

Feeding behaviour of the dawn bat (*Eonycteris spelaea*) promotes cross pollination of economically important plants in Southeast Asia.

by Pushpa Raj Acharya, Paul A Racey, Sunthorn Sothibandhu and Sara Bumrungsri

One of Paul Racey's first duties as a new lecturer in the University of Aberdeen in 1974 was to act as internal examiner for Anthony Start's PhD thesis on the ecology of *Eonycteris spelaea* in peninsula Malaysia. Start had made the intriguing discovery of mangrove (*Sonneratia*) pollen in the faeces of *Eonycteris* in a roost 38km from the nearest mangrove swamp, providing convincing evidence of long distance foraging. Forty years later, Racey's former PhD student and now Professor, Sara Bumrungsri has revealed the critical role of *Eonycteris* in pollinating *Durio* and *Parkia*, with crop values of USD 137 million in Southern Thailand, crucial to local livelihoods. Pushpa Raj Acharya, a Nepali who had already co-authored a monograph on the bats of Nepal, won a scholarship to carry out research for a PhD by Prince of Songkla University, Hat Yai and used radiotracking to study the foraging behavior of *Eonycteris*. He showed that the bats moved up to 8 km between patches of durian and by transferring pollen between patches, were the main agents of cross pollination. A major concern is the conservation status of *Eonycteris*, colonies of which live in

caves, but the numbers of bats in these colonies are decreasing as a result of hunting and disturbance. Durian fruit set is as low as 0 -1.4% in orchards where bats are not seen foraging. The message is clear: no bats – no durian!



Figure: Eonycteris spelaea drinking nectar from a *Parkia Capitulum*. Photo courtesy: Merlin D Tuttle, Founder of Bat Conservation International. Merlin visited Prince of Songkla University, Hat Yai for shooting quality images of the bats.