vegetation and is an important element of the krumholtz zone, both in the eastern and the western Himalaya. The plant is well adapted to the harsh climatic conditions of the high altitudes where high wind velocity and heavy snowfall are a common phenomenon. Due to these adverse climatic conditions, *R. campanulatum* has a crooked and bent stem, and therefore it rarely attains a height of about 5 m. It forms dense thickets and is one of the most important fuelwood species of the alpine region. It has also been reported to be locally used as a medicine for curing various diseases of humans[6]. Moreover, contrary to mortality of livestock as a result of consuming it, *R. campanulatum* forms an important component of the diet of the endangered musk deer, *Moschus chrysogaster*[7].

R. campanulatum has been mentioned to be poisonous to livestock[8] as it contains a toxic substance closely resembling andromedotoxin in its chemical and pharmacological properties[9]. However, such large scale mortality of livestock has not been reported earlier. Many other species of Rhododendrons such as *R. arboreum*, *R. cinnabarinum*, *R. dalhousiae*, *R. setosum* and *R. thomsonii* have also been reported to be poisonous[10]. Thus the genus Rhododendron with such vast species diversity, large number of traditional uses and of such common occurrence provides an ideal group of plants for detailed research especially on its chemical constituents during different seasons and phenological stages.

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Status of the loggerhead turtle in India

According to sea turtle literature from India and Indian Ocean area, of the world's seven species of sea turtles, five are known to inhabit Indian coastal waters, its Bay Islands, Lakshadweep, etc. Except for the loggerhead turtle (*Caretta caretta*), the remaining four species nest along the Indian coastline[1]. All these five species are legally protected under the Indian Wild Life (Protection) Act, 1972, and included in Appendix I of the CITES (Convention on International Trade of Endangered Flora and Fauna). Although the major nesting site of the loggerhead turtle is in the north-west Indian Ocean, this species was only occasionally recorded in these waters[2]. Except for the few observations of loggerheads in the Gulf of Mannar (GOM) between India and Sri Lanka[3,4], *Caretta caretta* seems conspicuously absent from the northern Indian Ocean. Nesting apparently occurs in Sri Lanka, but *Caretta* does not nest along Indian shores despite claims to the contrary[5]. Also, there is a curious discrepancy between the nesting seasons reported suggesting that confusion exists in the identification of the species[5]. The most widely quoted reference[1] in any turtle publication from India relies on the occurrence of loggerhead turtles in Indian coastal water based on a cross reference[4] and is based on secondary information from fishermen of GoM. The records on tetrapod reptiles of Ceylon[4] mentioned loggerhead occurrence in the GoM. However, there was no information on the Indian part of GoM. Similarly, although *Caretta caretta* was stated to occur in the Andamans[6], the survey by Satish Bhaskar[7] did not record this species in any of the islands of Andaman and Nicobar. There is no record of juvenile or sub-adult loggerhead turtle anywhere along the coast. Yet, in many natural history documentaries, the loggerhead turtle is misidentified and named as *Caretta olivacea*[8]. There was a description of the Indo-Pacific red-brown loggerheads as *Chelonia gigas* to distinguish them from the Atlantic red-brown loggerheads (*Caretta caretta*) and the olive brown loggerhead (i.e. ridleys), which was also placed within the genus *Caretta*[9]. Over the last two centuries (since the loggerhead was described by Linnaeus, 1758), more than 35 names have been applied to this species[3]. The misidentification of sea turtle species is common throughout the world and particularly between the loggerhead and the olive ridley. There is ample literature on misidentification between *Caretta caretta* and *Lepidochelys olivacea*[10]. For example

A nesting female loggerhead turtle at Masirah Island, Oman, Indian Ocean. Photograph by Blair Whiterington.

