usually can be seen within a short period of time. So you need keep eyes on the fish for at least half an hour. If no problem is observed in one hour time, your arowana would have been safely transferred into its new house.

凡是因溫度、pH 以及有害物質引發的不適或異常大多會在入缸後很短的時間內即可看到。所以龍魚入缸後，您應繼續觀察魚的狀態約 30 分鐘。在入缸 1 個小時之後，若無異樣，整個入缸過程就成功結束了。

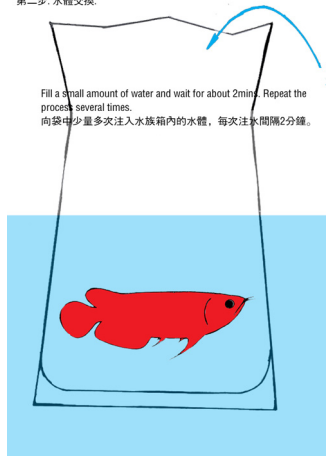
The entire process is illustrated as below:

整個入缸過程的示意圖如下所示：

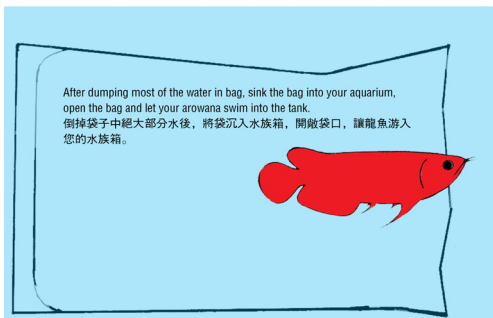
Step 1. Temperature Transition
第一步. 溫度交換



Step 2. Water Condition Transition
第二步. 水體交換



Step 3. Release Arowana into Your Aquarium.
第三步. 將龍魚釋放入缸.



Every breeder has the freedom to choose his way to develop asian arowanas.

The difference is that we choose to have Principles to do it.

Authentic Cultivation.

Strict Quality-Control.

Disciplined Business.

Thoughtful Services.



Asian arowana is not an ordinary fish. But they are supposed to be kept as they are. We are doing everything to conserve their real nature, bring real value to and share insider's ideas with our customers. 'Respect Nature; Value Customers' - That is where our business principles come from.

Panda Aquatic Centre

Appreciate the Beauty of Nature.

EMERGENCY TREATMENT

問題和緊急情況處理

In a brand new environment, your arowana is sensitive and easily gets frightened. Some unexpected emergencies may occur. Therefore, you need be mentally prepared to deal with these possible emergencies.

由于龍魚進入了新的環境，會伴隨一些不適和緊張情緒。所以有可能會出現一些異常或緊急的情況。以下是可能發生的問題和緊急情況以及它們的處理方案：

1. Being Sensitive and Tense 敏感易受驚嚇

When this happens, the fish may whirl, stay at the bottom or rub its lower jaw against the tank, or even tend to jump out of the tank. These symptoms can be easily seen for young arowanas. Possible reasons can be found from the following aspects:

主要癥狀為龍魚極易受到驚嚇，經常急游、趴缸、磨缸（即吻端在缸壁上下左右摩擦，長時間磨缸會導致須部增生或潰爛）甚至跳躍衝撞的情況。這些情況在幼龍魚最為常見。出現這種情況時，飼主可從以下幾個方面來尋找原因：

a. What is near your tank? 水族缸周圍環境

This is a factor that most of the hobbyists may think about. Arowanas are sensitive to vibration and change of luminance. Therefore, don't carry out noisy work near your tank and also avoid abrupt change in luminance. When your arowana is severely scared, it is necessary to use a piece of lightproof cloth to cover your tank so that your arowana can calm down in the dark.

這是飼主們最容易想到的問題。龍魚對明暗變化和震動比較敏感，您需要盡可能保證在水族缸附近沒有光線的劇烈變化，也不要在水族缸附近進行嘈雜的工作。萬一龍魚受到嚴重驚嚇，需要用不透光的布圍遮水族缸，讓龍魚在黑暗中安定下來。

b. Is the water too deep? 魚缸的水位

A fish living in deeper water will experience larger pressure and readily gets tense. If your water level is more than 8 times as the height of your fish, water pressure can be the reason and you need reduce the water level. Therefore, we suggest a water depth 5~6 times (3~4 times for baby and young arowanas) as your arowana's height at the beginning. You may gradually increase the water level after your fish settles down.

