Status and distribution of sun bears in Manipur, India

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Abstract: Published literature would suggest that the distribution of sun bears (*Ursus malayanus*) in India does not extend northward into Manipur province. Based on interviews in the Ukhrul and Chandel districts and Yangaoupokpi Lokchao wildlife sanctuary, Manipur, during 2004–05, we provide evidence that small population are still extant in Manipur.

Key words: India, Manipur, sun bear, *Ursus malayanus*
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Sun bears (*Ursus malayanus*) remain the least known bear species in the world. The historic distribution of sun bears in India was in the tropical rainforest habitats of Manipur and Assam states south of the Brahmaputra River (Higgins 1932), although there were reports of its occurrence in the northeastern hilly region during the 1960s and 1970s. During the 1980s and 1990s the sun bear population apparently declined, and its occurrence became doubtful in the northeastern hilly region. The reasons for the dwindling sun bear population are probably increased human population with its attendant activities. Rapid deforestation resulting in habitat destruction and fragmentation coupled with indiscriminate hunting has threatened sun bears with extirpation in India. Servheen et al. (1999) stated that sun bears no longer exist in Manipur or Assam, and their map of current distribution did not include India. This is likely because so little information has been available on its status, distribution, and habitats in Manipur states and adjoining Indian states. This short communication provides an update on the status and distribution of sun bears in Manipur.

Study area

Manipur, one of the Seven Sisters of the north eastern region of India, is located between 93.03–94.78°E and 23.80–25.68°N and has a total area of 22,327 km^2. Ninety percent of this area is hilly and 78% is forested. Manipur borders Myanmar (Burma) on the east and the states of Nagaland, Assam, and Mizoram. Elevations vary from 790 to 2,020 m, annual rainfall is around 2,000 mm, and it has a subtropical temperate climate. Manipur is divided into 5 districts: Senapati, Tamenglong, Churchandpur, Chandel, and Ukhrul, which differ in climatic conditions and topography. Forests fall into 4 distinct zones: Myanmar border forest, Ukhrul pine forest, forests overlooking valleys, and Barak drainage forests. According to the 2001 census, the human population density of Manipur was 107/km^2.

Other species known to inhabit Manipur include Eld's deer (*Cervus eldii*), gaur (*Bos frontalis*), sambar (*Cervus unicolor*), barking deer (*Muntiacus muntjak*), serow (*Naemorhedus sumatraensis*), hog deer (*Axis porcinus*), hoolock gibbon (*Hylobates hoolock*), slow loris (*Nycticebus coucang*), stump-tailed macaque (*Macaca arctoides*), pig-tailed macaque (*Macaca nemestrina*), clouded leopard (*Neofelis nebulosa*), golden cat (*Catopuma temminckii*), tiger (*Panthera tigris*), and leopard (*Panthera pardus*). The Himalayan black bear (*Ursus thibetanus*) also occurs in Manipur.

Methods

We conducted the study in the Ukhrul and Chandel districts and Yangaoupokpi Lokchao wildlife sanctuary, Manipur, during 2004–05. To map sun bear presence, we questioned villagers on direct and indirect observations they made of sun bears, as well as aspects of their lifestyle (including conflicts with bears). Information came from 118 villagers in Yangaoupokpi Lokchao, 40 in Chandel, and 106 in Ukhrul. We also collected existing human–bear conflict records from the forest departments and interviewed forest officials and protected area managers.

Results

Sun bears appeared to be distributed discontinuously within Ukhrul (Fig. 1) and Chandel (Fig. 2) districts of Manipur. Of 264 respondents, 46 confirmed the presence of sun bear via direct sighting only, 92 only via indirect evidence (e.g., tracks, scats), and 27 reported both direct and indirect observations (Table 1). Ninety nine villagers had no information regarding the presence of sun bears. The respondents observed 81

