# Animal Welfare Assessment Form: Fish (Brachyhypopomus gauderio - Feather Tailed Knifefish)

## Welfare Assessment Chart

Aquarium location:

Principal Investigator:

Associated AUPs:

Individual Conducting Assessment:

Date of assessment:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Observable Criteria and Actions Required | | | |
|  |  | **Green**  **(Acceptable)**  **No mitigation required** | **Yellow**  **(Mild to moderate welfare concern)**  **Manageable concerns are identified; pre-determined humane interventions can be employed** | **Red**  **(Severe welfare concern)**  **Extensive mitigation measures & close monitoring required** | **Endpoint**  **(Unacceptable welfare status)**  **TERMINATION from study & ACC notification** |
| **Welfare Category** | **Assessment** |  |  |  |  |
| **Physical** | Swim position and balance | * All fish show a normal balance and orientation * Normal position in water column * Normal swimming movements | * Some fish bent at times/ Individual fish are constantly bent * Position in water column clearly changed * Equilibrium slightly affected | * Some fish are constantly bent * Equilibrium clearly affected, fish lay sideways on bottom but normal respiration, * Fish gasping at surface water for long periods constant movement in circles | * Many fish are constantly crooked * swimming vertically, nose-down * Swimming on back with uncoordinated movements for an extended period of time |
|  | Body Colour (Pigmentation) | * All the fish show a normal body coloration (pigmentation) | * Some fish temporarily have a pale or dark coloration | * Some fish constantly have a marked pale or dark colour * Weak pigmentation | * Many fish constantly have a marked pale or dark colour * Very weak pigmentation |
|  | Gastrointestinal | * Normal amount of food consumption * Normal colour and consistency of feces * Feces will immediately fall to the substrate | * Decreased amount of food consumption * bloating and the production of stringy feces * Potentially emaciated | * Absence of eating * Mild abdominal distention * Feces will appear stringy and hang from the fish * signs of malnutrition * Emaciated | * clearly bloated abdomen * (constipation) and buoyancy issue * feces will become long and stringy * empty fecal cast (Stingy white) * Extremely emaciated |
|  | Fin, Scale, Skin Condition | * fins fully developed * No injuries/deformations of the fin or skin * Clear and undamaged, no evidence of scratching * Scales normal (not protruding outwards) | * Individual fish have severe (Some fish have slight) injuries/deformations of the fin or skin * Indications of scratching * Small lesions * Loss of individual scales * Minor skin haemorrhages often on the belly of the fish | * Some fish have severe injuries/deformations of the fin or skin * Persistent scratching * Small area of scale loss (<10%) * Red and inflamed scales (sign of external parasite) * fins frayed * Large or several small wounds/lesions * large area of haemorrhaging, often coupled with scale loss | * Many fish have severe injuries/deformations of the fin or skin * severe fin damage affecting access to food in water column * ulcerated tissue into deep tissue layers (vertebrae is visible) * Red spot on the skin * Large area of scale loss (>10% of the fish) * Scales completely erected, * loss of fins * large and severe lesion/wound |
|  | Fungal Infection | * No fungal infection of the fins and body | * Very few fish have fungal infection of the fins/ and the body | * Some fish have fungal infection of the fins and the body | * Many fish have fungal infection of the fins and the body |
|  | Respiration | * Normal respiratory rate (normal operculum opening rate), normal gill movement * Breathing normally * Normal gill shape and color (Red) * Normal structure of gill filament | * Change in respiratory rate * Slightly depressed or elevated respiratory rate * Spending more time near the surface of the tank. * Irregular operculum rhythm. * Slightly swollen gill * Slightly covering gill with mucus * Slightly abnormal gill * Slightly gill damage * Slightly abnormal gill (gill rot in some part of gill) | * Significantly abnormal respiratory rate at rest and when active * Very irregular rhythm * increased effort to breathe * Redness within the gill tissue * Layer of mucus covering gills or body * Gill rot in <%50 of gill * Frequent Scratching against objects and reddened skin * Deform gill | * Gasping (swimming close to the surface of the water as if trying to get air) * Very elevated respiratory rate * Swollen gill (inflammatory response) * Thick layer of mucus covering gills or body * Obvious gill rot * Severe gill damage (have little appetite and may be losing weight) * Ulcer on gills |
|  | Injuries | * No fish has visible injuries to body * No eye injuries/deformations * apparently normal vision * No fish has injuries/deformations of the upper or low jaw/snout * No fish has injuries/deformations of the opercula or spine * Gill cover normal | * Some fish present minor injuries to body * Some fish have minor eye injuries/deformations * Non-develop or missing eye at birth, but no other eye problem * cloudy eye with no other signs of irritation * Some fish have slight injuries/deformations of the jaw/snout * Minor wound on snout * Operculum partly cover the gill * Some fish have slight injuries/deformations of the opercula or spine | * Some fish present severe injuries to the body * Moderate wounds and broken skin * Some fish have severe eye injuries or deformations * cloudy eye with other signs of irritation * Some fish have distinct low or upper jaw/snout malformation * operculum absent on one of the gills (gill exposed) * Clearly visible spinal deformity | * Many fish present severe injuries * Large deep and extensive wounds * Many fish have severe injuries/deformations to the eyes * Corneal defect (Ulcer and rupture) * Missing eye (enucleation, severely damaged eye) * Upper/low Jaw pointing backward * Many fish have severe injuries/deformations of the jaw/snout * Both gills exposed * Many fish have severe injuries/deformations of the opercula or spine |
| **Behavioural** | General Behaviour | * Normal feeding behaviour * Displays full range of species-specific behaviours * Normal position in water column * Normal activity | * Less activity compared to control, reduced food uptake * Decreased evidence of normal behaviours * Slightly abnormal position in water column * Slightly abnormal activity (flashing, scraping, circling) | * Hyperventilation, gasping, inactivity, hyperactivity (after stimulus), Little or no feed uptake * No evidence of exhibiting normal behaviours * Markedly abnormal position in water column * Abnormal activity (flashing, scraping, circling) | * Abnormal position in water column (laying/floating at bottom, floating at top of the tanks) * Markedly abnormal activity (spiraling, unprovoked breathing, unresponsive to external stimuli) |
