significantly higher numbers than the 2 000-5 400 birds reported by Perco (1984) for the same area. According to Smit's (1986) estimates, the areas hold 25-30% of the total Italian wintering population.

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Robert Tinarelli, Via Vasari 17, 40128 Bologna, Italy

AN HISTORICAL OVERVIEW OF WADER RINGING IN ITALY

Nicola Bacetti, Lionello Bendini & Lorenzo Serra

Bird ringing started in Italy in 1929, thanks to the efforts of several independent ringing stations, each one producing and using their own rings. A more centralized organization, and the existence of a co-ordinated national scheme, gradually changed the early situation. However, a complete change was only achieved quite recently.

The totals of birds ringed during the whole period are not known, and only for the last 10 years could some figures be collated. Only recent data have been stored in computerized archives (the first available year was 1982).

An analysis of microfilm containing the original lists of rings used, combined with a few unpublished early reports, allowed us to assess the actual number of waders ringed up to 1985, with the aim of providing useful indications for planning future research.

A total figure of 35 163 shorebirds ringed was found. An historical analysis of these data, arranged in 5-year periods, showed a very irregular distribution, with numbers exceeding 4 500 as early as 1935-40. This total was only exceeded in 1966-70 and the following periods. Due to the low numbers concerned, it is difficult to explain the reasons for such temporal patterns. The activity of individual ringers may have strongly affected the overall national results. However, it seems quite understanable that the lowest totals were during the two 5-year periods covering the last war and the following years (1 274 and 953 birds respectively), when a different use of trapped birds was much more likely to be preferred.

The most frequently ringed species, Lapwing *Vanellus vanellus* and Ruff *Philomachus pugnax*, with 35.5% and 23.7% respectively of the total numbers, show historical patterns quite similar to the general one. On the other hand, some more interesting situations are noted here. Both the Common Snipe *Gallinago gallinago* and Jack Snipe *Lymnocryptes minimus* were ringed in good numbers in the 1930s thanks to traditional methods which ceased later. Ringing results decreased quite suddenly afterwards: 5-year totals dropped from 174 and 261 birds of the former species (1931-40), and 53, 58, 20 of the latter (1931-45), to 3-32 and 0-1 respectively in all but the most recent periods. The recent more widespread use of mist-nets by Italian ringers has increased the number of Common Snipe ringed to 259 in 1980-85. However, only 3 Jack Snipe were ringed in the same period, which provides some evidence of a real decrease of this bird.

The ringing of Avocets *Recurvirostra avosetta* and Black-winged Stilts *Himantopus himantopus* started quite late, in the 1950s and 1960s respectively. An increase of the Italian breeding populations (the Avocet was not previously breeding in Italy at all) has resulted in a gradual increase to the present totals of 338 Avocets and 437 Stilts.

The month of capture of the latter two species falls in most cases within the range of the breeding season, since unfledged juveniles represent about 80% of Black-winged Stilts, and probably 100% of Avocets ringed. For other species, when adult birds are more regularly involved, the months of capture reflect quite precisely the phenology of migration or the pattern of presence in the country. This is the case, for instance, of a typical spring migrant, the Black-tailed Godwit *Limosa limosa*: all 379 birds were ringed in February-May (53.5% in March).

As a final comment, it should be stressed that the numbers of Italian-ringed waders are in most cases still too low (and wader-ringers still not so specialized) to be of major importance in internationally co-ordinated programs. However, what seems possible is to increase the value of results by concentrating the ringers' attention on very few species at one time. The Ruff and Black-winged Stilt, after first promising experiences, will probably deserve major attention from ringers during the next few years.

Nicola Baccetti, Lionello Bendini and Lorenzo Serra, Instituto Nazionale Biologia Selvaggina, Via Stradelli Guelfi, I-40064 Ozzano Emilia BO, Italy