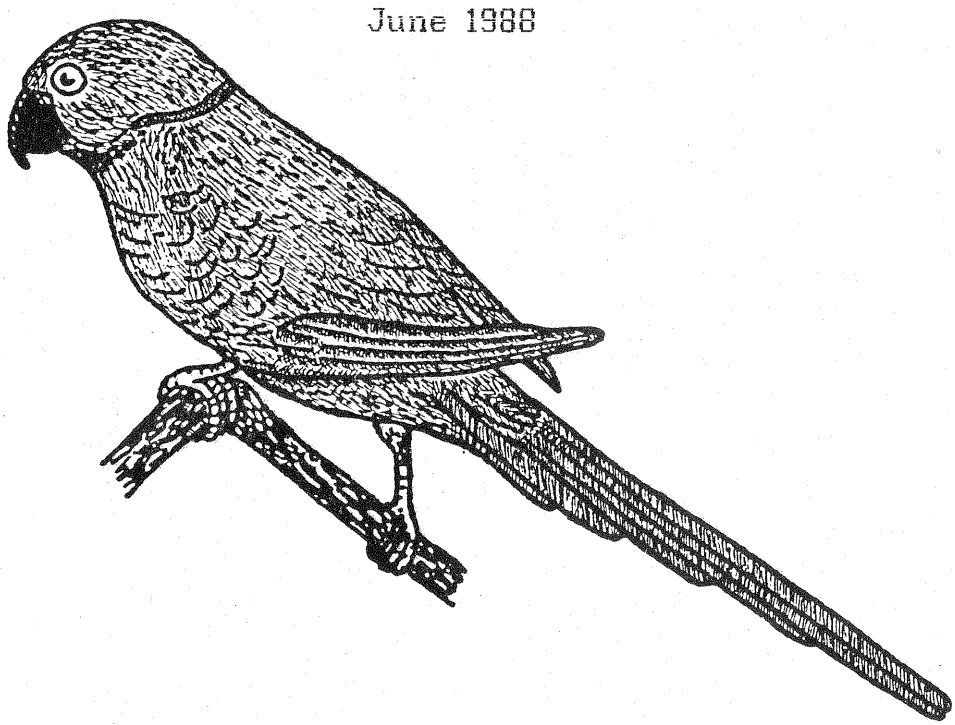
VERTEBRATE PEST CONTROL PROJECT

FOOD SECURITY MANAGEMENT
POST-HARVEST MANAGEMENT COMPONENT

A PARTIAL RESEARCH BIBLIOGRAPHY OF THE ROSE-RINGED PARAKEET (*Psittacula krameri*)

Technical Report No. 15

June 1988



GOP/USAID/DWRC

National Agricultural Research Centre
Islamabad, Pakistan

A PARTIAL RESEARCH BIBLIOGRAPHY OF THE ROSE-RINGED PARAKEET (*PSITTACULA KRAMERI*)

Joe E. Brooks*, Iftikhar Hussain* and Ejaz Ahmad*

A Govt. of Pakistan/USAID Project
Vertebrate Pest Control Project
Animal Damage Control
Animal and Plant Health Inspection Service
U. S. Department of Agriculture

Technical Report No. 15 (Unpublished)

June 1988

* Team Leader, Scientific Officer and Research Specialist, respectively, GOP/USAID/DWRC Vertebrate Pest Control Project, National Agricultural Research Centre, Islamabad, Pakistan

A PARTIAL RESEARCH BIBLIOGRAPHY OF THE ROSE-RINGED PARAKEET (*PSITTACULA KRAMERI*)

By Joe E. Brooks, Iftikhar Hussain and Ejaz Ahmad*

Identification

Rose-ringed parakeets belong to the Family Psittacidae. Parakeets constitute the largest group of the Order Psittaciformes, which are found in all the tropical regions of the world. The species *Psittacula krameri* is divided into four subspecies, depending upon distribution:

P.k. krameri - distributed in Western Africa from Guinea, Senegal and southernmost regions of Mauritania east to western Uganda and the White Nile in southern Sudan.

P.k. parvirostris - ranges from the Sennar District, Sudan, east through northern Ethopia to north-western Somalia.

P.k. borealis - occurs in Afghanistan, Pakistan, throughout northern India north of Lat. 20°N up to the Himalayan foot-hills, and from Nepal through to central Burma.

P.k. manillensis - inhabits Sri Lanka, Rameswaram Island and the Indian Peninsula south of Latitude 20°N.

The rose-ringed parakeet is a medium-sized (40 cm) bird with bright green plumage. About half the length is the long tail. The tail feathers are quite often colored a greenish-blue. The male has a distinctive black collar extending from the throat and below the cheeks where it turns finto a rose-colored ring around the hind neck. Females are similarly colored but lack the black throat collar as well as the rose-colored ring on the neck. The upper mandible of the beak is red and the lower one is blackish (Fig. 1).

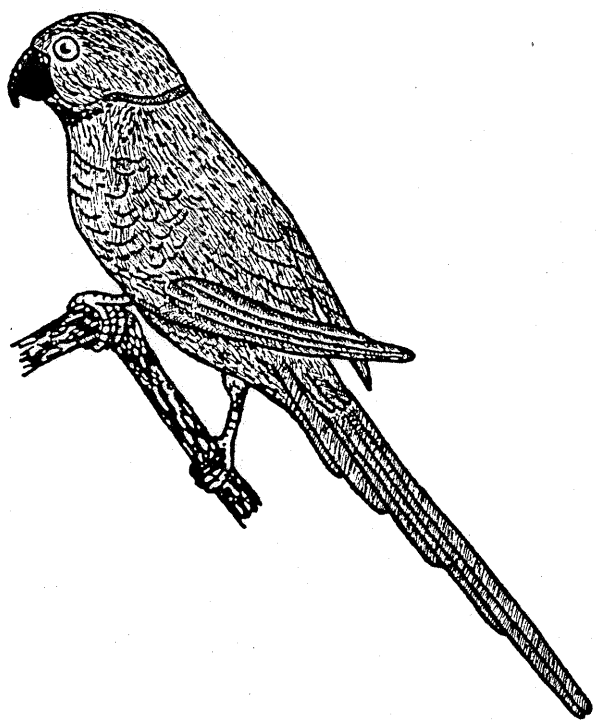


Fig. 1. Rose-ringed parakeet

Parakeets are beautifully adapted for climbing about in trees, with two toes pointing forward and two behind. They

---

* Vertebrate Pest Control Project, A GOP/USAID/DWRC Project, National Agricultural Research Centre, Islamabad, Pakistan.

sometimes visit the ground, walking along with a rolling gait on their short legs. The flight is swift and direct, with rapid wing beats, the long tail streaming behind. They give a sharp call both in flight and when on a perch.

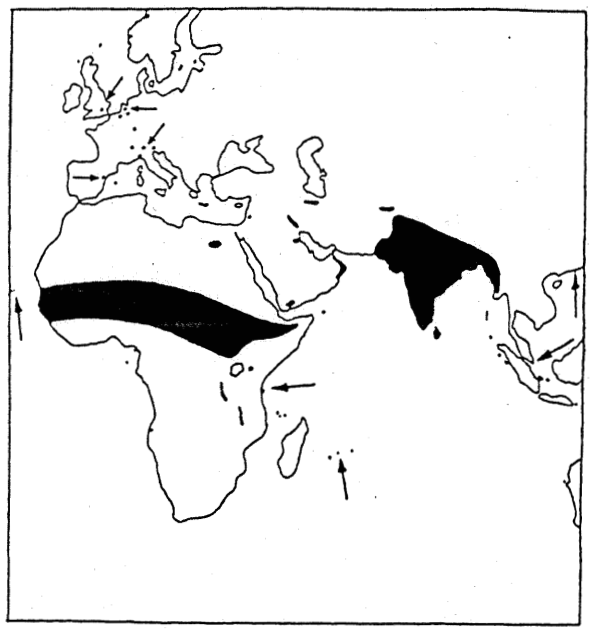


Fig. 2. Distribution of the rose-ringed parakeet.

Distribution and Habitat

Rose-ringed parakeets are distributed over two continents - Asia and Africa (Fig. 2). In Asia they are found in India, to Pakistan and Afghanistan in the west, into central Nepal in the north, and east to central Burma. In Africa they are found in a wide belt from Senegal to the coast of Ethopia.

This extensive distribution covers a wide range of habitats - parks in cities, deciduous forests, sparse groves, etc. Although they live mainly in plains, they have been seen in Kabul and Nairobi at elevations of 1600 to 1700 meters.

In India and Africa, rose-ringed parakeets are common inhabitants of deciduous woodland, light secondary jungle, semi-desert scrubland, and in gardens, orchards and cultivated farmlands. They are extraordinarily plentiful around larger cities, such as Faisalabad, Lahore, Kanpur and New Delhi.

Many parakeets have escaped their cages and today they are regarded as feral birds in many places. They have been introduced into Mauritius, Zanzibar, Egypt, Aden and Oman, Saudi Arabia, Kuwait, Iraq, Iran, Israel, Hong Kong and Macao, and Singapore. There is an early record from the Cape Verde Islands and unconfirmed reports from south-eastern China, VietNam and Lebanon.

They now are found in many countries in Europe including England, Scotland, France, Belgium, Holland, Germany, Switzerland, Austria, Spain, Italy and Yugoslavia. Their introduction into Africa has taken them into East Africa and as far South as the Transvall.

In North America, they have been noted in New York, southern California and South-east Florida. They have bred successfully in the Hawaiian Islands.

Foods and Feeding

Parakeets are exclusively vegetarian, feeding on fruits, nuts, grains, seeds and flowers. They eat citrus fruit, guava, mango, green unripe pecan and almond nuts, acacia pods, acorns, as well as buds and flowers.

Parakeets are very destructive to maize, wheat, sunflower, sorghum and other grain crops and to soft fruits, such as guava, mango, oranage and loquat. In general, parakeets are wasteful feeders, often dropping or discarding partially consumed foods. These birds are thus serious agricultural pests.

Feeding entails a method of using one foot to bring the food up to the beak while the other foot steadies the bird. Large fruits, such as oranges and guavas, which cannot be held with the foot because of their size, are eaten on the tree by clinging to the branch with both feet and leaving the core of the fruit on the stem.

Communal Roosting

Parakeets are gregarious, living in flocks most of the year except for the breeding season, when they live in pairs. They roost together in noisy, communal flocks, usually in a large grove of tall trees in the older parts of cities and towns. Quite often they are joined by large numbers of house crows and common mynas. They start arriving at the roost in the hour before sunset

The parakeets feed in flocks. Leaving the communal roosts early in the morning, they are known to fly 10 to 20 km away in search of fields and orchards in which to feed. The main feedings take place in early to mid-morning and again from mid-afternoon until dusk.

