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Author: Jenks, Jonathan A.

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Anomalies of the Skull of a White-tailed Deer Fawn from Maine

Jonathan A. Jenks, Department of Wildlife, College of Forest Resources, University of Maine, Orono, Maine 04469, USA; **David M. Leslie, Jr.,**[1] Department of Wildlife, College of Forest Resources, University of Maine, Orono, Maine 04469, USA; **and Harold C. Gibbs,** Department of Animal and Veterinary Sciences, College of Life Sciences and Agriculture, University of Maine, Orono, Maine 04469, USA

A variety of anomalies of the skull of white-tailed deer (*Odocoileus virginianus*) has been reported. Verme (1968, J. Mammal. 49: 148) noted four molars in four deer from Michigan. Inferior brachygnathia has been reported in both a fetus from Saskatchewan (Wobeser and Runge, 1973, J. Wildl. Dis. 9: 356–358) and a 3–4-day-old fawn from Alberta (Barrett and Chalmers, 1975, J. Wildl. Dis. 11: 497–501). We have observed also a captive 3-yr-old deer with a 3.5-cm inferior brachygnathia in Maine. Barrett and Chalmers (1975, op. cit.) also found misaligned incisiform teeth and permanently folded ears.

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[1] Present address: Oklahoma Cooperative Fish and Wildlife Research Unit, Department of Zoology, Oklahoma State University, Stillwater, Oklahoma 74078, USA.

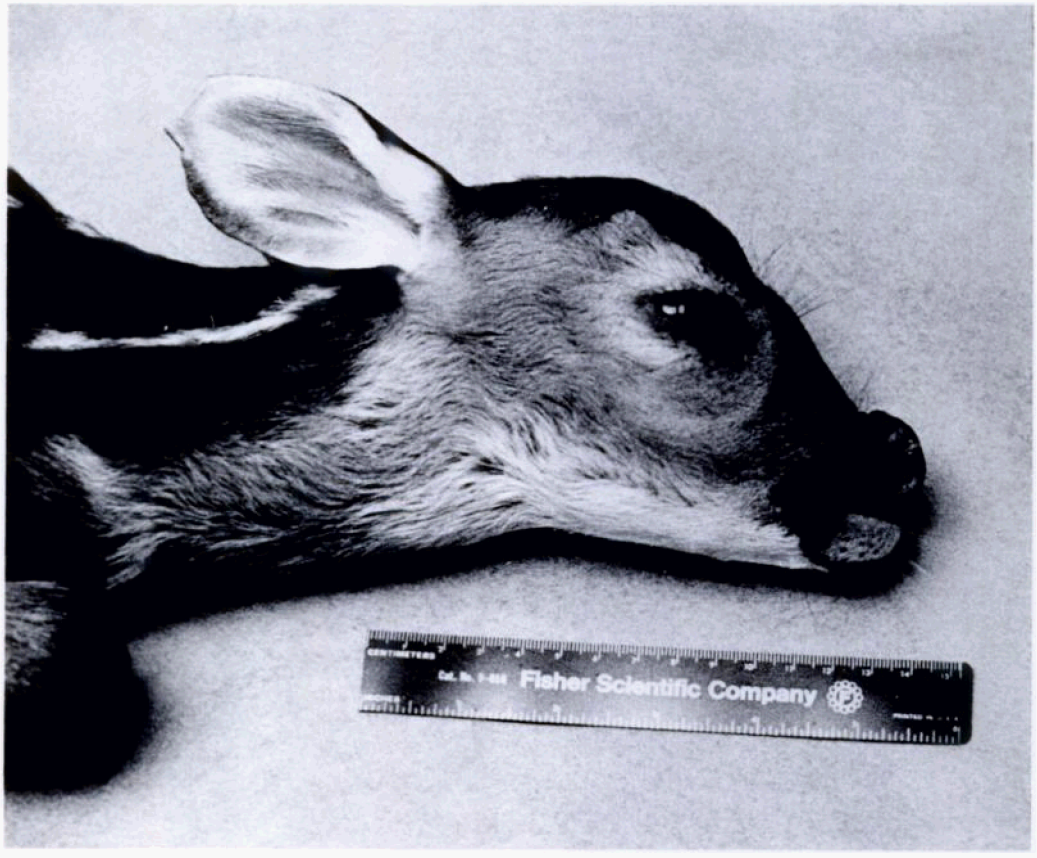

FIGURE 1. Midorbital ridge and compressed rostrum of an abnormal white-tailed deer fawn from Maine.

FIGURE 2. Reflex carpals and misproportioned tibias of an abnormal white-tailed deer fawn from Maine.

In June 1985, we obtained an 8-day-old fawn from the Maine Department of Inland Fisheries and Wildlife. It had been found near Millinocket, Maine (45°40′N, 68°40′W). Upon inspection, we noted a shortened, laterally curved rostrum and a distinct midorbital ridge (Fig. 1). Nostrils were swollen and respiration was nasal and pronounced. A gray exudate was found around the right eye. Examination of the buccal cavity revealed abnormal dentary growth with laterally tilted incisiform teeth. The fawn also had difficulty moving from sternal recumbancy to standing. Examination revealed reflex carpals and misproportioned tibias (Fig. 2). Limb anomalies were compared with our other research animals.

The fawn was fed lamb milk replacer using an infant bottle with a modified nipple. However, rostral anomalies inhibited its ability to suckle. Feeding difficulty increased from 8 to 14 days of age and was associated with decreased milk intake. The fawn was killed when it could no longer maintain body weight. The skull was cleaned and sectioned along the sagittal suture for cerebral examination. No indications of hydrocephalus or other gross defects were noted during necropsy. However, we observed a slight pressure from intracranial fluid that was released upon sectioning.

Skull measurements were compared to those from a 10-day-old fawn found in June 1985 near Ashland, Maine (46°50′N, 68°25′W). It died of complications from hypothermia (i.e., pneumonia), but oth-

FIGURE 3. Comparison of two skulls from white-tailed deer fawns found in June 1985, Maine. Note rostral and mandible differences between normal (right) and abnormal (left) skulls.

erwise was considered normal. The abnormal skull had a swollen frontal bone anterior to the orbits (Fig. 3). The premaxilla was curved laterally to the left and nasal cartilage blocked the right nasal lumen and may have been responsible for the labored respiration of the abnormal fawn. Dentaries were curved laterally to the left (Fig. 3).

Length from the nasal to occipital bone (abnormal = 102.4 mm; normal = 112.9 mm), length from the orbit to the anterior junction of nasal and maxilla bones (abnormal = 31.0 mm; normal = 37.0 mm)

and total nasal length (abnormal = 28.3 mm; normal = 34.1 mm) were considerably shorter for the abnormal fawn and indicated decreased rostral length. P_1 (first premolar) to occipital condyle also was shorter for the abnormal skull (85.6 mm vs. 90.4 mm). Rostral breadth at P_1, a measure of the swollen frontal bone, was wider for the abnormal skull (41.0 mm vs. 28.2 mm).

The curved rostrum and dentaries may have developed from a nutritional deficiency. Twisted rostrums are characteristic of calcium deficiency, phosphorus toxicity, or atrophic rhinitis (Church and Pond, 1974, Basic Animal Nutrition and Feeding, O and B Books, Corvallis, Oregon, 300 pp.). However, we examined the nasal turbinates and found no evidence of bone resorption. Therefore, we suspect that these anomalies were congenital.

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Rupture of a Dissecting Aneurysm of the Pulmonary Trunk in a Beluga Whale (*Delphinapterus leucas*)

D. Martineau,[1,2] A. Lagacé,[1] P. Béland,[2] and C. Desjardins,[3] [1]Department of Pathology and Microbiology, College of Veterinary Medicine, University of Montreal, St. Hyacinthe, Quebec J2S 7C6, Canada; [2]Centre de recherches en écologie des pêches, 310 des Ursulines, Rimouski, Quebec G5L 3A1, Canada; and [3]Laboratoire régional d'Inspection, Pêches et Océans Canada, 1001 Pierre Dupuy, Longueuil, Quebec J4K 1A1, Canada

Aneurysm of the pulmonary trunk is uncommon in mammals and has not been described in cetaceans. In man, it is associated with chronic pulmonary hypertension (Deterling and Clagett, 1947, Am. Heart J. 34: 471–499), bacterial endocarditis, mycotic aneurysm, trauma, Marfan's syndrome and syphilis (Spencer, 1977, Pathology of the Lung, Vol. 2, W. B. Saunders, Philadelphia, Pennsylvania, pp. 579–649). Ruptured aneurysms also occur in primary (idiopathic) pulmonary hypertension (Spencer, 1977, op. cit.). This report describes the rupture of a dissecting aneurysm of the pulmonary artery associated with verminous pneumonia in a beluga whale.

A male beluga whale was found dead and drifting in the St. Lawrence River at 69°20′18″W, 48°21′N on 15 August 1983. It was 4.0 m long. The dorsal blubber was 6.8 cm thick. Based on the presence of 24 concentric dentine layers in the teeth, it was judged to be a young animal (Sergeant, 1973, J. Fish. Res. Board Can. 30: 1065–1090). Blubber, liver and kidney samples were collected in aluminum foil previously rinsed with acetone and they were kept frozen for subsequent determination of residues of chlorinated hydrocarbons.

Tissue specimens were placed in neutral buffered 10% formalin for histologic examination and stained with hematoxy-

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