

The threat of Golden Mussels: protecting Lake Berryessa and the Region



Juvenile Golden Mussels growing on an adult golden mussel (Mountinho, 2021).

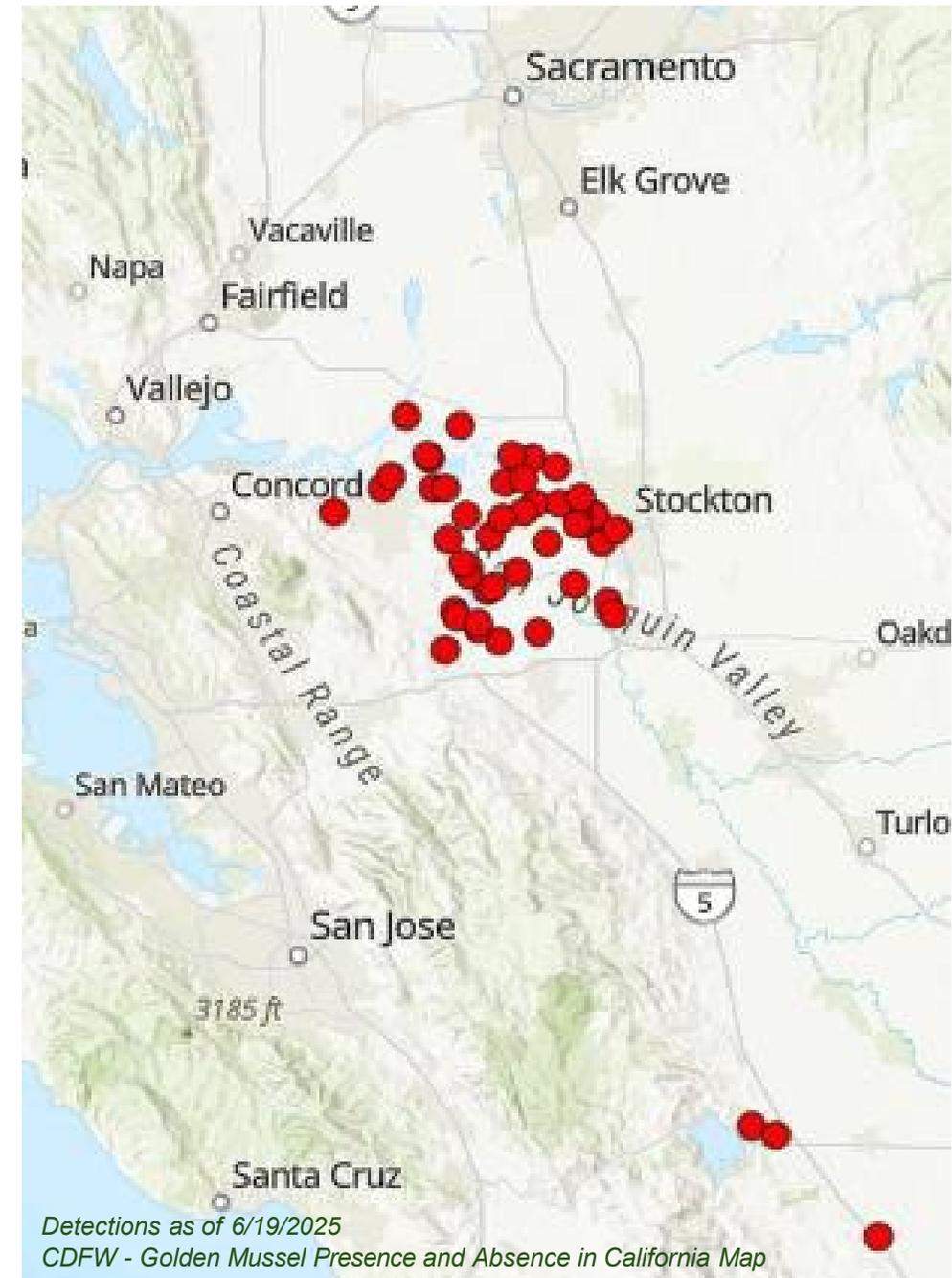
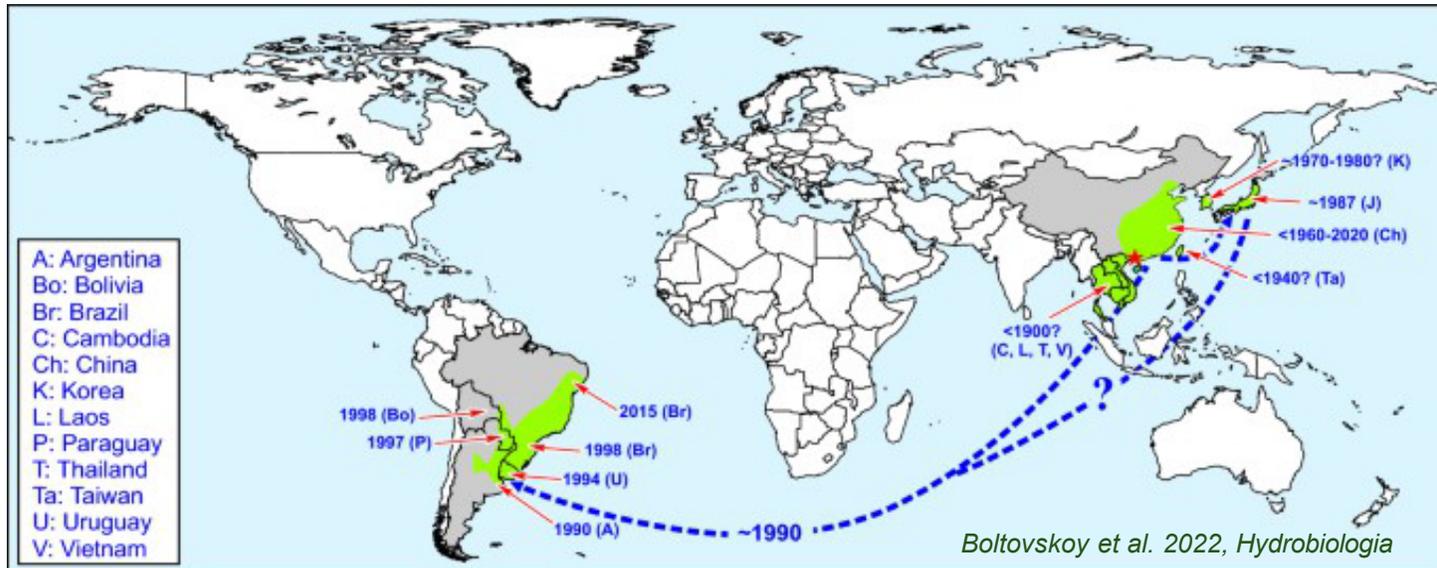
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Presentation to the Board of Supervisors
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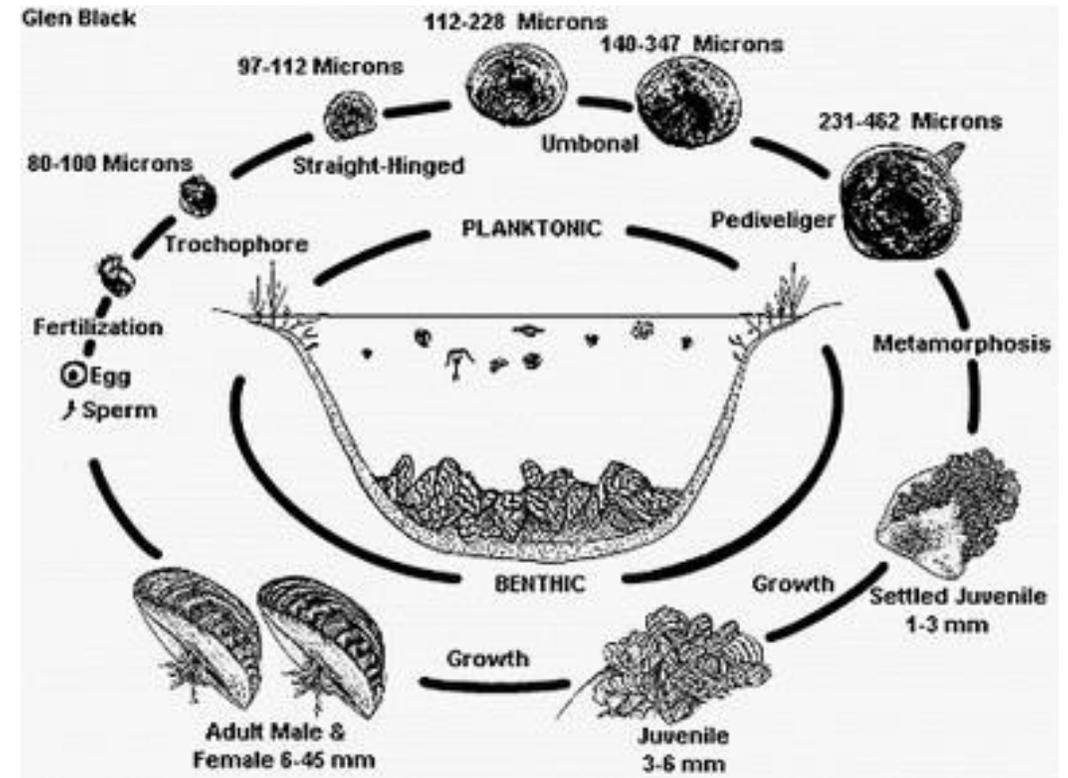
Origin and spread

