

Rescue/Release of Blue-capped Rock Thrush *Monticola cinclorhynchus* Kripaljyoti Mazumdar¹ & Lohit Gogoi²

Road kills can have a significant impact on wildlife populations. Also, road kill statistics are invariably biased toward mammals, reptiles and amphibians and against birds (Noss 2000). In India also, most of the studies focused on the roadside kill are on mammals, reptiles and amphibians, but less focused on birds, except a few. Accidents with vehicles on road may affect population of common and threatened species (Dhindsa et al. 1988; Parasharya & Tere 2007). Vehicles and trains often kill wild animals, even in protected areas, wildlife sanctuaries and national parks. Rajaji National Park, Gir National Park, Dudhwa National Park, Borivalli National Park, Sariska National Park, Mount Abu Wildlife Sanctuary, Sitamata Sanctuary, Kumbhalgarh Wildlife Sanctuary are some such protected areas where accidental deaths of wild animals are common (Chhangani 2004).

The state of Arunachal Pradesh (26°30'- 29°30'N & 91°30'- 97°30'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 provide an excellent habitat to the avifauna in the state. The state of Arunachal Pradesh is one of the highly differing habitats which more than 550 species of birds have been identified (Islam & Rahmani 2004), while Choudhury (2006) has recorded a total of 738 species. The western part of Arunachal Pradesh (both Tawang and West Kameng districts) came into limelight with the proposal of the new biosphere reserve. The newly proposed Tsangyang Gyatso Biosphere Reserve covers total area of 5848km² of which 1190km² is core zone, 2192km² is buffer zone and 2465km² is transitional zone. The avifaunal diversity of this area always attracts many avifaunal watcher and researcher. Though the road network in Arunachal Pradesh is comparably less and vehicular movement is also fewer, this state with its huge diversity in terms of avifauna, such cases of road kills of mammals and avifauna seems to increase in areas like Tawang and West Kameng district of Arunachal Pradesh. This may be due to the increase in vehicular movement, specially of the armed forces, as the area has been one of the important strategic points bordering with China.

The Mandla-Phudung area is a part of the 'Shergaon, Mandla-phudung and Kalaktang' important bird area (IBA) site identified by Birdlife International in the western Arunachal Pradesh (Islam & Rahmani 2004). The vegetation of this IBA site is of tropical wet evergreen in the lower areas near Kalaktang (about 1,000m elevation), subtropical and temperate (with both broadleaf and coniferous) occurs above an altitude of 1,800m. Various species like Oak *Quercus* sp., *Magnolia* sp.,



Picture 1: Injured Blue-capped rock thrush *Monticola cinclorhynchus* on Dirang-Mandla road



Picture 2: After the release the Blue capped rock thrush *Monticola cinclorhynchus* on *Erythrina indica* tree.

Rhododendron sp. and pine (*Pinus roxburghii*, *Pinus wallichiana* and *Pinus kesiya*) dominate the vegetation of the area. The Mandal-Phudung area has a varied altitudinal range of 2500-4000 m and the high altitude lakes located at elevations above 3000m have been known as the potential site for

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the breeding of Ruddy Shelduck *Tadorna ferruginea* in summer (Islam & Rahmani 2004; Choudhury 2006). The area is also known for various vulnerable avifaunal species like Blyth's Tragopan *Tragopan blythii*, Rufous-necked Hornbill *Aceros nipalensis* and endemic species (eastern Himalaya) like Ward's Trogon *Harpactes wardi*, Rusty-bellied Shortwing *Brachypteryx hyperythra*, Beautiful Sibia *Heterophasia pulchella*, White-naped Yuhina *Yuhina bakeri*, Austen's Barwing *Actinodura Waldeni*, Hoary-throated Barwing *Actinodura nepalensis* Broad-billed Warbler *Tickellia hodgsoni* and Yellow-vented Warbler *Phylloscopus cantator* (Islam & Rahmani 2004; Mazumdar et al. 2009).

