

Some Observations on the Breeding Activities of the Pied Myna *Sturnus contra* (Linn.)

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Abstract

Observations on the nesting preferences and breeding activities of Pied Myna *Sturnus contra* Linnaeus were recorded by scanning tree patches randomly in green belts along road links (Ludhiana to Amritsar, Chandigarh, Patiala and Sangrur routes), Sirhind canal and its three branches (covering distances of more than 80 km) and in the Punjab Agricultural University campus between 2000 to 2005. Pied Myna utilized 12 tree species and electric/telegraph poles for nesting purposes. Its breeding period extended from mid-March up to September. The clutch size was 4 to 5 eggs and average egg size was 27.50 × 20.10 mm in dimensions, average egg weight was 5.56 g. Incubation period and nestling period were about 14 days and about 25 days respectively. Parent birds raised their young ones on the diet of insects, caterpillars, white flies, spotted bollworms and *Helicoverpa* larvae. Pied Myna could play a significant role as avian bio-control agent. Pesticide and insecticide poisoning in the agro-ecosystems have become a major threat to all the common bird species (including Pied Myna). It is time to take effective bird conservation measures.

Key words : Breeding activities, Pied Myna, *Sturnus contra* (Linn.).

Pied Myna *Sturnus contra* Linnaeus is one of the most familiar birds in villages, towns and cities (1). It is a sociable, predominantly insectivorous and ground feeding species. Pied Myna *S. contra* is listed amongst the 46 species of major beneficial birds of agricultural importance, all of these devoured insect pests while six of them also preyed on rodents (2). The present communication pertains to the observations made on the nest-site preferences and the breeding activities of pied Myna *S. contra* in green belt habitats along highways, canal areas and in crop fields of Punjab.

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Methods

Field studies were made selecting and scanning tree-patches randomly in green belts along road links starting from Ludhiana to Amritsar, Chandigarh, Patiala and Sangrur routes and also along Sirhind canal and its three branches (covering distances of more than 80 km) for bird related observations between 2000 and 2005. Out of this data base, information about nesting preferences and breeding activi-

ties of Pied Myna *S. contra* was compiled. In addition, observations were taken on weekly intervals, whenever necessary on the daily basis in the Punjab Agricultural University campus in Ludhiana which is sprawling 1800 acres in area.

Observations on the Pied Myna *S. contra* pairing was undertaken at the onset of the breeding season. Information on the nest-site preferences and nesting related material was noted down. Parameters like incubation period, number of eggs and nestlings in the first and second broods, brood feeding activities like food hunting trips in the crop fields were recorded causing minimum possible disturbance to the nest, nestlings and parent birds.

Results and Discussion

Field observations indicated that the Pied Myna *S. contra* had utilized 12 tree/plant species for its nesting needs and also preferred potential nesting sites on electric/telegraph poles. Nests of Pied Myna were located on thin vertical forks in trees like mulberry *Morus alba*, *Eucalyptus* spp., *Melia azederach*, *amaltas Cassia fistula*, *siris Albizzia procera*, *shisham Dalbergia sissoo*, *jamun Syzygium cumini*, mango

Mangifera indica, banyan *Ficus bengalensis*, Peepal *F. religiosa*, neem *Azadirachta indica*, bottle brush *calliosteum* and also on the crossbars of the telephone or electric poles. Nesting material consisted of thin twigs, small grass, plant stems, pieces of paper and polythene.

Dhindsa and Saini (3) stated that the nest-site selection by common species of Punjab required special attention. It was inferred from the present study that the breeding pairs had higher number of nests on trees than on electric/telegraph poles along the canal habitats as the tree abundance provided birds with potential nesting sites. Pied Myna *S. contra* was noticed preferring mango, jamun, mulberry, banyan and peepal for their nesting sites in the green belts along canals and road links. The presence of old plantations of these thick canopy trees in these habitats favours for nesting sites. Pied Myna *S. contra* nests were abundantly present on telegraph/electric poles in the urban areas. Study confirmed that the breeding season of the Pied Myna *S. contra* is quite long in Punjab and it comprised seven months, it started in march and extended upto the September. Tyagi and Lamba (4) reported that the duration of the bond in Pied Myna for four to six months in a year.

Pairing of adult birds were observed in the second week of March. More number of copulating pairs were noticed on tree branches than on the ground. Male was occasionally heard giving out calls while mounting during the copulation activity on the ground. The maximum number of nests under constructions were observed in April. Both the sexes were involved in the nest material gathering activity. The nest construction was mainly carried out in the morning from 0600 to 0800 hours and in the evening from 1600 to 1800 hours. It took about 10 to 20 days for a pair to complete the nest. There was variation in the nest height from 2.43 × 9.14 m above the ground level.

Close observations on the pied Myna *S. contra* breeding pairs in the campus area showed that it laid generally 4 to 5 eggs at regular intervals of 24 hours. The eggs of Pied Myna were blue in color and ovoid in shape having its one end round and other one tapering. The mean clutch size was 3.9 in the first

brood. Most nests with eggs were found in the May and most nests with fledglings were noticed during May to June. About 70% of the breeding pairs were observed going in for a second brood. The largest number of second clutches were found from the latter half of June to early August. Pied Myna *S. contra* was observed laying clutches containing less number of eggs mostly three in number, generally 2 out of 3 nestlings survived and these nestlings from the second broods fled away by the end of September. Dimensions of the 20 eggs (mostly collected from the deserted nests) were measured, the average egg size was 27.50 × 20.10 mm in dimensions. The average egg weight was 5.56g and the maximum egg weight and minimum egg weights were recorded as 6.42 and 4.65 g respectively.

The incubation seemed to be done by the female as the male was mostly observed coming/perching in the vicinity of the nest. Observations showed that eggs hatched out in about 14 days. Hatchling success of 3 out of 5 clutch number was observed in most nests during the first brood. Only one nest was disturbed to note the physical features of hatchlings. They were nidicolous, pink colored and were almost naked. The day time brooding continued for a week or so, but night brooding could not be recorded.

Breeding pairs were noticed foraging in the paddy fields and raised their respective broods on the rich insect life lurking in these fields. Based on agronomic practices, water was kept standing continuously in the crop for two weeks after the paddy transplantation (5). Humid and wet conditions favored/harbored large number of insect pests which were devoured by the breeding pairs on their food bringing trips in June. Pied Myna *S. contra* both male and female were found making 12 to 15 food bringing trips per hour during the first 10—15 days of post-hatching period. When fledglings reached 20 to 22 days of their post-hatching development, they were noticed clamouring for food and made sharp, frequent noisy calls on the arrival of their parents from the food gathering trips. At that stage, nestlings were fed 4 to 6 times per hour. The nestlings were observed coming out of the nest when they were nearly 25 day old and they started accompanying their parents on food hunts for the next 10 to 15 days.

Cotton fields were located near the vicinity of electric poles supporting Pied Myna nests at one of the observations sites. Parent birds were recorded bringing spotted bollworms, *Helicoverpa* larvae, insects to their young ones in ones June and were observed picking pink bollworms, caterpillars, white flies amongst other food items in July and August. The role of birds in the biological control of insect pests had been much highlighted in literature (6). This study also showed that the Pied Myna *S. contra* raised its nestlings on rich insect diet; of which *Helicoverpa* larvae was an important component. It reflected the significant role this species as avian bio-control agent could possibly play in suppressing the agricultural pests.

Unfortunately, the excessive use of pesticides and insecticides have become a major threat to insect-eating birds like Pied Myna *S. contra* in the intensive farming system of Punjab. Even the common species have not remained so common any more. For example, House sparrow *Passer domesticus* is declining in its numbers from the densely populated areas and the open fields (7). It is time to conceive a

blueprint with an objective to encourage, protect and conserve almost all species of the birds including those which are considered common and also those on the latest IUCN Red Data List.

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