|  | Fin Position | * All fish show a normal and calm fin position (No pinched or splayed out fins) | * Individual fishes have the fins constantly pinched or splayed out/Some fishes occasionally pinch or splay out their fins | * Some fish have the fins constantly pinched or splayed out | * Many fishes have the fins constantly pinched or splayed out |
|  | Fleeing/Response to external Stimuli | * No fish show signs of apathy/ Individual fish show apathetic swimming behaviour, react normally to stimulation * Immediate response to external stimuli (tapping on the tank or loud noise will cause startle response) * Interested in environment, spontaneously explores tank * Response to observer approaching * All fish show normal fleeing when stimulated and calm down quickly | * Some fish show apathetic swimming behaviour, react normally to stimulation * An overactive or an underactive response to external stimuli * Requires a prodding to move (water movement, net touch) * Some fish show an increased and/or prolonged fleeing behaviour | * Some fish show apathetic swimming behaviour, do not respond to stimulation * Not responsive to external stimuli * Not interested in surroundings * Requires prodding to move a short distance * Some fish show no or constant fleeing behaviour | * Many fish show apathetic swimming behaviour, do not respond to stimulation * Immobile * Unresponsive to external stimuli, moribund * Many fish show no or constant fleeing behaviour |
|  | Air Gulping | * No fish shows air breathing or occasional gasps | * Some fish show occasional gasps | * Some fish show constant air gulping (Gasping) | * Many fish show constant air gulping |
|  | Isolation | * All fish are part of a shoal | * Individual fish stand apart/ or on the surface | * Some fish stand apart and/or on the surface | * Many fish stand apart and/or on the surface |
|  | Aggression | * No fish shows dominance or aggression | * Individual fish show dominance behaviour/ aggression behaviour | * Some fish show aggressive behaviour | * Many fish are either dominant or aggressive |
|  | Ventilation Rate | * All fish have a normal ventilation rate | * Individual fish show increased or slightly reduced ventilation rate | * Some fish show a greatly increased or clearly reduced ventilation rate | * Many fish show a greatly increased or clearly reduced ventilation rate |
| **Experimental Procedures** | Experimental Intervention Concerns | * little or no discomfort or stress * no change or immediate return to normal function after intervention occurs * No change in health/normal physiology * Short term and skilled restraint * Exposure to non-lethal levels of known substances via IV, IM and IP routes * Acute, non-recovery studies where animal is completely anesthetized * Intervention and endpoints applied appropriately | * Pain and/or distress consistent with the approved protocol * minor stress or pain of short duration * Moderate to severe distress or discomfort of short duration/responds favourably to mitigation * Short periods of handling(<30s) * Signs of minor irritation present * additional treatments initiated/required * localized issue; animal otherwise normal * short duration of altered physiology with the animal returning to a normal physiologic state (e.g., behavioural stresses) | * Pain and/or distress in excess of the approved protocol * Moderate to severe distress or discomfort of chronic duration/minor improvement with mitigation * Prolonged periods of handling and manipulation outside of water(>30s) * Induction of anatomical and physiological abnormalities that result in major and chronic pain/distress * Infection or pain for which no treatment can be initiated * Creates moderate, untreatable health issue * Extensive treatments initiated to improve condition * severe, persistent, irreversible disruption of sensory and/or motor systems * controlled food deprivation with demonstrated unstable physiology (e.g., weight loss/fluctuations) | * Infection or pain unresponsive to treatment * Creates unintentional and/or severe untreatable health issue severely affecting regular physiology and welfare * Animal no longer able to continue in experiment * Has met endpoint criteria as outlined in the AUP |
| **Environmental** | Tank Conditions | * Tanks are clean/ideal conditions according to species, * Optimum water exchange rate * Density of fish is adequate for tank size * Enrichment provided | * Tanks are not ideal condition for species; * Suboptimum water exchange rate * Higher than normal densities for fish, but remain healthy * Enrichment not optimal (number or not appropriate for the species) | * Fish beginning to show signs of stress due to high stock density * Low water exchange rate * Very limited enrichment | * Inadequate environmental/tank conditions for species * Very low water exchange rate * Overcrowded fish resulting in more stress, aggression, and physical injuries such as fin damage and more susceptible to disease. * No enrichment |
|  | Housing Conditions | * Food fresh (not expired, protected from direct sunlight, pests, and precipitation) and accessible at feeding time, optimum ration * Very consistent temperature and light cycle * Housed base on species specific requirement (e.g. socially/group housed) | * Food not fresh (close to expiry date) and inaccessible at feeding time, ration not calculated appropriately * Minor fluctuations in temperature, light and dark cycle evident * Housing adequate – meets minimum requirements | * Food expired /destroyed nutrition (exposed to light, humidity, air) * Low or high Food ration at feeding time * Large fluctuations or failure to meet water temperature, light and dark cycle ranges * inadequate housing (singly housed social species) | * Expired food and not optimized ration or long periods of fasting * Temperature not maintained, inappropriate light and dark * Strange housing condition for the specie’s needs |
|  | Water Quality | * Water quality parameters are within acceptable ranges for the species (dissolved oxygen, Ammonia, nitrite, pH and water temperature.) | * Water quality parameters are slightly out of acceptable range | * Water quality parameters are significantly outside acceptable range resulting in immediate threat to animal welfare | * Very poor water quality due to overcrowding (low oxygen level, high Ammonia) |

