

High altitude wetlands of western Arunachal Pradesh: new breeding ground for Ruddy Shelduck (*Tadorna ferruginea*)

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The Eastern Himalaya and Assam Plain are recognized as Endemic Bird Areas and distribution of 24 species are restricted to the region globally out of these 21 occurred in the state of Arunachal Pradesh subsisting the state to harbor a large number of restricted range species among north-eastern states of India (Islam & Rahmani, 2004; Gogoi *et al.* 2010). The richness of the region's avifauna largely reflects the diversity of habitats associated with a wide altitudinal range (Birand & Pawar, 2004). The state of Arunachal Pradesh (26030'- 29030'N & 91030'- 97030'E) with a total geographical area of 83,743km² constitutes a substantial portion of the Eastern Himalayan mega-biodiversity 'Hotspot' region. It is known for its topographic and altitudinal diversity, its rich forest and numerous riverine bodies which support an excellent habitat to the avifauna in the state (Sangha & Naoraji, 2007; Mazumdar & Gogoi, 2010). Several new distributional records including description of a new species *Liocichla bugunorum* from Eagle nest Wildlife Sanctuary further signify it (Athreya, 2006). Even last year occurrence of Mallard (*Anas platyrhynchos*) from the high altitude area was the first record of this species from Sela and Panggang Teng Tso Wetland of Tawang district by WWF-India team (Gogoi *et al.* 2010).

High Altitude Wetlands of Western Arunachal Landscape

Pradesh covering West Kameng and Tawang district for documentation and conservation of high altitude wetlands of the area. Based on the preliminary survey conducted by WWF-India jointly with State Forest Department, Indian Army and local villagers, four wetland complexes have been prioritized for conservation – Bhagajang Wetland Complex, Nagula Wetland Complex, Thembang Bapu CCA Wetland Complex and Pangchen Lumpo Muchat CCA Wetland Complex. Most of these wetland complexes which are located above 3000m altitude support rich diversity of Rhododendrons and rare medicinal plants in the catchment areas which in turn are providing suitable habitat for rare and threatened high altitude fauna like red panda (*Ailurus fulgens*), takin (*Budorcas taxicolor*), Chinese goral (*Nemorhaedus griseus*), red goral (*Naemorhedus baileyi*), wild dog (*Cuon alpinus*), snow leopard (*Panthera uncia*), musk deer (*Moschus chrysogaster*) etc. These wetlands are also acting as reservoir for the three



Ruddy shelduck with its duckling at Tsomgo Ama wetland (Photo: Kripaljyoti Mazumdar)



A view of the Tsomgo Ama Wetland and nearby habitat, Western Arunachal Pradesh (Photo: Kripaljyoti Mazumdar)

major rivers – Tawangchu, Nyamjangchu and Kameng River, which are important tributaries of mighty Brahmaputra.

Most of these high altitude water bodies are playing significant role in maintaining ecological balance and are productive systems. These wetlands are considered as sacred and there are strict taboos associated with which are mostly followed with strict norms by the local Monpa community. At the same time most of these high altitude wetlands of western Arunachal Pradesh, like many other high altitude wetlands of the country, are also under tremendous anthropogenic pressure. Increases in human activities are major cause of concern for these high

altitude wetlands. Increasing grazing pressure in the catchment areas of the wetlands, over exploitation of forest resources, unregulated dumping of waste, unregulated tourism leading to soil and water pollution, construction works and other developmental activities are some of the major threats being observed in the high altitude wetlands of western Arunachal Pradesh.

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These wetlands provide a good space for flourishing high altitude rich biodiversity in this part of eastern Himalaya. But nothing has been so far properly documented regarding the importance of these habitats as breeding sites for the Anatidae family. From India, although many of such high altitude wetlands of Ladakh and Sikkim regions are documented and studied for providing breeding ground for waterfowl (Chandan *et al.* 2008; BirdLife International, 2011; Ganguli-Lachungpa *et al.* 2011), no detail investigation in this part of the country has been carried out so far. Increasing grazing pressure in the catchment areas of the wetlands, over exploitation of forest resources, unregulated dumping of waste, unregulated tourism leading to soil and water pollution, construction works and other developmental activities are some of the major threats being observed in the High Altitude Wetlands of Western Arunachal Pradesh.

These wetlands provide a good space for flourishing high altitude rich biodiversity of this part of eastern Himalaya. But nothing has been so far well documented these areas as breeding sites for the Anatidae family, although many of such high altitude wetlands of Ladakh regions is well known to provide breeding ground for waterfowl, while nearby Bhutan also a key breeding areas for high altitude water birds.

The Sighting and Conservation Issues

The presence of Ruddy Shelduck (*Tadorna ferruginea*) from Arunachal Pradesh is known so far but there was no information on the breeding ecology of this species from the high altitude wetlands of western Arunachal Pradesh. So, far in India eastern Ladakh and Sikkim is the only two known high altitude breeding site of this species in conjunction with selected sites in Nepal and Bhutan (BirdLife International, 2011). During the recent field trip to western

Arunachal Pradesh, WWF-India team has done the first photographic and videographic documentation of a breeding pair of Ruddy shell duck along with 7 ducklings on 29th June 2011 from Tsomgo Ama wetland situated at an altitude of 4535 m altitude covering an area of 0.27 sq. km. within Thembang Bapu Community Conserved Area Wetland Complex, West Kameng district.

It is crucial to conduct a proper study on population estimation on migratory birds from nearby Assam plains breed in these high altitude wetlands during summer. A proper long term monitoring and conservation initiative is needed in these wetlands to generate scientific information for sustainable management of these areas. Regular monitoring of the population along with the breeding ecology will help in understanding the status and distribution of this species in the high-altitude regions of Arunachal Pradesh. Most of these high altitude wetland areas are used as traditional grazing ground and under the ownership of the local indigenous community of western Arunachal, and so it is necessary to understand the grazing pressure on the breeding sites of Ruddy Shelduck (*T. ferruginea*). As the breeding period of these birds also overlap with the summer grazing period of domestic livestock, it is however important to educate and trigger off the conservation initiative involving these livestock grazers to conserve these birds during breeding period.

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Announcements: Geospatial research workshop at Agumbe Rainforest Research Station (ARRS)

Following the field research technique workshop that was held between the 25th and 27th of May, ARRS will be conducting a two day geospatial research workshop at Agumbe this September. Open to all interested individuals, the workshop will aim at providing an insight into the world of maps, data collection methods, basic map reading and report writing. The workshop encompasses a wide array of activities including mapping animal assemblages on a map, cartography or map making skills, groundtruthing, navigation using a topography map and compass etc., Anybody interested is welcome to register for the course. The group size will be restricted and a small screening procedure will be done for all participants. Please contact Agumbe Rainforest Research Station, arrs.india@gmail.com, for further information.