Checklist and status of herons in East Africa

Don Turner

Box 1651, Naivasha 20117, Kenya; Mat@wananchi.com

Abstract

Nineteen species of herons occur in East Africa. Nine species are of conservation concern. The White-backed Night Heron (*Gorsachus leuconotus*), Striated Heron (*Butorides striata*), Rufous-bellied Heron (*Ardeola rufiventris*), Grey Heron (*Ardea cinerea*), Goliath Heron (Ardea goliath), Purple Heron (*Ardea purpurea*), Black Heron (*Egretta ardesiaca*) are regionally near threatened. Great Egret (*Ardea alba*) is regionally vulnerable. The South African subspecies of the Eurasian Bittern (*Botaurus stellaris capensis*) is regionally critical. The Madagascar Heron (*Ardea humbloti*) is globally vulnerable and the Madagascar Pond Heron (*Ardeola idae*) is regionally endangered. Although the freshwater wetlands of the region are internationally recognized, they are increasingly threatened by uncontrolled drainage, land reclamation, pollution and over exploitation.

Key words: Ardeidae; bitterns; conservation; distribution; egrets; Kenya; Tanzania; Uganda; wetlands.

Introduction

The freshwater resources of East Africa, especially in Kenya, are increasingly among the most threatened in the world. As wetlands have degraded over the past decades, waterbird populations have been increasingly affected. While freshwater wetlands are internationally recognized as one of the world's most productive ecosystems, they are also among the most threatened habitats in the world today due largely to uncontrolled drainage, land reclamation, pollution and over exploitation. While lakes Nakuru, Bogoria and Elmentaita have recently become World Heritage Sites, other Rift Valley lakes in Kenya most notably Naivasha and Baringo, two RAMSAR lakes of International Importance, have been downgraded to the Montreux List of Endangered Wetlands due to continuing degradation, exploitation and pollution. The situation for waterbirds in parts of East Africa, including herons, is becoming increasingly critical although is other areas, where hydrological changes have not been so severe, heron populations continue to do well.

The status of herons in the region has not been summarized for a decade (Turner 2000). Species of herons endemic to the African region occur in East Africa, including the Madagascar Pond

Heron and Black Heron, as well as the largest extant heron, the Goliath Heron (Kushlan and Hancock 2005). Information on heron populations in Africa has been exceptionally sparse, as there are few historical or contemporary quantitative data available nor have important sites been consistently monitored (Kushlan and Hafner 2000, Kushlan 2007). However, much useful information has been accumulated in atlas and faunistic projects for the region over the past decades (Lewis and Pomeroy 1989, Zimmerman *et al.* 1996, Ash and Miskell 1998, Nikolaus 1987, Carswell *et al.* 2005, Ash and Atkins 2009, Baker and Baker in prep.). The present paper updates the current status of heron species occurring in East Africa.

Study Area

This Checklist covers the East African nations of Kenya, Uganda, and Tanzania.

There are few known breeding sites for herons and egrets remaining in Kenya. The Garsen Heronry is the sole major breeding ground for heron species in the lower Tana delta. It is currently facing a precarious future. A proposal to turn much of the Lower Tana Delta over to agriculture including a vast biofuel plantation is currently being challenged in court, though chances of the proposals being over-ruled are slim. A smaller heronry previously on the outskirts of Kisumu, Lake Victoria, has now totally disappeared as all trees in the area have been felled. Rice fields in the surrounding area where several heron species used to feed have been subjected to extensive Carbofuran (Furadan) poisoning, resulting in many heron (as well as other waterbird) species being poisoned. Lake Naivasha, in the central Rift Valley, is currently listed as one of Kenya's Important Bird Areas, but has been subjected to years of neglect, unplanned human activities and short-term exploitation. Once Kenya's principal freshwater lake, it is now so severely degraded and polluted that it now faces severe bio-diversity changes. Destruction of the all important papyrus belt has had a devastating effect on the quality of the lake water. Large areas of papyrus have been lost as a result of receding water levels, fires, bovine and human encroachment and conversion to farmland and agriculture. As such, vast amounts of silt, sediments and nutrients (from both the poorly managed upper catchment via the Malewa and Gilgil rivers, and the unplanned and poorly sited townships) pour into the lake following heavy rainfall, resulting in eutrophication, with an ever increasing number of algae blooms. Despite this and with the lake becoming nothing more than a giant sewage pond, a number of heron species did manage to breed successfully in 2010 on a small offshore island of new papyrus.