Breeding and Nesting

Ring-necked parakeets have a fairly long nesting season in Asia, from January, when pre-nesting and mating activities takes place, to the end of July, when the fledglings leave the nest. In Africa they nest from August to November.

Parakeets prefer to nest in holes - preferably in rotten or hollow trees or any other cavity in the tree trunk. If the tree hole opening is too small, the female uses her beak and feet to widen and prepare the nest, often using the discarded wood chips as part of the nest material.

Parakeets are monogamous, pairing for life. This connection between the pair also holds during the non-breeding season. The existence of small flocks, in which pairs as well as individuals participate, makes it difficult to identify the pairs.

Courtship displays take place at mid-winter - December into January. Displays include stretching and bowing of legs and breast, serving food beak to beak by the male to the female, and mutual allopreening. Sometimes courtship and mating may last for over a month or more. Copulation lasts 1 to 4 minutes, both birds remaining silent.

While the female prepares the nest throughout the courtship and mating process, her mate gathers food and feeds her. This division of labor continues until the nestlings appear at the nest entrance. Nesting parakeets gradually slacken their connection with the flock, which continues its routine of common feeding and flights to and from the roosting site. The breeding male still joins his flock in the evening flights to the roosting trees.

The normal clutch size is 3 to 6 eggs. It is the female mainly that sits on the eggs. The average incubation time is 22 to 24 days. The male continues to gather food, calling the female to come and eat, which she does by emerging from the nest to a nearby branch and eats the food served to her beak to beak.

The nestlings emerge naked; their beaks are yellow, turning red gradually. The young are blind; the eyes open on the 9th day and the first feathers appear at 15 days. Within two more weeks they are fully feathered except for the rump area. A drastic change in nestling life occurs after the 5th week, when they begin to look out the entrance hole. By loudly calling for food the location of the nest is revealed to potential predators, forcing the parents to exercise special care and watchfulness and to step up food gathering. By now the female also brings in food and the male spends the night near the nest.

Nestlings at the nest opening are seen for about 2 weeks - longer if there are more young birds. At the age of 8 weeks, the fledglings leave the nest for food. From then on it is the male that mainly cares for them. During the next week the young birds are hidden among broad leaves in trees so that they cannot be seen - only heard. Parents coming to feed their young also disclose their hiding places.

The young try to follow the parent as it flies off. These first flights are clumsy and the young birds have trouble landing. It is at this stage that they are most vulnerable. Within a short time, however, the fledglings gain proficiency in flying and in eating by holding their food in one foot. In their third week outside the nest, the young parakeets are already quick flyers. Another week and they are eating by themselves and join the flock in its flight to the roosting site.

Nesting success is not high; only about 44 to 70% of all eggs laid ended up as fledgling birds. Despite these reproductive shortcomings, the birds are remarkably successful as economic pests within their original ancestral range.

Pest Status

Since they are such noted pest birds of agriculture in their original home in the Indian subcontinent, they pose a potential threat of doing the same or worse in the newer habitats where they have become established as a feral species. Although they are vegetarian, their feeding habits cover a broad spectrum of fruits, grains, oilseeds and nuts.

In reviewing the literature available on such a well-known pest bird, one is struck by the paucity of good studies on its breeding biology, food habits, population dynamics, range of movements and general ecological requirements. Very little information is available on the pharmacology and toxicity of common bird control materials against this species. Most studies and documentation of crop damage caused by this species have been done in India and Pakistan. The entire world literature on their biology, agricultural importance and methods of controling their damage to field and orchard crops comprises only a little over 200 or so papers. These have been gathered here as a preliminary research bibliography.

This database was compiled in part from computer literature searches carried out by the library staff at the Denver Wildlife Research Center, Denver, Colorado, USA. The computer databases of BIOSIS (1969-1988), AGRICOLA (1970-1988), AGRIS International (1974-1987), The Zoological Record database (1978-1986), and the Commonwealth Agricultural Bureaux Abstracts (1984-1988) were searched. Some references were found in *Wildlife Review* and *Wildlife Abstracts* and others were taken from parakeet papers and books published on parrots and parakeets. We acknowledge the help provided by the DWRC library staff in compiling this bibliography.

This study was supported financially by the U. S. Agency for International Development under the Project "Food Security Management, Vertebrate Pest Control Project, PASA IPK-0491-P-IF-5017-04". We appreciate the support of the National Agricultural Research Centre, Islamabad, and the Pakistan Agricultural Research Council, for providing laboratory and office space at NARC.

A PARTIAL RESEARCH BIBLIOGRAPHY OF THE ROSE-RINGED PARAKEET (*PSITTACULA KRAMERI*)

Ali, M.H., B.H. K. Rao, M. Ananda Rao and P. Syamsunder Rao. 1982. Bird damage in maize (*Psittacula krameri, Zea mays, India*). J. Bombay Nat. Hist. Soc., 79(1):201-204.

Ali, M.H., N. Shivanarayan, M. Anand Rao, Aziz Banu and P. Syamsunder Rao. Feeding behaviour of rose-ringed parakeet (*Psittacula krameri*), an avian pest of crops and orchard fruits. J. Res. APAU (In press).

