# 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: