

Identification and management of predatory birds of honey bee

Mandeep Rathee¹, R.C. Sihag² and Pradeep Kumar Dalal³

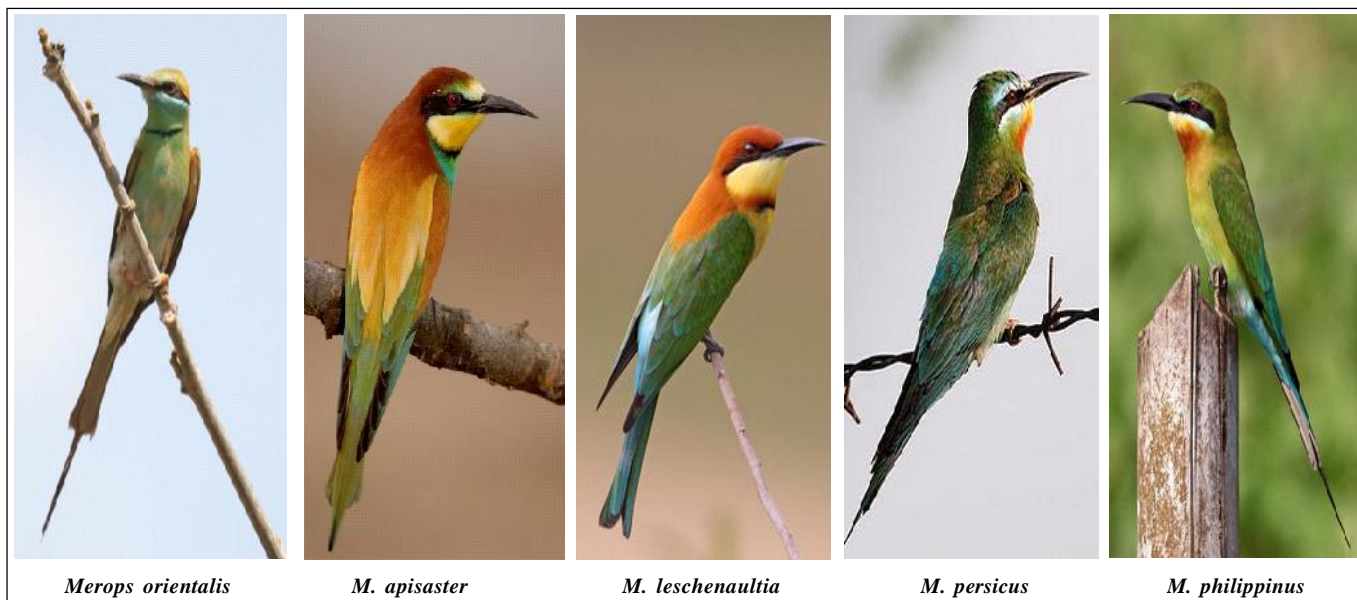
^{1&3}Department of Entomology, College of Basic Sciences, C.C.S.Haryana Agricultural Sciences, Hisar (Haryana) India

²College of Basic Sciences, C.C.S.Haryana Agricultural Sciences, Hisar (Haryana) India
(Email : mndprathee@gmail.com)

Beekeeping remains one of the profitable areas among agriculturists, commercial beekeepers and farmers, and is being exploited to its full potential to increase their income. Among several limiting factors, honeybee enemies pose a major threat to this enterprise. Wax moths and wasps cause immense losses to beekeepers throughout the country, therefore, got maximum attention by the researchers. In addition, birds are also known to attack honey bees. Various species of birds predate on honeybees and their attack is pronounced during dearth period and cloudy conditions. Major predatory birds (Class: Aves) of honeybees are *Merops apiaster* (European bee-eater), *Merops orientalis* (small green bee-eater) *Merops leschenaultia* (chestnut headed bee-eater) *Merops persicus* (blue cheeked bee-eater), *Merops philippinus* (blue tailed bee-eater), *Indicator indicator*, *Indicator xanthonotus* and *Indicator variegatus* (honey guides). Minor birds are *Picus viridis* (Green woodpecker), *Picoides major* (Great spotted or variegated woodpecker), *Parus major major* (common great tit), *Parus caeruleus* (blue tit), *Passer domesticus* (house

sparrow), *Dicrurus macrocerus*, *Dicrurus aster* (drongo/king crow). In the present chapter identification, nature of damage and management of predatory birds has been discussed.