Ali, S. 1977. The role of birds in agriculture and forestry. Tigerpaper, 4(3):1-3.

Ali, S. and Futehally, L. 1967. Rose-ringed parakeet. Common Birds. National Book Trust of India, New Delhi, pp. 64-65.

Ali, S. and S.D. Ripley. 1969. Handbook of the birds of India and Pakistan. Vol. 3. Oxford Univ. Press, Bombay.

Angelici, F.M. 1984. Il Parrocchetto dal collare *Psittacula krameri* (Scop.) e presente in liberta anche a Roma - Avifauna, 7:179-180. (Italian).

Anon. 1981. The ring-necked parakeet recorded in the Netherlands. Vogeljaar, 29(6):323-324.

Anon. 1984. [The little Alexander parakeet is the most popular cage bird]. Kleindier Vogel Mag., 30(3):20-21. (Dutch)

Babu, R.S. and T.S. Muthukrishnan. 1987. Studies on the damage by *Psittacula krameri* (Scopoli) and *Passer domesticus* (Linnaeus) on certain crops. Trop. Pest Manage., 33(4):367-369.

Babu, A.A., V.V. Chalapathi and N. Chari. 1979. Flight characteristics and power requirements during flight of the parrot *Psittacula krameri*. Indian J. Exp. Biol., 17(2): 196-200.

Bashir, E.S. Siddiqui and I. Mian. 1981. Investigations of some aspects related to the rose-ringed parakeet damage control in sunflower in Pakistan. Report No: FAO-AGO-Pak/71/554, 10 p.

Bashir, E.A. 1979. A new "PAROTRAP" adopted from the MAC trap for capturing live parakeets in the field. In: W.B. Jackson (ed.) Proc. 8th Bird Control Seminar, Bowling Green State University, Bowling Green, Ohio, pp. 167-171.

Bashir, E. A. 1979. Notes on parakeet damage to maize, sunflower and fruit crops in Pakistan and suggested methods of control. VPC, Karachi.

Bashir, El. S.A. 1978. Review of parakeet damage in Pakistan and suggested control methods. In: Proceedings of Seminar on bird pest problem in agriculture, July 5-6, 1978. Karachi, Pakistan, pp. 22-27.

Batllori, X. and R. Nos. 1985. [Presence of monk parakeet, *Myiopsitta monachus* and rose ringed parakeet *Psittacula-krameri* in the Metropolitan area of Barcelona, Spain]. Miscellania Zool., 9(0):407-411. (Spanish)

Beg, M.A. 1978. Some observations on the biology of rose-ringed parakeet in the cultivations of central Punjab. In: proceedings of Seminar on bird pest problem in agriculture, July 5-6, 1978, Karachi, Pakistan, pp. 26-32.

Beg, M.A., M. Sarwar and A.A. Khan. 1988. Breeding behaviour and reproduction in the rose-ringed parakeet. In: Abstracts - 8th Pakistan Congress of Zoology, April 10-11, 1988, Peshawar, pp. 246-247.

Benussi, E. 1983. Contributo allo studio dell´avifauna nidificante nella provincia di Trieste - Atti Mus. civ. St. nat. Trieste, 34:127-141. (Italian).

Benussi, E. 1984. La colonia di Parrocchetti dal collare (*Psittacula krameri*) di S. Bartolomeo-Trieste - Avifauna, 7: 65-68. (Italian).

Benussi, E. and L. Dilena. 1983. Osservazioni sul Parrocchetto dal collare (*Psittacula krameri*) nidificante in provincia di Trieste - Poster al 2° Conv. Ital. Orn., Parma. (Italian).

Beri, Y.P., M.G. Jotwani, S.S. Misra and D, Chander. 1969. Studies on relative bird damage to different experimental hybrids of bajra. Indian J. Entomology, 31(1):71.

Bindra, O.S., and M.S. Toor. 1972. Harmful birds and their control. Punjab Agric. Univ., Ludhiana, India, 14 pp.

Biswas, B. 1959. On the parakeet *Psittacula intermedia* (Rothschild) [Aves: Psittacidae]. J. Bombay Nat. Hist. Soc., 56:558-562.

Brichetti, P. 1965. Guida degli uccelli nidificanti in Italia - F.Ui Scalvi, Brescia. (Italian).

Britton, P.L. (ed). 1980. Birds of East Africa. Nairobi: East Africa Nat. Hist Soc.

Bruggers, R.L., J.E. Brooks, R.A. Dolbeer, P.P. Woronecki, R.K. Pandit, T. Tarimo and M. Hoque. 1986. Responses of pest birds to reflecting tape in agriculture. Wildl. Soc. Bull., 14(2):161-170.

Bruggers, R.L., P. Sultana, J.E. Brooks, L.A. Fiedler, M. Rimpel, S. Manikowski, N. Santhalah and I. Okuno. 1984. Preliminary investigations of the effectiveness of Trimethacarb as a bird repellent in developing countries. Proc. Vertebrate Pest Conference, 11:192-203.

Bruggers, R.L. 1979. Summary of Methiocarb trials against pest birds in Senegal. In: W.B. Jackson (ed.) Proc. 8th Bird Control Seminar, Bowling Green State University, Bowling Green, Ohio, pp. 172-178.

Bull, J. 1973. Exotic birds in the New York city area. Wilson Bull., 85(4):501-505.

Bull, J. and E.R. Ricciuti. 1974. Polly want an apple? Audubon, 76(3):48-54.

Burr, E.W. 1981. Indian ring-necked parakeets in the Himalayan mountains at 12,000 feet altitude in the winter. Avicultural Mag., 87(1):54.

Cave, F.O. and J.D. Macdonald. 1955. Birds of the Sudan: Their identification and distribution, Edinburgh. Oliver and Boyd.

Chesterman, R. 1978. Parakeets in Kent. Countryside, 23(7): 362-363.

Cooper, J.E., C.S. Dewhurst and A.D. Irvin. 1971. The ring-necked parakeet *Psittacula krameri* in Nairobi National Park. East Afr. Nat. Hist. Soc. Bull., 11:173-174.

Da Prato, S.R.D. 1981. Status of ring-necked parakeet in Scotland. Scottish Birds, 11(6):201.

De Grazio, J.W. 1978. World bird damage problems. In: Proc. Vertebrate Pest Conf., 8:9-24.

Deng, Z. and G. Guan. 1981. A recent discovery to the rose-ringed parakeet (*Psittacula karameri borealis neumann*). Acta Scient. Nat. Univ. Sunyatseni, (4):129.

De Ridder, M. 1982. [Margin notes on the article on Alexander's parakeet]. Wielewaal, 48(11):370. (Dutch)

De Ridder, M. 1982. [Alexander's parakeet: An advantage or nuisance?] Wielewaal, 48(7):240-242. (Dutch)

De Ridder, M. 1983. [Margin notes (2) on the article about the ring-necked parakeet]. Wielewaal, 49(3):118-120. (Dutch)

De Ridder, M. 1984. [Rose-ringed parakeet *Psittacula krameri* in Belgium, margin notes No. 3]. Wielewaal, 50(10):373. (Dutch)

Dvir, Eran. 1985. [The ring-necked parakeet - A wild parrot in Israel.] Tzufit (Sunbird) No. 3:41-65. (In Hebrew with English summary).

Dvir, E. 1985. Ring-necked parakeets are trying to make it in Israel. Israel Ld Nat., 10(3):115-121.

Easton, A.C. 1985. Identification problems of ring-necked parakeet (*Psittacula krameri*). Suffolk birds 1983. 56.

England, M.D. 1974. Feral populations of parakeets. Br. Birds, 87(9):393-394.

Etchecopar, R.D. 1969. L'extension de Psittacula karameri (la Perruche a collier rose) an Moyen-Orient, Oiseau Revue fr. Orn., 39:178-181.

Farooqui, J. and S.S. Ahmed. 1977 (Recd 1978) Filarioid nematodes of birds of Hyderabad, Sind, Pakistan. Dep. Zool. Acta Parasitol Pol, 25(1-10):39-44.

Ferguson-Lees, I.J. and J.T.R. Sharrock. 1975. Feral populations of ring-necked parakeets. Br. Birds, 68(7):300.

Forbes-Watson, A.D. Birds naturalized in East Africa. 1972. East. Afr. Nat. Hist. Soc. Bull, 8:144-145.

Forshaw, J.M. 1978. Parrots of the world. Ed. David & Charles. London. 616 pp.

Goodman, S.M. 1982. The introduction and subspecies of the rose-ringed parakeet *Psittacula karameri* in Egypt. Bull. Br. Ornithol Club, 102(1):16-18.

Grewal, J.S. and Kapoor V.C. 1986. Bird damage and its effect on infestation by fruit-flies in various orchards in Ludhiana, India. Indian J. Agric. Sci., 56(5):370-373.

Guichard, K.M. and D. Goodwin. 1952. Notes on birds collected and observed in Oman and Hadhramaut. Bull. Mus. comp. Zool. Harv., 94:294-305.

Guraya, S.S., H.R. Dang and R.K. Parshad. 1979. Gonadal growth and regression in birds in relation to some ecological factors. Pavo, 17(1-2):71-75.

Hardy, J.W. 1964. Ringed parakeets nesting in Los Angeles, California. Condor., 66(5):445-447.

Hardy, J.W. 1973. Feral exotic birds in Southern California. Wilson Bull., 85(4):506-512.

Harvey, J. 1986. The Alexandrine parrot. Birdkeep. Aust., 29 (12):201.

Hashmi, F.Q. and A.S. Akhtar. 1974. Investigations on the taxonomy and incidence of helminths of the wild birds. Proc. Pak. Sci. Conf., 25(3): J-18. (abstract)

Hawkes, B. 1980. [The dangers of rose-ringed parakeets (*Psittacula krameri*) in Great Britain]. Vogeljaar, 28(1):18-20. (German).

Henry, G.M. 1971. A guide to the birds of Ceylon, 2nd ed. London, Oxford University Press.

Homberger, Dominique G. 1977. Functional morphology of drinking methods of parrots (*Psittaci*). Am. Zool., 17(4):871.

Hue, F. and R.D. Etchecopar. 1970. Les Oiseaux du Proche et du Moyen Orient. Paris: N Doubee. (French).

Husain, K.Z. 1959. In *Psittacula intermedia* (Rothschild) a valid species? Bull. Br. Orn. Club, 79:89-92.

Hussain, A. 1982. Nesting and food habits of rose-ringed parakeets in central Punjab.

