The Intelligence of Domesticated Carp Fish

Abstract

This essay aims to highlight the uniqueness of koi carp and goldfish, serving as a call to action for promoting aquatic animal welfare and accountability for the mistreatment of aquatic animals. I explore the traits, personality characteristics, and observed intelligence of domesticated carp species.

Introduction

Have you ever wondered what a fish thinks or how it feels and interacts with its environment on a deeper level? If so, you're not alone. Fish are among the most impressive creatures on the planet, particularly carp, renowned for their resilience and adaptability. Koi, descendants of the common carp, and goldfish, descendants of the crucian carp, are some of the longest-living and most intelligent fish species (Brown et al., 2011). They remember routines, have distinct personalities, sleeping habits, swimming styles, and eating preferences.

Domesticated carp are not only long-lived, majestic, and elegant but are also emotionally and cognitively intelligent. Yet, their care is often underestimated and understated. These fish possess problem-solving abilities and an emotional capacity comparable to that of a 2-to-4-year-old child, depending on the species or breed (Chandroo et al., 2004). Just because they lack human-like ways of expressing emotions and needs doesn't make them any less intelligent. Viewed through a human lens, they may seem dull—but upon closer observation, that perception couldn't be further from the truth.

Personal Observations

I've closely observed the behavior of three fish for months—two male short-bodied koi and one male Oranda. In that time, they expressed such emotional depth and distinct personalities that I was compelled to advocate for greater awareness of their need for humane treatment, equal to that of dogs, cats, or birds.

It is outright cruel to house fish in tanks smaller than recommended, especially when combined with low water quality and poor maintenance. Imagine breathing air filled with toxins and irritants—most land-dwelling pets never face such conditions, but many fish endure this in poorly maintained tanks (Chandroo et al., 2004). Dogs, cats, and birds generally have access to clean air; the same care should apply to aquatic pets.

Observations that Signal Human-like Intelligence

What sets koi and goldfish apart from most other fish species is their distinctly individual behaviors and personalities.

- **Shyness vs. Boldness:** Some fish are shy and reserved, while others are bold and eagerly approach the surface for food and human interaction. One of my koi, for example, immediately ate from my hand, while another was timid for months and only approached when accompanied by another fish.

- **Behavior Under Handling:** The shy koi stayed calm and still when handled, while the bolder koi seemed more anxious to return to the water. Perhaps the shy one was trying to avoid predation or was simply comfortable in my grasp, demonstrating a complex expression of boldness and meekness (Brown et al., 2011).

One of my koi, Ira, rests his pectoral fin on the tank's ridge due to buoyancy issues, which helps him stay balanced. This clever adaptation signals problem-solving abilities equivalent to those of a young child, showing awareness and intelligence often overlooked in carp species (Sneddon et al., 2003).

Sleeping Habits

Each fish has a distinct resting position and a preferred spot in the tank. My Oranda, Nemi, rests near the top of the water, nose slightly downward on synthetic aquarium plants. Meanwhile, Ira, my short-bodied koi, hides among the plants to maintain buoyancy due to swim bladder issues. These behaviors demonstrate adaptability and creative problem-solving.

Some fish nap frequently during the day, while others are more active at night—similar to how humans vary in their sleep habits (Chandroo et al., 2004).

Food Preferences and Eating Habits

Fish also exhibit distinct eating styles. Some eat eagerly and quickly, while others are slow and graceful. Preferences vary as well—some prefer floating pellets, others sinking ones. My Oranda prefers Northfin Bug Bites, while my koi enjoys 4mm floating Northfin Koi Supreme pellets. My Oranda tends to forage at the bottom, whereas Ira gracefully hovers near the top, moving his pectoral fins gently as if treading water.

Personality and Social Bonds

Some carp are solitary, while others prefer companionship. After my short-bodied koi, Solon, passed away, Ira appeared lonely until I introduced Nemi, his new tankmate. Months later, Ira still seems to miss Solon, as he hasn't synchronized his swimming patterns with Nemi in the same way.

Each fish's individuality is apparent in how they swim, interact, and navigate their environment. Even if they looked identical, their fin motions and swimming styles would make them distinguishable. They recognize their caretaker—I noticed that when I was away for a few weeks, my fish wouldn't approach the surface for food until my mother, who was caring for them, left the room. They didn't simply associate a person with food—they understood I was a distinct individual (Kohda et al., 2019).

Care Requirements

Proper care for koi and goldfish involves maintaining pristine water quality and establishing a stable, well-cycled aquarium before introducing fish (Hovanec & DeLong, 1996). Cycling a tank without fish prevents harmful ammonia and nitrite buildup, reducing stress and disease susceptibility.

- **Water Quality:** Ammonia and nitrite levels should be 0 ppm, and nitrate levels should be below 20 ppm (ideally under 10 ppm).

- **Water Changes:** Regular water changes (30–50% weekly or biweekly) help maintain low nitrate levels. Water that smells earthy or fresh is healthy, while foul odors signal the need for maintenance.

- **Filtration:** The API Freshwater Test Kit provides accurate readings and is essential for monitoring water parameters. A spike in ammonia or nitrite levels can indicate overfeeding, insufficient filtration, or overcrowding (API Aquatic Inc.).

My Personal Tank Maintenance Routine

Below is my detailed care routine for my 100-gallon stock tank. I created these instructions for my family in case I am ever unable to care for my fish:

- **Water Changes:**

- Perform a water change every 7 days, removing 75–80% of the water.

- If the water still smells after two days, perform another water change.

- Rinse the tank before refilling it with water at the same temperature as the tank or slightly cooler.

- Use the small hose to drain and the large orange hose to refill with the small pump near the piano.

- **Filter Maintenance:**

- Change activated carbon every 14 days.
- Rinse white foam pads and bio sponges in tank water (never tap water) every two weeks.
- Rinse coarse sponges once a month.
- Replace fine white media every three months or when it turns deep brown.
- If the tank smells (a light earthy smell is normal), assume a water change or filter maintenance is needed.
- Rinse new filter media in a bucket of tank water before placing it in the filter to remove loose particles.
- **Filter Media Order:**

1. Coarse sponge (black)
2. White bio sponge (a couple of layers)
3. Fine white bio sponge (x3 layers)
4. Seachem Matrix Bio Media (white-grey stones)
5. Another coarse sponge to contain the stones
6. Chemical media (activated carbon and Seachem Purigen) in the last two trays

- **Fish Health Checks and Feeding:**
- Inspect the fish monthly by gently removing them from the water for a close visual check.
- During their twice-daily feedings, observe their behavior—healthy fish should eagerly swim to the surface for food.
- If a fish skips more than 2–3 meals or appears lethargic, check the water quality immediately and consult with Island Vet in Sydney if needed.

Conclusion

Domestic carp are intelligent, distinct individuals with unique temperaments and social connections. When their environment is suboptimal, they display stress signals such as clamped fins, erratic swimming, and lethargy. Despite misconceptions that goldfish have “five-second

memories" or cannot feel pain, studies and observations disprove these myths (Sneddon et al., 2003).

A responsible aquarist ensures their fish's well-being by maintaining clean, stable, and naturalistic environments. Before adopting a fish, ask yourself: Can I provide a suitable habitat that mimics their natural environment? If the answer is no, reconsider your decision—fish are not mere decorative ornaments but living creatures that deserve to thrive.

References

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Let me know if you'd like further adjustments!