

The Extinct Maltese Crane

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In 1890 when Lydekker examined a collection of Late Pleistocene bird bones from Zebbug Cave on Malta, presented to the British Museum (Natural History) by Admiral Spratt in 1878, he identified among others the bones of a crane. He described this as a new species *Grus melitensis*. The syntype specimens were part of a coracoid, 49365, which he regarded as unlike those of other cranes; the distal end of a tibiotarsus, 49361, recognised as similar to that of the large extant Sarus Crane *G. antigone*; and the distal end of a tarsometatarsus, 49358, which was also large and which he referred to this bird with some reservation. Later (1891), in his catalogue of fossil birds, he listed other specimens including toe bones, phalanges. He stated there that the "types" of the species were the coracoid and part of a pelvis no. 49322m. The latter bone is not gruiform and is probably referable to the very large fossil swan *Cygnus falconeri* which occurs in the same cave deposits. More Pleistocene cave material was collected from Tal-Gnien Caves on Malta by D.M.A. Bate in 1933, 1934 and 1936, some of which has been referred to in a recent note on large extinct cranes (Harrison and Cowles 1977).

Among the material in the collection of the British Museum (Natural History) referred to this species there are twelve distal ends of tibiotarsi, BMNH 49361, 49322n, A3265, A4964 - 4972. These resemble each other in size and in this respect are also similar to the tibiotarsus of the Sarus Crane *G. antigone*. Lydekker (1890, 1891) pointed out that the distoproximal width of the tendinal bridge was narrower on his specimen than on *G. antigone*. This bridge is narrow on a major part of the Maltese specimen and although it is not a diagnostic feature it might indicate an isolate population developing specific characters.

The other part of a lower limb, a distal end of a tarsometatarsus, BMNH 49361, is worn and slightly fractured. In size it is very similar to that of *G. antigone*. The trochleae are, however, more widely splayed, and even allowing for the possible effects of fracture and crushing the visible cracks do not seem adequate to explain fully the gaps between the trochleae. It was this additional width which led Lydekker (1890, 1891) to assume that it might have come from a still larger species of crane. He stated that it resembled the tarsometatarsus of the Australian Crane *G. ribicunda* in its characters, but did not comment further and no obvious affinity is apparent.

The five phalanges listed by Lydekker (1891), BMNH 49324, are of dubious taxonomic value. Such bones tend to vary little among birds except where extreme adaptation has occurred. In the present instance it is possible to identify the basal phalanges of digits 3 (49324d) and 4 (49324e) and the second phalanx of digit 4, but for the last the larger example of 49324b differs from the smaller example of 49324b and 49324a and appears to originate from a different bird of much larger size. Phalanx 49324e lacks the narrow groove on the inner side near the proximal end which is typical of this bone in the cranes. If, with the exception of the large specimen, these were crane phalanges they would be of a stoutness comparable with those of *G. antigone* but about one-quarter to one-third shorter. It is as likely that they are referable to some other order.

Wing specimens now consist of two bones - a distal end of a humerus and the humeral end of a coracoid. The end of the humerus, from Tal-Gnien, BMNH A5162, is badly broken. It is of similar size and character to that of the Common Crane *G. grus*. The coracoid BMNH 49365 is the bone with the most distinctive characters. It is broken across the narrow part of the shaft and only the humeral half is preserved. In general it is similar in size to the coracoid of *G. grus* but differs in the following respects. The procoracoid is proportionally longer and more curved than in the latter species. The triossial canal surface is narrower, particularly at the ventral end of the furcular facet. On the external side the area

between the glenoid facet and the bicipital attachment ridge is narrower and more deeply hollowed.

There is some difference of opinion concerning the status of the Maltese Crane *G. melitensis*. Mourer-Chauviré et al. (1975) mention the coracoid but limits a brief discussion to the characters of the syntypical tibiotarsal fragment and conclude that the bird is conspecific with the Sarus Crane *G. antigone*. Even if the tibiotarsus were referred to the latter species, there is the modified tarsometatarsus and the small coracoid and humerus to be explained away. It is with the coracoid that the name *melitensis* has been most closely linked, and this would be the obvious lectotype if the original material were to be re-assigned.

There is also the coincidence that the thirteen bones that might indicate a large form are all leg bones, while the two possibly referable to a smaller form are wing bones. This becomes more relevant if other bird species occurring in the same deposits are taken into consideration. D.M.A. Bate (1916) described a small swan *Cygnus equitum* which had the wing bones reduced in size and is thought to have had the power of flight considerably reduced. Parker (1865) described another swan *C. falconeri* which was larger than any known species. It had a relatively short femur, long tarsometatarsus and very short toes. This suggests that it was more terrestrial than our present swans and structurally modified for more efficient walking.

There is therefore evidence that at this period Malta had a fauna including endemic species of large waterbirds, related to more widespread species in Europe, but modified for a more terrestrial existence or with reduced power of flight. In these circumstances it would not be unreasonable to suggest that an endemic species of crane may have existed which was of similar size to *G. antigone* but with the wings reduced and more similar to those of *G. grus*; and which showed other osteological peculiarities possibly linked with reduced power of flight and a more terrestrial existence. This hypothesis cannot be tested until further material becomes available but in the meantime it is better to regard *Grus melitensis* as a separate and possibly aberrant species, rather than to attempt to synonymise it with *G. antigone* on the basis of the overall size of one end of one leg bone.

References

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