

## BREEDING WADERS IN YUGOSLAVIA

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Bartovsky, V., Kletecki, E., Radovic, D., Stripcevic, M. and Susic, G. 1987. Breeding waders in Yugoslavia. *Wader Study Group Bull.* 51: 33-37.

This paper provides first estimates of the size of the breeding population of waders in Yugoslavia. 15 species are known to breed regularly. Population sizes are generally small, with an estimated total for all species of 600-800 pairs, of which nearly one-half are Lapwings.

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There are very few recent data on breeding waders in Yugoslavia in European ornithological literature (see for example Piersma, T. 1986. *Breeding waders in Europe. WSG Bull.* 48, Suppl.). This paper collects all published data, and summarizes our recent knowledge about the status, breeding areas and numerical estimates of population sizes of each breeding wader species in Yugoslavia. Some of the previously unknown breeding areas and new data about the total breeding areas for some wader species in Yugoslavia have been discovered only during the last five years.

We have included all data from the literature since 1960 for each species except for Woodcock *Scolopax rusticola* for which we made a distinction between the breeding data from the period 1890-1960 and 1960 until today. Sources from which the information has been compiled are listed in the references. The numbers of breeding pairs of waders in the different republics and provinces of Yugoslavia are summarised in Table 1, and the location of these divisions are shown in Figure 1. The breeding distributions of the species of breeding waders are shown in Figures 2 to 10.

There are 15 regularly breeding wader species in Yugoslavia, according to our present knowledge: Oystercatcher *Haematopus ostralegus*,

Black-winged Stilt *Himantopus himantopus*, Avocet *Recurvirostra avosetta*, Stone Curlew *Burhinus oediconemus*, Collared Pratincole *Glareola pratincola*, Little Ringed Plover *Charadrius dubius*, Kentish Plover *Charadrius alexandrinus*, Lapwing *Vanellus vanellus*, Snipe *Gallinago gallinago*, Woodcock *Scolopax rusticola*, Black-tailed Godwit *Limosa limosa*, Curlew *Numenius arquata*, Redshank *Tringa totanus*, Green Sandpiper *Tringa ochropus* and Common Sandpiper *Actitis hypoleucos*.

In addition the Ruff *Philomachus pugnax* is known to have formerly bred, but has not bred since 1947. The Wood Sandpiper *Tringa glareola* is excluded from Table 1 because there is only one recent possible breeding place in Yugoslavia (see Figure 4), and we are awaiting further confirmation about this breeding location. For Slovenia there are a few more old breeding records for Woodcock, but without the exact locality documented, these have not been included in Figure 10 and Table 1.

Figures 2 to 10 show the breeding distribution by site of most species, in 5 size categories (see Figure 2 for the scale). However, for the Lapwing, a bigger point does not always mean a bigger colony, since sometimes there are several colonies close together. For Wood Sandpiper and for Oystercatcher a question mark against the symbol indicates probable breeding:

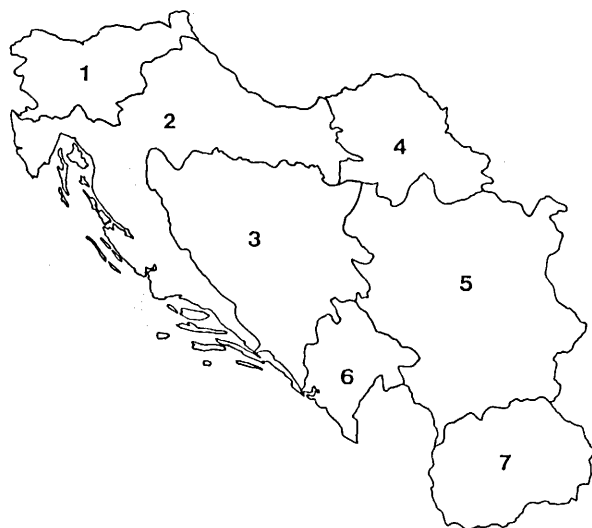


Figure 1. Map of Yugoslavia, showing the Republics and Provinces: 1 Slovenia, 2 Croatia, 3 Bosnia and Herzegovina, 4 Voivodina, 5 Serbia (including the Province of Kosovo, but excluding the Province of Vojvodina), 6 Montenegro and 7 Macedonia.

