

REFERENCES

- Hoglund, J. & Lundberg, A. 1989. Plumage color correlates with body size in the Ruff (*Philomachus pugnax*). *Auk* 106: 336-338.
- Lank, D.B. & Piersma, T. 1988. RUFFNET: a ringing study of plumage and behavioural polymorphisms in ruff. *Wader Study Group Bull.* 53: 4-5.
- Lank, D.B., Clinchy, M., Zanette, L. & Smith, C. 1989. Satellite Ruffs (*Philomachus pugnax*) are not wimps. *Abstr., Amer. Ornithol. Union*, 1989.
- van Winden, A., Mostert, K., Ruiters, P., Siki, M. & de Waard, H. 1989. *Waders and waterfowl in spring 1988 at Eber Golu, Turkey*. WIWO report No. 28.
- David Lank, Department of Biology, Queen's University, Kingston, Ontario, Canada K7L 1N6.
Theunis Piersma, NIOZ, PO Box 59, 1790 AB Den Berg, Texel, The Netherlands.

THE EASTERN MEDITERRANEAN WADER PROJECT 1990

A CALL FOR WADER WATCHERS AND COLOUR MARK OBSERVATIONS

The WIWO (Foundation Working Group International Wader and Wildfowl Research) will co-ordinate an international wader project in Greece, southern Turkey and Tunisia in spring 1990. Simultaneously, a joint project with the Foundation for Ornithological Research in Egypt will start in the Nile Delta in Egypt. These projects will be carried out from 1 March to 31 May 1990 and will involve the counting, trapping and colour marking of waders.

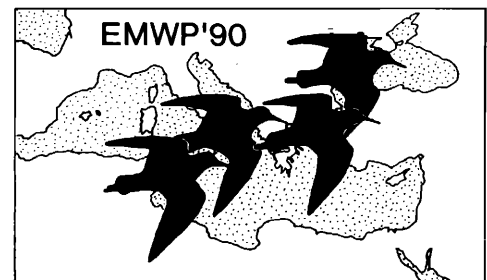
The main objective is to gain insight into the migration routes and strategies of waders during spring migration through the eastern Mediterranean region. Much information is still needed to delimit the Eastern Mediterranean Flyway in the west (are there connections with the well studied East Atlantic Flyway?) as well as the east (the Central Asian-East African Flyway). The main stop-over sites during spring migration are still largely unknown.

SITES AND ORGANISATIONS INVOLVED

The project in Egypt will be carried out in the Nile Delta (mainly Lake Manzala) in close co-operation with the IWRB and the Egyptian Wildlife Service. In Turkey, the study area is situated in the Cukurova Deltas (Akyatan Golu) in Southern Turkey and the project is jointly organised with the Society for Protection of Wildlife in Turkey and the Cukurova University. In Tunisia, the main study area will be the Gulf of Gabes and the organisations involved are the Association le Amis des Oiseaux and the Institut National des Recherches Scientifique et Techniques. In Greece, the Gulf of Messolongion has been chosen as a study area and the project will be carried out in collaboration with the Hellenic Ornithological Society and the ringing group in Messolongion. Local participants are involved in all projects.

COLOUR-MARKED WADERS AND COUNTS

Simultaneous counts every week in all study sites will give information on the timing of migration in the different study areas and potential exchange between them. In addition, waders will be trapped and colour marked (with plumage dyes and leg flags) in Tunisia and Egypt to provide direct observations of migrational links between the areas. Biometrics, plumages, moult status and weight changes might give additional data on the populations involved and their migration strategies.



BIRD WATCHERS NEEDED

Because of the low density of observers in the eastern Mediterranean and eastern Europe, there is a need for wader watchers to concentrate their search for colour marked waders and counting on other important wetlands in this region. This extension of the EMWP '90 is now under the umbrella of the Wader Study Group and regular progress reports will appear in the *Wader Study Group Bulletin*. Contacts are already established with ornithological groups in Israel, Malta, Italy, Hungary, Czechoslovakia, Yugoslavia, Austria and the Soviet Union (the Black Sea region). Areas which especially deserve more attention are: southern Italy, north-east Greece, western Turkey, Bulgaria and Romania. Any information on departures of waders in western, central and eastern Africa will also be very valuable.

SLENDER-BILLED CURLEW AND OTHER TARGET WADER SPECIES

One of the most important, but rarest wader species whose migration is almost completely limited to this region is the Slender-billed Curlew *Numenius tenuirostris*. With respect to this species, all work will be undertaken in close co-operation with Adam Gretton of the ICBP, who for the last two years has been the co-ordinator of a special ICBP project on this highly endangered species. Therefore, the Slender-billed Curlew will be one of the special target species of the EMWP. The other target species will be: Little Stint *Calidris minuta*, Curlew Sandpiper *C. ferruginea*, Dunlin (the central Siberian population) *C. alpina*, Ruff *Philomachus pugnax*, Kentish Plover *Charadrius alexandrinus*, Black-tailed Godwit *Limosa limosa*, Redshank *Tringa totanus*, Spotted Redshank *T. erythropus*, Greenshank *T. nebularia*, Wood Sandpiper *T. glareola*, Marsh Sandpiper *T. stagnatilis* and Avocet *Recurvirostra avosetta*. In addition, information on all other species will be gathered.

