Neonatal sexual-size dimorphism in a Mexican colony of the northern elephant seal

Sexual dimorphism is commonly investigated in studies of mating systems, sexual selection, and parental investment. Among pinnipeds, it has been studied widely in adults, in relation to male competition and breeding success. Adult male and female elephant seals (*Mirounga*) differ greatly in body size, which reflects the action of sexual selection for larger size in males. Sexual-size differences at birth and in early growth are known for the southern elephant seal (*M. leonina*), but little information is present for the northern species (*M. angustirostris*). Here we provide the first evidence of sexual-size dimorphism in newborn northern elephant seals. We studied seals at the southern breeding colony of San Benito Islands, Mexico, in 2006 and 2007. We weighed and measured 102 male and 106 female pups soon after birth. Body mass differed significantly between sexes, with males about 10% heavier than females (means 40.8 vs 37.2 kg, respectively). Males were also larger than females in body length (means 128.2 vs 126.0 cm), but this difference was not significant. We found a substantial effect size for sexual-size dimorphism in body mass, larger than in a previous study at the northern colony of Año Nuevo Island, California (Cohen's d = 0.77 and 0.51, respectively). We also found evidence suggesting spatial variation in sexual-size dimorphism within the colony. We recommend further studies with large sample sizes to investigate spatial variation within and geographic variation across colonies.

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Significant neonatal sexual-size dimorphism of northern elephant seal at the breeding colony of San Benito Islands, Mexico