Also in Kenya, Lake Baringo a hundred miles north of Naivasha and also formerly a RAMSAR site and a major breeding ground for Goliath Herons has suffered a similar fate. It too has been downgraded and placed on the Montreux List. Goliath Herons have now stopped breeding at this site. Omo delta / Lake Turkana wetlands are important wetlands on the Ethiopia/Kenya border that are now seriously threatened with the building of a giant hydro dam on the Omo river in southern Ethiopia. The dam will be 151 km long and 5 km wide (second largest in Africa). It will take several years to fill, meanwhile no water will flow to the Omo wetlands or into lake Turkana, which is predicted to ultimately dry up within the next twenty five years. The dam is currently 30% complete. Sadly there was no Environmental Impact Assessment prior to its construction.

In Tanzania, indications are that all major wetlands, including the Wembere, the Moyowosi-Malagarasi swamps and the Usangu wetlands of Ruaha National Park are in a much healthier state

than those in Kenya, and all heron species are understood to be present in good numbers. Annual waterbird counts in Tanzania are impressive and generally reflect a much better situation for all herons and egrets than in Kenya.

In Uganda, there is little detailed information available concerning heron species. But no major concerns have been expressed relating to their status in recent years.

Results

The following is a list and comments on status of the heron species known to occur in East Africa. For brevity, the following codes are used: Country codes - K = Kenya, T = Tanzania, U = Uganda; species status codes - RB = resident breeding species, AfrM = intra-African migrant, B = breeding, NB = non-breeding, MM = migrant from Madagascar, MV = Madagascar vagrant, AV = Afrotropical vagrant, WV = winter visitor, PV = Palaearctic vagrant, OW = occasional winter visitor, ? = status unclear; threat categories - G-EN = globally endangered, G-VU = globally vulnerable, R-CR = regionally critical, R-EN = regionally endangered, R-NT = regionally near-threatened. Information summarized in this list comes from the author's knowledge and especially, Lewis and Pomeroy 1989, Zimmerman *et al.* 1996, Carswell *et al.* 2005, Baker and Baker in prep.

***BOTAURUS STELLARIS* (Linnaeus)**
Eurasian Bittern

Marshes with dense cover.

Ardea stellaris Linnaeus 1758. Type locality Sweden.

Botaurus stellaris stellaris U PV
Migratory nominate birds frequently occur in Africa in more open wetland habitats. One Kibimba Rice Scheme near Jinja November 2002.
K Reported from Lake Baringo December 1994.

Botaurus stellaris capensis (Schlegel 1863). Type locality restricted to the northern Cape, RSA.
Entire population in serious decline due to loss of habitat and intolerance of human activity. *B. s. capensis* requires permanent marshes with dense cover. R-CR.
T ? Lake Rukwa. Status unclear. Booming reported pre-1960, but no subsequent records.

***IXOBRYCHUS MINUTUS* (Linnaeus)**
Little Bittern

Permanent and seasonal swamps and marshes.

Ardea minuta Linnaeus 1766. Type locality Switzerland.

Ixobrychus minutus minutus K T U OW Scarce Palaearctic migrant October-April.

Ixobrychus minutus payesi (Hartlaub 1858).
Type locality Casamance River, Senegal.
K T U RB AfrM Widespread resident and wanderer augmented by intra-African migrants from the Southern tropics May-September.

