

cheaper drugs. Are acts such as this in the spirit of Swadeshi to which this government is committed? The monkeys that were taken away were very humanely used, for an important drug trial, and now all the effort is lost. Surely someone is having the last laugh. In the meantime, people are asking uncomfortable questions about the motives, that too with elections so close.

Having achieved their objective of setting the monkeys free in the forest, should the government not give the registration for the small animal facility at least so that scientific work can go on? A bureaucratic explanation will certainly be available for that also. Earlier, forest department officials had told NIN that they were not in favour of releasing monkeys used to captivity, but later they changed their mind and went

along with the animal welfare board and Blue Cross officials. Being a government organization, NIN could not mobilize the court though many people advised them to do so.

The fear among the scientists is that now in election fever, the plight of scientists will be forgotten, unless public realizes the injustice that is being done and speaks up. I used to be and still am very appreciative of the efforts of Maneka Gandhi, for creating public awareness and love for animals and used to watch her programme 'Menaka's Ark'. Perhaps Mrs Gandhi should herself visit NCLAS and satisfy herself. That way she will do service to her own image, the cause of health science in the country, and laboratory animal welfare in general. By stifling and demoralizing one institution that has done so much to

improve animal experimentation in the country and for animal welfare in general, who is gaining? The need of the hour is to refrain from taking rigid postures, but act in the best interest of the nation. There has to be social justice for the people and the scientists of this country. Priorities have to be right. Human welfare is as important (if not more) as animal welfare. The definition of cruelty to animals given in the Prevention of Cruelty to Animals Act and for which animals can be confiscated does not include laboratory animal experimentation of the kind done at NCLAS.

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## Lesser dog-faced fruit bat in Southern India

Balasingh *et al.*<sup>1</sup> have recently reported a collection of 26 specimens ('a few bats') of the lesser dog-faced fruit bat, *Cynopterus brachyotis* (Mammalia: Chiroptera: Pteropodidae), from a Tiger Reserve area in Tamil Nadu. They claimed that it was a little-known and very poorly studied species and attempted to show that something very rare had been collected, with the result that *Current Science* provided them a full page and cover too.

The fact is that they have neither consulted the latest world catalogues<sup>2,3</sup> nor have they tried to refer to any recent Indian work. They have consulted only two publications, a book on Malaysian fauna and a short list of merely two pages on the Indian subcontinent bats by two foreign workers, who might have had little access to Indian specimens and/or literature.

It may be noted that the Indian bat fauna is presently known by 110 species in 36 genera and 6 families. A number of significant studies have been made by Indian scientists like H. R. Bhat, A. Gopalakrishna, M. K. Chandrashekar and their coworkers, at Pune, Nagpur and Madurai, respectively, besides H. Khajuria, V. C. Agrawal, Y. P. Sinha

and P. K. Das of the Zoological Survey of India. The animal group is thus, not 'poorly studied'.

*C. brachyotis* has already been reported from all four states of southern India (Andhra Pradesh, Karnataka, Tamil Nadu and Kerala), besides Goa<sup>4,5</sup>. This species is well represented in south and south-east Asia. Its South Indian and Sri Lankan population, after which the subspecies is named *ceylonensis*, is distinct and well distinguished from the other Indian species, *sphinx sphinx*. Incidentally, Balasingh *et al.* have not mentioned the subspecies of their collected specimens, when the subspecies category is much recognized in this animal group. Secondly, no species of Indian bats is either threatened, vulnerable or rare and as such not included in the *Red Data Book*<sup>6</sup>.

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5. Das, P. K., *Rec. Zool. Surv. India*, 1986, 84, 259-276.
6. *The Red Data Book on Indian Animals, Part I: Vertebrata*, Zoological Survey of India, Calcutta, 1994, p. 534.

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### Response

We reported the occurrence of *Cynopterus brachyotis*, for the first time, in Kalakad Mundanthurai Tiger Reserve of Western Ghats (*Curr. Sci.*, 1999, 76, 1542). This is a common frugivorous bat species found in Southeast Asia and we do not claim it to be a 'rare' species. We captured a 'few bats' (a total of 26) at 4 different places on 6 different nights. Presence of short forearm (< 70 mm) and ear (< 18 mm) and absence of tragus, noseleaf and white ear margin in fresh adult specimens con-

firms these bats to be *Cynopterus brachyotis ceylonensis*, similar to the report of Pradhan and Kulkarni<sup>1</sup>.

