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ROLE OF RESCUE 1122 IN WILDLIFE WELFARE IN PUNJAB, PAKISTAN

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ABSTRACT

Rescue 1122 emergency services in Punjab (Pakistan) also responds to calls when residents feel threatened from wild animals. Emergency calls received between August 2015 and July 2016 recorded 16 arthropod, 25 mammal, 156 bird, 816 reptile and 264 un-identified cases from different parts of the Punjab, which were safely handled and in majority of cases animals were safely released back in nature.

Keywords: Emergency service, snakes, birds, wild animals, Punjab

INTRODUCTION

Rescue 1122 is a public sector department started in 2004 under the Punjab Emergency Service Act 2006 for saving of human life and property in situations of emergencies, including accidents, bomb blast, fire, floods, medical emergencies and rescue people facing threat of wild animal attacks. In the absence of specific organization/department responsible for resolving human-wildlife conflict and welfare of wild animals, the animals entering human settlements/dwellings are rescued by this department. Thus, Rescue 1122 not only saves the life of human beings but also plays a role in rescue and conservation of animal biodiversity. Rescue 1122 centers are located in each major town of the province, at least one in every tehsil headquarter (Rescue 1122, n.d.).

Wild animals entering urban areas may react in an unpredictable way, posing danger to human life and property. Rescue 1122 staff tries to capture the wild animals, without harming or killing them and release them into their natural habitat, though the staff is not properly trained in animal capturing and handling and is without proper handling gadgets.

Current study was designed using participatory multi-technique approach following Lynam et al. (2007). This included analysis of policies, relevant reports and legislation, interview of locals/ villagers and mapping instances of human-wildlife conflict in districts of Punjab (Pakistan), mainly focusing on poisonous and non-poisonous snakes. Conflicts of different wild animals with human beings were also investigated.

MATERIALS AND METHOD

Data collection

Rescue 1122 Control Rooms located at different district headquarters were visited and record of emergencies received between August 2015 and July 2016 examined. When the rescue unit receives a call, information on the nature and place of emergency was recorded on “Emergency Response Form” (Figure 1). Copies of the forms involving wild animals were collected from the office in-charge of the Control Room (CRI) and the official attending the emergency was interviewed. Photographs was obtained from the audio-video camera (AVC) records and used in identification of the animal species (Figure 2).

Figure 1. Emergency response form of Rescue 1122

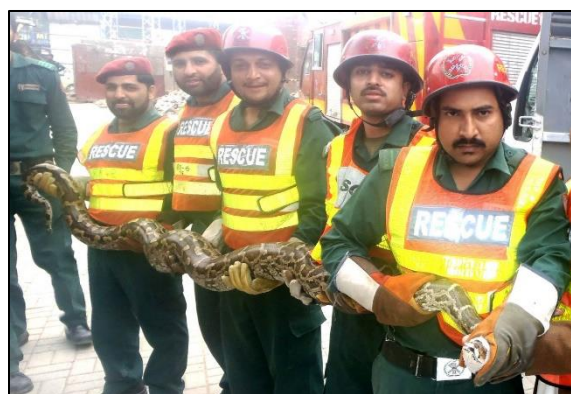


Figure 2. Rescue staff holding an Indian rock python from Rawalpindi.

Data analysis

Data was analyzed for each district. Mean and standard error were calculated using Mini-Tab statistical software.

RESULTS

Arthropods

A total of 16 (1%) cases of arthropods were reported from Rawalpindi and Khushab districts, including 7 honey bee (6 in Rawalpindi and one in Khushab), 5 scorpion, and 3 wasp attacks. One case of centipede was reported from a house (Figure 3).

