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BIOMETRIC RELATIONSHIPS OF SOUTHERN ELEPHANT SEALS (*MIROUNGA LEONINA*) FROM ELEPHANT ISLAND, ANTARCTICA.

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Direct measurements of biometric parameters of large phocids, such as the Southern elephant seal (*Mirounga leonina*) are difficult to obtain and potentially dangerous to researchers. Transporting heavy weighing equipment can turn to be nearly impossible under some field situations such that indirect methods for the estimation of body parameters are often quite useful. Thus, body measurements were obtained from 198 Southern elephant seals during six field seasons (1997 to 2005) at Elephant Island–Antarctica (61°13´S; 55°23´W) in order to provide morphometric relationships. Body length (BL, cm) and axillary girth (AG, cm) were used to predict body mass (BM, kg) with simple and multiple regression techniques. Body mass was estimated with a high degree of certainty using both body length and axillary girth. Accuracy was not improved when class-specific models were used. Equations were obtained for all male and female data combined and for four different development classes (pups, juvenile, adult female, adult male). The best predictive value of body mass for all classes was obtained from multiple regression equations involving both length (BL) and girth(AG) such that for all males the following equation was produced $\log(BM) = -9.19 + 1.37 * \log BL + 1.47 * \log AG$ (r^2=0.99, p<0.0001) and $\log(BM) = -8.56 + 1.18 * \log BL + 1.54 * \log AG$ (r^2=0.98, p<0.0001) for all females. These equations offered better mass predictions than other equations previously applied to this population. The equations presented here appear to be a reliable method for indirect estimation of body mass especially under field situations weight measurements for large individuals is difficult to obtain.