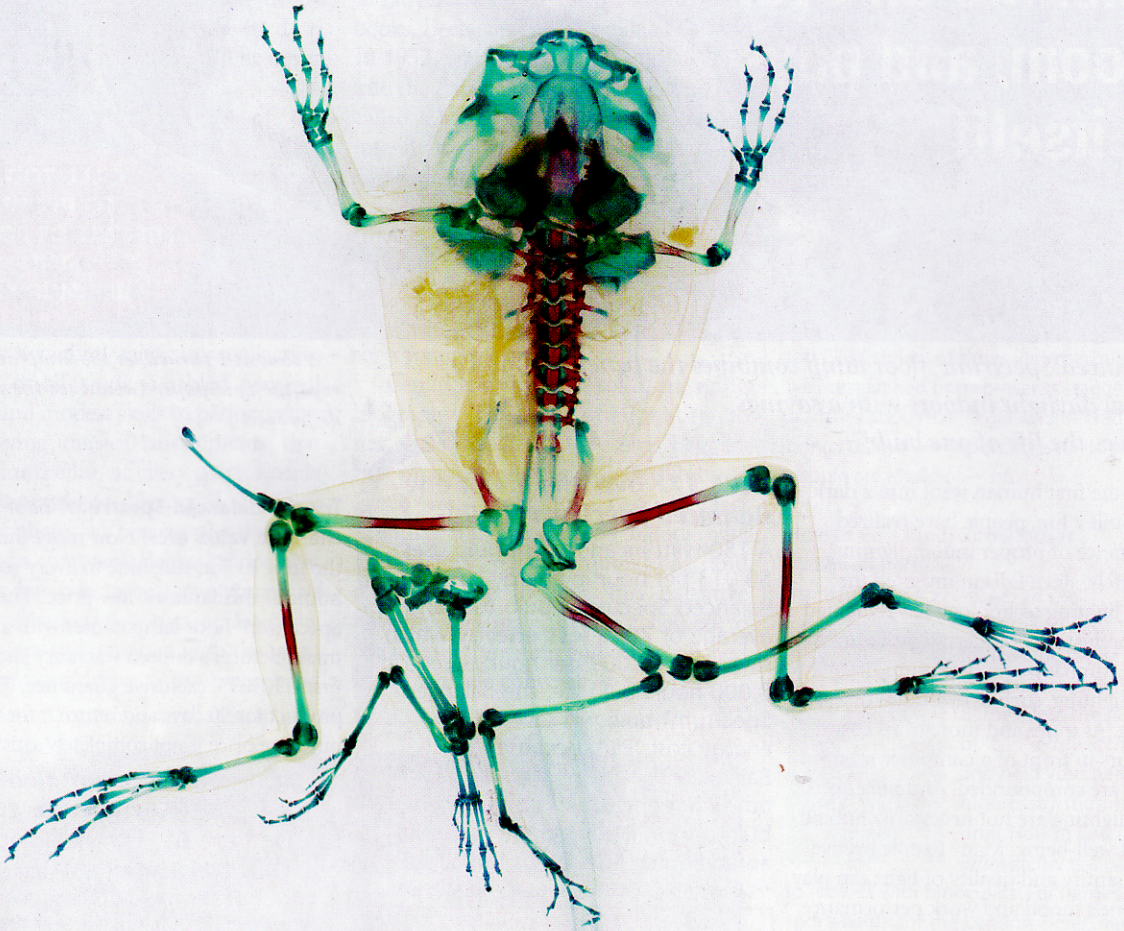
photograph by brandon ballengée text by les line

Line, Less. "One Picture." *Audubon,* September - October 2005.



SPECIFICATIONS
Subject: Pacific treefrog collected at Aptos, California
Technique: Flatbed scan

YOU'RE LOOKING AT AN EXTRAORDINARY IMAGE OF A DEFORMED PACIFIC TREEFROG (*Hyla regilla*), a tiny amphibian found from southern British Columbia to the tip of Baja California, from sea level to mountain reaches. This creature, which has six hind limbs instead of the normal two, was captured as it metamorphosed from tadpole stage to full froghood. "It's an oddly beautiful but sad picture," says self-described eco-artist Brandon Ballengée, who has investigated amphibian abnormalities for the past 10 years, 8 of them in collaboration with biologist Stanley Sessions at Hartwick College in Oneonta, New York. "The animal spent all this energy to become a frog and leave the pond, but because of an incredible handicap it couldn't hop away without flopping belly-up. A heron would have gobbled it down almost immediately." ¶ Malformed amphibians have been discovered in nearly every U.S. state since 1995, when a school biology class on a field trip found misshapen leopard frogs in a Minnesota pond. One explanation from scientists is that heavy infestations of parasitic flatworms, possibly due to environmental changes, are disrupting limb development in frogs and salamanders. Other scientific research points to endocrine disrupters as the culprit. Researchers use a process called "clearing and staining" to study the full anatomy of the deformed animals. Preserved specimens are first treated in chemicals that literally digest them to a semitransparent state. The specimen is then submersed in biological dyes that adhere to specific tissues such as cartilage or bone. You can see the silhouette of the treefrog tadpole's body and tail in the picture, which was made on a high-resolution scanner.