the claim that *Thalassiochelys tarapacona* was a new species of the loggerhead turtle[11] on the Pacific coast of South America was rejected on the ground that it was a misidentified specimen of *Lepidochelys olivacea* and *Thalassiochelys tarapacona* is now a synonym of *L. olivacea*[10,12]. Smith[13] reported that although the loggerhead was rare in the Gulf of Siam, 1.5 million eggs were taken annually in Burma prior to 1911. However, it appears that he was referring to *Lepidochelys* rather than *C. caretta* since he calls them *Caretta caretta olivacea*. Except for four dead loggerhead turtles reported from Tamil Nadu, there is no record available on the proper sighting or nesting of this species. Although loggerhead turtles may be traversing the Sri Lankan coast, within the south and south East Asia region, this species may rarely occur in the Indian coastal waters or nest along the coast of India as evidenced from historical records. In this context, in the absence of adequate information on a species over a period of time, it is time to carry out a systematic survey of occurrence and nesting of loggerhead turtles, if any, along the coastal waters and beaches of India and its Bay Islands with accurate identification of the species.

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Sethusamudram Shipping Canal Project

Sethusamudram Shipping Canal Project (SSCP) is about developing an offshore shipping canal in the Palk Bay, intended to cut short the distance for ships navigating between the west and east coasts of India, by avoiding the circumnavigation of Sri Lanka. In the new route, the ships would navigate through the Gulf of Mannar and the Palk Bay and enter the Bay of Bengal directly. The central idea of the project involves dredging the shallow seabed of the Palk Bay and Adam's Bridge to a depth of 12 m, in order to make this short route possible. The total length of the canal in the Palk Bay is 152.2 km, with a width of 300 m. This is divided into three legs: the southern leg in the Adam's Bridge (20 km); the northern leg in the Palk Strait (54.2 km) and the central portion (78 km). Dredging would be done in the southern and northern legs only since the central segment is considered to have the adequate depth[1]. So far, we have had the experience of dredging navigation channels near the shipping ports, and SSCP is our first effort to dredge a navigation channel, located 30 to 40 km away from the coast. This will also have the reputation of being the longest seabed-dredging project planned so far in India. Earlier, four notes highlighting the general spin offs from this project have been published in *Current Science*[2–4]. Here I address some of the short-term as well as the long-term implications of this project from the existing database. Most importantly, the present note raises some relevant questions on the technical feasibility of this project, which seems to have been overlooked by the project impact assessment studies, sponsored by the Central Government.

In general, the navigation channels near the ports of the east coast have been facing three major problems persistently. These are caused mainly by natural sedimentation, tropical cyclones, and the dumping of the dredged material. SSCP cannot be an exception to these problems and these issues could be more complicated by the fact that the project area occurs in the offshore. The central issue, therefore, is whether these issues have been adequately addressed before embarking on this venture.

The Palk Bay is one of the five major permanent sediment sinks of India, and Chandramohan *et al.*[5] have calculated the total annual sediment load for this sink as 58.8×10^6 m^3. This sediment load is said to cause a sea depth reduction of 1 cm/year. Rivers draining into the Palk Bay from the Sri Lankan and Indian coasts and the sea contribute sediments. The longshore currents from the Bay of Bengal in the north and the Gulf of Mannar in the south transport these sediments into the Palk Bay[6]. Sanil Kumar *et al.*[7] have calculated the net quantum of littoral sediments entering into the Palk Bay from the Nagapattinam coast as 0.2657×10^6 m^3. The Environmental Impact Assessment (EIA) for SSCP by National Environmental Engineering Research Institute (NEERI) has calculated the net annual sediment transport by long shore current and tides in the Adams Bridge area as 0.2657×10^6 m^3. The sediment contribution from the rivers has not been calculated yet. Therefore, it looks like we are yet to account for about 99.39% of the total sedimentation volume.

Previous studies have indicated sedimentation activity at the rate of 29 m/yr in the Vedaranyam–Jaffna stretch of the Palk Bay, suggesting the possibility for the development of a land connection[8] between