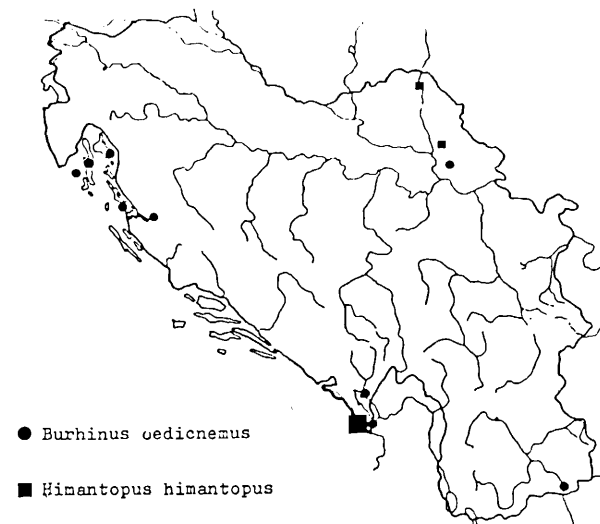


Figure 2. The breeding distribution of Stone Curlew and Black-winged Stilt in Yugoslavia. The scale for the symbols refers to this figure and Figures 3 to 10.

the species was seen during the breeding season in typical breeding habitat but breeding has yet to be proved. These are the only two exceptions of the rule we used: otherwise we have collected data only where the breeding has been confirmed. We have included the two records of probable breeding because they are very important: for the Wood Sandpiper it is the only breeding data for Yugoslavia, and for Oystercatcher only the second breeding location.

## ACKNOWLEDGEMENTS

Our thanks go to the Natural History Museum of Croatia for access to their bird-skins collection, and to the Institute of Ornithology in Zagreb for access to their bird-skin collection and ringing archives.

We are grateful to Gordon Lukac, Laszlo Szlivka, Josip Soti and Dragomir Vujuovic for providing us with recent data from their personal records.

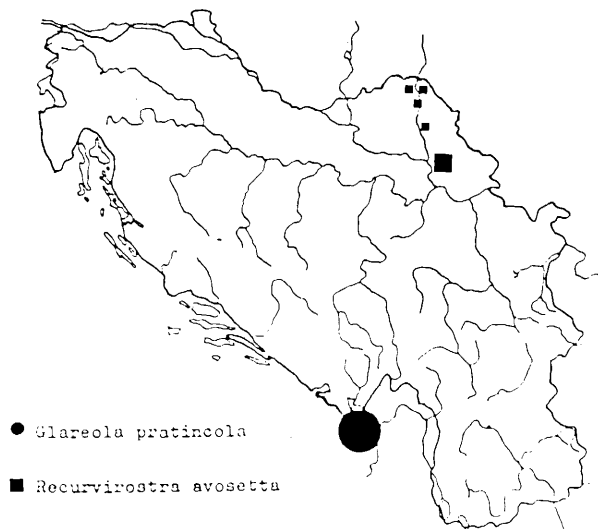


Figure 3. The breeding distribution of Common Pratincole and Avocet in Yugoslavia. See Figure 2 for the scale of symbols.



Figure 4. The breeding distribution of Green Sandpiper and Wood Sandpiper in Yugoslavia. See Figure 2 for the scale of symbols.

Table 1. Annual numbers of pairs of waders known to be breeding in Yugoslavia since 1960. The location of republics and provinces is shown in Figure 1.