During our regular field visit and birding to the area on 28 August 2009, we found an injured Blue-capped Rock Thrush *Monticola cinclorhynchus* on Dirang-Mandla road (27°20'05"N 92°15'46"E) at an altitude of 1659m. The bird was hit by the road vehicle and was lying on the road and was badly wounded on the left wing. We gave the primary treatment to the bird and kept it under observation for a day. The bird seemed to be the first winter male of the species. The population trend of this species appears to be stable, and hence the species does not approach the thresholds for Vulnerable under the population trend criterion (>30% decline over ten years or three generations) hence it has been cited under the Least Concern category according to the IUCN 2009 status (Birdlife International 2009). After the primary treatment, we release the bird the next day at the forested area nearby the road where we rescued the bird.

The local *Sherdukpen* and *Monpa* people follow Buddhism and hence generally do not kill birds for meat, but with the expansion and construction of new roads, labourers from outside generally kill birds and mammals near the road for consumption of meat. As there are no conservation proprieties and the forest in the Mandla-Phudung area are unclassified, there has been a constant demand for the declaration of this IBA site as Community Conserved Area (CCA) under Wildlife (Protection) Act, 1972.

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A case of ants using bird feathers guarding the opening of their nest

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In the month of August 2009 (part of the monsoon season) in the campus of Maitri Baag in Bhilai (Chhattisgarh, India), it was observed that ants (*Oecophyla* sp.) were using crows' black feathers with their quill inserted into the mouth of the leafy bag like nest, while vanes of the feathers were projecting out of the nest. This observation was made on a small grown Peepal plant (*Ficus religiosa*). 10-15 ants were seen carrying a feather towards their nest, holding it by margins of its vane. When the feathers were removed from a nest, the surface layer of the quill part of the feather was seen eaten away. This association of fathers with ants nest was not seen when the monsoon was over, and rains had stopped.



Photo showing four ants



Two feathers in a single entrance of ants' nest



Two feathers in two different entrance of ants nest



Quill eaten away

No parallel observation in record could be found by the author, though he has tried to contact some eminent Myrmecologists. It is guessed that the association of the ants with feathers was primarily for nourishment, and dragging of feather into their nest had provided a shelter for the nest from rain drops; hence this association. The author would be obliged to learn about views of the readers. If my presumptions are correct, it is a rare instance of an insect using a tool.

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An unusual intersex in Sambar *Rusa unicolor*

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In Maitri Baag Zoo (Bhilai, India) a female Sambar (*Rusa unicolor*), its sex as indicated by its external genitalia, has developed an antler-like structure on the right side of its head, with no such outgrowth on the other side. In Sambar, antlers are a secondary sexual feature, characteristic of the male sex. In the unusual female Sambar the asymmetrically developed antler-like growth has been continuously observed for three years, without its yearly dropping, which normally occurs in a male. In mammals secondary sexual features develop under influence of gonadial hormones circulating with blood. Hence gynandromorphs, known among insects, are not known among mammals. In insects, in absence of gonadial hormones, it is the genome of every body part, which directly influences development of secondary sexual molting of that part. Accidents in mitoses may result in a developing insect in some parts developing male-like features, while other parts have female characteristics, and thus a gynandromorphy may result.





In the Sambar, under study, it seems that a late somatic mutation, during development, has led to cells in a certain body part respond differently to the circulating gonadial hormones.

The only similar teratological development, known to the author of these lines, is that of a Roe Deer in Italy with a median unicorn-like horn, reported by Gilberto Tozzi, who has regarded it as due to a "genetic flaw" (AP News, June 12, 2009). The author invites comments of readers on this note and his presumption.

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A note on isolation of *Pasteurella multocida* in a Sambar *Rusa unicolor*

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Pasteurella multocida is an important primary and opportunistic pathogen as well as a commensal of the upper respiratory tract of various domestic and wild animals. It can cause acute infectious disease under stress conditions like environmental changes, transportation, starvation or over-crowding etc. Pasteurellosis has also been reported in several species of deer (Sinha 1975; Parihar 1979; George 1986; Chakraborty et al. 1995). This paper describes isolation of *Pasteurella multocida* from a sporadic case of Pasteurellosis in a Sambar *Rusa unicolor*.