Although it is known that this species occurs in different parts of India (Karnataka, Andhra Pradesh, Kerala and Tamil Nadu), relatively little is known about the roosting, foraging, food habit, social organization, breeding, growth and development of this bat species. Compared to other frugivorous bats, only a few studies have been done on this species and most of those report the occurrence and morphometric measurements<sup>1-3</sup>. Beyond Madurai, in southern tip of Western Ghats, there is no report on the occurrence of this bat. Studies have been made extensively on

*C. brachyotis* only in Peninsular Malaysia<sup>4-7</sup> and Srilanka<sup>8</sup>.

We have mentioned the latest publication<sup>9</sup> and the authors are aware of earlier publications too. Since this species of bat is mostly confined to thick forest, deforestation in recent times holds a threat to this species of bat. We have undertaken extensive research and data collection on distribution, breeding, population and genetic analysis on *C. brachyotis* and plan to report at the end of our studies.

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## Gravity image of India: Regional tectonic interpretations

H. V. Ram Babu (*Curr. Sci.*, 1999, **76**, 1533-1535) has mentioned a few tectonic features that can be deciphered from this gravity image. An examination of the gravity image of India brings out a number of other interesting features, which have significant bearing on the geology, and tectonics of the Indian peninsula. I mention here some of these features with the hope that these might draw the attention of the earth scientists for stimulating discussions and offering logical interpretations.

1. Although the South Indian craton and partly the Bastar craton are typified by gravity lows, the Singhbhum and partly the Rajasthan cratons show gravity highs. Since all these cratons have almost similar Archaean cratonization history, does the above feature mean that post-Archaean reactivation has caused thinning of the continental crust in Singhbhum and Rajasthan cratons?

2. The Eastern Ghats (EG) are generally considered to be a mobile belt, but the gravity high of this belt does not support this contention. Does this mean that the EG is essentially an exhumed dense lower crust (note the granulite-facies terrain) from where the geophysical characters of mobile belt have been obliterated? In contrast, the South Indian granulite terrain possesses mobile belt gravity features. Would this aspect differentiate the two major Indian

granulite terrains, namely, the older South India and the younger EG?

3. The east coast of India has a fringe of gravity high in contrast to the west coast. It is possible that this feature signifies rift-related continental crustal stretching and thinning in the eastern continental margin of India due to separation of India and Antarctica, and absence of such extension in the western margin because of separation of India and Madagascar through transcurrent faulting.

4. The Narmada-Son lineament (NSL), very well depicted in the gravity image, clearly transects major gravity structures of the peninsula, including those of Singhbhum and Chhotanagpur plateau. A dextral sense of movement along the NSL can be deciphered. Interestingly, several small crustal blocks in the north of the NSL have been rotated anticlockwise in the northern part of the Chhotanagpur plateau due to this movement. The NSL seems to extend into Meghalaya plateau as the Dauki fault, which delimits the plateau in the south. The Meghalaya plateau has a similar gravity high picture as that of the Chhotanagpur plateau. Moreover, the Proterozoic geology including the granulite-facies metamorphism of these two terrains is also similar. It seems possible that the Meghalaya plateau has been transported from north of the Chhotanagpur plateau along the dextral

NSL to its present suspect position in post-Rajmahal traps time (note possible correspondence between the Rajmahal and the Sylhet traps).

5. The Banded Gneissic Complex (BGC), the basement terrain in Rajasthan, located between the Aravalli-Delhi fold belts (ADFB) and the Bundelkhand massif shows gravity low. This is in accordance with its unmodified cratonic characters. On the other hand, the ADFB shows gravity high, which would suggest that these fold belts do not have any significant root zone, a feature substantiated by seismic reflection profiling by the NGRI. A zone of high gravity (0 to > 4 mgal) to the east of the Delhi fold belt is due to the presence of upthrust granulite lower crust (Sandmata Complex). The ADFB and the BGC wrap around the Bundelkhand massif and they show anticlockwise swing in their trends. Is this swing related to dextral movement along the northern NSL and to indentation of the Bundelkhand massif into the BGC-ADFB terrains in Rajasthan? A narrow and linear zone of gravity low to the west of the Delhi fold belt might represent an anatectic granitic terrain (Eripura Granite) related to Neoproterozoic Delhi subduction. This zone might also mark an Andean-type western margin of the Delhi fold belt. Farther west of this zone, the Marwar terrain in western Rajasthan shows