Freshwater ornamental fishes pdf

Lynn W. Sneddon, ... Jack S. Thomson, in Fish Physiology, 2016Ornamental fish are stored or reared for their attractiveness. Breeding ornamental fish began more than 1,000 years ago with the domestication of goldfish in China, and nowadays many species of fish are highly valued for their various markings (e.g. koi carp). It is estimated that 1 in 10 households owns fish in the United Kingdom (Balon, 2004; The Telegraph, 2012) and in the United States (Davenport, 1996), an estimated 20-25 million are stored in aquariums and 20 million in ponds in the United Kingdom alone (PFMA, 2014). Approximately 4,000 freshwater and marine species are held as pets or at public exhibitions. The world trade in ornamental fish is substantial and is estimated to be around 3-4 billion pounds (OATA, 2014). The commercial (retail) value of individual domestic fish ranges from about one pound (GBP) (e.g. goldfish) to more than 10,000 pounds for high-quality koi. Domestic fish are diverse and from different natural habitats, so all welfare issues already mentioned in the conservation of wild fish in captivity (section 2) and in aquaculture (section 3.2) also apply to ornamental fish. Many wildlife species are caught and transported for up to 3 days from areas such as the Amazon and coral reefs (Walster, 2008). Mortality can be between 1 and 30% in shipments of wild fish (Ploeg, 2005, since fish experiences poor conditions and how transportation and acclimatization can lead to stress as animals go through different stages in the live fish chain. , for example, in Israel and the Far East, and they present such problems, perhaps the greatest problems in terms of morbidity and mortality. For example, often potentially devastating viral outbreaks have been reported in some of these intensive agencies (Chua, 1996; Paperna et al., 2001). For marine species about 95% are wild catches and only 5% are grown (Oliver, 2001, 2003; Sea Shepherd, 2014). Thus, the trade in tropical marine fish can affect natural populations and have negative consequences for conservation and biodiversity. Various extreme morphologies have been produced by ornamental fish farmers such as fancy bubble eye goldfish (UFAW, 2013) and balloon mollies (mollies with delayed body shape and elongated abdominal cavity (UFAW, 2013), all of which compromise welfare due to stress and ill health, and a number of hybrid species have been produced (e.g. parrots) for their decorative and the consequences of the welfare of these unknowns so more evidence is needed. This is a similar situation with pedigree dogs and cat breeding, where some breeds are selected for extreme traits led to veterinary health (e.g., the reduction of the snout in some dog breeds leads to brachycephalic obstructive air road syndrome; Packer et al., 2015). Fish are relatively inexpensive pets and, generally speaking, any adult can purchase an aquarium or fish pond knowing nothing about preserving fish except for water and food needs (as opposed to maintaining mammals as mammals are mammals, so it's best to understating mammals courage and care). Reputable pet stores often ask about the knowledge of the potential owner and can give advice on the size of the tank, water conditions and any other factors related to a particular species. However, not all suppliers demonstrate such best practices and can lead to stress and poor well-being in the hands of inexperienced owners. Legislation prohibiting the trade in mutilated domestic fish (e.g., tattooed dye, injectable dye; cosmetic surgery) is appropriate, as well as banning or restricting certain human strains that have social significance (e.g., celestial eyes of a goldfish; scoliotic parrot cichlid hybrids; balloon mollies that have trouble swimming due to unnatural body shape). Restrictions on imports of unsuitable large species that grow too large for home aquariums such as pacu sp. and several large species of soma (such as Pangasius, red-tailed som and shovel foot som) will prevent them from being carried out under stressful conditions when often these fish die prematurely or end up rehomed in public aquariums. In wild fish mortality can be high (Townsend, 2011), up to 30% (Ploeg, 2005), due to the stressful conditions under which fish are supplied and due to the stress of acclimatization in animals. Transportation times of more than 24 hours are stressful for regular clown fish, although the guidelines allow up to 3 days for transport (Wolfenden et al., unpub. data). Instead of taking fish from the wild, sustainable breeding programs in the importer's country can reduce such problems and reduce transportation time, thereby improving the well-being of fish. Yvonne J. Sadovy, Amanda C. Vincent, of Coral Reef Fish, a 2002 fishing for marine ornamental fish is believed to have started in the 1930s in Sri Lanka, with a significant expansion in the 1970s and a trade somewhat static in the 1990s (Wood, 2001). Exports began with the Philippines, which is