

# Food, Water and Rest

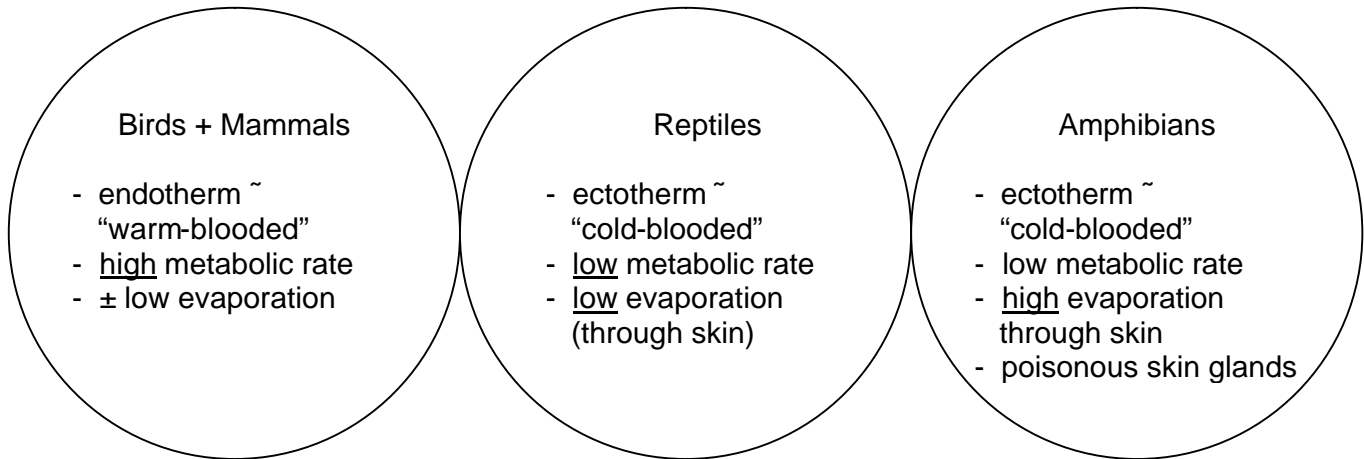
Rudolf Wicker  
Frankfurt Zoo

On the contrary to warmblooded animals, ectothermic animals should not be fed before transport, because:

1. temperatures during transport are too low for proper digestion (which results in stress)
2. feaces spoil substrate and water esp. in Amphibians, Fishes  
which results in stress  
which results in higher ventilation and O<sub>2</sub> intake via skin or gills  
which results in stress enforces skin toxin production in Amphibians

Even Amphibians of the same size but from different species should not be mixed (poison arrow frogs) as the skin toxins are species specific.