Hussain, M. A. and H. R. Bhalla. 1937. Some birds of Lyallpur and their food. J. Bombay Nat. Hist. Soc., 39(4):831-842.

Ilani, G. and B. Shalmon. 1984. Ring necked parakeets. Israel Ld. Nat., 9(3):126.

Jennings, M.C. 1980. Breeding birds in Central Arabia. Sandgrouse, 1:79.

Jotwani, M.G., Y.P. Beri and K.K. Verma. 1969. A note on bird damage to Millet. The Allahabad Farmer, 63(1):43-44.

Karim, A. 1987. Foraging and feeding behaviour of rose-ringed parakeet. M. Phil. thesis, Dept. of Zoology, Univ. of Agriculture, Faisalabad, 70 pp.

Khajpuria, H. 1970-1972 (Recd. 1973) Feeding habits of the central Indian collared scops owl *Otus bakkamdena marathae* in captivity. Pavo (Indian J. Ornithol.), 8(1-2):11.

Khan, A.A. and I. Hussain. 1987. Bird pest damage to standing maize crop in Pakistan. Seventh Pakistan Congress of Zoology (April 25-27, 1987) Dept. of Zoology, University of Baluchistan, Quetta.

Khan, A.A. and A. Wadood. 1984. Food preference studies on rose-ringed parakeet, *Psittacula krameri (scopoli)*. Bulletin Zool., 2:39-43.

Khan, A.A. and S. Ahmad. 1983. An evaluation of Avitrol on Parakeets in Pakistan. Ninth Bird Control Seminar, Bowling Green State University, Bowling Green, Ohio, pp. 255-259.

Khan, A.A. and S. Ahmed. 1983. Parakeet damage to sunflower in Pakistan. Proc. Ninth Bird Control Seminar, Bowling Green, Ohio, pp. 191-195.

Kinzelbach, R. 1986. New records of Alexander's parrot, *Psittacula krameri*, from Egypt and the Levant countries. Zoology Middle East, 1:69-72.

Kuroda, N. 1975. A consideration on the large parakeets of the species *Psittacula eupatria.* Bull. Biogeogr. Soc. Jpn., 30(5):61-72.

Lamba, B.S. 1966. Nidification of some common Indian birds the rose-ringed parakeet *Psittacula krameri* young. Proc. Zool. Soc. (Calcutta), 19(1):77-85.

Lockett, J. 1984. Ring-necked parakeet. Bulletin Basildon Nat. Hist. Soc., No. 80: 8.

Long, J.L. 1985. Damage to cultivated fruit by parrots in the South of Western Australia. Aust. Wildl. Res., 12:75-80.

Long, J.L. 1984. The diets of three species of parrots in the south of Western Australia. Aust. Wildl. Res., 11:357-371.

Maitra, Saumen Kumar. 1986. Annual testicular cycle of blossomheaded parakeet, *Psittacula cyanocephala* (Aves, Psittacidae), under natural environmental conditions. J. Interdiscip. Cycle Res., 17(3):213-223.

Malhi, C.S. and S.S. Brar. 1987. Damage by rose-ringed parakeet *Psittacula krameri* to papaya carica papaya at Ludhiana, Punjab, India. Indian Journal of Forestry, 10(2):156-158.

Malhi, C.S. and S.S. Brar. Dec. 1985. Damage to Ber (*Ziziphus mauritiana* Umran) by rose-ringed parakeet (*Psittacula krameri*) at Ludhiana (Punjab). Indian Journal of Forestry, 8(4):290-292.

Mandal, A., S. Chakraborty and P. Lahiri. 1986. Hematological changes produced by Lindane (-HCH) in six species of birds. Toxicology, 40(1):103-111.

Manikowski, S. and M. Da Camara-Smeets. 1978. Estimating bird damage to sorghum and millet in Chad. J. Wildl. Manage., 43(2):540-544.

Mannaert, P. 1982. [Ring-necked parakeets (*Psittacula krameri*) also in Belgium]. Veldornitologisch Tijdschr., 5(4):182-185. (Dutch)

Marchant, S. 1961. Iraq bird notes - 1960. Bull. Iraq nat. Hist. Mus., 1(4):1-37.

Meyer de Schauensee, R. and S.D. Ripley. 1953. Birds from Oman and Muscat. Proc. Acad. nat. Sci. Philad., 105:71-90.

Mohan, K. and V.K. Magon. 1981. Studies on the physiology of digestion in *Psittacula krameri* (Scop). Uttar Pradesh J. Zool., 1(1-2):82-86.

Musil, A. 1970. Color mutations in parrots. Gefiederte Welt 94(4):176-178.

Norris, T. 1971. Ring-necked parakeet *Psittacula krameri*. East Afr. Nat. Hist. Soc. Bull., 12:200.

Panicker, K.W. 1980. Ecology of the hole nesting birds. J. Bombay Nat. Hist. Soc., 75 (Supplement): pp. 1227-1237.

Paton, P.W.C., C.R. Griffin and L.H. Macivor. 1982. Rose-ringed parakeets nesting in Hawaii: A potential agricultural threat. Elepaio, 43(5):37-39.

Pearson, E.W. 1967. Birds. In: Damage to food supplies in the diet deficient regions of the world. pp. 14-17.

Poche, R.M., M.A. Karim and M.E. Hoque. 1980. Bird damage control in sprouting wheat. Bangladesh J. Agric. Res., 5(2):41-46.

