

SIDEBAR

SWIMMER'S ITCH AND EXOTIC SPECIES

Exotic species, one of the greatest threats to aquatic life in the Bay, also pose a nuisance for people who swim in the Bay. Swimmer's itch, common in some freshwater ponds and lakes, is caused when a parasitic flatworm that normally develops in a water snail and then burrows through the skin and into the circulatory system of a water bird (where it matures and mates) instead burrows into a human swimmer or wader. Symptoms are similar to those caused by exposure to poison oak, with an itchy, red rash that can last for weeks. It is generally unknown in Pacific coastal waters except for a few outbreaks associated with exotic organisms.

An outbreak at Crown Beach in Alameda in the 1950s and another in Surrey, British Columbia that started in 2002 were both caused by an Atlantic Coast flatworm (*Austrobilharzia variglandis*) carried by an introduced Atlantic mudsnail (*Ilyanassa obsoleta*) (Grodhaus & Keh 1958; Leighton et al. 2004). Then in June 2005, approximately 90 elementary school children developed swimmer's itch after a class outing to Crown Beach during the last week of school. Warnings about the new outbreak were issued by the Alameda County Environmental Health Department and posted at the beach, and cases have been reported each spring and summer since.

Naturally, it was initially thought that this outbreak was due to the same exotic snail and flatworm as had caused the previous outbreaks, but this time the carrier turned out to be a recently introduced Japanese bubble snail (*Haminoea japonica*) and the parasite a previously unknown flatworm in the genus *Gigantobilharzia* (Brant et al. 2010). The bubble snail had been reported from a few sites in Washington in the 1980s, probably imported with Japanese oysters, and was found in southwestern San Francisco Bay in 1999. Interestingly, around the same time that a population of the Japanese oyster *Crassostrea gigas* became established in the South Bay, though it's unclear whether there's a connection. In 2003 the snail was discovered on the eastern side of the Bay just south of Crown Beach, and by 2005 it was the most abundant snail at the Beach.

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Literature Cited

- Grodhaus G. and B. Keh. 1958. The marine dermatitis-producing cercaria of *Austrobilharzia variglandis* in California (Trematoda: Schistosomatidae). *Journal of Parasitology* 44: 633-638.
- Leighton B.J., D. Ratzlaff, C. McDougall, G. Stewart, A. Nadan and L. Gustafson. 2004. Schistosome dermatitis at Crescent Beach, preliminary report. *Environmental Health Review* 48: 5-13.
- Brant, S.V., A.N. Cohen, D. James, L. Hui, A. Hom and E.S. Loker. 2010. Cercarial dermatitis transmitted by exotic marine snail. *Emerging Infectious Diseases* 16(9): 1357-1365.



↑ Atlantic mudsnails. Photograph by Andrew Cohen.



↑ Crown Beach, Alameda, California. Photograph by Amy Franz.



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POLLUTANT EFFECTS ON AQUATIC LIFE

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