Anatomic description of the heart of an ostrich (*Struthio camelus*)

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The ostrich (Struthio camelus) is a bird with considerable commercial value involving the exploitation of its meat, leather, feathers and eggs, including the shells. Most of the meat is located on the thighs and back. The heart of birds is similar to that of mammals, except for some characteristics, as it is relatively larger and has a higher frequency of contraction. It is coneshaped, with the apex formed only by the left ventricle. In ostriches, the heart is located on the concave surface of the sternum. It is turned caudally and its long axis is perpendicular to the ventral wall of the body. As a large, running bird, ostriches need an adequate cardiovascular system for this end. Thus, descriptions of the normal morphology of the heart are needed for the development of the commercial exploitation of this bird. The heart from an adult male ostrich from an ostrich production farm was collected immediately following slaughter. The organ was fixed in a 10% formaldehyde solution, in which it remained immersed for 10 days until dissection. The surface structures were observed and photodocumented. The heart was then opened from the apex to the auricles for the description of the internal structures and photodocumentation. The pericardium externally envelopes the heart and has a thick layer of adipose tissue on the fibrous pericardium and the visceral lamina of the serous pericardium (epicardium). Blood supply to the heart is performed by the right coronary artery (between the pulmonary trunk and right auricle) and left coronary artery (between the pulmonary trunk and left auricle), which have branches similar to those found in horses. The atria are small; the right atrium is smaller than the left. The auricles are extensions of the atria and have more prominent pectinate muscles than those of mammals. The left auricle has two folds on the inner wall at the left extremity, formed by a thin but relatively extensive muscle layer and endocardium. The wall of the left ventricle is considerably thicker than that of the right ventricle and fleshy trabeculae are observed on the inner surface. As in mammals, the left atrioventricular valve has three valves, with tendinous cords linked to the papillary muscles. The right atrioventricular valve is a fold of the musculature of the ventricle wall and has no tendinous cords or papillary muscles tractioning it. The entire inner surface of the heart is lined with endocardium. The ostrich heart analyzed has similarities to the heart of birds, although the left auricle has characteristics that differ from other species.