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oil and heated. It is then cooled and bottled for further use. To enhance the sticky nature and longevity of the dye, watery latex of *Musa paradisiaca* L. (family Musaceae) is mixed with it.

At first the leaves of the plant are washed thoroughly in water. Then they are crushed, so that a black juice drips out, which is collected in a container. A minimum amount of watery latex (*M. paradisiaca*) is diluted with water and the mixture is added to the leaf extract of *E. prostrata*. Then the solution is applied on the hair by hand or brush and kept for about 20–30 min. The solution is applied once again. According to the tribal people, the dye lasts for 7–10 days. The plant extract is also used as a eye liner. It is a natural hair tonic which prevents loss and promotes hair growth.

Generally it is found that the synthetic hair dyes cause various side effects like rashes, dandruff, itching, allergy, hair fall, etc. Some synthetic hair dyes are

also carcinogenic. Also, since the prehistoric times, man has been using plants as a source of natural dyes because they are safe and eco-friendly⁷. Our study shows that this natural eco-friendly hair colour from *E. prostrata* is cheap and safe compared to synthetic hair colours.

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ACKNOWLEDGEMENTS. We thank Mrs Kajal Shing for providing valuable information during the present study. We also thank UGC–DRS–SAP for partial financial support and DRS–SAP Laboratory for infrastructural support.

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Tribute to two departed leaders

I liked and admired the late A. P. J. Abdul Kalam for a quality that is not often mentioned about him. As a member of the scientific fraternity, I met him at a conference where we started discussion on a topic that, I think, was very close to his heart. It started with the issue of India's difficult start in its efforts of developing rockets for eventually launching Indian satellites in space. As an aeronautical engineer, Kalam was designated as the Project Leader of the satellite launch vehicle programme of the Indian Space Research Organisation (ISRO). He was narrating the early difficulties in developing India's first launch vehicle. He was a great storyteller, and I can still visualize him, telling us about the event when the first launch was taking place under his leadership. The press and media were invited and there was excitement in the air as the launch moment approached. As the Project Leader, Kalam was the centre of attention. Unfortunately, soon after the launch there was a great silence as India's first launch vehicle had failed to take-off successfully. The media reporters rushed to Kalam and started asking him uncomfortable and pointed questions on the failure. Before Kalam could respond, the

Chairman of ISRO, Satish Dhawan stepped in and said to the press something to the effect 'Gentlemen, why are you asking him these questions, I am the Chairman, ISRO and I will answer your questions'. Kalam felt relieved but admiringly looked at his leader who came to his rescue. But the real story that Kalam narrated was to follow later.

The next satellite launch vehicle came up for trial after some months. Kalam was again the Project Leader and Dhawan was still the Chairman of ISRO. The launch was a great success and there was great joy and jubilation at the launch site. The ever-present press rushed to the Chairman ISRO to get his reaction and congratulate him. Dhawan quietly stepped aside and responded 'Why are you coming to me? Congratulate him. He is the project leader responsible for the success' and pointed to Kalam standing silently at some distance. As Kalam told us this story, he knew what it takes to be a leader. He told us this story with great admiration for his leader – Dhawan, another aeronautical engineer and the man who gave a solid foundation to India's space programme that was started in a small way by the visionary Vikram Sarabhai.

Kalam's admiration for Dhawan was an example of how leaders lead from the front in adversity and 'hide' in oblivion at times of glory. We do not hear too many stories about unsung heroes like Dhawan. It took Kalam to point to us what leadership really entails and he lived a life to teach this lesson to the youth of the country when he spoke to them through his talks and writings. Through such stories he helped ignite the minds of the future young leaders. There are many untold stories about such leaders who are no more.

A thought occurs to me as I end my short tribute to these two departed leaders. If only India comes forward with many more leaders like Satish Dhawan and Abdul Kalam, the country could become a developed nation by 2020 – a vision that Kalam held so close to his heart. All Indians can pay their respect to Abdul Kalam by trying to work hard to achieve his vision... hopefully by 2030.

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