水位越高，水壓變化也越大，魚的壓迫感強，會變得較為敏感。如果水位相對魚而言過高（是魚體高的8倍以上）應考慮降低水位。我們建議入缸時的水深在龍魚高度的5~6倍（幼龍魚3~4倍）即可，在龍魚適應後再逐漸提高水深。

c. Is your tank too big? 魚缸的空間

Excessively spacious tank can be another reason, especially for young arowanas, as they feel insecure in excessive space. For example, you will definitely need a divider to reduce the space if you keep a 12-cm young arowana in a 120cm-long tank.

如果魚缸空間太空曠，龍魚亦會產生不安全和緊迫感，在幼年龍魚最為明顯。例如將12cm長的幼龍魚養在1.2m以上的水族缸就太過空曠了，此時須用隔板減小空間。

d. If there are tank mates, are they friendly enough? 同缸魚的威脅

If there are already some other fish living in your tank and these fish are aggressive in nature, they may tentatively attack your arowana and give considerable pressure to your arowana. If this is the case, attackers need be kept from your arowana.

如果缸內原本已經有其它的魚，這些魚也可能引起龍魚緊張。尤其是一些個性較凶猛的魚，它們可能會試探地攻擊龍魚。如果您發現這種情況，需要將攻擊者隔開飼養。

2. Water Contamination 水質惡化

This problem often occurs if your aquarium is newly set, as the population of beneficial bacteria is still low and can be easily destroyed by water changing. You may see that the water easily become cloudy, and scum floats on the surface. When this happens, you need add beneficial bacteria powder into your aquarium. It is worthy to emphasize that air pump and filter should work continuously. (The reasons are: First, bio-chemical process will consume considerable amount of oxygen dissolved in water, short of oxygen may happen if your air pump stops working. Second, constant water flow is important as the water flowing through your filter brings oxygen to fuel nitrobacteria)

如果您的水族系統為新建，硝化系統比較脆弱或不完善，水質不穩定，易于惡化。常見現象是：水體易于渾濁不清亮，水面有泡沫長時間聚集。此時可追加有益菌菌粉以協助硝化細菌群落建立。加入有益菌後，氣泵和過濾系統應持續工作。（因為有益菌中的硝化細菌是好氧細菌，需要大量的溶氧來完成分解過程。如果水中沒有持續供氧，不但對改善水質沒有效果，反而可能導致龍魚缺氧。另一方面，如果過濾系統停止工作，硝化細菌會很快死亡。）

3. Feeding Problem 進食的問題

It is recommended that no food should be given to your arowana before it completely settles down in your tank. Otherwise, feeding may give extra pressure to your arowana, and lead to unexpected problems. On the other hand, if your arowana has no appetite for a long time after moving into the tank, you also need find out possible reasons. Some of the reasons are:

通常在龍魚入缸後安定之前最好不要喂食，因為此時魚還未完全適應環境，有緊迫感。此時喂食會加劇這種緊迫感。另外一方面，如果發現龍魚入缸後很長時間仍拒不攝食，應考慮以下原因：

a. Being Tense 緊迫感的因素

By any chance your arowana is frightened, its appetite will be affected. If this is the case, you may turn to our suggestions in Case 1.

如果龍魚遲遲沒有適應新環境，易受驚嚇。多半會同時出現拒食的情況。這時可採用問題 1 的解決方法。

b. Water Contamination 水質惡化

If your water condition is not good enough, your arowana will not only lose its appetite, but also catch disease. A symptom commonly seen is that arowana vomits after consuming the food. If this is the problem you meet, you may turn to our suggestions in Case 2.

龍魚在惡劣的水質中不僅會出現食欲不振，還可能患病。常見的癥狀是在喂食結束一段時間後，龍魚會把已攝食的食物嘔吐出來。這時可考慮問題 2 的解決方法。

c. Feed Preference 所養龍魚的偏好

Some arowanas can be picky on feed. So before bringing your arowana home, remember to ask the feed it has been used to, and start feeding your arowana from this old recipe. After a period of time, you may carry out a training process to change its feed. At Panda Aquatic Centre, we feed prawn meat to our Panda Arowanas. Gold fish may be casually used.

