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Freshwater and marine ornamental fish are traded in more than 125 countries with a retail value of more than US10 billion

THE GLOBAL TRADE IN ORNAMENTAL FISH

By VK Dey

Ornamental fish trade is a multibillion dollar industry today in more than 125 countries. Over 2500 species of fish are involved, of which over 60% are of freshwater origin. Shifting exports from traditional markets to new markets is a general trend noticed during the past decade, which is reflected in the year under review (2014) in this article.

Introduction

Aquarium fish keeping is a centuries-old popular hobby, growing interest in which has resulted in steady expansion in its trade in more than 125 countries. With the increasing popularity of household aquariums, less than 1% of the global market for ornamental fishes belongs to the public aquaria sector, with the rest still confined to hobbyists.

Most of the ornamental fish is sourced from developing countries in the tropical and sub tropical regions. The international trade in ornamental fish in fact, provides employment opportunities for thousands of rural people in developing countries. As a result of advancements in breeding, transport and aquarium technology, more and more species are being added every year.

Over 2 500 species are involved in the global ornamental fish industry, of which over 60% are of freshwater origin. Although relying largely on captive-bred freshwater fishes, the trade also includes significant numbers of fish and invertebrates collected from the wild. It has been estimated that about 30 freshwater fish species dominate the global market, such as live bearers, neon tetra, angel fish, gold fish, zebra danio and discus. The guppy and neon tetra species alone represent more than 25% of the market by volume and more than 14% by value.

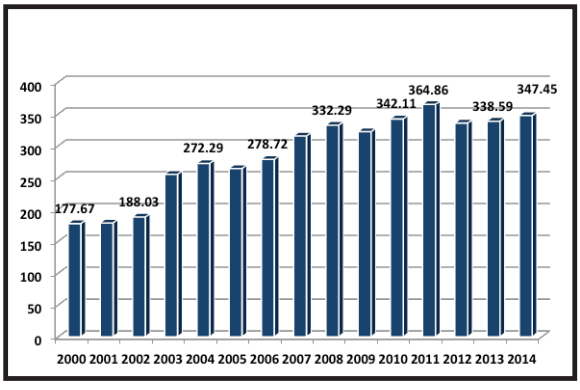
Marine fish species constitute more than 15% of the market by value, with about 98% collected from the wild while the rest are captive-bred. Although more expensive and not as easy to maintain as freshwater aquariums, keeping marine fish in aquariums is becoming more popular. Particularly in the USA and Europe, as prices are becoming more affordable, the marine aquarium sector is expanding rapidly. Technical and economic developments have also helped contribute to the popularity of marine aquariums, especially marine reef ecosystem aquaria complete with fish, corals, shellfish, molluscs and plants.

The trade at retail level is worth more than US$10 billion with an average annual growth of over 10%, while the entire industry including plants, accessories, aquarium, feed, and drugs is estimated to be worth more than US$18-20 billion.

Overview of global exports

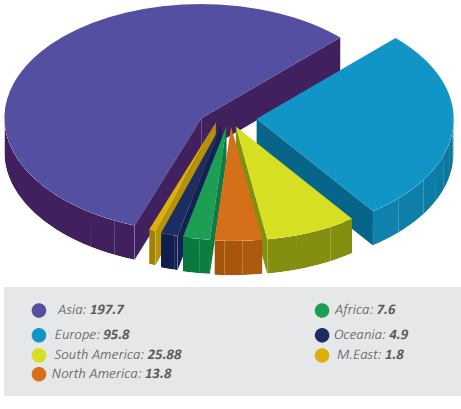
Global exports of ornamental fish since 2000 rose steadily from US$177.7 million to a peak of US$364.9 million in 2011, then declining slightly to US$347.5 million in 2014 **(Figure 1).**

Fig 1: Global exports of ornamental fish, 2000 – 2014 (in US$ million)



A close look at the top ten regions supplying 78.6% to the export market in 2014 showed that Asian countries accounted for US$197.7 million in exports, more than 57% share of the trade. This was more than 9.87% compared to the previous year (Figure 2). Europe accounted for 27.6% of the total exports of ornamental fish valued at US$95.8 million. At US$25.9 million, South America shared 7.5% of the total exports while North American exports were to the tune of US$13.8 million, sharing 3.98% of the global supply. This was followed by African countries with US$7.6 million (2.2%), Oceania (US$ 4.9 million) and the Middle East (US$1.76 million).

