CATnews is the newsletter of the Cat Specialist Group, a component of the Species Survival Commission SSC of the International Union for Conservation of Nature (IUCN). It is published twice a year, and is available to members and the Friends of the Cat Group.

For joining the Friends of the Cat Group please contact Christine Breitenmoser at ch.breitenmoser@kora.ch

Original contributions and short notes about wild cats are welcome. Send contributions and observations to ch.breitenmoser@kora.ch.

Guidelines for authors are available at www.catsg.org/catnews

CATnews is produced with financial assistance from the Friends of the Cat Group.

Design: barbara surber, werk’sdesign gmbh
Layout: Christine Breitenmoser and Tabea Lanz
Print: Stämpfli Publikationen AG, Bern, Switzerland

ISSN 1027-2992 © IUCN/SSC Cat Specialist Group

The designation of the geographical entities in this publication, and the representation of the material, do not imply the expression of any opinion whatsoever on the part of the IUCN concerning the legal status of any country, territory, or area, or its authorities, or concerning the delimitation of its frontiers or boundaries.
The illegal use of snares and gin traps threatens endangered leopards in Iran

We report on six cases of snare and gin trap captures of free-ranging Persian leopards *Panthera pardus tulliana* in northern Iran between 2012 and 2017. Three of these leopards died as result of severe injuries, the three others were rescued, one survived albeit disabled, two could be released to the wild but one of them died less than two months after release. These captures were unintentional, and resulted from snares and gin trap being deployed illegally by farmers to rid their crops and chicken-coop from wild boars *Sus scrofa* (5) and possibly jackals *Canis aureus* / jungle cats *Felis chaus* (1), respectively. These cases reveal the growing problem of habitat disturbance and loss for leopard and their natural prey in the Alborz mountain range and Caspian lowlands of Iran.

**Fig. 1.** An anesthetised female Persian leopard with a gangrenous process affecting its left fore-limb. The animal was unintentionally snared, rescued by the Department of Environment of Golestan Province, and sent 18 days later to Tehran for treatment, January 2012 (Photo I. Memarian, Tehran Zoo and Pardisan Wildlife Rehabilitation Center).
On 27 January 2012, local people near Gor-gon, Golestan Province, found a Persian leopard trapped by a leg in a wire snare deployed against wild boar (cases 1, 2, 3, 5, 6) and possibly jackal and jungle cat (case 4).

The present report documents six cases in the course of the last 5 years of leopards being caught accidentally in snares or gin traps (i.e. “terrestrial by-catches”) that were set by local people against wild boars and possibly in one case against jackals and jungle cats. It details the type and diversi-

Table 1. Summary information for six Persian leopards captured accidentally in metal snares and gin trap in northern Iran, between 2012 and 2017.

<table>
<thead>
<tr>
<th>Case no.</th>
<th>Estimated age (years)</th>
<th>Sex</th>
<th>Date</th>
<th>Province</th>
<th>Trapping device</th>
<th>Body part trapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.5</td>
<td>Female</td>
<td>Jan. 2012</td>
<td>Golestan</td>
<td>Metal snare</td>
<td>Fore-limb</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Female</td>
<td>Feb. 2012</td>
<td>Gilan</td>
<td>Metal snare</td>
<td>Neck</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>Male</td>
<td>Nov. 2013</td>
<td>Mazandaran</td>
<td>Gin trap</td>
<td>Fore-limb</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>Female</td>
<td>Feb. 2017</td>
<td>Gilan</td>
<td>Metal snare</td>
<td>Waist</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>Male</td>
<td>Feb. 2017</td>
<td>Mazandaran</td>
<td>Metal snare</td>
<td>Waist</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Male</td>
<td>May 2017</td>
<td>Mazandaran</td>
<td>Metal snare</td>
<td>Neck and fore-limb</td>
</tr>
</tbody>
</table>

1Snares and the gin trap were deployed against wild boar (cases 1, 2, 3, 5, 6) and possibly jackal and jungle cat (case 4).

2011, Sanei et al. (2012) found that 70% of documented mortality resulted from intentional killing and poisoning, followed by road accidents (18%).