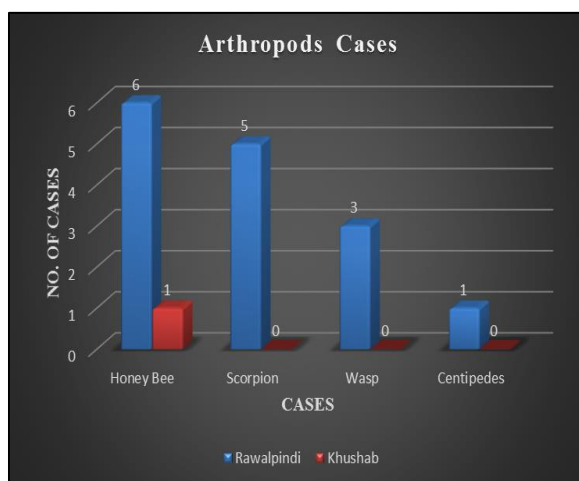


Figure 3: Number of cases of arthropods reported in two districts of Punjab, Pakistan.

Mammals

Centers received 25 cases of mammal from three districts, viz., Rawalpindi, Lahore and Khushab. Monkey attacks were reported in 8 cases, including 3 of *Rhesus monkey (Macaca mulatta)* in Rawalpindi. Four cases of unidentified monkey attacks in Lahore and one in Khushab were also reported.

Mongoose appeared in 11 cases; 3 from Rawalpindi, one in Lahore and 7 in Faisalabad.

Four cases of wild cats were reported in Rawalpindi and two domestic cats were reported in Lahore. In most of the cases, these cats were entangled with electric wires and other high roof top buildings, when people called 1122 for a rescue (Figure 4).

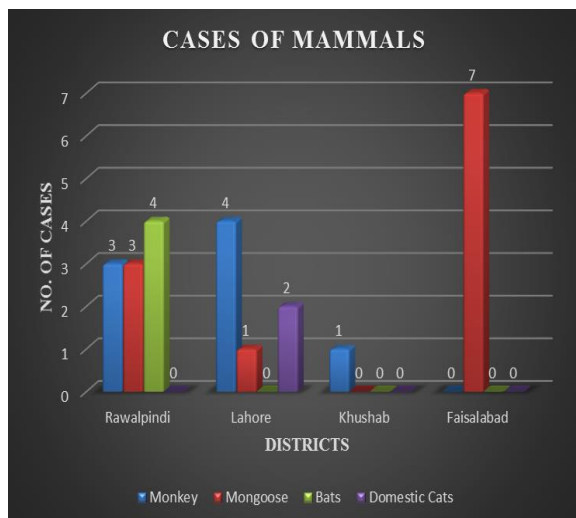


Figure 4. Cases of mammals reported from the four districts of Punjab, Pakistan.

Birds

Birds (n=156, 12%) were reported from 20 districts of Punjab, viz., Rawalpindi, Khanewal, Lahore, Hafiz Abad, Mianwali, Bhakhar, Sheikhupura, Layyah, Muzaffargarh, Multan, Khushab, Faisalabad, Jhelum, Bahawalnagar, Narowal, Lodhran, Sargodha, Gujranwala, Jhang and Gujrat (Figure 5).

Four cases of eagles were reported, 3 in Gujranwala and one in Hafizabad. Three cases of parrots and 4 cases of black-shoulder kite were reported in Rawalpindi and Khanewal, respectively. House crow cases were reported in the highest numbers (29) in Sargodha, followed by Faisalabad (13) and Rawalpindi (10). One case of dove was reported in Rawalpindi only. Kite (17 cases) were reported from Faisalabad only. Highest number (11) of un-identified bird cases were reported in Khanewal followed by 7 cases reported in Lahore.