## Welfare assessment Review table

Indicate your assessment with an “X” on the table below and add any additional notes or comments.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Observable Criteria and Actions Required | | | |
|  |  | **Green**  **(Acceptable)** | **Yellow**  **(Mild to moderate welfare concern)** | **Red**  **(Severe welfare concern)** | **Endpoint**  **(Unacceptable welfare status)** |
| **Welfare Category** | **Assessment** |  |  |  |  |
| **Physical** | Swim position and balance |  |  |  |  |
|  | Body Colour (Pigmentation) |  |  |  |  |
|  | Gastrointestinal |  |  |  |  |
|  | Fin, Scale, Skin Condition |  |  |  |  |
|  | Fungal Infection |  |  |  |  |
|  | Respiration |  |  |  |  |
|  | Injuries |  |  |  |  |
| **Behavioural** | General Behaviour |  |  |  |  |
|  | Fin Position |  |  |  |  |
|  | Fleeing/Response to external Stimuli |  |  |  |  |
|  | Air Gulping |  |  |  |  |
|  | Isolation |  |  |  |  |
|  | Aggression |  |  |  |  |
|  | Ventilation Rate |  |  |  |  |
| **Experimental Procedures** | Experimental Intervention Concerns |  |  |  |  |
| **Environmental** | Tank Conditions |  |  |  |  |
|  | Housing Conditions |  |  |  |  |
|  | Water Quality |  |  |  |  |

## Please Provide any notes, comments or needed actions below: