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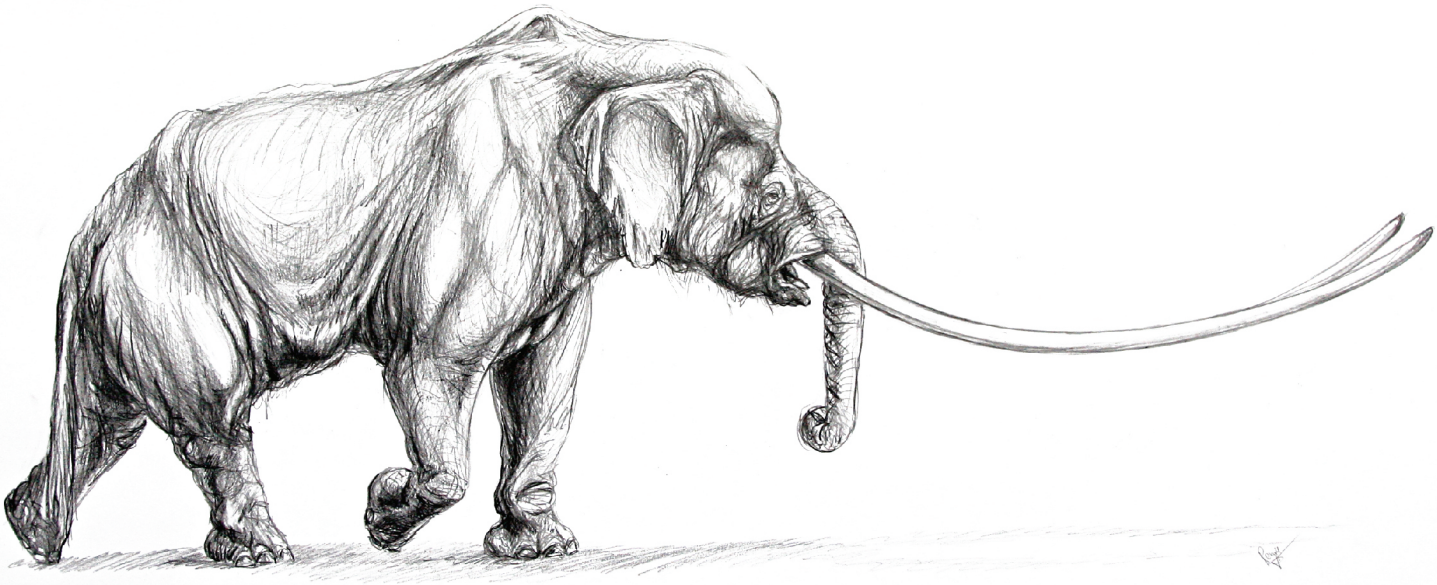

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ABSTRACT BOOK

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Disorders affecting hard tissues in elephants

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Disorders of the locomotor system and teeth are well known, yet often poorly documented pathologic alterations in elephants. In the literature from European countries and British colonies, so-called feet disorders have been described as early as in the middle of the 19th century. Elephants suffering from disorders of the musculoskeletal system may exhibit lameness, changes in movement or limb use or even complete immobility. Some alterations lead to the death of the animal. Although the reported prevalence in captive elephants is obviously higher, disorders such as fractures, (sub)luxations, distortions, pododermatitis, thermal burns, wounds and various infections are documented in rare cases also in free-ranging elephants. Infections of the skin, abscess formation and fistulas sometimes affect deeper structures such as bones or joints, which can lead to a lysis of bone or joint tissues (Ruthe, 1961). Besides these local infections, systemic infectious diseases such as chlamydiosis, mycoplasmosis, tuberculosis or salmonellosis could play a role in cases of osteomyelitis or arthritis (West, 2006). One of the most common musculoskeletal diseases in captive elephants is degenerative joint disease (osteoarthritis, osteoarthrosis). Hereditary, developmental, metabolic causes and mechanic insults may contribute to the development of this disease which is characterized by an initial loss of cartilage and subsequent alterations of the subchondral bone tissue and development of osteophytes. Fibrous osteodystrophies, deformities of bones and osteochondrosis are discussed to be caused by nutritional deficits or congenital defects. Although the majority of bone and joint diseases is described to occur within the limbs, we found signs of osteoarthritis also on vertebrae and, furthermore, conditions similar to the kissing spines disease of horses.

Traumatic injury of tusks is common in both captive and free-ranging elephants. The healing ability of the tusk pulp is very good and the production rate of reparative dentin is remarkably high which leads in the majority of cases to the recovery of the animal (Weissengruber et al., 2005). Periodontitis around the molars is often caused by foreign bodies and can lead to chronic stomatitis and failure of dental abrasion. Other disorders affecting molars are malformed, fused or retained teeth, failure of fragmentation, impaired forward progression and malocclusions. These conditions may cause severe digestive problems and weight loss.

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