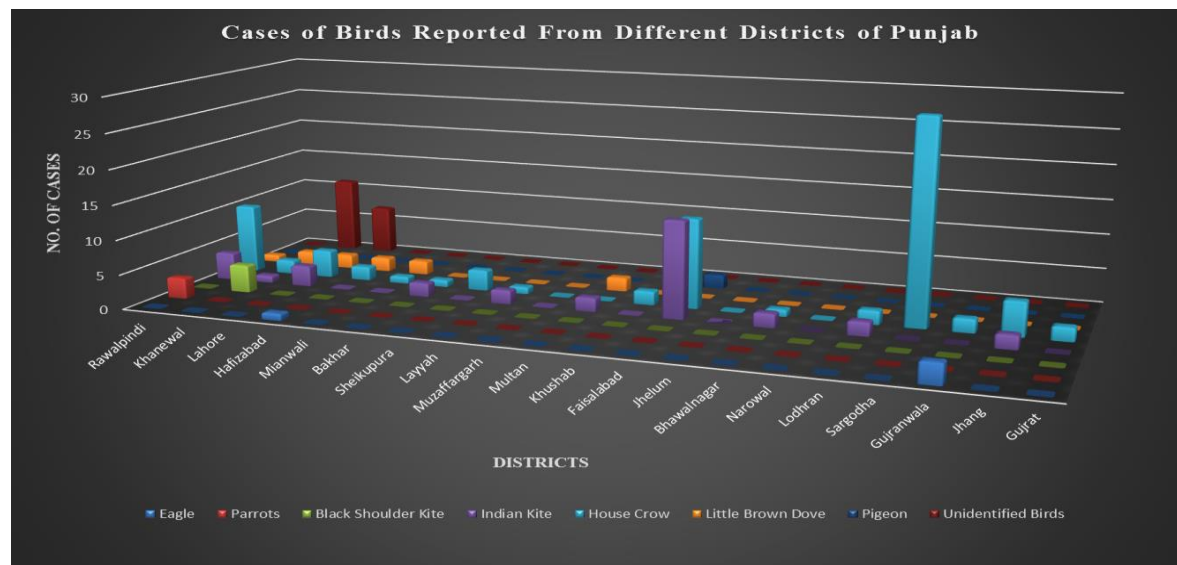


Figure 5. Number of cases of birds reported with Rescue 1122 in different districts of Punjab, Pakistan during study period.

Reptiles

Reptiles invited the attention in 23 districts, viz. Hafiz Abad, Lahore, Rawalpindi, Jhelum, Khanewal, Mianwali, Narowal, Sheikhupura, Jhang, Lodhran, Chakwal, Rahim Yar Khan, Faisalabad, Bahawalnagar, Bhakhar, Sargodha, Bahawalpur, Layyah, Rajanpur, Khushab, Muzaffargarh, Gujrat and Multan with 816 (64%) reported cases. The highest number (100) of cases were reported in Sargodha, followed by Gujrat (99) and Multan (87) and the lowest numbers (3) reported in Layyah.

Thirteen lizard cases were reported in Lahore and Gujranwala districts. In other districts, fewer cases were reported. Big lizard (*Varanus* spp.) was reported in highest number from Rawalpindi, followed by Hafiz Abad (3) and Faisalabad (2), while one case each in Lodhran and Khanewal. A single case

of Chameleon was reported in Hafiz Abad only, while 11 cases of iguana were reported in Lahore (Figure 7)., and 746 cases of snakes from various districts of Punjab (Figure 6; Table 1).

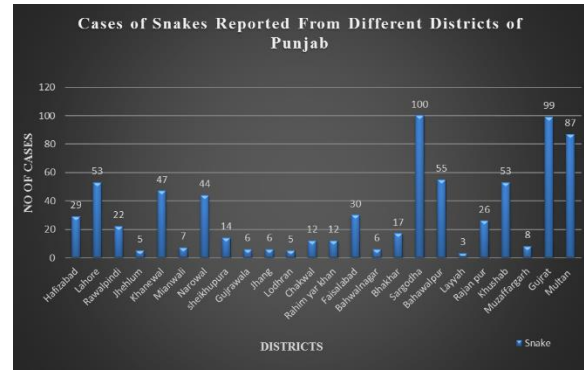


Figure 6. Number of cases of snakes reported in different districts of Punjab, Pakistan.

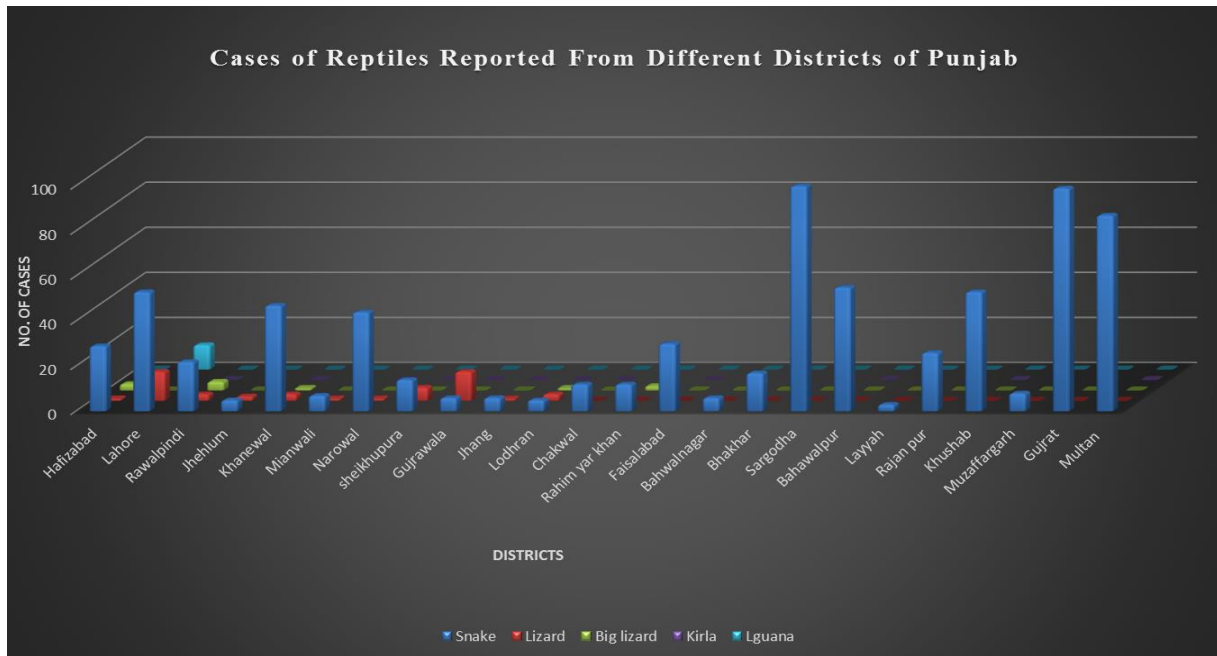


Figure 7. Cases of reptiles reported from the selected districts of Punjab, Pakistan.

Table 1. List of snake species found in different districts of Punjab

#	Species (Common name)	Districts of Case Reported	Poisonous/ Non-Poisonous	Family	Area Type
1	<i>Eryx conicus</i> Common Sand boa	Bahawalpur, Jhang, Bahawalnagar, Mianwali, Khushab, Rahim Yar Khan	Non-poisonous	Boidae	Sand
2	<i>Eryx johnii</i> Brown Sand Boa	Mianwali, Khushab, Jhang	Non-poisonous	Boidae	Sand
3	<i>Eryx tataricus</i> (Tartary Sand Boa)	Bahawalpur, Bahawalnagar, Rahim Yar Khan, Mianwali, Jhang	Non-poisonous	Boidae	Sand
4	<i>Python molurus</i> (Indian Python)	Rawalpindi, Sargodha, Khushab, Chakwal,	Non-poisonous	Boidae	All Type
5	<i>Amphiesma platyceps</i> (Himalayan Mountain Keel- back)	Rawalpindi, Attock, Chakwal, Jhelum, Faisalabad	Non-poisonous	Colubridae	Mountain
6	<i>Amphiesma sieboldii</i> Siebold's Keel-back or Sikkim's Keel- back	Sahiwal, Dera Ghazi Khan, Pakpattan, Mandi Bahauddin	Non-poisonous	Colubridae	Agriculture
7	<i>Boiga trigonata</i> Common Cat-Snake	All districts of Punjab	Non-poisonous	Colubridae	All Type
8	<i>Dendrelaphis tristis</i> Common Bronze- back Tree Snake (tree snake)	Rawalpindi, Narowal, Sialkot, Sahiwal, Okara, Dera Ghazi Khan, Lodhran, Mandi Bahauddin,	Non-poisonous	Colubridae	Mountain
9	<i>Enhydris pakistanica</i> Pakistan's Water snake or Sindhi Ditch Snake (water snake)	Khushab, Sargodha, Gujrat, Gujranwala, Faisalabad, Okara, Nankana Sahib, Sheikhupura, Hafiz Abad, Bahawalnagar, Kasur, Lodhran, Layyah, Lahore, Multan, Muzaffargarh, Sialkot, Vehari, Toba Tek Singh.	Non-poisonous	Colubridae	Rivers
10	<i>Hemorrhois ravergeri</i> Mountain Racer	Rawalpindi, Chakwal, Jhelum, Attock, Rajanpur	Non-poisonous	Colubridae	Mountain
11	<i>Lycodon aulicus</i> Common Wolf Snake	Chiniot, Faisalabad, Hafiz Abad, Kasur, Lahore, Lodhran, Narowal, Okara, Sahiwal, Sargodha, Sialkot	Non-poisonous	Colubridae	Soft Land
12	<i>Lycodon striatus</i> Northern Barred Wolf Snake	Gujrat, Bahawalpur, Bhakhar, Khanewal, Khushab, Jhang, Layyah, Mianwali.	Non-poisonous	Colubridae	Semi Desert

13	<i>Lycodon travancoricus</i> Travancore Wolf Snake	Attock, Bahawalnagar, Chakwal, Chiniot, D.G. Khan, Faisalabad, Gujranwala, Gujrat, Hafiz Abad, Jhelum, Lahore, Kasur, Multan, Narowal, Pakpattan, Okara, Rawalpindi, Sahiwal, Sargodha.	Non-poisonous	Colubridae	Forest
14	<i>Lytorhynchus maynardi</i> Maynard's Awl-headed Sand Snake	Rahim Yar Khan, Bhakhar, Jhang	Non-poisonous	Colubridae	Semi Desert
15	<i>Lytorhynchus paradoxus</i> Sind Awl-headed Sand Snake	Bhakhar, Jhang, Rawalpindi, Chakwal	Non-poisonous	Colubridae	Margin of Desert
16	<i>Natrix tessellata</i> Dice Snake	All districts of Punjab	Non-poisonous	Colubridae	All Type
17	<i>Oligodon arnensis</i> Russet Kukri Snake	Rawalpindi, Sahiwal, Sialkot.	Non-poisonous	Colubridae	Forest
18	<i>Oligodon taeniolatus</i> Streaked Kukri Snake	Bahawalnagar, Dera Ghazi Khan Lodhran, Mandi Bahauddin, Multan, Muzaffargarh, Sahiwal, Sialkot.	Non-poisonous	Colubridae	Rivers
19	<i>Platyceps rhodorachis</i> Kashmir Cliff Racer	Bahawalpur	Non-poisonous	Colubridae	Mountain
20	<i>Platyceps ventromaculatus</i> Sindhi Racer Bengal	All districts of Punjab	Non-poisonous	Colubridae	Urban Area
21	<i>Psammophis condanarus</i> Sand Snake	Bahawalnagar, Bahawalpur, Bhakhar, Jhang, Khanewal, Khushab, Layyah, Mianwali, Rahim YarKhan,	Non-poisonous	Colubridae	Sand
22	<i>Psammophis lineolatus</i> Steppe Ribbon Snake	Bahawalpur, Bhakhar, Mianwali, Bahawalnagar, Rahim Yar Khan, Jhang.	Non-poisonous	Colubridae	Sand
23	<i>Psammophis schokari</i> Afro-Asian Sand Snake	Mianwali, Khushab, Rahim Yar Khan, Bahawalpur, Bhakhar.	Non-poisonous	Colubridae	Sand
24	<i>Pseudocyclophis persicus</i> Dark-headed Dwarf Racer	Mianwali, Khushab, Rahim Yar Khan, Bahawalpur, Bhakhar.	Non-poisonous	Colubridae	Mountain
25	<i>Sibynophis sagittarius</i> Golden Snake	All districts of Punjab	Non-poisonous	Colubridae	All Type
26	<i>Spalerosophis atriceps</i> Black-headed Royal Snake	Gujarati, Gujranwala, Sialkot, Vehari.	Non-poisonous	Colubridae	Agriculture