On 11 November 2006, a two year old male Sambar was brought to the veterinary hospital, Pookot with a history of multiple fractures at the distal end of the right metacarpal region. The animal was immobilized and was in lateral recumbency for one week but eventually died. Pyrexia with off-feed and diarrhoea was noticed on the day before death. On post-mortem examination, a blood smear prepared from peripheral and heart blood was stained by Leishman's staining. The heart blood, tissues of lungs, liver, spleen and pus material from the fractured area were collected aseptically and inoculated onto 10% bovine blood agar and the plates were incubated at 37°C for 24 hours. The pure culture obtained was identified by the method of Quinn et al. (1994). Pathogenicity test on mice was carried out as described by Lennette (1980). For this, 0.2ml each of 24hr-incubated Brain Heart Infusion (BHI) broth culture was inoculated intraperitoneally into four mice and one animal was kept as control.

The isolate was subjected to invitro antibiotic sensitivity test using the disc diffusion method as described by Bauer et al. (1966). A 4-hour BHI broth culture of the organism was swabbed onto the surface of Muller-Hinton agar (Himedia). The following antibiotics and amounts per discs were used: amoxycillin (10µg), ampicillin (10µg), enrofloxacin (10µg), oxytetracycline (30µg), gentamicin (10µg), co-trimoxazole (25µg; sulphamethoxazole 23.75/trimethoprim 1.25µg), ciprofloxacin (10µg), streptomycin (10µg) and chloramphenicol (10 µg). Necropsy of the carcass showed epicardial haemorrhage at the coronary groove of the heart and pin point to ecchymotic type of haemorrhage on endocardium. Lungs were edematous with congestion and the cut section revealed oozing of blood tinged serosanguinous fluid. Congestion of liver, spleen and kidneys and gelatinization of serosal surface of intestinal organs were noticed. Similar gross lesions were noticed by Franson & Smith (1988) and Dhoot & Upadhye (2001). Fracture site revealed necrosis of muscles with foul smelling fluid extending into 2/3rd of the right metacarpal bone.

Both the peripheral and heart blood smear revealed typical bipolar organisms characteristic of *Pasteurella* spp. (Image 1). The culture showed small, round, greyish, non-hemolytic, mucoid colonies on blood agar and failed to grow on MacConkey's agar. Small Gram-negative coccobacilli were observed on Gram's staining and the presence of capsule was demonstrated by nigrosin staining. The isolate was catalase and oxidase positive, produced indole, MR and VP negative, reduced nitrates and lacked urease activity. It produced acid from glucose, mannitol and xylose and not fermented lactose, sucrose, dulcitol and adonitol. These findings were in accordance with Damodharan et al. (1977) & Srinivasan et al. (1977) for identifying *P. multocida* in deer. Colonies formed on the plate inoculated with pus were identified as *Staphylococcus* and *Pseudomonas*.

The isolate killed all the inoculated mice within 20-28 hours and on necropsy revealed edema and congestion of lungs with overwhelming septicemia. The organism was reisolated from heart blood, liver, lungs and spleen of mice.

The isolate showed resistance to ampicillin and streptomycin but sensitive to amoxycillin, enrofloxacin, oxytetracycline, gentamicin, co-trimoxazole, ciprofloxacin and chloramphenicol. This was not in agreeable with Srinivasan et al. (1977) who noted co-trimoxazole resistance among the tested antibiotics.

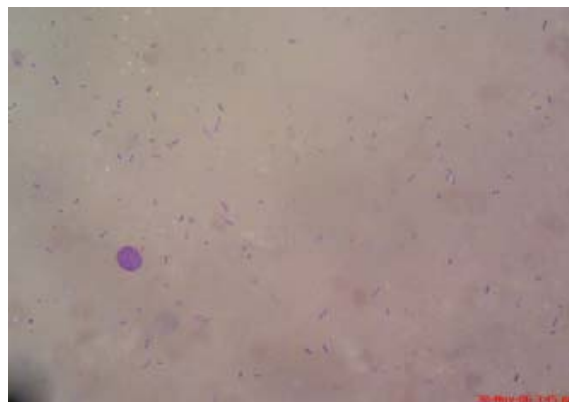


Image 1. Peripheral blood smear from a Sambar revealing bipolar organisms characteristic of *Pasteurella multocida* Leishman's stain

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Based on morphological, cultural and biochemical characteristics, the organism was identified as *Pasteurella multocida*. Since the same organism could be isolated from all the tissues cultured and proved pathogenicity in mice it could be the probable causative agent of septicemia and death in the present case. Stress due to fracture with pyogenic bacterial infection and heavy winter period might be the predisposing factors in setting up the septicemia.

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