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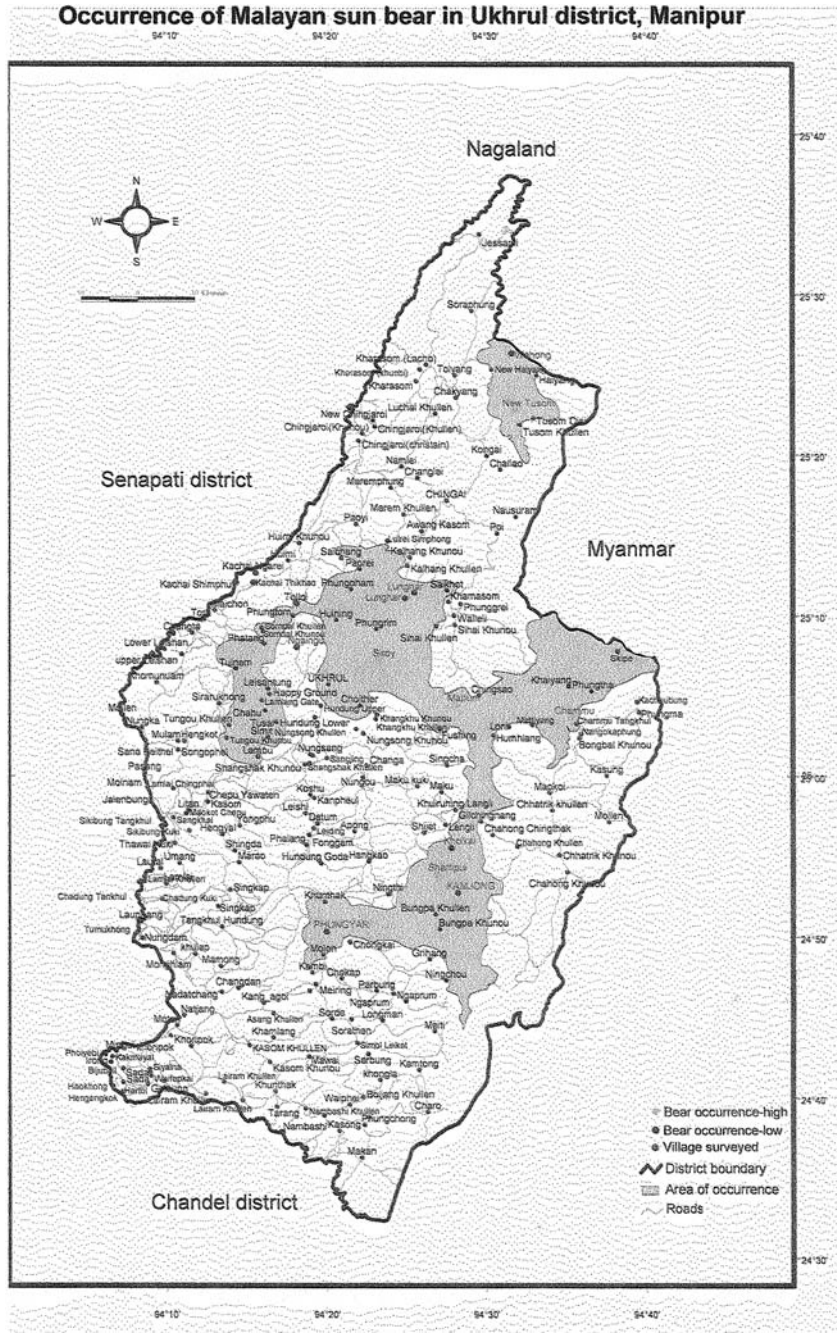

Fig. 1. Ukhrul district in Manipur, India. Shaded area represents estimated current distribution of sun bears.

scats, 113 footprints, and 23 claw marks in forest areas of the 2 districts during 1999–2002. A total of 87 sun bear carcasses were reported by the villagers (hunted bear or natural death), as well as 91 gall bladders, 68 skins, 69 bones, 87 claws, and 22 jaws (Table 2). We gained the impression that sun bears were relatively more abundant in Chandel than in Ukhrul. We documented sporadic cases of bear attacks on people, crop depredation, and killing of bears for sale of body parts during 1990–2002.