27	<i>Spalerosophis diadema</i> Eastern Diadem Snake	Bahawalpur	Non-poisonous	Colubridae	Desert
28	<i>Telescopus rhinopoma</i> Desert Cat-Snake	Bahawalpur	Non-poisonous	Colubridae	Desert
29	<i>Xenochrophisceraso gaster</i> Dark-bellied Marsh Snake or Painted Keel-back	Vehari, Toba Tek Singh, Sheikhpura, Sargodha, Sahiwal, Pakpattan, Okara, Gujranwala, Gujrat, Kasur, Mandi Bahauddin, Narowal, Lodhran	Non-poisonous	Colubridae	Plain Areas
30	<i>Xenochrophis piscator</i> Checkered Keel-back or Asiatic water Snake	Bahawalnagar, D.G Khan, Lodhran, Multan, Muzaffargarh, Okara, Sahiwal, Sialkot	Non-poisonous	Colubridae	Plain areas with sandy areas
31	<i>Xenochrophis anctijohannis</i> St. John's Keel-back	Rawalpindi	Non-poisonous	Colubridae	Mountain
32	<i>Bungarus sind anus</i> North-western Punjab Krait Sindhi Krait	All districts of Punjab	Poisonous	Elapidae	Plain Areas
33	<i>Naja naja</i> Indian Cobra	Rawalpindi	Poisonous	Elapidae	Mountain
34	<i>Astrotia stokesii</i> Large-headed Sea Snake	All Punjab	Poisonous	Hydrophiidae	Plain Areas
35	<i>Microcephalophis cantoris</i> Cantor's Sea Snake	Jhelum, Gujrat, Mianwali, Chakwal and Rawalpindi.	Poisonous	Hydrophiidae	Plain Areas
36	<i>Myriopholis macrorhyncha</i> Large-beaked Thread Snake	All districts of Punjab	Non-poisonous	Leptotyphlopidae	Plain Areas
37	<i>Ramphotyphlopsbra minus</i> Brahminy Blind Snake	All districts of Punjab	Non-poisonous	Typhlopidae	Plain Areas
38	<i>Typhlops diardii</i> Kashmir Blind Snake	All districts of Punjab	Non-poisonous	Typhlopidae	Plain Areas
39	<i>Typhlops ductuliformes</i> Slender Blind Snake	Rahim Yar Khan, Layyah, Khanewal, Bhakhar,	Non-poisonous	Typhlopidae	Desert
40	<i>Typhlops porrectus</i> Slender Worm Snake	Bahawalnagar, Bahawalpur, Bhakhar, Mianwali, Jhang, Khanewal, Khushab, Layyah, Rahim Yar Khan	Non-poisonous	Typhlopidae	Desert
41	<i>Daboia russelii</i> Russell's Chain Viper	All districts of Punjab	Poisonous	Viperidae	Desert and Sandy areas

42	<i>Echis carinatus</i> Dark-blotched Saw-scaled Viper	Faisalabad, Gujranwala, Gujrat, Hafiz Abad, Kasur, Lahore, Lodhran, Multan, Okara, Sahiwal, Sargodha, Sheikhpura, Vehari.	Poisonous	Viperidae	Plain Areas
43	<i>Pseudocerastes persicus</i> Persian Horned Viper	Rawalpindi, Chakwal, Attock.	Poisonous	Viperidae	Mountainous

UN-IDENTIFIED ANIMALS

A total of 264 (21%) un-identified animals were reported in 112 cases in Khanewal of which 10 were birds; 103 cases in Bahawalpur and only one in Khushab. One case of ‘Dod’ (local name) and one case of ‘Sro’ (local name) was reported in Khanewal and 7 in Khushab. Sufficient information was not available whereby the species could had been identified.