- Small, fast-reproducing freshwater mussel native to China / South-eastern Asia
- Spread throughout Asia, introduced to South America in early 90's
- Detected in North America in October 2024, in Delta near Stockton



Origin and spread

- Spread locally via trailered boats and gear
- Can spread as an *attached adult* or as a *microscopic, free-swimming larvae* – veliger
- Can spawn as young as 3 months old
- Much more environmentally tolerant than other invasive mussels (Zebra and Quagga)
- Golden mussels can establish themselves in just about any lake/reservoir in California
- Fouling organism – attaches to surfaces



Impacts to infrastructure & recreation

- **Mussels attach to boats, trailers, or gear, and can survive out of water for weeks**
- **Impact recreation**
- Clog pipes and intake structures
- Cause costly shutdowns and maintenance



*Golden mussel found on houseboat at Berryessa boat launch
Photos courtesy of Solano County Water Agency*

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*Zebra Mussel fouling study in San Justo Reservoir, CA
Photos courtesy of DWR*



Golden mussels colonizing a water pipe at a hydroelectric plant in Brazil (Mountinho, 2021).

Environmental Impacts

- **Alter food web dynamics**
- **Outcompete native species for food and space**
- **Filter-feeding plankton that native species depend on**
- **Dramatic changes in water quality**
- **Exacerbate harmful algal blooms**
- **Fish kills via decreased dissolved oxygen**



Photo: University of Wisconsin-Madison



Photo: Tom Archer



Why early action matters

- **No eradication method once invasive mussel is established**
- **Prevention is the cost-effective response**
- **Every uninspected boat is a risk**
- **These mussels represent an economic and ecological threat to the region**



Photo: University of Wisconsin – Stevens Point



Why early action matters

- No eradication method once invasive mussel is established

- Prevention is the cost-effective response

- Every uninspected boat is a risk

Questions?

- These mussels represent an economic and ecological threat to the region



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