Bee-eaters : Birds belonging to Meropidae family are considered as bee-eaters which are further classified under 3 genera and 24 species. Most of the species are migratory in nature and are found in temperate, tropical and subtropical regions. They remain in flocks of 15-20 and feed on the honey bees. These birds feed exclusively on air borne insects such as bees and their allies (Hymenoptera), comprising 80% or more of their diet and thus are of great concern to the beekeepers. A bee-eater attacks or catches the flying bees, devouring them by beating against perch. They normally bring their catch back to a perching place to eat it, may be because honey bees require a lot of beating, rubbing and squeezing before they can be swallowed. Most studies have shown that the perches used for hunting by bee-eaters usually include telegraph and power wires, tree-tops, dead branches of trees, fences and buildings. Green bee-eater, *M. orientalis*



Merops orientalis

M. apisaster

M. leschenaultia

M. persicus

M. philippinus



I. xanthonotus



I. indicator



Passer domesticus



Picus viridis



Picoides major



Parus major major



Parus caeruleus



Dicrurus macrocercus

is the most serious predatory bird of honey bees which breeds from February to June.

They form nests in the form of tunnels in earth mound or sandy cuttings. Eggs are 4-9 in number, pure white to white, oval to round oval with an average size varies from 19.3-26.2 x 17.3-21.9 mm. They sit on trees or telephone or electric wires near apiary and pick the flying bees on wings. On an average, 700 foragers/day are eaten by a bird.

Honey guides : This is the second major bird group of predators of honeybees which comprises of 11 species under 4 genera. Among them, 2 species in Asia of which

one is found in Nagaland and Manipur. They exhibit guiding behaviour and symbiotic relationship with mammals. They prefer bee's wax to honey or honeybee larvae, as these are among the few birds that can easily digest wax.

Wood peckers and tits : Green woodpeckers are found in Haryana, Rajasthan, Gujarat and Orissa whereas Great spotted woodpeckers are found in North eastern hill states. They bore through hives to feed on larvae and even bees.

Black drongo/King crows : These are known as occasional predators of honeybees and attack is pronounced on cloudy days. The nesting of the black drongo occurs during April to August. It usually perches

and hunts close to the ground. In Hisar region, they are observed as regular predators of bees.

Management : These birds are significant in keeping the insect-pests population low in a locality. Since, they play dominant role in maintaining the ecological balance hence, no large scales measures are recommended against them. Their killing or hunting is legally prohibited as per The Indian Wild Life (Protection) Act, 1972. Keeping that in view, other means of their management are advocated which are as follows:

- Careful selection of site and relocation of apiaries at least until migration period of birds is over
- Beating the drums and empty tins
- CDs (compact discs) hanging on string on nearby trees produce random light flashes
- Hanging of 2-3 carcasses of bee-eaters or crows at 5 m height
- Install scarecrows (human effigies) or balloons with large eyespots or kite shaped like birds of prey (often

hawks)

- Keep beehives under thick canopy of trees and restrict their flight activity by provision of water near apiary
- Record and play on the amplifier the distress voice of injured bee-eater or alarm calls of birds produced by them on seeing predators
- Fixed reflective tapes of different colours (1 m x 3.5 cm) on a string near apiary
- Sound in high pitch with different notes
- Placing left over wings and pieces of meat (fankh feather meal) on nearby trees to attract kites or vultures which in turn keep the predatory birds away is also an innovative method
- Targeting birds with pieces of stones/pebbles using catapult (Gulel) or hand
- Blasting of sulphur-potash mixture using a homemade scary gun.

Received : 06.04.2018

Revised : 20.05.2018

Accepted : 29.05.2018

RNI : UPENG/2010/37541

An International Research Journal

ISSN : 0976-5611

Accredited By NAAS : NAAS Rating : 3.56

ADVANCE RESEARCH JOURNAL OF SOCIAL SCIENCE

ONLINE ISSN : 2231-6418

Visit : www.researchjournal.co.in

THE ONLY HIGH TECH MAGAZINE FOR THE INTERNATIONAL AGRICULTURE INDUSTRY

Article are invited from the scientist, subject Specialists, Teachers, Students, Farmers and Professionals in the field of Agriculture and Horticulture, Aromatic and Medicinal Plants and other Allied subjects of Agriculture and Science

(All the author must be the member of the magazine)

**Annual Subscription fee Rs. 300/-
Abroad U\$ 50.00**

**Life Subscription fee Rs. 5000/-
Abroad U\$ 750.00**

All payment should be made to
RASHTRIYA KRISHI / jk"Vh; df"k