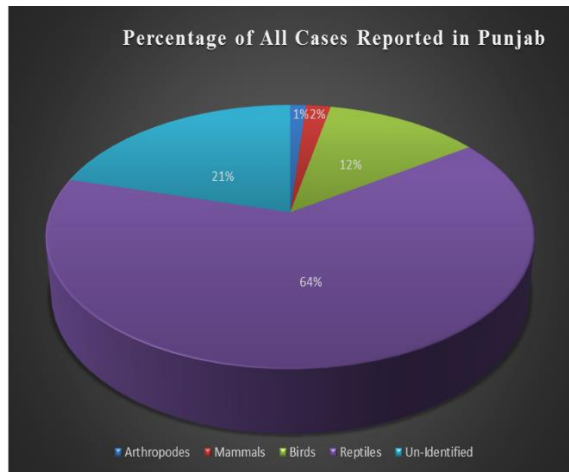


Figure 9: Relative frequency (%) of wildlife rescue cases reported with Resue 1122 in Punjab, Pakistan during study period.

DISCUSSION

Rescue 1122 provides emergency help to save human life and property, including emergencies caused by animals. Rescue 1122 concerns with safe capturing of wild animals coming into urban areas and returning them into their natural habitat.

Number of cases of animal rescue reported with Rescue 1122 are not directly related to species abundance, level of wild animal invasion into human settlements and/or level of human reaction to wild animals. The service is mainly limited to towns and hence is not concerned with occurrence of such incidences in smaller towns/villages. Since major part of the human population is not aware of possible services of Rescue 1122 with regards to animal threat therefore at many occasions; people mostly handling the situation on their own. It is at rare occasions that the cases are reported to Rescue 1122, only when individual feel threatened, and especially when there is no adult male around.

Calling Rescue 1122 is caused by the lack of general public awareness about animal role in nature and its potentials of harming human, general perception of fear. Higher number of snake cases reported was indicative of general fear of masses about these animals though 7 of 43 species reported from Punjab (Pakistan) are poisonous to human. Look of porcupines creates fear though it does not attack man if left undisturbed. Scorpion, centipede/ millipedes, rats, wasp and bees, lizards, mongoose, bats, etc. are generally not reported to Rescue 1122 for their having a lower degree of fear in human populations.

In the absence of proper training, the staff of Rescue 1122 training tries to control/ease out the situation; trying to cause minimum damage to the animal and finding a suitable habitat for its safe release, keeping to

their person experiences/knowledge. In the absence of professional knowledge about animals and/or their habit/habitat, it is difficult for them to identify a species and may adopt wrong practices in controlling/capturing and/or release of these animals. It may sometimes be a dangerous for the life of the rescue workers. Apt staff training may help in proper analysis of the situation and rightful handling of the animals, while maintaining safety of the workers. This may also be useful in safeguarding some threatened/vulnerable species needing special care.

The present results suggest that although Rescue 1122 is not basically designed to rescue wild animals yet it provides useful service in animal rescue/safety/rehabilitation. This is also a concern of animal welfare. Various conservation programs have been launched for the survival of noteworthy species to balance the natural ecosystem and training Rescue staff may be helpful in success of such programs.

CONCLUSION

The current study suggests that Rescue 1122 is performing a useful role in safeguarding the wild animals trapped in the urban environment, apart from ensuring the public safety. The rescue staff is however not suitably trained for the purpose; which is a security risk for the rescue staff and the animal rescued. The rescue staff needs better training in wildlife rescue and release and the local community needs to be aware of the fuller potentials of Rescue 1122.

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