



COMPARATIVE STUDY OF MORPHO-ANATOMY, PHYSIOLOGY AND KARYOTYPES OF LOCAL MALLARD DUCK AND THE EMIGRANT MALLARD DUCK, FROM SOUTH IRAQ MARSHES

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The present study was to find out some major aspects of morphology, anatomy, physiology and karyotype differences between emigrant and local mallard (*Anas platyrhynchos*). The study comprised a total of twenty birds in total, with ten specimens of each category i.e. local inhabitants and the migratory ones. The results discussed in this paper are a comparative account of the difference between emigrant and local mallard, as a result of adaptation which is a physiological as well as behavioral change that makes an organism better suited to its environment. As adaptations usually occur due to changes (or mutations) in a gene, species with a more varied set of characteristics to begin with and then to transmit these changes gradually to the coming generations leading to have a better basis for adaptation ,consequently survival. Also evolutionary pressures are sequel to variation in climate that play an important role in shaping phenotypic variation among and within species.

Bird migration is the regular seasonal journey undertaken by many species of birds. Bird movements include those made in response to changes in food availability , habitat and weather. Sometimes, journeys are not termed "true migration" because they are irregular (nomadic, invasive, irruptions) or in only one direction (dispersal, movement of young away from natal area) while, a true migration is marked by its annual seasonality¹. In contrast, birds that are non-migratory are said to be resident or sedentary. Approximately 1800 of the world's 10,000 bird species are long distance migrants². The name Mallard duck is derived from the old French Malart or Mallart "wild drake", although its ultimate derivation is unclear. It may be related to an old high German masculine proper name Madelhart. Clues lying in the alternate English forms "Maudelard" or "Mawdelard"³. Mallard (*Anas platyrhynchos*) is the fore bearer of almost all of the varieties of domestic ducks. Mallards, showing a cosmopolitan distribution, can be found approximately in any place of the world. They have a preference of habitat of wet-lands that contain large amounts of vegetation . They eat a large variety of foods that include: vegetation, insects, worms, gastropods, arthropods, as well as a variety of foods provided by humans⁴. *Anas platyrhynchos* is a member of the family Anatidae, which is comprised of 45 genera and 157 species of ducks, geese, and swans. Anatidae is a member of the order anseriformes, which also includes the families Anseranatidae and Anhimidae. Anseriformes, along with Galli- formes, are thought to be among the earliest members of Neognathae. Although the sister group relationship of Anseriformes and Galliformes is very contentious^{5,6}.