
Surveys for Sclater's Monal in northwestern Yunnan

Introduction



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We conducted surveys for Sclater's Monal *Lophophura sclateri* at three sites along China's mountainous southwestern border with Myanmar (Burma), near the eastern range limit of Sclater's Monal. Much of the survey area had only recently been opened to foreign travellers. Potential monal habitats were widespread throughout the area, but the species had been confirmed at only a handful of locations, primarily because access has been very limited.

Objectives

Our objectives were three-fold: 1) to assess variation in Sclater's Monal habitats along a north-south gradient through western Yunnan, 2) to compare densities of monal under different habitat conditions, and 3) to identify a potential location for in-depth ecological studies of the species. We were joined by staff members of the Mammalogy Section of the Kunming Institute of Zoology, our host institution in China. Our work was supported by the Zoological Society of San Diego and the Kunming Institute of Zoology.

Results

We began fieldwork in early May, 1999, at Da Yang Tian, Tengchong County, near the southern limit of the monal's known distribution. Da Yang Tian is a mosaic of meadows and bamboo thickets at about 3,900 meters elevation. It is probably the most extensive patch of alpine habitat in the southern Gaoligong Range. We surveyed Da Yang Tian's meadows for 9 days, working from a series of bivouacs along the crest of the main ridge. In essence we conducted a line transect survey in slow motion. Every second day or so we relocated our camp several hundred yards further along the ridge. Before first light we entered makeshift blinds positioned to provide a wide view of local terrain. Weather permitting, we would spend four hours each morning and afternoon watching and listening for monal from these blinds.

We observed between three and five adult male monal in the Da Yang Tian area. We weren't certain of the exact number, however, because we were unable to distinguish between individual males on successive days. We surmise from several hours of behavioural observation that territoriality among male monal had waned by early May. Individual males often flew cross-slope several

hundred yards to alight where we had seen or heard other males. Vocalizations by newly arrived males did not elicit a vocal response, however, from the males already present. On the third day of fieldwork an unseasonably early monsoon storm struck. We held out through five days of persistent rain and fog but found it impossible to observe additional monal.

On May 23rd we arrived at Ci Kai, Gongshan County, the market town nearest our northernmost survey site, Dong Shao Fang. Chinese scientists had collected monal at Dong Shao Fang in years past, and a well-established trail provided relatively easy access to alpine elevations. Our departure into the field was delayed, however, by continued heavy rains, which raised the Pula River above local footpaths. Once we arrived at Dong Shao Fang, rain and fog persisted for 5 more days, largely restricting us to our tents and kitchen lean-to. It was becoming clear that a springtime study of Sclater's Monal was going to require special monsoon-worthy equipment, as well as an innovative approach to collecting data. On May 30th the weather subsided enough for us to check a nearby 4,000 metre pass for signs of monal. Two members of our party reported hearing the call of a male monal, but the rain intensified and we were forced to return to camp before others could confirm its presence. At this site too, inclement weather essentially confined us to our tents most of the days we had allocated for a survey.

In early June we arrived at our final survey site, on the slopes above a dilapidated lumber town named Zhiziluo, central Fugong County. Chinese scientists had collected many Sclater's Monal here over the years. It was our central survey site, approximately midway between Da Yang Tian and Dong Shao Fang. We endured more foul weather on the local summit for a full three days. On the fourth day we descended to the upper tree limit, where we had observed what we believed were monal fecal droppings. On the way, we virtually stumbled into a female monal with three two-week-old chicks. Over the next day and a half we scoured nearby slopes for more signs of monal. At 4,100 metres elevation on a prominent spur we noticed what looked like an unusual kind of soil erosion or patterned ground. On closer inspection we saw that the soil's mossy crust had been turned over in 1 to 2 inch squares. Fresh monal droppings and deeply-excavated pits confirmed that we had found a site where a large number of monal had recently fed. The diggings extended for several hundred meters up the spur. We were



delighted to find examples of a fungus-infected caterpillar within the pits dug by monal. This 'dong chong xia cao' is a popular and expensive traditional Chinese medication that David Rimlinger has previously determined to be a likely food item of the rare Chinese Monal in Sichuan. Other 'table scraps' left behind by the monal included stems and roots of cinquefoil (Rosaceae), buttercup (Ranunculaceae), jack-in-the-pulpit (Araceae), and fritillary (Liliaceae). Other evidence suggested the monal had also eaten grass shoots, a small bulb-forming member of the carrot family, beetle larvae, and the larvae of wood-boring insects. The proximity of the diggings to dense thickets, both here and at Da Yang Tian, suggested Sclater's Monal often forage within a few metres of bamboo or broadleaf thickets. The presumed flock of monal remained quiet and out of sight throughout our stay. We suspect their vocal season had passed by the time we arrived at Zhiziluo in early June.

