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Abstract: For decades there had been no confirmed sightings of the common leopard *Panthera pardus* in Afghanistan. However in 2011, a Wildlife Conservation Society WCS camera trap team working in the province of Bamyan managed to capture images of a Persian leopard *P. p. saxicolor* near the mountainous areas that make up the central highland region. With almost no accurate data on leopard numbers, population trends remain unknown. Using these images during a wildlife field survey, local community residents in two other provinces reported the presence of the same leopard species. Years of conflict in Afghanistan have affected most large wildlife populations, including other big cats and leopard prey species, but its cryptic nature and adaptability have enabled it to persist. Despite being a protected species under Afghan law, leopards remain at very low numbers and under considerable threat.



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> **Cover Photo**: Leopard cat in Rajaji National Park, India (Photo Akanksha Saxena), see article on p. 21 of this issue.

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ZALMAI MOHEB1* AND DAVID BRADFIELD1

Status of the common leopard in Afghanistan

For decades there had been no confirmed sightings of the common leopard *Panthera pardus* in Afghanistan. However in 2011, a Wildlife Conservation Society WCS camera trap team working in the province of Bamyan managed to capture images of a Persian leopard *P. p. saxicolor* near the mountainous areas that make up the central highland region. With almost no accurate data on leopard numbers, population trends remain unknown. Using these images during a wildlife field survey, local community residents in two other provinces reported the presence of the same leopard species. Years of conflict in Afghanistan have affected most large wildlife populations, including other big cats and leopard prey species, but its cryptic nature and adaptability have enabled it to persist. Despite being a protected species under Afghan law, leopards remain at very low numbers and under considerable threat.

While the common leopard is the most widely distributed cat species in the world (Nowell & Jackson 1996), it has many threatened subpopulations. The IUCN has listed the common leopard as Near Threatened on the Red List (Henschel et al. 2008), but the Persian leopard, which is found in Afghanistan, is listed as Endangered (Khorozyan 2008). According to morphological analysis (Khorozyan et al. 2006), the Persian leopard is said to be distributed from the Caucasus through Afghanistan, Turkmenistan, and Iran to eastern Turkey. Hutton (1845) cited by Hassinger (1973) reports the earliest record of the Persian leopard in Afghanistan, while the last recorded observation of this species was in 1965 in Kabul and Nuristan provinces (Kullman 1965 cited by Hassinger 1973).

Distribution and Range

A detailed study on the common leopard, referred here as the Persian leopard, has yet to be carried out in Afghanistan. Based on information from the 1970s, Habibi (2003) suggests that it can be found in all major mountain ranges across the central high-lands, and has proposed a historical range that covers the northeast, eastern, central, and western mountain areas of Afghanistan (Fig. 1).

In 2011, WCS confirmed the presence of the leopard in the Northern Plateau, Yakawlang District in Bamyan Province via a camera trap survey (Fig. 1, unpubl. data). During a field survey and interviews with local community residents in Nuristan Province in 2008, 91% of the 135 respondents reported the presence of the common leopard (Karlstetter 2008). Moreover, in 2011 and 2012, 12% of the 230 respondents in Darwaz in

Badakhshan, Afghanistan reported the presence of the species in the region (Moheb & Mostafawi 2012 and 2013, see Figure 1 for the locations). An important point to highlight regarding the interview process was that respondents would often confuse the common leopard with the snow leopard when shown photos of the animals. Since WCS began operating in Afghanistan in 2006, there has been no reported evidence of this species in Wakhan National Park, a provisional park covering the entirety of the far northeastern Wakhan District of Afghanistan bordering China (part of the purported range in Habibi 2003). The above-mentioned WCS camera trap record of the species (Fig. 2) in Bamyan Province, Afghanistan lies just outside the proposed areas where Habibi (2003) estimated leopards were likely to be found (Fig. 1).

Population Trends

With almost no accurate data on leopard numbers (and no information at all across most of the areas in Afghanistan), it is not possible to provide a statement about population trends. However, the 30+ years of conflict that enveloped the country in recent times has badly affected most large wildlife populations, including other big cats (e.g. Asiatic cheetah Acinonyx jubatus venaticus) and leopard prey species (e.g. urial Ovis orientalis). It is expected that the leopard population also experienced significant declines during this time, although its cryptic nature and adaptability has enabled it to persist, at least in certain locations. With little to no wildlife law enforcement across much of the leopard's historic range, and with prey populations still depressed, it is appropriate to say that leopards remain at very low numbers and under considerable threat.

Management and Legal Status

The Ministry of Agriculture, Irrigation and Livestock MAIL and the National Environmental Protection Agency NEPA are the governmental organizations responsible for dealing with the management of all wild species including the Persian leopard. The Persian leopard is protected under Afghanistan's Environmental Law (adopted in 2007). The Persian leopard was also listed in Afghanistan's Protected Species List in 2008 and receives the highest

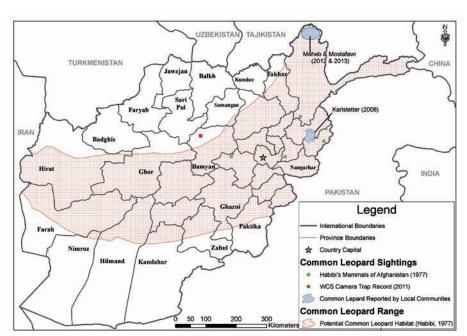


Fig. 1. The common leopard potential distribution (Habibi 2003), interviews with local residents, and camera trap records (WCS unpublished data).



Fig. 2. Common leopard pictured in the province of Bamyan on 16 September 2011.

level of protection in the country. Hunting or harvesting this species is strictly prohibited.

Threats to Survival

The Persian leopard has yet to be studied in Afghanistan, however the most common threats to the survival of the big cats in the county are: (i) the fur trade (Kretser et al. 2012); (ii) opportunistic or retaliatory killing of Persian leopards due to communities' negative attitude towards livestock predators; and (iii) habitat fragmentation due to an increase in human and livestock populations.

Conservation Measures

The Persian leopard is listed in Afghanistan's Protected Species List. Awareness programs have been carried out in communities living within its rangeland areas including in the provinces of Bamyan and Badakhshan. In Bamyan, rangers monitor hunting (which is currently illegal under a Presidential Decree issued in 2006) and enforce wildlife laws. Furthermore, border police and customs agents in certain parts of the country have been trained to control the fur trade, and US military personnel have been provided with awareness-training on illegal wildlife products given their involvement with increasing the demand.

Depending on the security situation in this northern plateau of Yakowlang district in Bamyan Province, and the availability of funding, the Wildlife Conservation Society is hoping to carry out more extensive surveys (Fig. 3) to get a more accurate assessment of the status of the Persian leopard in these central highlands of Afghanistan.



Fig. 3. Field team searching for signs of wildlife in the province of Bamyan (Photo WCS).

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