***IXOBRYCHUS STURMII* (Wagler)**
Dwarf Bittern

Rains migrant to permanent and seasonal wetlands.

Ardea sturmii Wagler 1827. Type locality Senegambia.

K T U R? + AfrM/B. Widespread rains migrant.

Influx of intra-African migrants to many areas April-August and November-December. Few breeding records.

***GORSACHIUS LEUCONOTUS* (Wagler)**
White-backed Night Heron

Dense riverine vegetation and mangroves. Strictly crepuscular and nocturnal.

Ardea leuconotus Wagler 1827. Type locality Senegambia.

K T U R-NT RB? Scarce and very locally distributed. Few breeding records.

References: Zimmerman *et al.* 1996, Lewis and Pomeroy 1989, Carswell *et al.* 2005, Baker and Baker in prep.

***NYCTICORAX NYCTICORAX* (Linnaeus)**
Black-crowned Night Heron

Permanent swamps and marshes. Roosts in riverine cover. Largely crepuscular.

Ardea nycticorax Linnaeus 1758. Type locality Southern Europe.

Nycticorax nycticorax nycticorax K T U RB?+ OW? Local and uncommon throughout.
Some East African birds may be Palaearctic migrants.

***BUTORIDES STRIATA* (Linnaeus)**
Striated Heron

Riverine and lakeshore vegetation, also coastal mangrove creeks and lagoons.

Ardea striatus Linnaeus 1758. Type locality Surinam.

Butorides striata atricapilla (Afzelius 1804). Type locality Sierra Leone.
R-NT K T U RB Fairly common in coastal mangroves and around thickly vegetated lake and river edges.

Taxonomic comment: Also called Green-backed Heron.

***ARDEOLA RALLOIDES* (Scopoli)**
Squacco Heron

Swamps, marshes and lakes with fringing vegetation.

Ardea ralloides Scopoli 1769. Type locality Carniola, Yugoslavia.

K T U RB+OW ?. Widespread and locally common throughout the region.
Some East African birds may be of Palaearctic origin.

***ARDEOLA IDAE* (Hartlaub)**
Madagascar Pond Heron

In Africa frequents lakes, rice paddies and oxidation ponds.

Ardea idae Hartlaub 1860. Type locality Madagascar.

G-EN R-EN population declining. K T U MM/ NB Annual migrant from Madagascar May-October.

Taxonomic comment: Also called the Madagascar Squacco Heron.

***ARDEOLA RUFIVENTRIS* (Sundevall)**
Rufous-bellied Heron

Permanent swamps and grassy inundations.

Ardea rufiventris Sundevall 1850. Type locality Potchefstroom, Transvaal, South Africa.
R-NT. K T U RB Local and uncommon. Breeds sporadically in response to fluctuating water levels.

***ARDEA IBIS* (Linnaeus)**
Cattle Egret

Pastures, cultivation and dry grasslands, generally near water.

Ardea ibis Linnaeus 1758. Type locality Egypt.

Ardea ibis ibis K T U RB Common and widespread throughout much of our region, with every indication that all populations are increasing. East African birds largely sedentary.

Taxonomic comment: Also called *Bubulcus ibis*.

***ARDEA CINEREA* Linnaeus**
Grey Heron

All wetland habitats including coastal mudflats and creeks.

Ardea cinerea Linnaeus 1758. Type locality Sweden.

Ardea cinerea cinerea R-NT. K T U RB +WV ? Widespread but in small numbers. In northern Kenya and NW Uganda, populations augmented November-March by birds possibly of Palaearctic origin.

***ARDEA MELANOCEPHALA* Children and Vigors**
Black-headed Heron

Pastures and grasslands as well as inland wetlands, cultivation and coastal lagoons.

Ardea melanocephala Children and Vigors 1826. Type locality Lake Chad.

K T U RB Fairly common and widespread, breeding in several towns and cities throughout the region.

