



Pedernera-Romano, C., **D. Auriolés Gamboa**, R.A. Valdez, D. Brousset, M.C. Romano & F. Galindo (2010). Serum cortisol in California sea lion pups (*Zalophus californianus californianus*). *Animal Welfare*, 19(3): 275-280.

## Serum cortisol in California sea lion pups (*Zalophus californianus californianus*)

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Marine ecosystems are exposed to a wide variety of factors that may produce disturbances in their structure and functioning. The Gulf of California supports fisheries, tourism, intensive agriculture, mining, and more recently, shrimp aquaculture. Under such conditions, animals are forced to cope with several changes in their environment that can contribute to animal welfare problems. Serum cortisol level analysis may be a particularly useful means of assessing the physiological status of mammals potentially affected by increasing human activity in the Gulf of California, such as the California sea lion (*Zalophus californianus californianus*). In this study, we report for the first time the serum cortisol concentration of free-living, wild California sea lion pups. The analysis was performed in eleven rookeries along the Gulf of California. Two consecutive blood samples (S1 and S2) were obtained from 56 sea lion pups following a capture, handling and anaesthesia regime, and cortisol was measured by radioimmunoassay. Female pups showed higher serum cortisol than males in the first sample. In males, the second sample was significantly higher than the first. Cortisol levels in the two samples of both sexes combined differed between the Southern and Midriff-region rookeries. This information could be useful to assess welfare in wild populations of sea lions and to determine anthropogenic factors in the Gulf of California that may contribute to stress and reduced welfare.

Palabras clave: Biomasa, California sea lions, Animal welfare, cortisol, pups, stress

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