Puget, A. 1970. Observations on *Psittacidae* living in Afghanistan. Alauda, 38(4):306-309.

Qureshi, J.I. 1980. Granivorous bird pests of Pakistan and their control. Pakistan J. Sci., 32(1-2):91-94.

Ramzan, M. and H. S. Toor. 1973. Damage to maize crop by rose-ringed parakeet *Psittacula krameri* in the Punjab. J. Bombay Nat. Hist. Soc., 70(1):201-204.

Ramzan, M. and H.S. Toor. 1972. Studies on damage to guava fruit due to rose-ringed parakeet, *Psittacula krameri* (Scopoli) at Ludhiana. Punjab Hortic. J., 12(2 & 3):144-145.

Rao, S.B.P. and D.V.N. Rao. 1953. Birds damage to Jowar. Madras Agric. J., 40:466-467.

Rao, G.S. and N. Shivanarayan. 1981. Note on the food of nestlings of rose-ringed parakeet *Psittacula krameri* in Hyderabad, India. Pavo, 19(1-2):97-99.

Reddinguis-Antink, J.H. 1981. [Ring-necked parakeet in Rijswick Z.-H.] Vogeljaar, 29(6):325. (Dutch)

Roberts, T.J. 1974. Bird damage to farm crops in Pakistan with special reference to sunflower (*Helianthus annus*). FAO/71/554. 10 pp.

Roscoe, D.E., W.B. Stone, L. Petrie and J.L. Renkavinsky. 1976. Exotic Psittacines in New York State. N.Y. Fish Game J., 23(1):99-100.

Sandhu, P.S., M.S. Dhindsa and M.S. Toor. 1987. Evaluation of methiocarb and thiram as seed treatments for protecting sprouting maize from birds in Punjab (India). Trop. Pest Manage., 33(4):370-372.

Sandhu, P.S. and M.S. Dhindsa. 1982. Damage by rose-ringed parakeet *Psittacula krameri* and some other animal pests to almond at Ludhania, Punjab. Indian J. Agric. Sci., 52(11): 779-781.

Sane, S.R., P. Kannan, C.G. Rajendran, S.T. Ingle and A. M. Bhagwat. 1986. On the taxonomic status of *Psittacula intermedia* (Rothschild). J. Bombay Nat. Hist. Soc., 83(Suppl.):127-134.

Sane, S.R. and P. Kannan. 1985. Down plumage in parakeets, *Genus Psittacula*. J. Bombay Nat. Hist. Soc., 82(1):200-201.

Sarkar, A.K. and T.N. Seth. 1986 1982. Seasonal changes in the reproductive system of the female rose-ringed parakeet. *Psittacula krameri borealis* (Neumann). Proceedings Zool. Soc., Calcutta, 35(1-2):1-11.

Sarkar, A.K. 1981. Luteoidal effect on the female reproductive organs of rose-ringed parakeet. *Psittacula krameri* borealis. Comp. Physiol. Ecol., 6(4):293-295.

Sarwar, M. 1987. Breeding behaviour, nest density and roosting habits of the rose-ringed parakeet. M.Phil. thesis, Dept. of Zool. and Fish., Univ. of Agri. Faisalabad, 80 pp.

Sawa, H., K. Hirai, T. Kinjo, I. Shibata and S. Shimakura. 1981. *Salmonella typhimurium* infection in imported passerine and psittacine birds. Japanese J. Vet. Sci., 43(6):967-969.

Sekhon, S.S. 1966. Studies on the nidification behaviour and damage by sparrows and parrots in Punjab. M.Sc. Thesis Punjab Agric. Univ., Ludhiana.

Shafi, M.M., A.A. Khan and I. Hussain. 1986. Parakeet *Psittacula krameri* (Scopoli) damage to citrus fruits in Punjab Pakistan. J. Bombay Nat. Hist. Soc., 83(2):438-444.

Sharma, I.K. 1976. Pestilence and food habits of the Indian rose-ringed parakeet, *Psittacula krameri* Neumann. Agric. Res. Newsletter., Agr. Res. Communication Centre, Karnal India, 4(7-9):1-5.

Shivanarayan, N., K. Seshachalam Babu and M. Hamid Ali. 1981 (1982). Breeding biology of rose-ringed parakeet *Psittacula krameri* at Maruteru.

Simwat, G.S. 1975 (1977). Control of rose-ringed parakeet in Punjab. Indian J. Agric. Sci., 45(6):269-272.

Simwat, G.S. and A.S. Sidhu. 1974 (1976) (Recd 1977). The spotted owlet, *Athene brama*, harmless to the nestlings of *Psittacula krameri*. Indian J. Entomol., 36(2):168.

Simwat, G.S. and A.S. Sidhu. 1974. Food preference of the rose-ringed parakeet. Indian J. Agric. Sci., 44(5):304-305.

Simwat, G.S. and A.S. Sidhu. 1973. Nidification of rose-ringed parakeet *Psittacula-krameri* in Punjab, India. Indian J. Agric. Sci., 43(7):648-652.

Simwat, G.S. and A.S. Sidhu. 1973. Studies on the feeding habits of rose-ringed parakeet *Psittacula krameri*. Indian J. Agric. Sci., 43(6):607-609.

