

Materials List for

## Hellgrammite as a Non-Conventional Biomonitor for Surface Water and Environmental Health Assessment

Axel Eduardo Rico-Sánchez<sup>1</sup>, J. Evaristo Buendía-Chavarría<sup>2</sup>, Jacinto Elías Sedeño-Díaz<sup>3</sup>, Eugenia López-López<sup>2</sup>

<sup>1</sup>Posgrado en Hidrociencias, Colegio de Postgraduados <sup>2</sup>Instituto Politécnico Nacional, Laboratorio de Evaluación de la Salud de los Ecosistemas Acuáticos, Escuela Nacional de Ciencias Biológicas <sup>3</sup>Instituto Politécnico Nacional, Coordinación Politécnica para la Sustentabilidad

| Corresponding Authors     |                     | Citation   |   |  |
|---------------------------|---------------------|--|---|--|
| Axel Eduardo Rico-Sánchez | Eugenia López-López | Rico-Sánchez, A.E., Buendía-Chavarría, J.E., Sedeño-Díaz, J.E., López-                 |   |  |
| rico.axel@colpos.mx       | eulopez@ipn.mx      | López, E. Hellgrammite as a N  | López, E. Hellgrammite as a Non-Conventional Biomonitor for Surface Water and |  |
|                           |                     | Environmental Health Assessment. J. Vis. Exp. (209), e66911, doi:10.3791/66911 (2024). |   |  |
| Date Published            |                     | DOI  | URL   |  |
| July 26, 2024             |                     | 10.3791/66911  | jove.com/video/66911  |  |
|                           |                     |  |   |  |

## **Materials**

| Name  | Company           | Catalog Number | Comments  |
|---|-------------------|----------------|---|
| Analytical balance of 220 g                                     | Ohaus             | PR224/E        | This balance is useful for weighing the extracted tissue from specimens.  |
| Chest waders  | LaCrosse          | 700152M        | We recommend using waders for sample collection. Alternatively, you can also use boots with rubber hip boots for sampling.      |
| Cutting board   | True              | TRUE915121     | It is recommended to use white and plastic boards.  |
| Forceps   | DR Instruments    | 112            | It is recommended to use a 12 pul forceps made of stainless steel.  |
| Inductively Coupled Plasma-Optical Emission Spectroscopy System | Perkin Elmer      | 7300 DV        | A device for quantifying heavy metals using spectroscopy.   |
| Kick net  | LaMotte           | 0021-P         | An alternative method for making a kick net involves manually crafting one using a mesh with a thickness of 500 micrometers.    |
| Liquid Nitrogen   | NA                | NA             | NA  |
| Liquid Nitrogen Dewar Static<br>Cryogenic Container             | BestEquip         | DF0504         | It is recommended to use an aluminum tank with canisters.   |
| Mortar and Pestle Set   | Cole-Parmer       | EW-63100-54    | This is a porcelain mortar and pestle used for grinding dry tissues.  |
| Multiwave GO Plus   | Anton Paar        | C93IP001EN-E   | Multiwave is a useful tool for digesting multiple samples.  |
| Oven for drying   | Fisher scientific | 506G           | An incubator oven, also known as a dry tissue oven, is essential for drying tissues at temperatures of at least 80°C.           |
| Precision scalpel   | Xcelite by Weller | 037103-48768   | It is recommended to use a scalpel made of aluminum.  |
| Tissue Homogenizer (tearer)                                     | Kopro             | K110000        | It is recommended to use a tissue tearer with a base. Some companies offer ultrasonic tearers, which may be the optimal choice. |



| Ultra-Low Temperature Chest<br>Freezer | REVCO             | Many companies provide freezers, but it is recommended to choose one with a storage temperature of at least -40°C. |
|--|-------------------|--|
| Wide mouth plastic bottles             | United Scientific | Using polypropylene bottles with wide caps and mouths is strongly recommended.                                     |