***ARDEA HUMBLOTI* Milne-Edwards and Grandidier**
Madagascar Heron

Coastal tidal flats, lagoons, and wetlands.

Ardea humbloti Milne-Edwards and Grandidier 1885. Type locality Madagascar.

Extralimital species recently recorded in the Selous GR wetlands, southern Tanzania. G-VU. T MV Vagrant to Selous GR 2007-2010.

Taxonomic comment: Also called Humblot's Heron

***ARDEA GOLIATH* Cretzschmar**
Goliath Heron

Shallow shorelines of the larger lakes, rivers and permanent swamps.

Ardea goliath Cretzschmar 1829. Type locality the White Nile.

R-NT. K T U RB Widespread. Locally common in the Malagarasi-Moyowosi swamps in western Tanzania, around lakes Kyoga, Edward and Al-

bert and along the Upper Nile Valley in Uganda. Elsewhere, local and generally uncommon in many seemingly favorable areas.

***ARDEA PURPUREA* Linnaeus**
Purple Heron

Wetlands with extensive cover of reeds or papyrus.

Ardea purpurea Linnaeus 1766. Type locality France.

Ardea purpurea purpurea R-NT. K T U RB Fairly common and widespread in areas of suitable habitat.

***ARDEA ALBA* Linnaeus**
Great Egret

All wetland and littoral habitats. R-VU

Ardea alba Linnaeus 1758. Type locality Sweden.

Ardea alba melanorhynchos Wagler 1827. Type locality Senegambia.
K T RB Fairly common and widespread. Numbers in mixed species heronries greatly reduced in recent years. U R/M/ NB Widespread but scarce or absent from much of the north. Although no breeding records to date, numbers do gather at mixed species heronries.

Taxonomic comment: Formerly placed in either *Casmerodius* or *Egretta*.

***ARDEA INTERMEDIA* Wagler**
Intermediate Egret

Secluded swamps, marshes and inundations. Subject to seasonal movements with the rains.

Ardea intermedia Wagler 1829. Type locality Java.

Ardea intermedia brachyrhyncha (Brehm 1854). Type locality the Blue Nile.

K T U RB Widespread, but seldom numerous away from breeding colonies where will often breed in large numbers in mixed species heronries.

Taxonomic comment: Also called the Yellow-billed Egret. Formerly in either *Egretta* or *Mesophoyx*. Current placement in *Ardea* tentative. Some feel that African birds (*brachyrhyncha*) possibly worthy of separation from Asian birds.

***EGRETTA ARDESIACA* (Wagler)**
Black Heron

Muddy edges of lakes, inundations and rice paddies, also coastal mangroves and lagoons.

Ardea ardesiaca Wagler 1827. Type locality Senegambia.

R-NT. K T RB U M/B? Locally common in coastal lowlands, but few breeding sites. Formerly rare in Uganda with only three pre-1970 records. Local movements governed by availability of shallow water feeding areas. Particularly favors rice schemes throughout the region.

***EGRETTA GARZETTA* (Linnaeus)**
Little Egret

Fresh and alkaline lakes, also coastal shores, creeks and lagoons, and offshore reefs and islands.

Ardea garzetta Linnaeus 1766. Type locality Italy.

Egretta garzetta garzetta K T U RB Common and widespread on all inland lakes.

Egretta garzetta schistacea (Hemprich and Ehrenberg 1828). Type locality Red Sea.
K AfM/NB U AV [T?] Uncommon visitor from north of Kernya to coastal shores and creeks south to Mida Creek, also at Lake Turkana. Rare elsewhere.

Egretta garzetta dimorpha Hartert 1914. Type locality Madagascar.
K T RB Locally common in coastal areas from Shimoni south, particularly on offshore islands.
U ? Reported from Lake Victoria 2005.

