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A NEW "PAROTRAP" ADAPTED FROM THE MAC TRAP FOR CAPTURING LIVE PARAKEETS IN THE FIELD

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The Rose-ringed parakeet (*Psittacula krameri* [Scopdi]) has been reported (Roberts, 1974; Bashir, 1978; Beg, 1978; and DeGrazio, 1978) as a serious bird pest of maize, sunflower, rape seeds, and fruit crops, particularly citrus, mangoes, and guavas, in Pakistan. Estimated annual losses to maize grown for seed alone amount to about 97,000 tons, worth about Pak. Rs. 150 million or US $15 million (Roberts, 1978). Paradoxically, this handsome bright green parakeet is highly esteemed in the pet trade; and limited numbers are also marketed locally and sometimes exported to neighboring countries, particularly the Arab Gulf Emirates, as caged pets.

Traditional control methods aimed at scaring or chasing birds from the crops, usually with noise-making devices, are costly; furthermore, they have largely been unsuccessful and time consuming because they require human patrolling before and after normal working hours. They provide at best only temporary relief.

The aim of this study was to develop a new decoy trap based on the Modified Australian Crow Trap (MAC), which we propose to call the PAROTRAP, and to evaluate its effectiveness and potential in capturing live parakeets in the field as a possible solution to the parakeet problem, as well as promoting the economic exploitation of trapped parakeets for the pet trade.

The study was undertaken during March and June 1979 as a part of the UNDP/FAO Project No. PAK/71/554, assisting Pakistan Vertebrate Pest Control Centre in developing and improving control techniques to prevent or reduce bird damage to important crops. Our earlier trials showed that parakeets could be induced to enter a conventionally designed MAC trap, and that after some time they learned how to escape from it. Therefore, a series of minor modifications were introduced and field tested.

MATERIALS AND METHODS

As shown in Fig. 1(a), the new PAROTRAP, adapted from the MAC trap described by Royall (1969), Palmer (1970), and Boudreau (1975), has been developed. Two versions, one measuring 5' 6" long x 4' wide x 8' high, and another measuring 8' long x 8' wide x 6' high, were tested. The former was placed in a one acre wheat plot close to a parakeet roost on the university campus, and the latter was placed in an eight acre sunflower field in Multan, Central Punjab Province.

Each trap (Fig. 1(b)) consisted of six separate pieces and one entrance board in which two longitudinal slots had been cut which were designed to allow parakeets to enter the trap without being able to fly out again. Bolts and nuts were used to enable traps to be assembled or dismantled easily in 10-15 minutes. Each trap was also provided with two to four decoy birds (both sexes), a locally manufactured one-gallon poultry drinker, and food (fruits and millet seeds), which was replenished as required to sustain decoy and trapped birds. Tree branches were placed in trap corners to provide perches. Traps were located at the edge of a ripening crop or at sites likely to produce a good catch.

Four basic new adaptations are essential elements in the design of the PAROTRAP. They are as follows:

a. The width of each longitudinal slot in the top entrance board was changed to

measure 1¾ inches instead of 1½ inches as recommended by Boudreau (1975) for house sparrows, finches, blue birds and waxwings.

b. The length of each slot was decreased six inches (3 inches on each end), to create a barrier against the side walls of the trap to prevent zygodactyle parakeets from climbing out at the end of the board adjacent to the wire mesh walls.
c. Two thin, smooth sheets of tin (2 inches wide) were placed along the inner length of the two outer most edges of the slots that lie inside the trap at about a 45° angle to deprive the entering parakeets from using their feet and hooked bills in climbing their way along the length of the slots.
d. A large wooden or metal food tray (3' x 1' x 2") filled with fresh guava fruit and dry millet seeds as bait was placed inside the trap. The tray was hung from the roof of the entrance board about one foot from its roof. This makes the food more visible and attractive to parakeets which have been observed approaching the tray by landing on the top roof ridges looking for food. The placement of the food tray proved to have a significant impact on attracting more birds. Previously, when the tray was placed on the floor of the trap or at a lower level, the birds were observed climbing all over the outside of the trap walls attempting to reach the feeding site.

RESULTS AND DISCUSSION

As shown in Table 1, the total number of parakeets trapped in site 1, using one trap of the first version, and in site 2, using four traps of the second version, was 86 in 12 days (average 7.16 birds/trap days) as compared to 76 in 9-12 days (average 6.9 birds/trap days/4 traps - or 1.72 birds/trap days/individual trap) at site 2. Catch/trap days for traps 1, 2, 3, and 4 in site 2 were 2.7, 1.4, 1.5, and 1.54, respectively.

After four traps were installed in an eight acre sunflower field, the overall % of damage (Bashir, 1979) was reduced from 13.4% before trapping to 4.8% nine days after trapping, a reduction of 71.6%.

These trials indicate that this new PAROTRAP, adapted from the old MAC trap, can effectively capture large numbers of parkeets in the field in a relatively short period under our prevailing conditions. Our experience also indicates that the first version of the trap is easier to assemble, dismantle and relocate.

The advantages of this technique over other parakeet control methods are that:

a. It is a nonlethal, portable, self-operating trap which strongly attracts parakeets by bait visibility, by the feeding behaviour, and by the different combinations of calls uttered by the decoy birds.
b. It is economical, easy to operate, and can be used both as a control method and as a continuous source of live, healthy, green parakeets for the pet trade.
c. It can be manufactured by a local carpenter using our own plan drawings, and it can be used for a number of years, if well maintained.

