

## Occupational Health for Animal Handling

# Care and Use of Frogs

The Occupational Health and Safety Program is designed to inform individuals who work with animals about potential zoonosis (disease of animals transmissible to humans), personal hygiene and other potential hazards associated with animal exposure. This information sheet is directed toward those involved in the care and use of laboratory frogs/newts.

### Potential Zoonotic Diseases

Aside from food poisonings, the overall incidence of transmission of disease-producing agents from frogs/newts to humans is low. There are, however, a number of agents that are found in frogs/newts and aquarium water that have the potential to be transmitted to humans. In general, humans contract frog/newt disease through ingestion of infected frog/newt tissues or aquarium water, or by contamination of lacerated or abraded skin. An important feature of many bacterial and protozoal organisms is their opportunistic nature. The development of disease in the human host often requires a preexisting state that compromises the immune system. If you have an immune-compromising medical condition or you are taking medications that impair your immune system (steroids, immunosuppressive drugs, or chemotherapy) you are at-risk for contracting a frog/newt disease and should consult your physician. The following is a list of potential frog/newt zoonosis.

**Salmonella:** This bacteria inhabits the intestinal tract of many animals and humans. Salmonella occurs worldwide and is easily transmitted through ingested, either direct or indirect. Common symptoms of the illness are acute gastroenteritis with sudden onset of abdominal pain, diarrhea, nausea and fever. Antibiotic treatment is standard treatment for the illness. Prevention is through good personal hygiene and protective clothing, including--but not limited to--gloves.

**Sparganosis:** While unlikely in this area, frogs can become intermediate hosts to the pseudophyllidean cestode of the genus *Spirometra*. Disease in man is primarily through ingestion of the meat or contaminated water. Contact with the muscles of infected frogs is also considered a mode of transmission. Common symptoms include a nodular lesion that develops slowly and can be found on any part of the body. The main symptom is itching, sometimes accompanied by urticarial rash. Human sparganosis can be prevented by avoiding ingestion of contaminated water and meat, and avoiding direct contact with infected muscles.

**Other organisms:** Below is a list of additional zoonotic organisms that have been documented in frogs/newts. Human infections are typically acquired through ingestion of contaminated water resulting in gastroenteritis symptoms or from wound contamination. *Escherichia coli*, *Edwardsiella tarda*

### Allergic Reactions to frogs/newts

Human sensitivity to frog/newt proteins in the laboratory setting is rare. It remains possible however, to become sensitized to frog/newt proteins through inhalation or skin contact.

### How to Protect Yourself

- Wash your hands. The single most effective preventative measure that can be taken is thorough, regular hand washing. Wash hands and arms after handling frogs/newts and aquarium water. Never smoke, drink or eat in the animal rooms or before washing your hands.
- Wear gloves. If you are in a situation in which you will spend a significant amount of time with your hands immersed in water or if you have any cuts or abrasions on your hands or arms, you should wear sturdy, impervious gloves.

- Seek Medical Attention Promptly. If you are injured on the job, promptly report the accident to your supervisor even if it seems relatively minor. Minor cuts and abrasions should be immediately cleansed with antibacterial soap and then protected from exposure to frogs/newts and aquarium water. For more serious injuries or if there is any question, students should report to OSU Student Health Services, employees (faculty and staff) to the Corvallis Clinic Occupational Health department.
- Tell your physician you work with frogs/newts. Whenever you are ill, even if you're not certain that the illness is work-related, always mention to your physician that you work with frogs/newts. Many zoonotic diseases have flu-like symptoms and would not normally be suspected. Your physician needs this information to make an accurate diagnosis. Questions regarding personal human health should be answered by your physician.