

## Notes on Exports of Xenopus

Our view is that exporting xenopus is important for us and for the health of xenopus as a model. Xenopus are used in research in Asia, Europe, Israel, Mexico, Canada, India, China, Italy, and other countries. Over 60% of xenopus users are outside the United States with a few clusters of heavy users. Serving the whole xenopus community helps make the model strong, and larger users help us to maintain the logistics required for exporting to some of the smaller users and researchers in countries where import regulations are strict. We believe ensuring a supply to all xenopus users, indeed the whole community, is important for potential research collaborations and keeps the community strong. This approach, serving all xenopus users in North America and Worldwide allows us to maintain the large stocks of frogs the community needs. It also helps us support the International Xenopus Conference, the Cold Spring Harbor Photo Competition, various xenopus meetings, and provide some student support. In summary, all sales help Xenopus as a model!

We are also taking a leadership role in the Xenopus Model Organism Welfare initiative which will support all people in the xenopus community and ultimately help countries have clear and more uniform, reality-based rules for the import regulations and general health and well-being of xenopus frogs and xenopus as a research model. Of course this includes assessing chytrid, and removing it from the list of pathogens of concern for research frogs. chytrid is already in the environment. Research frogs don't pose any risk anyhow as they are shipped in boxes.

### General:

1. Please inquire to [rob@xenopus1.com](mailto:rob@xenopus1.com) and [lissett@xenopus1.com](mailto:lissett@xenopus1.com) with your needs-please include types and amount of frogs, full ship-to address, contacts, and import permit. We will respond quickly with a quote. Please also include when you would like to receive the frogs.
2. Frogs are shipped door-to-door with our partners Biotrans, Barbican, Envigo, and IMPEX services, covering France, England, Denmark, Hungary, Israel, Ireland, and England. Canada shipments are FedEx'd from Windsor, Ontario. If you or your broker are able to pick up frogs at the airport please let us know as this option can be much less expensive, and as post-covid routes open there will be more options. We will need all of your

correct information, including ship-to and contact person (very important) so the airlines can get an “ok to ship.” In all cases we pre-send all documents and usually need our customers to review them prior to shipping. With EU countries Lufthansa clears in Frankfurt. The frogs are clearing without problems and on their way with no hold ups. We have been exporting frogs for almost 40 years and have always worked towards stress free shipping!

3. Most places are served by Delta airlines as of 4//22. There are some options with American airlines – this includes Israel-via Miami as of 04/22. Other options – to Spain and Austria for example are handled very well by Lufthansa.
4. Frogs are packed in individual containers with moss, then packed in larger styrofoam boxes and cardboard. Individual packing of frogs limits abrasions, and allows more frogs to be shipped in one box. Frogs have about 5 mm of water to soak in for their trip, and they usually just stay under the moss. Frogs are shipped best in cooler weather, they can have some exposure at low temperatures (above freezing). We avoid shipping above 85F and use ice packs as the temps get near or above 80F. All shipments above 90F are cancelled. We have appropriate boxes for up to 24 female and 36 male frogs.
5. Frogs withstand 3-5 day transit times very well. Most export shipments are 72 hours. We provide adequate water and moisture for the frogs to tolerate extended times in transit and arrive in perfectly good health. We have shipped for many years, and expect all shipments to be 100% live and healthy.
6. We are doing all we can post-covid to keep costs low. However, post-covid shipping is not the same and bookings are more difficult. Lufthansa has been very valuable, however they are expensive, though less expensive than World Courier. We do not recommend World Courier for frogs at the present time, post covid. There have been personnel changes at World Courier further, they were always considerably more expensive than other shipping options that are better for the health of the frogs. Lufthansa is a better option and we have flights out of Detroit every Monday Detroit-Frankfurt and from there to many parts of the world.

THANK YOU!

