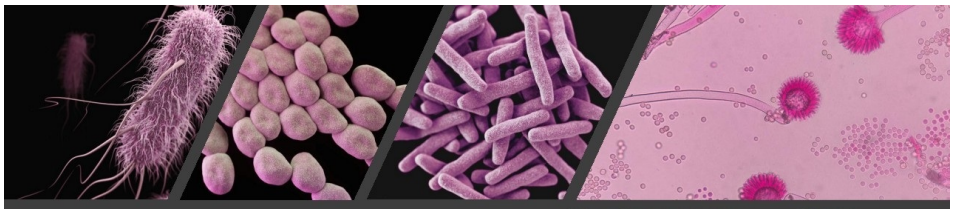

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# Wild coypu (Myocastor coypus) as sentinel of antimicrobial resistance in water ecosystems: preliminary insights using Aeromonas spp. as bioindicator

*Friday 12 September 2025 09:45 (15 minutes)*

This study investigates the potential role of wild coypu (*Myocastor coypus*) as a sentinel of antimicrobial resistance (AMR) in freshwater ecosystems, using *Aeromonas* spp. as bioindicator.
Between December 2024 and May 2025, 51 coypu carcasses and 13 water samples were collected along the Reno River and its tributaries in Italy. *Aeromonas* spp. were isolated and identified by MALDI-TOF. Their AMR profiles were determined using the broth microdilution method.
A total of 74 *Aeromonas* strains isolated from animals (57) and water (17) were detected, belonging to 7 different species. The most common were *A. veronii* (21/74) and *A. media* (19/74).
About 17.54% (10/57) of *Aeromonas* isolates from animal sources were resistant to at least one antimicrobial, most commonly sulphamethoxazole (8/57) and tetracycline (4/57). Only one *A. veronii* strain was multidrug-resistant (MDR) to sulphamethoxazole, tetracycline and gentamicin.
The number of resistant and MDR isolates, as well as the AMR profiles of *Aeromonas* strains of aquatic origin, were comparable to those of animal origin.
The ecological traits of wild coypu (semi-aquatic habits, wide distribution, sedentary behaviour and long lifespan), along with the strong similarity between AMR profiles of *Aeromonas* from animal and aquatic sources, suggest this species as an effective sentinel for AMR monitoring in aquatic environments and its potential use in future surveillance programs targeting freshwater ecosystems.

## Keywords

Wild coypu, Aeromonas spp., aquatic environment

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## Professional Status of the submitter, who is also the speaker

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