

Some aspects of the Biology of the Lesser Pied Kingfisher *Ceryle rudis* Linn

Robert John Douthwaite.

Doctor of Philosophy

Makerere University, college of social science, 1970.

The Pied Kingfisher *Ceryle rudis* Linn, is about nine inches long and entirely pied. The sexes are dimorphic and juveniles are distinguishable from adults. It is a common and slow – moving water throughout the Ethiopian and Oriental Regions. Three races have been described. This thesis is the result of two years fieldwork, principally on the Entebbe peninsula, Lake Victoria (0° 10'N; 32° 30' E) combined with laboratory studies. The birds were found to avoid papyrus swamp, favouring areas of flooded swamp forest where only the stumps remained. On the Kazinga Channel, cliffs bearing tangled thicket at the water's edge were preferred to more open shore. Population densities of two to six birds per Kilometer of shore appeared to be usual: higher densities recorded on the Kazinga Channel were probably exceptional. Considerable movement following the end of the breeding season was thought to be a local response to the availability of fish. The population near Entebbe has increased in the last 60 years perhaps due to an increase in available nest sites. An increase in Kigenzi is possibly due to the stocking of the lakes with fish. Males outnumber females especially at the colonies. Six adult calls and sites over water are chosen. Birds fish from a perch or by hovering at a height over the water. The former method is more prevalent in calm conditions, and when small *Engraulicypris* sp, form the bulk of the diet. Three diurnal peaks of fishing activity are usual, but only two prolonged peaks occur when the diet consist of small *Engraulicypris* sp. Dives were successful on Lakes Victoria than on the Kazinga Channel, but less searching was required in the latter area. Small fish are swallowed in flight but large fish are crushed and battered before being swallowed. The amount of battering has a significant positive correlation with the size of the fish although rigidity is believed to determine the number of hits given. Variation in the response between birds precludes a predictive formula for estimating the sizes of fish eaten in the wild. Diet was studied by pellet analysis. Fish 4-11 centimeters total length are eaten. The sizes of fish dentaries in the pellets were related to the sizes of whole fish and calorimetry allowed the diet to be expressed in calories. The diet showed consistent changes between the two years; *Haplochromis* spp., are most important. The smaller though numerically more important *Engraulicypris argenteus* had four peaks of utilization. Emergences of *alatemacrotermss natalensis* gave it transitory importance, and *Barbus* SP. , *Hemithaplochromis*