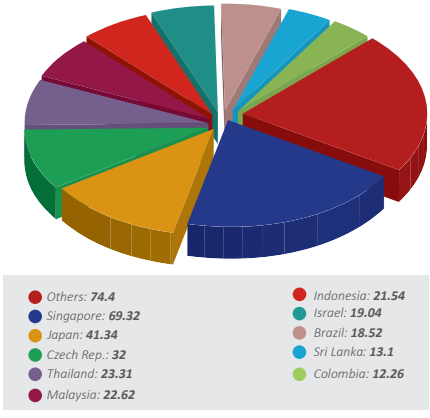
Fig 2: Export share of major markets by region, 2014 (in US$ million)



By country in 2014 (Figure 3), Singapore, with exports valued at US$69.32 million, was the ornamental fish capital of the world, contributing close to 20% of the total supply. Till today it remains the main trading hub in Asia, with more than 30% of the fish exported having been sourced from other countries.

Japan (US$41.34 million) was in second place, holding a stable share in the market due to its niche on Koi carp. The third position was occupied by the Czech Republic with supplies worth US$32.0 million, followed by Thailand (US$23.31 million), Malaysia (US$22.62 million), Indonesia (US$21.54 million), Israel (US$19.04 million), Brazil (US$18.52 million), Sri Lanka (US$13.1 million), and Colombia (US$12.3 million).

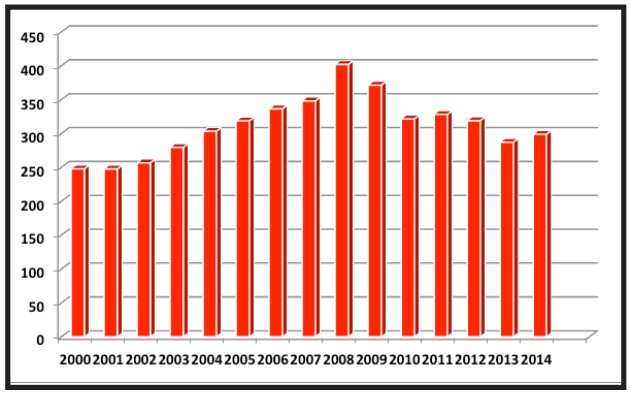
Fig 3: Top 10 suppliers, 2014 (in US$ million)



Overview of global imports

During the fifteen year period from 2000 to 2014, the import value for ornamental fish rose from US$ 247.9 million in 2000 to an all-time high of US$402.1 million in 2008. Thereafter, there was a declining trend until 2013 (US$287.2), and then a slight rise (+4.1%) to US$299 million in 2014 (Figure 4).

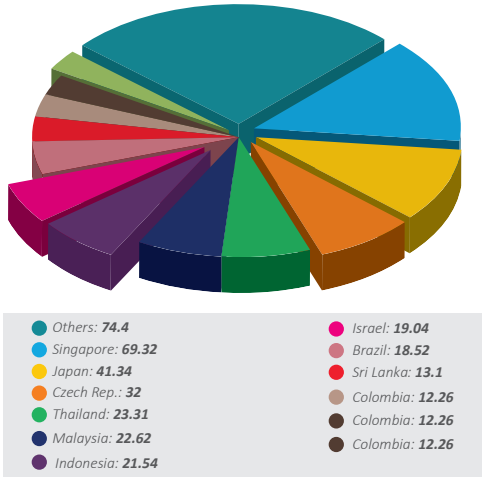
Fig 4: Global imports of ornamental fish, 2000 - 2014 (in US$ million)



In 2014, the USA was the single largest importer of ornamental fish, with 14.3% (US$42.9 million) of total imports. This was followed by the UK with US$29.5 million or 9.87% of total imports.