Taxonomic Comment: Includes birds known as the African or Western Reef Heron and the Dimorphic Egret, all of which occur in Africa (Hancock and Kushlan 1984, Lewis and Pomeroy 1989, Zimmerman *et al.* 1996, Turner 2000, Carswell *et al.* 2005, Byaruhanga and Ostergaard 2008, Londei 2010, Turner 2010, Baker and Baker in prep.). Although all forms (*garzetta*, *schistacea* and *dimorpha*) largely behave as separate species in Kenya and are generally easy to identify, a situation occurred at Lake Turkana, northern Kenya during the 1970s, whereby breeding was observed among individuals that appeared to be dark phase *schistacea* with those that appeared identical with the all-white *garzetta*. More recently, a mixed colony of egrets breeding on Sumuka Island, Lake Victoria, appeared to contain birds resembling white phase *dimorpha* alongside normal white phase *garzetta* (Byaruhanga and Ostergaard 2008), and elsewhere, observations of egrets in a coastal area of southern Tanzania suggested a mix of both *garzetta* and *dimorpha*, with possible hybrid birds occurring (Londei 2010). While it is well known that *schistacea* and *garzetta* freely interbreed with one another in both Isreal and India (Parasharya and Naik 1984, Ashkenazi 1993), there would appear to be convincing evidence for considering all three forms as being members of one polymorphic species as proposed by Hancock and Kushlan (1984) and Turner (2010).

Acknowledgements

The author is most grateful to Jim Kushlan for his valued comments and assistance in the preparation of the final draft of this paper.

Literature Cited

Ash, J. and J. Atkins. 2009. Birds of Ethiopia and Eritrea. Christopher Helm, London, U.K.

Ash, J. S. and , J. E. Miskell. 1998. Birds of Somalia. Pica Press, Sussex, U.K.

Ashkenazi, S. 1993. Dark-Morph Individuals of *Egretta* spp. in Israel. Colonial Waterbirds 16 (2): 202-207.

Baker, N. E. and E. M. Baker (in prep). Bird Atlas of Tanzania.

Byaruhanga, A. and K. Ostergaard. 2008. First records of Dimorphic Egrets for Uganda and Rwanda. Bulletin of the African Bird Club 15: 253-254.

Carswell, M., D. Pomeroy, J. Reynolds and H. Tushabe. 2005. Bird Atlas of Uganda. BOC / BOU, Department of Zoology, Oxford, U.K.

Hancock, J. and J. Kushlan. 1984. The Herons Handbook. Harper and Row, New York, U.S.A.

Kushlan, J. A. and H. Hafner. 2000. Heron Conservation. Academic Press, London, U.K.

Kushlan, J. A. 2007. Conserving Herons. A Conservation Action Plan for the Herons of the World. Heron Specialist Group and Tour du Valat, Arles, France.

Kushlan, J. A. and J. Hancock. 2005. The Herons. Oxford University Press, Oxford, U.K.

Lewis, A. and D. Pomeroy. 1989. Bird Atlas of Kenya. A.A. Balkema, Rotterdam, Holland.

Londei, T. 2010. Typical Little Egrets mix with Dimorphic Egrets on open seacoast in Tanzania. Scopus 30: 56-59.

Nikolaus, G. 1987. Distribution Atlas of Sudan's Birds with notes on habitat and status. Bonner Zoologische Monographien Nr.25. Alexander Koenig Museum, Bonn, Germany.

Parasharya, B. M. and R. M. Naik.1984. Studies on the coastal birds and their marine habitat, with a special emphasis on the biology of the Indian Reef Heron. Department of Biosciences, Saurashtra University, India.

Turner, D. 2000. Herons in Africa and the Malagasy region. Pp. 123-150, in Heron Conservation (J. A. Kushlan, and H. Hafner, eds.), Academic Press, London, U.K.

Turner, D. 2010. The *Egretta garzetta* complex in East Africa. A case for one, two or three species. Scopus 30: 59-62.

Zimmerman, D. A., D. A. Turner and D. J. Pearson. 1996. Birds of Kenya and Northern Tanzania. A and C Black, London, U.K.