## Metabolism of different Vertebrate groups and the effects on shipping and handling

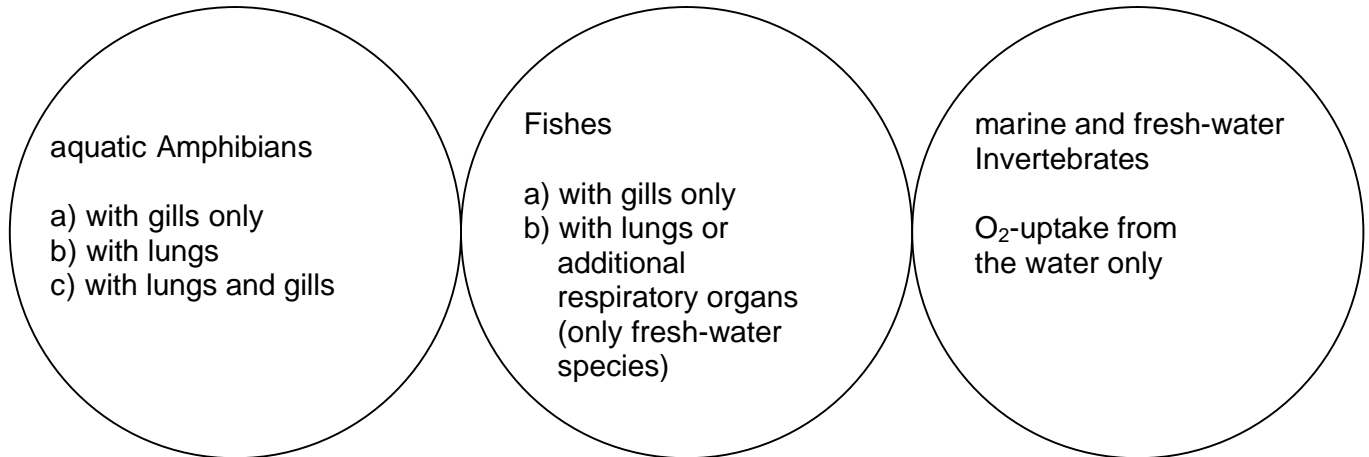


### Effects on shipping and handling:

- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>- high energy consumption</li> <li>- might need food and water depending on size, species and duration of transport i.e. humming-birds horses lions</li> </ul> | <ul style="list-style-type: none"> <li>- low energy consumption</li> <li>- no food</li> <li>- no water but</li> <li>- <u>adequate temperature</u> very small and delicate animals might need some moist substrate</li> </ul> | <ul style="list-style-type: none"> <li>- low energy consumption</li> <li>- no food</li> <li>- no water for drinking</li> <li>- <u>adequate temperature</u></li> <li>- <u>moist environment-/or substrate</u> because</li> <li>- H<sub>2</sub>O uptake via skin</li> <li>- 40-60 % O<sub>2</sub></li> <li>- skin glands produce various toxins and when stressed the animals produce even more toxins</li> </ul> | <ul style="list-style-type: none"> <li>- low energy consumption</li> <li>- no food</li> <li>- <u>oxygenated water</u></li> <li>- <u>adequate temperature</u></li> <li>- starving before shipment or waste products will spoil the water, the duration of starving depends on species and size</li> </ul> |
|---|--|---|--|

## Shipping and handling of Aquatic animals

**NO** aquatic Reptile should be shipped in water (different to container requirement no. 52) with the exception of Pelamis platyurus, a highly aquatic, live-bearing sea snake with laterally depressed body.



aquatic Amphibians with lungs, aquatic Amphibians with gills and lungs } the air in the bag  
+ fresh-water fishes with lungs or additional respiratory organs } can only have a  
for atmospheric O<sub>2</sub> } maximum of 50 %  
} pure oxygen

aquatic Amphibians with gills only } the air in the bag  
+ fresh-water fishes without additional respiratory organs } should consist of pure  
+ all marine fishes } oxygen  
+ all aquatic invertebrates }

## Reptiles

highest and lowest temperatures

30° C            15 - 20° C tropical  
                  10 - 15° C subtropical  
                  + high mountains  
                  5 - 10° C cold adapted (hibernation)

## Amphibians

highest and lowest temperatures

20 – 25° C        15 - 20° C tropical  
                  10 - 15° C subtropical  
                  10° C and less cold adapted

## Tropical Fishes and Invertebrates

highest and lowest temperatures

28 - 30° C        20° C

## Corals

highest and lowest temperatures

not higher        20° C  
than 26° C

## Other Fishes and Invertebrates

highest and lowest temperatures

depending on the environment they come from –  
sometimes the cooler the better

# Lengths of possible transport time

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Frankfurt Zoo

For all live animals: the shorter the better

## max. transport duration

### Reptiles

depending on the group and species  
and size

snakes	several days (weeks)
tortoises	several days (weeks)
turtles	several days (weeks)
lizards - skinks	2-3 days (larger individuals longer)
monitors	2-3 days (larger individuals longer)
agamids	2-3 days (larger individuals longer)
iguanids	2-3 days (larger individuals longer)

### Amphibians

only short time	24 – 48 hours
moist substrate, poison skin glands	

### Fishes

oxygen content of water	up to 80 hours
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<u>aquatic Invertebrates</u>	see Fishes
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<u>terrestrial Invertebrates</u>	see Amphibians (Reptiles) – depending on species
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## What to do in delay

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Frankfurt Zoo

with

- |                           |  |
|---------------------------|--|
| Reptiles                  | - usually nothing  |
| Amphibians                | - remove dead ones<br><u>wash</u> the surviving ones to dilute the skin toxins,<br><u>change</u> moist substrate   |
| Fishes                    | - bring them to the nearest whole-saler or somebody else who has the capacity to put them in aquaria.<br><br>Re-oxygenating and changing water at the airport is in most cases not possible and too time consuming (number of bags, no availability of new bags, man power etc., <u>no adequate water quality!</u> ) |
| Invertebrates             | - all aquatic see Fishes   |
| terrestrial Invertebrates | - see Reptiles and Amphibians depending on the species   |