still a key source, in the 1950s (McAllister et al., 1999). Despite the poor quality of available trade data, an estimated 15 million to 36 million marine fish are traded annually (Wheeler, 1996; Wood, 2001; K. Davenport, 25 August 2000); actual seizures are much higher when deaths are taken into account (see. II,D,2). Such figures are not unlikely. For example, in 1995, a small Australian aquarium trade on the Great Barrier Reef had about 60 licensed fishermen who reported 250,000 fish (about 4,000 fish each), while 50 aquarium fishermen Western Hawaii reported 422,823 fish (more than 8,000 fish each) annually. In the Philippines alone, there were an estimated 2,500 fish pickers who, even at Australian harvests, could take at least 10 million fish a year before mortality was considered (Pajaro, 1993; FFMA, 1999; Thysot, 1999). Trade in marine aquariums includes some very high cost species, with retail prices varying from a few to thousands of dollars (table 4). This trade may well exceed the freshwater ornamental trade in fish in a specific value. Although marine species account for 10% of the total trade in ornamental fish in volume (marine and freshwater species combined), they account for 10-20% of the cost (Biffar, 1997; Chapman and Fitz Coy, 1997; Young, 1997; Warm, 2000). In general, trade valuations are rather unreliable, and calculations of the annual global import value of aquarium fish vary greatly, from $24-40 million in both 1985 (Wood, 1985) and the late 1990s (Wood, 2001) for fish plus invertebrates, to $250 million in the late 1980s (Barratt and Medley, 1990). According to other estimates, the global retail value of trade in the 1990s is between $90 and $300 million (Wheeler, 1996; Beeffar, 1997; Warm, 2000). Unlike the food trade, aquarium products (tanks, equipment, chemicals, etc.) are a very important part of the trade and cost much more than fish. For example, in the United States alone, aquarium products in retail were estimated at at least $300 million per year (Baquero, 1999). Prices vary according to consumer preferences (e.g. sex and fish size), species and ease of navigation, as well as market forces and sources (section II,A.2) (Perino, 1990; J. Tullock, September 29, 1999; L. Squire Jr., Cairns Marine, June 20, 2000). For example, males of brightly colored bird wrasse, Gomphosus varius, bring twice the price of duller and more common female comparable sizes, and the orange-tailed male blue devil, Chrysiptera cyanea, sells at about twice the price of a duller woman (J. Tullock, December 6, 1999). Small clown triggers, Balistoides conspicillum, cost twice as much as those that are very large. Increased rarity often means higher prices (Wood, 2001). Examples of individual angelic fish of two rare species, yellow-faced angel, Pomacanthus (Euxiphopops) xanthometapon, and blue-belted angelfish, Pomacanthus (Euxiphopops) navarchus, exclusively bring hundreds of dollars to the United States market. Deep reefs are also highly valued. For example, Tinker butterfly fish, Chaetodon tinkeri, can sell for $1,000 per pair, and the Swiss Guard, Liopropoma rubre, and blackcap, Gramma melacara, basslets retail about three times more than the similar but finely inhabited royal grammar, Gramma loreto. Mint Angel (Centropyge boylei) can bring as much as $10,000 in some markets because of its deficit. Whether such species are really rare or the supply is kept low to keep prices high is not always easy to determine. However, they can be expensive if they are difficult, or dangerous to get, or are only available from a few divers. Cultural fish will find a small market, especially among conservation aquarists. Unlike the case for food fish, however, cultural aquarium fish can be twice as expensive as their wild caught conspecifics. Industry sources suggest that the trade in aquariums will continue to depend on wild fish for some time, given the economic realities of cultivation and the relatively small number of species suitable for culture (K. Davenport, August 25, 2000). N. Forteath, in the Encyclopedia of Oceanic Sciences (Second Edition), 2001Breeding behavior can be caused in several ornamental fish with appropriate stimuli and environments. The lighter species are successive hermaphrodites, such as serrania. The Amphiprion pocentricides are another good example. However, sea horses have been extensively studied. Sea horses are unique in that the male receives, fertilizes and ponders the eggs in the abdominal bag after a ritual dance. Much has been made of monogamy, but as further research is carried out scientific support for such reproduction behavior is now in doubt. H. abdominalis polygamen in both wildlife and captivity. A pot-bellied seahorse in captivity at least shows breeding behavior as early as four months, and males can give birth to one offspring; By one year men can give birth to up to 80 fry and at the age of two years 500 fry. Precocity in other marine ornamental is not registered, but may exist.M.S. Hoddle, R.G. Van Driesche, in the Encyclopedia of Insects (Second Edition), 2009E. crassipes is simultaneously a plant used in ornamental fish ponds and the worst aquatic algae in the world. His beautiful lavender flowers led people to take him away from their native range in the Amazon basin in South America. Wherever aquatic hyacinth was introduced in subtropical or tropical climates, it fled into the wild, forming giant mats that clog rivers and cover bays and ponds. Among the many places captured by the water is the hyacinth of Lake Victoria in East Africa. The pest was first reported there in 1980, and by the mid-1990s about 12,000 hectares of litter mats were clogging the bays and bays around the lake. Economic losses have led to fishing (carpets prevent the launch of boats and the use of networks), as well as for hydrotechnical and hydroelectric power plants. From an environmental point of view, clogging threatened one of the greatest products of evolution - the radiation of cichlid fish in the lake, about 200-400 species of endemic fish, evolved in the lake. These fish, often separated by mating habits based on bright colors, were threatened by hybridization among the caused by low light under mats, where color based on visual recognition of mating systems cannot be sustained. Control efforts recommended to the governments of the affected countries (Uganda, Kenya and Tanzania) included the use of herbicides on mats, the use of harvesters to cut mats and the release of specialized herbivores. Two weevils, Neochetina eichhorniae and N. bruchi, known as water hyacinth specialists from earlier works in Florida, were selected for release. In 1995, Uganda was the first to release biological insects against seeded ones, followed by two other countries in 1997. On Ugandan shores, oat mats were damaged by the end of 1998. By 1999, about 75% of the mats had died and sank in the lake. Neochetina weevils also gave dramatic results on water contamination of hyacinth in Kenya in just a few months in 1999.Catherine Hadfield, at Fowler zoo and wildlife medicine, 2012Florfenicol licensed in the United States for use in ornamental fish; specific oxytetracyclines and potentated sulfonamides are licensed for use in som and salmon. Ideally, they should be targeted at individuals, but, for very small fish, immersion may be the only practical route. Immersion can damage biological filtration. The disposal of medicinal water should be taken into account. In Fenner's veterinary virology (Fifth Edition), the 2017 emerging and significant impact of megalocitiviruses on the commercial production of both food and ornamental fish has become increasingly apparent since their initial discovery in 1990 among the cultural populations of red sea bream in Japan. Currently, more than 30 species of marine and freshwater fish from Japan, the South China Sea and a number of South-East Asian countries have been registered as potential hosts of megalocitiviruses. All viruses have significant homology, with 97% or greater identity at the derived level of amino acids for the main capsid protein. The entire genome sequence has been determined for several megalocitiviruses, including type of infectious spleen and kidney necrosis viruses, stone bream iridovirus, red sea ribram iridovirus, orange-spotted iridovirus group, reddish body iridovirus, and large yellow iridovirus quaker. Mortality of up to 100% was described during epizootics in captive fish populations, and after an experimental infection. Signs exhibited by sick fish include lethargy, severe anemia, and branched hemorrhage. With necropsy, the spleen can be significantly enlarged. In microscopic evaluation, numerous large, basophilic, cytomegalic cells that have a sub-edomele location are usually present in internal organs such as kidneys, intestines, eyes, pancreas, liver, heart, gills, brain and intestines; these characteristic cells are reflected in the name of the genus for these viruses. Increased cells, which may be macrophagues, contain characteristic cytoplasmic inclusions, which include the location of the viral assembly. Unlike ranaviruses, megalocitiviruses are often difficult to isolate in cell culture, and thus diagnosis traditionally depends on histological evaluation followed by electron microscopy. DNA-based diagnostic techniques, such as PCR, are now regularly used to detect and distinguish megalocitiviruses in wild and wild fish populations. Control methods include the use of pathogen-free fish, improved sanitation on fish farms and farming practices that minimize stress (reduced fish density, good water quality, etc.). Foralene-killed viral vaccine administered by injection has proven effective in the fight against red sea bream iridovirus in Japan. Megalocitiviruses are transmitted horizontally among fish in the water, and to date there is no evidence of vertical transmission from adults to offspring. The wide range of host and detection of megalocitiviruses in many ornamental fish species sent from nzootic areas represents a serious concern about the control of this important group of fish pathogens.C.E.W. Steinberg, ... R. Menzel, in the encyclopedia of inland waters, 2009Hormone-like effects of HSs were recently recorded with nematode Caenorhabditis elegans (Maupas), ornamental fish Xiphophorus helleri Heckel, and clawed frog Xenopus laevis (Daudin). In C. elegans, exposure to HS often, but not always, has led to an increase in the number of offspring (Figure 3). Contrast effects cannot yet be associated with any building blocks. Figure 3. The number of offspring per worm in two bioanalyses with C. elegans after 72 hours exposure to DOM swamps in southern Ontario, Canada. The number of offspring increases to 8 mg/1 and remains at this level. HoesS S, Begtold M, Heitzer M, Traunspurger W. and Steinberg CEW (2001) Fireproof dissolved organic matter can affect the reproduction of caenorhabditis elegans (Nematoda) Freshwater Biology 46: 1-10.With clawed frog, estrogen mode of action has been defined so far. Consistently, the expression profiles of C. elegans genes have been found to be exposed to any HS-induced vitellogenin genes. Another target of the hormonal effect is the thyroid system. Preliminary results showed that the thyroid system was also affected, resulting in the complexization of GS iodine and subsequent reduction in bioavailability may be one of the likely modes of action. Similar findings were also presented by epidemiological studies on Denmark. Another, more direct, mode of action is the effect of HSs on the metabolism of thyroid hormones by inhibiting hepatic thyroxine thyroxine activities with the formation of goiters.R.G. Van Driesche, K. Abell, in the Encyclopedia of Ecology, 2008Waterhyacinth (Eichhornia crassipes (March) Solm) (Figure 2) is simultaneously a plant used in ornamental fish ponds and the most destructive aquatic animals in the world. His beautiful lavender flowers led people to take him away from their native range in the Amazon basin in South America. Wherever waterhyancinth was introduced in subtropical or tropical climates, it fled into the wild. There it forms giant mats that clog rivers and cover bays and ponds, doing great environmental damage and damaging economic activities such as fishing, transport and hydropower. Among the many places captured by waterhyacinth is Lake Victoria in East Africa. It was first recorded there in 1980 and by the mid-1990s about 12,000 hectares of quarrel mats and bays around the lake. Economic losses have been caused to fisheries (carpets prevent the launch of boats and the use of networks), as well as water and hydroelectric power plants. From an environmental point of view, clogging threatened one of the greatest products of evolution - the radiation of about 200-400 species of endemic cichlid fish. These fish, often separated by mating habits based on female preferences, were threatened by hybridization among species caused by low light under food mats, where color-based visual recognition systems could not be maintained. Figure 2. Waterhyacinth (Eichhornia crassipes (Mart.) solms) has invaded bodies of water across the tropics and subtropics, causing great environmental and economic damage. Photo courtesy of Chris Evans; Forestryimages.org.Control efforts recommended to governments of the affected countries (Uganda, Kenya and Tanzania) included herbaceous mats, the use of harvesters to cut mats and the release of specialized herbivores. Two weevils, Neochetina eichhorniae Warner and N. bruchi Hustache, known as water hyacinth specialists from earlier works in Florida, were selected for release. In 1995, Uganda was the first to release biological insects against seeded ones, followed by two other countries in 1997. On the Ugandan shore, grass mats began to show damage from herbivores by the end of 1998. By 1999, about 75% of the mats had died and sank in the lake. This project illustrates the power of classical biological control to control invasive species that damage large natural systems without the recurring cost of mechanical control or pesticide contamination. MARK A. MITCHELL, in Reptile Medicine and Surgery (Second Edition), 2006While the kelome cavity is commonly used to control fluids for reptiles, it is not used so often for the introduction of drugs. In ornamental fish, kelome cavities are usually to administer different drugs. Serosa innards and kelome membrane are highly absorptive surfaces. Surfaces. connections should not be entered intrachelomically. However, irritating compounds such as enrofloxacin (Baitril, Bayer) are usually injected with intrachyl-decorative fish with no visible negative effects. The method of intracoeloma administration of the drug is similar to the method of replenishing liquids. It is necessary to spread the animal in the dorsal or lateral recumbent and must insert the needle parallel to the wall of the body to avoid the insides. In Fenner's Veterinary Virology (Fifth Edition), 2017Thir herpesviruses were isolated from populations of cypririd fish, each of which was widely distributed through the world trade in live production (aquaculture) and ornamental fish. All three viruses have been spread in cell lines derived from cyprinid fish, although initial isolation and distribution is challenging and