The other major importing countries during the review period were Germany (US$23.4 million) Singapore (US$21.3 million), Japan (US$19.5 million), China/Hong Kong (US$19.3 million), France (US$16.7 million), the Netherlands (US$13.3 million), Italy (US$9.7 million), Malaysia (US$9.1 million),Canada (US$ 8.6 million) and Belgium (US$ 8.3 million) in that order (Figure 5). These 12 countries together shared over 74% of the global imports. Singapore, Germany (Frankfurt) Hong Kong, Malaysia and the Netherlands (Amsterdam) were (and still are) the important trading hubs, re-exporting a major portion of their imports.

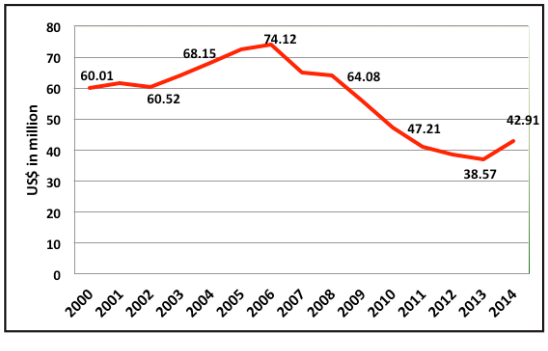
Fig 5: Performance of major importing countries, 2014 (in US$ million)



The USA

As mentioned, the world's largest single market for ornamental fish is the USA, where keeping fish in aquaria is probably the second most popular hobby in the country. Imports went up in value from US$60 million in 2000 to as high as US$74.1 million in 2006, down to US$36.8 million in 2013, and then up by 16.5% to US$42.9 million in 2014 (Figure 6).

Fig 6: Import performance of the US market, 2000-2014 (in US$ million)

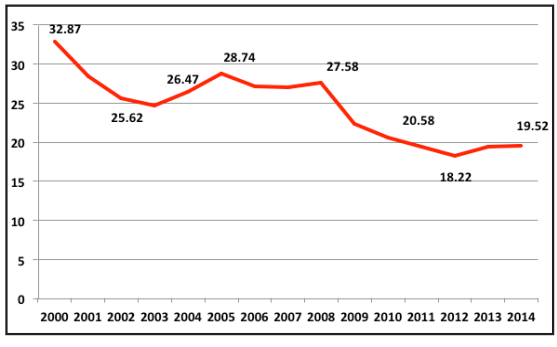


In 2014, the main imports consisted of fish of freshwater origin (today, there is a growing interest especially among young hobbyists, in maintaining reef aquaria with marine fish). In the year under review, the suppliers of ornamental fish to the US market included Singapore, Indonesia, Thailand, Hong Kong and the Philippines, with other important Asian sources being Malaysia and Japan. Fish from Colombia, Peru, and Brazil also catered to this market.

Japan

The value of imports of ornamental fish into Japan showed a decline from US$32.9 million in 2000 to US$18.2 in 2012, and gradually picking up in succeeding years. In 2014, the top ten suppliers to the Japanese market were Indonesia, Singapore, Brazil, Philippines, Colombia, Peru, USA, Thailand, Hong Kong and Sri Lanka while China and Malaysia were the main suppliers of goldfish. Imports totaled US$19.5 million, showing a marginal increase compared to 2013 (Figure 7). The decline in imports was mainly due to the recession that the country was experiencing during that period, and since 2003, Japan is no longer the largest single market for ornamental fish.

Fig. 7: Import performance of the Japanese market, 2000-2014 (in US$ million)

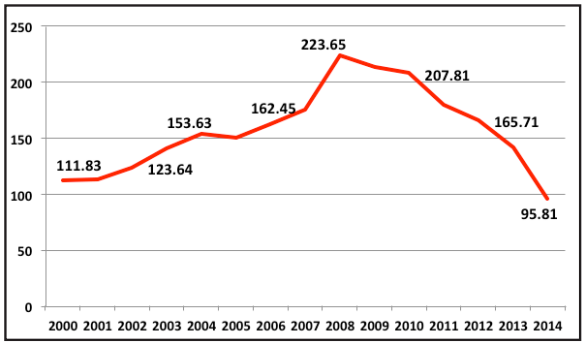


With increasing prohibitions on keeping pets such as cats and dogs in high rise apartments. aquariums have become an important feature of the home décor. To date, the most popular species remains guppy, constituting more than 28% of the market. Other preferred fishes are tetras, tiger barb, discus, angelfish, gourami, platy, swordtail, zebra danio etc.