We decided the Zhiziluo site was the best of the three sites for an in-depth monal study. It offered a diverse mosaic of habitat types, a branching ridge system that would facilitate radio-telemetry, expert and congenial guides, and an apparent abundance of monal. Da Yang Tian was appealing for its relative ease of access, abundance of interesting wildlife including lesser panda, takin, tufted deer, black bear and blood pheasants. Local authorities were hospitable, and the local field help was pretty good under the circumstances. But the extent of monal habitat and the numbers of monal at Da Yang Tian appeared to be quite limited. Dong Shao Fang, our northernmost site, had such good access that it was probably too disturbed by humans. The phenomenal rainfall at Dong Shao Fang would be a formidable obstacle to overcome, and the local help we encountered considered monal research little more than a business opportunity.

Discussion

So far as we could determine, Sclater's Monal persist throughout their historic range in Yunnan. We also received reports that the species occurs even further south than currently recognized. Han Lianxian of Yunnan's Southwest Forestry College is currently checking several potential range extensions. The species' occurrence on discontinuous mountain summits, however, suggest it could be vulnerable to local extinction. This is particularly true in the south, where alpine habitats occur as isolated islands and local populations may consist of as few as a dozen individuals.

Our surveys produced three to five adult males at Da Yang Tian, one vocalizing individual at Dong Shao Fang, and one female with three chicks at Zhiziluo. Unfortunately, bad weather and our failure to fully implement the intended study design leave us with no means to compare the abundance of monal at the three sites we visited. The birds we encountered all occupied large meadows or meadow complexes that extended several hundred metres down steep slopes. These meadows were surrounded by bamboo or rhododendron thickets, with at least a few rock outcrops present. The lowest elevation at which we observed such meadows, as well as monal, was about 3,000 metres. The flowering meadow plants we observed at all three sites included cinquefoil, buttercup, fritillary, jack-in-the-pulpit, and peony (Rosaceae). Many bulb-forming monocots occurred within the bamboo and rhododendron thickets as well. Certain habitat features increased or decreased along the north-south axis of the monal's Yunnan distribution. Alpine habitats tend to be more contiguous and more rocky at more northerly locations because mountain ranges of the region achieve greater elevations further north. Rainfall is also higher further north. Alpine thickets at more northerly locations contained a greater proportion of broadleaf shrubs and less bamboo.

While travelling between our three survey sites we encountered two dead monal for sale in outdoor markets. Even though the species receives the same protected status as giant pandas, carrying a potential death sentence, monal were being sold openly for about \$12. It appears that illegal market hunting still poses a significant threat to Sclater's Monal. Herb collection for traditional Chinese medicine may also be detrimental to monal, but not because herb collectors compete with monal for the roots and tubers of such plants as "ta huang" (wild rhubarb) or "bei mu" (fritillary). Herb collectors are often the only humans that visit the heights occupied by Sclater's Monal. They camp for several days while collecting herbs, and many set trap-lines or hunt with guns to add meat to their meals. China's burgeoning rural economy is enticing increasing numbers of entrepreneurs into the mountains to harvest such 'alternative forest products' as medicinal herbs. The apparent connection between these cottage industries and the illegal harvest of large animals like Sclater's Monal deserves serious consideration by China's wildlife conservation authorities.



For an illustrated report on these surveys visit Jim Bland's website at:
http://homepage.smc.edu/bland_jim/Sclater's_field_survey.htm

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Status and habitat of Cheer Pheasant in Himachal Pradesh, India - Results of 1997-1998 surveys

Introduction

The Cheer Pheasant *Catreus wallichi* is distributed in India, Pakistan and Nepal. In India has been found at numerous sites in Himachal Pradesh and Uttar Pradesh. It inhabits steep hillsides with scrub and grass and dissected with wooded ravines at 1200-3500 m and has a strong affinity for early successional habitats maintained by frequent human intervention. Cheer Pheasant populations have been severely reduced due to habitat degradation, over-hunting and conversion of land for agriculture. Due to its specialised habitat requirements, the distribution of cheer is very patchy. Most known populations are very small (<10 birds), making them extremely vulnerable to local extinction (McGowan & Garson 1995).

The objective of these surveys was to document the status of cheer in previously known sites and to find new sites in Himachal Pradesh. During surveys the structure and composition of the cheer habitat were recorded. These habitat parameters were related to an index of density derived from cheer call counts. Land use practices at sites studied were also documented.

Study areas

I conducted surveys from March to June in 1997 and 1998 in the state of Himachal Pradesh, India which lies between latitudes 30° 22' N to 33° 12' N and longitudes 75° 45' E to 79° 04' E (Figure 1). I selected seven study areas in the districts of Solan-Shimla, Chamba and Kinnaur, which collectively represent the scattered distribution of cheer in the state.

Chail Wildlife Sanctuary is an area of 108.5 km² lying about 20 km south of Shimla. The sanctuary has Chail town and 121 villages within its boundaries. The area comprises Himalayan subtropical pine forest with extensive south- and west- facing grassy slopes supporting scattered Chir Pine *Pinus roxburghii* and extensive north facing slopes of Ban Oak *Quercus leucotrichophora* forests. *Rhododendron arboreum*, Deodar *Cedrus deodara*, Kainth *Pyrus pashia* and Blue Pine *Pinus wallichiana* are also present. The undergrowth was mainly *Berberis* and *Rubus*, with some *Rosa*, *Daphnae*, *Myrsine*, and *Rhabdosia*. The habitat supported extensive patches of tall grass in places