Singh, A. K. and P. Kumar. 1982. Damage to maize and guava crops by *Psittacula krameri*. In: Proceedings of the Symposium on Management of Birds in Agriculture and Aviation. Agarwal, R.A. and Bhatnagar, R.K. (eds). Indian Agricultural Research Institute, New Delhi, pp. 164-167.

Skarnik, I. 1985. [How can ring-necked parakeet *Psittacula krameri* occur on the Slovene Coast? Acrocephalus 6 No. 25: 44-45]. (Eng. Summ.)

Smith, G.A. 1972. Some observations on ring-necked parakeets *Psittacula krameri*. Avic Mag., 78(4):120-137.

Smith, G.A. 1972. Nesting and nestling parrots. Avic Mag., 78(5):155-164.

Smith, G.A. 1976. Notes on some species of parrot in captivity. Avic Mag., 82(2):73-83.

Smith, G.A. 1986. Colour mutations in the ringneck parakeet *Psittacula krameri*. Mag Parrot Soc., 20(1):2-11.

Smythies, B.E. 1953. The birds of Burma, 2nd ed., Edinburgh. Oliver and Boyd.

Spano, S. 1984. I parrocchetti *Psittacula karameri* si sono ambientati allo stato libero anche nella citta di Genova. Avifauna, 7:58. (Italian).

Spano, S. and G. Truffi. 1986. [Records of free-living individuals of rose-ringed parakeet *Psittacula-krameri* from Europe with particular reference to presences in Italy and first data on monk parakeet *Myiopsitta monachus*.] Riv. Ital. Ornitol., 56(3-4):231-239. (Italian, Eng. summ).

Spano, S. and G. Truffi. (In prep.). Gli uccelli della Liguria occidentale.

Srivastava, C.B., K.C. Pandey and V. Tayal. 1984. Studies on some avian cestodes of Lucknow and Faizabad Districts, Uttar Pradesh. J. Zool. Soc. India, 35(1-2):82-113.

Sudershan Rao, G and N. Shivanarayan. 1981. Note on the food of nestlings of rose-ringed parakeet in Hyderabad. Pavo, 19(1-2):97-99.

Sultana, P. and J.E. Brooks. 1986. Laboratory and field evaluation of 4 Aminopyridine Avitrol as a bird repellent in Bangladesh. Bangladesh J. Agric., 11(4):49-54.

Sultana, P., J.E. Brooks and R.L. Bruggers. 1986. Repellency and toxicity of bird control chemicals to pest birds in Bangladesh. Trop. Pest Manage., 32(0):000-000.

Telleria, J.L. and C. Saez-Royuela. 1986. [The use of the frequency in the study of large mammals abundance]. Acta OEcol. OEcol. Appl., 7(1):69-75. (In Spanish with French and Eng. summ).

Tessier-Yandell, J. 1975 (Recd. 1976). Unusual behavior of *Psittacula krameri borealis*. J. Bombay Nat. Hist. Soc., 72(2):538.

Tombeur, F.L.L. 1983. [*Psittacula krameri* also occurring in Belgium.] Veldornitologisch Tijdschr., 6(1):35-36.

Toor, H.S. and P.S. Sandhu. 1981. Bird damage to peach, *Prunus persica batsch*. Indian J. Ecol., 8(2):308-310.

Toor, H.S. and M. Ramzan. 1973. Seasonal food and feeding habits of the birds of the Punjab Part 1. J. Res. Punjab Agric. Univ. Ludhiana, 11(2):191-196.

Toor, H.S. and M. Ramzan. 1973. The extent of losses to sunflower due to rose-ringed parakeet, *Psittacula krameri* (Scopoli) at Ludhiana, (India). J. Res. Punjab Univ., Ludhiana, 11(2):197-199.

Van Someren, G.R.C. 1969. Escapes of *Psittacula krameri* and *Agapornis* spp. breeding in Kenya. Bull. Br. Orn. Cl., 89(5): 137-139.

Vaurie, C. 1965. The birds of the Palearctic Fauna: Non Passeriformes, London. Witherby.

Verma, S.K. 1980. Field pests of pearl millet in India. Trop. Pest Manage., 26(1):13-20.

Vijayan V. and S. Sulochana. 1985. Prevalence of Newcastle disease among Indian parrots *Psittacula krameri*. Kerala J. Vet. Sci., 16(2):61-64.

Vijayan V. and S. Sulochana. 1985. Susceptibility of the common Indian parrot *Psittacula krameri* to Newcastle disease virus. Kerala J. Vet. Sci., 16(2):65-72.

Vincent, J. 1972. A new addition to the list of South African birds. Ostrich., 43(4):234-235.

Walker, F.J. 1981. Notes on the birds of Northern Oman. Sandgrouse, 2:45.

Walters, Michael. 1985. On the status of *Psittacula intermedia* (Rothschild). J. Bombay Nat. Hist. Soc., 82(1):197-199.

Weissenbacher, B.K.H. and A. Allan. 1985. Roseringed parakeet breeding attempts in the Transvaal. Ostrich, 56(1-3):169.

Whistler, H. 1963. The green parakeet, *Psittacula krameri* (Scopoli). Popular Hand Book of Indian Birds, pp. 334-335. India Oliver & Boyd, Edinburgh, London.

Zia. S. 1982. Breeding and roosting habits in rose-ringed parakeets around Faisalabad. M.Sc. Thesis, Univ. of Agric. Faisalabad, Pakistan.