These promising trials have provided justification for further trap modifications, particularly the use of stronger materials in building the trap since parakeets, if left inside the trap for a long period, are capable of gnawing and cutting their way through wood and chicken mesh wire at the trap corners.

Further investigations are required to precisely determine the capturing capability of the trap under different cropping systems throughout the season, the correct placement and relocation of the trap, the number of traps required per crop area, information relating to how and when the trapped birds should be removed from traps, and finally the overall economics of the trap as a pest control technique.

In conclusion, we believe that the most important feature of this live trapping control method is that it provides economic exploitation of a crop pest at the same time it is protecting orchards, maize, and sunflower crops. Large numbers of parakeets can be collected by use of the PAROTRAP and consumed locally as food or marketed as pets. Undoubtedly the difficulty in securing this wary bird has limited its potential availability as a source of food. In one locality of Punjab in Pakistan, Khushab district, we learned in March 1978 that professional bird trappers are catching parakeets with clap nets and selling them to local restaurants as food. However, in most areas there seems to be some local prejudice against eating parakeets.

CONCLUSIONS

A new PAROTRAP, adapted from the known MAC trap by introducing four basic elements in its design, has been developed and field tested for capturing live parakeets in Pakistan. It proved to be economical and easy to operate and effective under different local situations. Its unique feature is the fact that it can be used by an average grower, not only as a control method for reducing parakeet damage to crops, but also as a continuous source for providing the pet trade with handsome and healthy, green parakeets.

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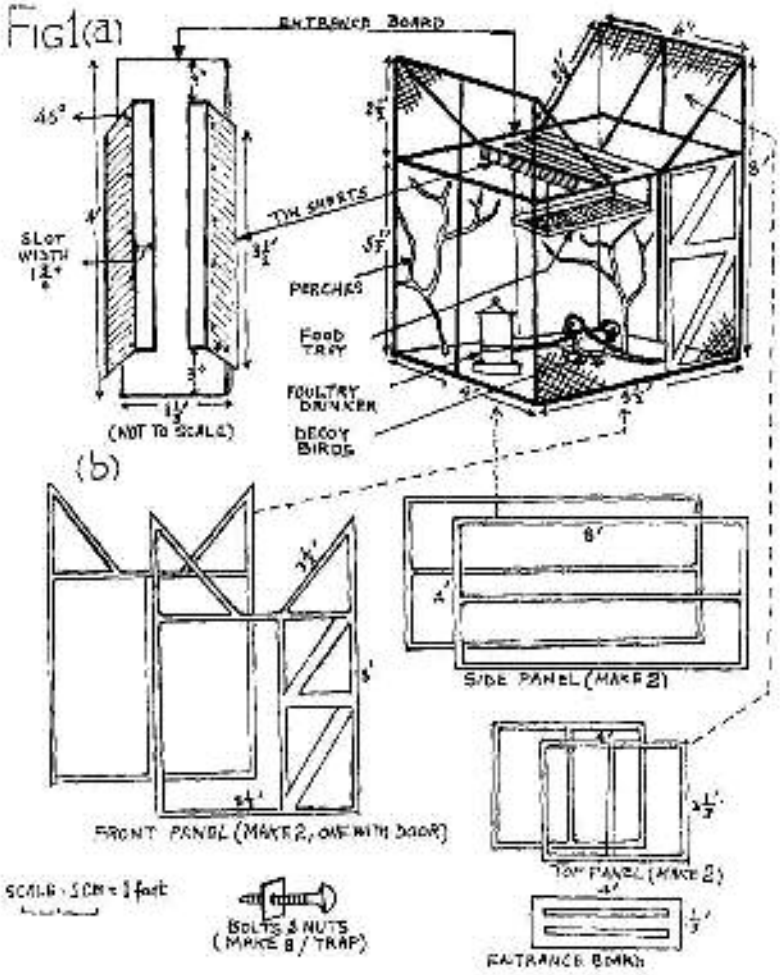
TABLE 1 - MEAN CATCH/TRAP DAYS OF PARAKEETS USING TWO VERSIONS OF PAROTRAP IN THE FIELD

TRAPPING DAYS	SITE (1) USING 1ST VERSION OF TRAP DECOYS 2-4	SITE (2) USING 2ND VERSION OF TRAP			
		TRAP 1 DECOYS 2	TRAP 2 DECOYS 2	TRAP 3 DECOYS 2	TRAP 4 DECOYS 2
DAY 1	3	0	0	1	3
2	5	3	3	1	4
3	21	3	1	5	0
4	24	2	0	3	0
5	7	6	2	4	3
6	9	0	1	0	2
7	1	7	3	2	3
8	4	3	2	0	1
9	0	0	1	0	0
10	0	-	4	2	0
11	0	-	0	0	1
12	12	-	0	-	-
TOTAL NUMBER TRAPPED	86	24	17	17	17
TOTAL NO. TRAP DAYS	12	9	12	11	11
MEAN CATCH/TRAP DAYS	6.9	2.7	1.41	1.54	1.54



DESIGN OF A NEW **PAROTRAP** ADAPTED FROM MACTRAP