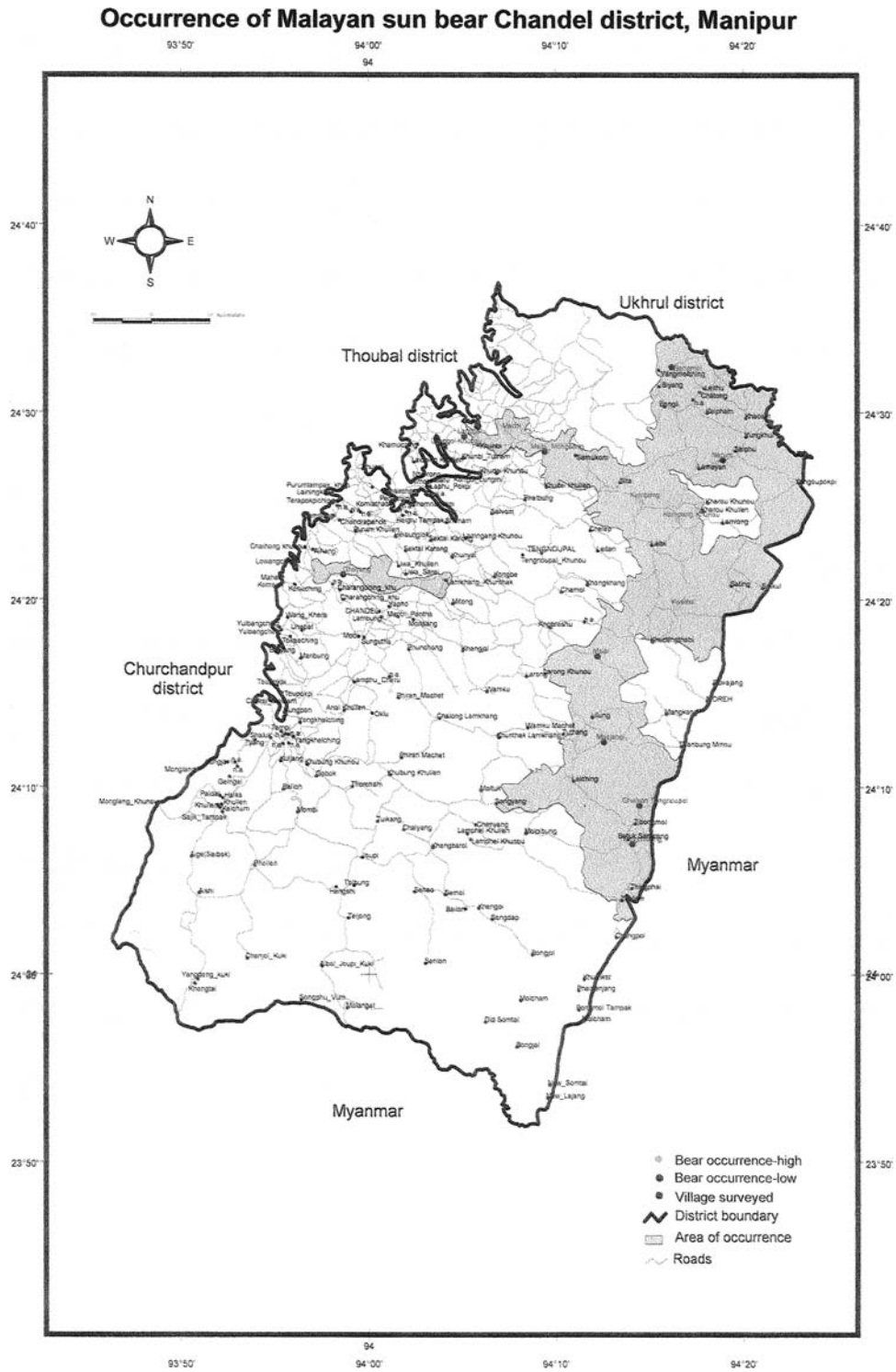

Fig. 2. Chandel district in Manipur, India. Shaded area represents estimated current distribution of sun bears.

Table 1. Number of direct and indirect observations of sun bear in Ukhrul and Chandel districts, Manipur, India, 1999–2002.

Sign	Ukhrul district	Chandel district	Total
Direct observation	66	76	142
Scats	40	41	81
Footprints	36	44	80
Claw marks	13	20	23

Table 2. Documentation of body parts from sun bears in Ukhrul and Chandel districts, Manipur, India, 1999–2002.

Body parts	Ukhrul district	Chandel district	Total
Carcass	46	41	87
Gall bladder	44	47	91
Skin	46	22	68
Bones	38	31	69
Claws	49	38	87
Jaws	23	36	59

Discussion

According to Mills and Servheen (1991), human–sun bear interactions are characterized by depredation in agricultural areas with subsequent elimination of offending bears, illegal hunting, and sale of bear body parts. Meijaard (1997) reported that the sale of bear parts such as gall bladders in Kalimantan, Indonesia, accelerated with an influx of foreign users. Meijaard (1999) identified hunting, trade in live bears and bear parts, habitat destruction, and establishment of plantations as the 4 principal factors affecting sun bear survival. Current levels of trade in bears and bear parts, coupled with ongoing habitat loss throughout Asia, are a concern for both sun and Asiatic black bears.

In the Ukhrul and Chandel districts of Manipur state, the human population is constantly increasing and as a result, there are increasing biotic pressures on protected areas and reserve forests. Additional study on the ecology and management of sun bears in this area is required.

Acknowledgments

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