histopathology, electron microscopy, and virus-specific PCR analyses are used for conventional diagnostic purposes. Control depends on excluding the virus whenever possible. Limited trials with antiherpezvirus drugs commonly used in mammals showed little prospect with ciprinid herpesviruses. Cyprinid herpesvirus 1 is the cause of recurring skin diseases called smallpox carp, which is commonly observed during the cold water seasons (25 degrees Celsius). Surface papillomas like nari can occur over limited or extensive areas of the skin, but they are often most noticeable on fins. Although not a cause of death, the growth of skin cosmetically disliked, especially among show fish. Systemic infection with high mortality occurs in very young fish while they are still in the ponds before the initial classification. Survivors of clinical or subclinical infections are likely lifelong carriers, some of which will later undergo typical episodes of carppox. Cocothenic proliferation consists histologically from the focal areas of extensive epidermal hyperplasia - a feature common to many herpesvirus fish infections, albeit more pronounced with carp smallpox. The presence of the virus in skin lesions is confirmed by electron microscopy, direct coloring of immunofluorescence or analysis of PCR. Control is mainly due to avoiding and segregating fish free from repetitive lesions. Although surface skin bunks can be removed by abrasions, this procedure is not recommended due to complications with other opportunistic invaders when the epidermis is disturbed. Cyprinid herpesvirus 2 is associated with an acute systemic disease in the goldfish (Carassius auratus), known as hemopoetic necrosis. First observed in Japan in 1992, the disease is now reported from most continents among goldfish under 1 year old, with mortality up to 90% when the water temperature is 15-25 degrees Celsius. Before he died, Fish can exhibit lethargy and coordinating pallor of the gill. Internal lesions include pallor of the kidneys and Histological lesions include severe necrosis of interstitial hemopoetic tissues in the kidneys and spleen. Intranuclear inclusions in infected cells provide a suspected diagnosis in affected populations of goldfish, and the presence of the virus can be confirmed by electron microscopy, immunofluorescent staining or PCR analysis. Control of the disease used artificially increased water temperatures (up to 32 degrees Celsius), which eliminates the occurrence of the disease, but does not eliminate the infection. Cyprinid herpesvirus 3, also published as koi herpesvirus, was first detected in koi and common carp in Europe and Israel in 1996-97. Since then, the virus has been introduced in koi and carp populations worldwide as a cause of death among fish of all ages and in all conditions including production, retail, and individual hobbyists. Significant effects of the virus were reported on the production of conventional carp, the main food fish in Israel, Europe and Asia. The disease, usually seasonal, occurs in spring or autumn, when the water temperature is in the range of 18-28 degrees Celsius. Mortality can approach 100% in koi and quickly at the beginning, usually 7-10 days after contact with permanently infected fish that carry the virus. Hypersecretation of mucus, which can cloud the tank is often the initial sign of infection, and affected fish then develop lethargy and spotty, opaque skin damage. Before death, the affected fish pale, swell, and in severe cases the gills are washed away. Internal damage is often subtle, including swelling of the kidneys and spleen. Microscopic lesions are most pronounced in the gill, and are characterized by the initial epithelial hyperplasia followed by necrosis. Intra-nuclear inclusions occur less frequently than with other ciprinid herpesviruses (1 and 2). It is assumed that the fish that survived the initial outbreaks are carriers, although this has yet to be proven experimentally. The diagnosis is based on the characteristic clinical traits of koi or conventional carp, and confirmed by PCR analysis combined tissue from the gills, kidneys and spleen. Control of the disease of the herpesvirus koi relied on avoidance of seropositive fish. Israel and some other countries have real-life vaccines for the virus, and attempts are under way to develop improved vaccines using targeted removals of virulence genes that promise. Other control methods include a change in water temperature similar to the herpesvirus 2 described for ciprinip, although this approach only reduces morbidity and cannot eliminate the condition of the carrier. State. freshwater ornamental fishes in india. freshwater ornamental fishes pdf