CO-ORDINATOR

All ornithologists who are interesting in joining this large scale project under the umbrella of the Wader Study Group, and who are able to cover a wetland in the Eastern Mediterranean or Eastern Europe in spring 1990, are invited to contact the EMWP '90 co-ordinator as soon as possible:

Vincent van den Berk,
Noordereind 3a,
4012 BT KERK AVEZAATH,
THE NETHERLANDS.

Further information on localities and counting dates will be sent on request, together with record sheets.

Please send any sightings of colour-ringed waders to the Wader Study Group, Colour-mark Register, P.O. Box 247, Tring, Hertfordshire HP23 5SN, UK. These will then be promptly forwarded to the EMWP '90 co-ordinators as appropriate.

Tom van der Have, Department of Population Biology and Evolution, University of Utrecht, P.O. Box 80.055, 3508 TB Utrecht, THE NETHERLANDS.

Vincent van den Berk, Noordereind 3a, 4012 BT Kerk Avezaath, THE NETHERLANDS.

THE AUTUMN MIGRATION OF WADERS IN THE PUSZTA HORTOBAGYI

J. van Impe

Many papers in the Hungarian literature discuss the occurrence and the timing of migration of rare waders (e.g. Beretzk & Keve 1957, 1964a, 1964b). This paper, however, is concerned with the common species. It aims to demonstrate the great value of the Hortobagy area as a haunt for waders migrating through Central Europe. The paper presents also some preliminary results on the adult/juvenile ratio in waders during autumn. Information on adult/juvenile ratio is scarce for large areas of Central Europe (Glutz von Blotzheim et al. 1975, 1977, OAG Munster 1988).

MATERIALS AND METHODS

The puszta Hortobagy (47° 37' N 21° 47' E) is one of the most outstanding nature sanctuaries in Central Europe. It extends to over 60 000 ha, of which about 43 500 ha are within the Hortobagy National Park (H.N.P.) (Figure 1). The canalisation of the river Tisza in the middle of the 19th century has caused the area to become a sodic dry grassland. The biotope has since become wetter, especially after World War II, through the construction of fish-ponds, goose farming, and the irrigation of rice fields. During the last decades, the ecological conditions of the pastures have again changed, because the practice of grazing cattle has lost its economic value and has been gradually abandoned. As a result, the vegetation has become taller and denser and has to be removed. Regular artificial floodings are now carried out, mainly for nature conservation purposes. These two transformations have greatly influenced both breeding and migrating birds, and enhanced their abundance and diversity (Sterbetz 1975, Kovacs 1964a). The actual state of the H.N.P. and its adjacent areas is excellently described by Mahunka (1981) and in papers by Kovacs (1984a, 1984b).

The migration of waders was studied in the H.N.P. and its surroundings during 7-14 September 1978, 19 August - 1 September 1979, 14-24 July 1982, 9-24 August 1984 and 7-19 August 1987. A part of the puszta Kunmadarasi was not visited owing to governmental restrictions but the large fish-ponds of Viragoskut 6 km north of the village of Balmazujvaros were included in the survey. No

substantial deviations from the long-term mean of the weather data were recorded during any of our stays. For each year the bird counts made on the individual wetlands were added up, corrected, and divided into half-month periods from 16 July to 15 September. Because of the large distances between the wetlands, the sudden habitat changes and hunting activities, a complete survey of the area was often complicated and proved almost impossible during the visit in 1987.

Observations were made from a car with a 50x50 telescope and in good weather conditions. Field determination of the plumages followed Prater et al. (1977). It was not possible to distinguish age-classes in several species (e.g. Snipe *Gallinago gallinago*, Redshank *Tringa totanus* and Green Sandpiper *T. ochropus*) and the numbers of Greenshank *T. nebularia* and Common Sandpiper *Actitis hypoleucos* examined were insufficient to reach useful conclusions.

RESULTS AND DISCUSSION

Altogether 29 wader species were observed. Table 1 lists the range of numbers counted per half-month for the 17 most common species. Two local breeding species, the Little Ringed Plover *Charadrius dubius* and the Avocet *Recurvirostra avosetta* showed no migration movements and were excluded. Grey Plover *Pluvialis squatarola* and the Marsh Sandpiper *T. stagnatilis* were excluded because numbers were very small: no more than 6 and 4 birds respectively of these species were counted during each of the observation periods.

The Ruff was the most numerous migrant. Along with the Lapwing, the Black-tailed Godwit and the Spotted Redshank they constituted more than 75% of all waders observed. Only one bird of each of seven species were seen: Stone Curlew *Burhinus oedicephalus*, Collared Pratincole *Glareola pratincola*, Kentish Plover *Charadrius alexandrinus*, Broad-billed Sandpiper *Limicola falcinellus*, Great Snipe *Gallinago media*, Bar-tailed Godwit *Limosa lapponica* and Turnstone *Arenaria interpres*.

Table 2 presents the percentages of juveniles for four of the commonest species. During every