Europe

Europe is the largest global trade bloc, with the UK remaining the largest European importer of ornamental fish from outside the EU. Imports into Europe rose from US$111.8 million in 2000 to US$223.7 million in 2008, but then falling to US$141.9 million in 2013 and an all-time low of US$95.8 million in 2014 (Figure 8).

Fig. 8: Import performance of the EU market, 2000-2014 (in US$ million)



Freshwater species accounted for more than 84% of imports by value, the rest being marine fish, invertebrates and live rocks. In 2014, EU member countries imported ornamental fish from 59 non-EU countries and regions around the world. There were 44 different countries supplying marine fish and 39 supplying freshwater fish.

Today, the largest source of ornamental fish into the EU continues to be Singapore, sharing more than 30% of total imports by volume and over 70% by value. The remaining nine top freshwater fish suppliers to the EU are Israel, Japan, Indonesia, Thailand, Sri Lanka, Colombia, China, Vietnam and Malaysia. Other suppliers of freshwater fish include Hong Kong, Brazil, Peru, USA, Taiwan, Nigeria, Tanzania, India, Burundi, and the Democratic Republic of Congo. Indonesia, USA, the Philippines, Sri Lanka and Maldives are the main suppliers of marine ornamental fish to EU markets. Imports and re-exports of ornamental fish, which are not required to pass through border inspection posts (BIPs), take place between EU member states. In view of its close proximity, the Czech Rep is the most important European supplier to the regional markets.

Emerging supply trends

Overall, there has been a major shift in the position of Asian suppliers. In the year under review, Thailand was the third largest supplier after Singapore and Japan, pushing down Malaysia (once the second largest global exporter) and Indonesia to fourth and fifth position respectively.

In the past decade since the mid-2000s, it has been noticed that farming of freshwater ornamentals has gradually increased in countries that are close to consumers. These include the Czech Republic, Israel, Belgium, and the Netherlands, which have started cultivating fish for European consumers, taking advantage of their close proximity to the major European markets. Meanwhile, countries such as the Philippines, Morocco and the Pacific countries have emerged as major suppliers of marine ornamentals.

Ornamental fish trade has always been linked to the state of the national economy. This is clearly seen in the import scenario in Europe, Japan, the Republic of Korea, Norway, Sweden and Switzerland, which have continuously shown an increase in imports over the years. Apart from the traditional trading hubs of Singapore and China, the global market has also seen the emergence of several new import and re-export centres such as the UAE, Germany (Frankfurt) and The Netherlands (Amsterdam). Meanwhile, Brazil, Colombia and Peru have climbed up the ranks as major suppliers from South America.

Areas of concern

Problems in supply, traceability, sustainable management along the supply chain, disease, innovation as well as transportation practices, destructive fishing methods, and introduction of exotic species are some of the most important issues with regard to improving access to markets and enhancing value.

With regard to supply, increasingly erratic climatic conditions and seasonal weather patterns prevailing in Asia and South America result in some species not being available during certain periods of the year. Supply problems can also be related to over-exploitation of a species or a particular population of a species, destructive fishing methods, and mortality caused by poor handling and quarantine procedures, and other man-made factors. This raises the issue of sustainability where there is a need for a healthy balance between the wishes of fish keepers, the economic interests of the business sector and the future of the species.

The over-intensification of fish breeding as practiced in some countries in Asia has led to some serious problems such as susceptibility to disease, antibiotic resistance and poor broodstock quality. This affects trade: for example, fish from developing countries to Europe must be certified as being free from Spring Viraemia Carp Virus (SVCV) and Koi Herpes Virus (KHV).

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