在選購龍魚回家之前，要了解龍魚原先的食物，開始喂食時要盡量繼續它的食物習慣。穩定後可訓練龍魚攝食其它飼餌。在龐大水產中心，龍魚的日常飼餌為新鮮的蝦肉，偶爾喂食金魚。

d. Acceptability of the Feed 食物是否適口

This issue should be considered when you use frozen feed. If the feed is not completely thawed, your arowana may have difficulty to accept it. You may see that your arowana keeps biting the feed, but does not consume it.

這一問題多見于喂食冷凍食物的時候。如果食物未完全解凍，或完全解凍但溫度太低，龍魚亦會出現拒食。您可能會發現龍魚會咬食食物，但又吐出。

4. Unexpected Emergencies and First Aid 異常緊急情況的處理

Although rarely seen, there might be a chance that a specimen appears abnormal after moving into a new aquarium, such as loss of balance, etc. In such a situation, don't use medicine blindly, since the problem is highly unlikely caused by disease. First aid should be to reduce the water level to that your fish can stay at the bottom and rest, keep the temperature at 29-30°C, stop water circulation pump if any, and keep air pump and filter working. After implementing the first aid, you are recommended to turn to experienced hobbyists for advice based on the situation of your place of residence (especially water condition). You can also contact us for suggestions and assistance.

儘管很少發生，但是如果龍魚萬一出現了其它的異常，例如失去平衡等。且勿慌亂使用藥物，因為這些癥狀并非疾病造成。您的所做的應該是立即降低水位，使得水位高度略微高于魚體高，這樣龍魚可以伏在缸底得以休息，將水溫保持在 29-30 攝氏度，停止揚水馬達減小水流強度，保持氣泵和過濾系統持續工作。然後通知有足夠經驗的飼養者前來協助，按找您所在地的情況做出診斷（特別注意當地水體情況的變化或異常）。您亦可以聯系我們以獲得幫助。

More questions?

若有更多問題

You may access our website for more resources and possible solutions.

您可以在龐大水產中心網站找到更多的幫助資源以及可能的解決方法。

You may write to us at panda.arowanas@gmail.com. Our response will be made within 12 hours.

您可以致電子郵件到 panda.arowanas@gmail.com . 我們的回復會在 12 小時之內做出。

For emergency assistance, you may call our farm at (+65) 6791 9029.

對於緊急協助，您可以致電龐大水產中心魚場 (+65) 6791 9029.

YOUR ADVENTURE AHEAD...

後續知識和經驗...

So far we have gone through basic knowledge and skills you need to know at the very start. However, every piece of fish has its unique features, and it is the owner who needs learn these features day by day. Throughout this adventure, you may get headache when your arowana gets sick, fights with tank mates or other problems. Limited to the space, it is difficult to cover these issues here. Nevertheless, we have prepared considerable learning resources in our website at www.arowana.com.sg, where you can learn for free.

到此，我們已經涵蓋了開始階段您所必須了解的重要知識和技術。飼養龍魚和飼養其它很多觀賞魚一樣，需要飼主自己在日後的飼養過程中去了解龍魚的特點，積累經驗。龍魚的飼養中，您有可能遇到疾病的困擾，或是相互攻擊，等一系列較為深層的問題。限于篇幅，我們在本說明書中難以詳盡陳述。但是我們已在網站上開放了相當數量的知識資源，您可以訪問我們的網頁 www.arowana.com.sg 獲取這些知識或經驗。

We hope you receive enjoyable experiences with your Panda Arowana.

我們預祝您在飼養龐大龍魚的過程裏收穫自己的一份值得自豪的經歷和體驗。





They are beautiful and majestic living fossils.



They are seen as a status symbol.

They are believed to bring luck and fortune to their owners.

However, their habitat has been destroyed and they are close to **EXTINCTION in the wild.**



Conserve + Appreciate at

PANDA AQUATIC CENTRE

a company where neither Extinction nor Illusion is an option.

**Find out more at
www.arowana.com.sg**