

Letters to the Editor

Lighting and sea turtle hatchlings in Rushikulya

Sir,

This refers to the article “Showing The Way: Mass hatching of olive ridleys in Rushikulya, Orissa” by Belinda Wright and Biswajit Mohanty (Kachhapa 9: 1-2, Editorial). The article describes a method of preventing disoriented turtle hatchlings from moving towards land. It claims that Operation Kachhapa was the first organisation to have tried this method in the year 2003. I would like to clarify that the Rushikulya Sea Turtle Protection Committee (RSTPC), a local NGO in Purunabandha village was the first organisation to use this method on the first day of the mass hatching of olive ridleys at the Rushikulya rookery in 2003.

In fact, the genesis of development of this method dates back to April 2001. Following my M.Sc dissertation work in 1996 which quantified 80% hatchling disorientation towards the landward side (published in *Hamadryad* 27: 185-192, 2003), the Wildlife Institute of India's sea turtle research project continued to quantify the disorientation of hatchlings till 2000. In April 2001, the GOI-UNDP Sea Turtle Project, implemented by the Wildlife Institute of India, invited Dr. Jack Frazier of the Smithsonian Institution to assist in satellite telemetry experiments on olive ridley turtles in Orissa. In the coconut grove of Purunabandha village near the Rushikulya rookery, amongst the range of topics on sea turtle research and management, the discussion moved to developing a mechanism to assist emerging hatchlings to reach the sea in the context of landward illumination. The participants in this discussion were Dr. Jack Frazier from Smithsonian Institution, Mr. B.C. Choudhury, Dr. Bivash Pandav, Dr. Kartik Shanker and myself from Wildlife Institute of India and Dr. Chandrasekhar Kar from Orissa Forest Department. Operation Kachhapa was by then already involved in the hatchling rescue operation in Rushikulya and methods employed by the field staff even included collection of the hatchlings prematurely from the nest to prevent them from crawling towards the landward side. Dr. Frazier and

other sea turtle biologists pointed out that such practices might tamper with the life history parameters of sea turtle hatchlings, particularly the phenomenon of natal beach imprinting. He stated that such practices must be discontinued and new turtle friendly and community-based methods be developed. The presently practiced method was developed then primarily by Dr. Pandav and Dr. Jack Frazier but was not used in the year 2001 as the hatching season was already over by then.

In 2002, based on the suggestions of Dr. Frazier and others, Dr. Bivash Pandav of the WII refined the method of creating a soft and supple barrier on the landward side of the beach to prevent hatchlings from reaching the grass fields beyond the barrier. Dr. Pandav's suggestion was to create a 400 to 500 meter length flexible wall on the landward side of the beach, employing used cement bags. The Purunabandha village based RSTPC volunteers prepared some flexible walls. However, one member of the RSTPC, Shri Dambaru Behera suggested replacement of the cement bags with nylon mosquito nets, which were then extensively used in the Purunabandha area for collection of prawn seeds. In fact, Dr. Pandav met the entire cost of production of this 500 meter improvised flexible wall made of mosquito nets. Unfortunately, this improved method could not be used in 2002 due to the failure of mass nesting at Rushikulya and the nets remained with the RSTPC.

In 2003, the RSTPC successfully installed the improvised flexible nets on the Rushikulya rookery from the first day of mass hatching. Sadly, for reasons unknown, the Orissa Forest Department prevented the RSTPC from using their flexible nets shortly thereafter. Ironically, in their joint protection efforts, the Orissa Forest Department and Operation Kachhapa used the very same method for preventing hatchling mortality from disorientation.

What is surprising and unfortunate in this whole episode is the complete obstruction of the participation of local communities on one hand and

the appropriation of credit for innovations and ideas rightfully belonging to others. One fails to understand how wildlife conservation can progress if community participation is systematically thwarted by both non government organisations and the state machinery.

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Casuarina plantations along sea turtle nesting beaches in Orissa

Sir,

While carrying out field work for the research project "A quantitative analysis of incidental sea turtle captures during commercial shrimp trawling in coastal waters off Orissa" I visited some of the sea turtle nesting beaches in Orissa during August 2002. During this period I covered a distance of approximately 65 km on foot and walked along the Gahirmatha, Devi and Rushikulya coasts.

Casuarina made inroads into the coastal areas of Orissa after 1971. A severe cyclone devastated the Orissa coast in October 1971. After this cyclone, the coastal afforestation branch of the Orissa Forest Department started planting *Casuarina* along the Orissa coast. The objective of planting *Casuarina* was two-fold: to act as a barrier to cyclonic storm and to prevent beach erosion. This plantation drive was renewed once again after the super cyclone that swept across Orissa coast in October 1999.

During my walk along the sea turtle nesting beaches in Orissa in August 2002, I came across extensive one to two year old *Casuarina* plantations. Except for the old plantations, no recent *Casuarina* plantation has come up in and around the Gahirmatha mass nesting beach. However, I came across new plantations on the southern most portion of the Gahirmatha coast between Kanpur village and Pentha. The beach near Pentha has witnessed mass nesting twice during 1999 and 2000. Planting of *Casuarina* in this area is definitely a cause for concern.

The coastal stretch between the mouth of river Hansua and Mahanadi is a good nesting area for ridley turtles and the entire area comes under the jurisdiction of the Mangrove Forest Division (Wildlife), Rajnagar. I have not visited this area for the last five years and am not aware of the exact status of *Casuarina* plantations in this stretch.

Though I did not walk the beach between Paradeep and Devi River mouth, I was carrying out experimental trawling very close to the shore line in this area. From a distance I could see extensive *Casuarina* plantations that were coming up close to the high tide line in this sector. The coastal stretch in this sector, particularly between the mouth of the Jatadhara River and the mouth of the Devi River has been recorded as a good sporadic nesting ground of the olive ridley turtle. Plantation of *Casuarina* close to the high tide line in this sector is going to have an having adverse impact on sea turtle nesting in this area.

In my view, *Casuarina* plantations have impacted the nesting habitats of sea turtles the most in the sector between the Devi River mouth and the mouth of the Kadua River. I came across recent *Casuarina* plantations all along the 14 km stretch from Devi River mouth (19.9N & 86.4 E) till Gundalaba village (19.9 N & 86.3 E). Most of these plantations were very much within the high tide line. This stretch of beach is a known mass nesting area for the olive ridley turtle in Orissa. With this *Casuarina* plantation, I doubt if any space is left for turtles to nest in this area.

Thankfully, the mass nesting beach near the mouth of the Rushikulya River has been spared from *Casuarina* plantations. However, good sporadic nesting beaches adjoining the Rushikulya mass nesting beach are under *Casuarina* plantations. Recent *Casuarina* plantations in this area are located immediately after the Kantiagada village (19.4 N & 85.1 E) and extend up to Prayagi village in the north (19.5 N & 85.2 E). Most plantations in this area have been carried out either inside or in close proximity to the high tide line (within 10 meters). I personally have not visited the 40 km stretch between Prayagi village and the mouth of Chilka

Lake in the recent past and am not aware of the status of recent *Casuarina* plantations in this area.

Based on my observations, I conclude that *Casuarina* has been planted along most parts of the Orissa coast either inside or very close to the high tide line. The fact that sea turtles prefer to nest in wide, open beaches, devoid of artificial vegetation is well known. However, the way in which *Casuarina* has been

planted all along the Orissa coast, it is apparent that the need for sea turtles to use the beach for nesting has not been considered at all.

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A bibliography of literature on sea turtles in Orissa, India

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