The present report documents six cases in the course of the last 5 years of leopards being caught accidentally in snares or gin traps (i.e. “terrestrial by-catches”) that were set by local people against wild boars and possibly in one case against jackals and jungle cats. It details the type and diversi-

Case reports

Case 1
On 27 January 2012, local people near Gor-gon, Golestan Province, found a Persian leopard trapped by a leg in a wire snare deployed against wild boar (Table 1). The staff of the Department of Environment captured it and transferred it 18 days later to the Faculty of Veterinary Medicine, University of Tehran, where it underwent thorough exami-

Case 2
In February 2012 local people reported to the main office of the Department of Envi-

Case 3
In mid-November 2013 local people in Ma-

Case 4
Local people found an adult female Persian leopard on 4 February 2017 near Rudsar County in Gilan Province, Iran. The animal was paralysed in both hind legs. It was anaesthetised and moved to the Pardisan
Clinical examination confirmed thinness, severe dehydration (>10%), an atrophy of hind legs with weak reaction to pain and lack of proprioception. There were also conspicuous skin lacerations in the lateral side of the right flank and the dorsal retroperitoneal region with associated infection and reactive inflammation (Fig. 5). A CT-scan investigation confirmed a muscular atrophy of the hind limbs, and a 5 cm long laceration in the right lateral aspect of L5 extending to the dorsal retroperitoneal region. More importantly, it revealed a depressed fracture of the vertebral arch lamina and transverse process on the left side of L4 with a 4 mm long fragment compressing the spinal cord from the left dorso-lateral aspect of L4 (Supporting Online Material SOM F1). Large amount of speculated, ill-defined, bright new bone formations were also found along L2 to L5 vertebral bodies.

The animal was diagnosed with an old (3-10 days), depressed open fracture of the arch lamina of L4 and an active, chronic bacterial osteomyelitis of L2 to L5 related to the open fracture. The cause of the fracture and skin laceration was suspected to be a metal snare encircling the abdomen and lumbar dorsum (waist) of the animal. The animal had succeeded to release itself from the snare. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

snare. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stabilise the lumbar ra-

sne. It was operated in a private veterinary hospital in Tehran to stab
Snares and gin trap caught Persian leopards by different parts of their bodies and with variable effects (Table 1). Captures with metal snares resulted in skin incisions, and for three out of five cases, in significant damages to underlying tissues combining tearing and necrotic processes of muscles, in one case a wet gangrene and in another osteomyelitis. Animals found after prolonged capture also suffered a very significant loss of condition as a result of struggling and starvation. The one case of snare capture by the neck induced strangulation and probably quick death. The one case of gin trap capture resulted in the delayed self-amputation of the foot at carpal joint level yet with relatively limited damages to other tissues and indications that a natural healing process was in progress. Although the animal could survive in nature on three feet for at least 1.5 month after being trapped, the amputation increased the animal’s vulnerability to humans. The impact of snares and gin traps on captured leopards was significant as it resulted in a natural or induced (euthanasia/poisoning) case fatality rate of 50%. One rescued individual could survive in captivity but will never be released into the wild, two leopards could be released but one died within two months of being released. The indiscriminate accidental trapping of leopards in northern Iran is probably underestimated and because of its associated mortality level, it likely affects the long-term viability of the leopard population by removing mature individuals of both sexes (Table 1) from a population already assessed to decline (Khorazy 2008).

Investigations carried out by the Department of Environment concluded that five out of the six reported cases of leopard trapping corresponded to non-intentional captures in traps deployed against wild boars and possibly in one case against jungle cat and/or jackal. The wild boar and jackal have been considered for long time pests in many parts of Iran because of the damages they cause to agriculture crops and livestock, respectively (Firooz 2005). Fifty years ago the Game and Fish Act (Year 1967, Chapter 3 of the executive directive) listed these species among several others as ‘vermin’, requiring only an ordinary hunting license to be hunted, except for farmers and shepherds desiring to rid their lands of them, who required no license at all to do so and throughout the year outside protected areas and wildlife parks. The most recent update of the Hunting and Harvesting Law (23 August 1999) has rendered the legal hunting of wild boars more difficult. The species is no longer considered a pest, its legal hunting is restricted to religious minorities, only one individual can be taken per day and per hunter, and the fine for illegal hunting reaches eight million Iranian Rials (about 215 Euros). The regulation requires to be revised to allow a more efficient control of the population.

In Iran wild boars occur often in large numbers due to lack of hunting because of religious restriction on their consumption. The general trend of their population is not accurately documented but locally there are claims of a significant increase such as in Golestan National Park (Ghoddousi et al. 2017a) or in the province of Khuzestan (H. Jowkar, pers. comm.). The local increase is possibly also facilitated by a decrease in their natural predators: the wolf Canis lupus and the Persian leopard (Khalilzadeh et al. 2016). The role of leopards regulating wild boar populations in Iran is the subject of on-going research. Because of the widespread over-hunting of ruminant ungulates, Ghoddousi et al. (2017b) have hypothesised that the dependence of Persian leopards on wild boars is expected to increase in the country. Yet because of the risk of injury inherent to wild boar predation (Qi et al. 2015), they raised concern over the long-term viability of this dietary shift. The present report suggests that such a shift could also prove deleterious to the species because of the risk posed to leopards by the indiscriminate control methods used by farmers against wild boars.

In the Caspian lowlands the significant expansion of cultivated lands over the natural habitat of Persian leopards and wild boars as a result of the doubling of the human population between 1976 and 2011 (Khosravi 2012) is likely to increase the risk of capture and destruction of leopards through accidental snaring. It is significant that the snaring cases we report in the present paper occurred in transition areas between mixed forest and rural habitats. Wild habitats converted to cultivated lands benefit wild boar’s omnivorous diet and indiscriminate appetite and may also increase the risk of leopard by-captures in the course of illegal hog control attempts. Paradoxically, the inadvertent destruction of
one of their few recognised predators in an attempt to curb their demography may ultimately lead to the further expansion of wild boars in the area.

There is an urgent need to stop the widespread use of snares and gin traps in Iran as a control method to wild boar populations, which also affects other mammals from small Mustelids to large Ursids (I. Memarian et al. 2012). Building a multi-use framework to conserve biodiversity in the Caspian Forest Lands (El-biswawi & Dehghan Dehghan 2016) is crucial for the protection of the suite of native fauna.

Promote the fast reporting of accidentally snared and trapped leopards to reduce the level of tissue damages and physiological stress, and ultimately ease their rehabilitation.

Acknowledgments
We are grateful to Dr Mahmoud Marashi and Dr Behrang Ekrami for their collaboration and the staff of the Veterinary Faculty of the University of Tehran and Pardisan Wildlife Rehabilitation Center for their long-lasting support and dedication at saving wildlife of Iran.

References


Khosravi R. (Ed.) 2012. Building a multi-use forest management framework to conserve biodiversity in the Caspian Forest Landscape, Iran, Project Preparation Grant Report. UNDP/GEF. Tehran, Iran.


Shirazi F. 2012. Information and communication technology and women empowerment in Iran. Telematics and Informatics 29, 45-55.


Supporting Online Material SOM Figures F1-F4 are available at www.catsg.org.

Fig. 6. The cutaneous lesion of a metal snare encircling the neck and left forelimb of a Persian leopard snared in Mazandaran Province, Iran, May 2017 (Photo P. Behnoud, Future for Leopards Foundation).

**SOM F1.** A CT-scan image showing a depressed fracture of the vertebral arch lamina and transverse process on the left side of the 4th lumbar vertebra (L4) with a 4 mm long fragment compressing the spinal cord from the left dorso-lateral aspect of L4 (arrow). This severe injury was caused by a metal snare encircling the waist of an adult Persian leopard, Gilan Province, Iran. February 2017 (Photo M. Molazem, Faculty of Veterinary Medicine, University of Tehran).

**SOM F2.** A recent subcutaneous haemorrhage around the lower abdomen and lumbo-dorsal area (waist) of a Persian leopard snared in Mazandaran Province, Iran. February 2017 (Photo P. Behnoud, Future for Leopards Foundation).
SOM F3. An adult male Persian leopard was found dead by local people near Khalilshahr city in Behshahr County, Mazandaran Province on April 21st, 2018, and reported to Mazandaran DoE authorities (Photo DoE Mazandaran Province).

SOM F4. The animal was dead for several days (ca. 2-4 days), a snare deployed against wild boars raiding nearby crops was responsible of the death. The snare was passing through the mouth, encircling the head (i.e. the crania and rostrum were encircled but not the mandible). The animal was in good body condition suggesting that it died relatively soon after being snared (Photo DoE Mazandaran Province).