	Slovenia	Croatia	Serbia without Voivodina	Voivodina	Bosnia and Herzegovina	Montenegro	Macedonia	Totals in Yugoslavia
<i>Haematopus ostralegus</i>		1?				6		6
<i>Himantopus himantopus</i>				4		45		49
<i>Recurvirostra avosetta</i>				25-40				25-40
<i>Burhinus oedichmus</i>		5		1		3	1	10
<i>Glareola pratincole</i>						40-150		40-150
<i>Charadrius dubius</i>	1	17	5	17-21	1	5		46-50
<i>Charadrius alexandrinus</i>	12-17	4-6		13-33		15		44-71
<i>Vanellus vanellus</i>	50	100	20	80	20		5	275
<i>Gallinago gallinago</i>	1	4		1				6
<i>Scolopax rusticola</i>		1-2	3-4	1-2				5-8
<i>Limosa limosa</i>				10-15				10-15
<i>Numenius arquata</i>	3-4							3-4
<i>Tringa totanus</i>	1	30-40	5-10	30	1			67-82
<i>Tringa ochropus</i>	2						1	3
<i>Actitis hypoleucos</i>	1	4	1			3	1	10
Totals	71-77	165-178	34-40	182-227	22	117-227	8	599-779



Figure 5. The breeding distribution of Black-tailed Godwit and Common Snipe in Yugoslavia. See Figure 2 for the scale of symbols.

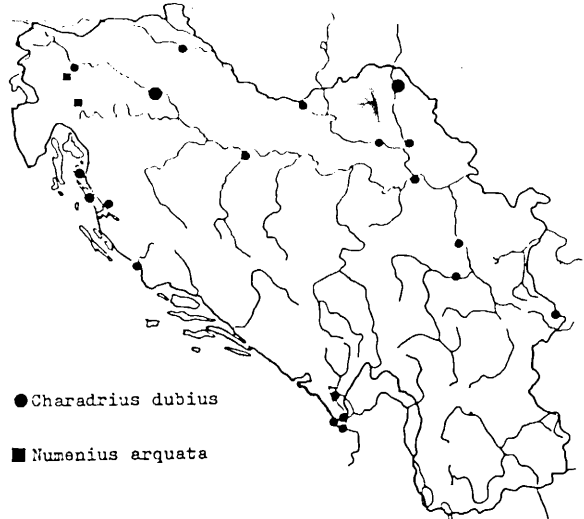


Figure 8. The breeding distribution of Little Ringed Plover and Curlew in Yugoslavia. See Figure 2 for the scale of symbols.

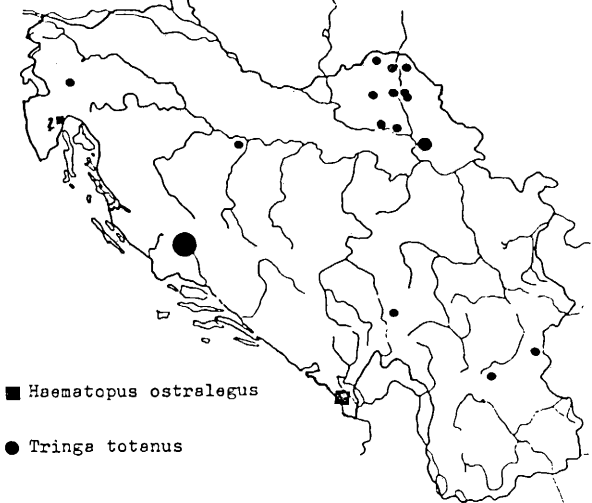


Figure 6. The breeding distribution of Oystercatcher and Redshank in Yugoslavia. See Figure 2 for the scale of symbols.

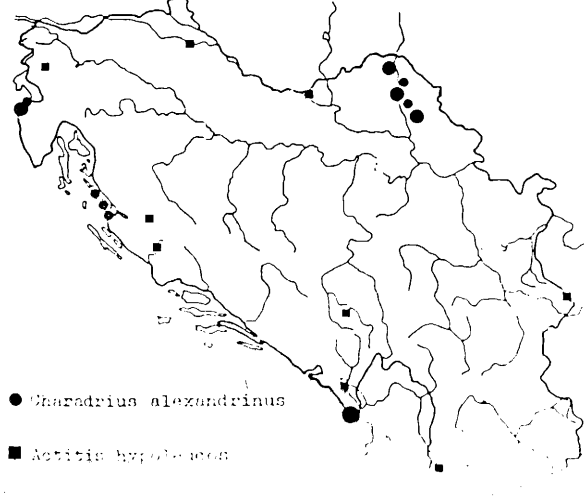


Figure 9. The breeding distribution of Kentish Plover and Common Sandpiper in Yugoslavia. See Figure 2 for the scale of symbols.

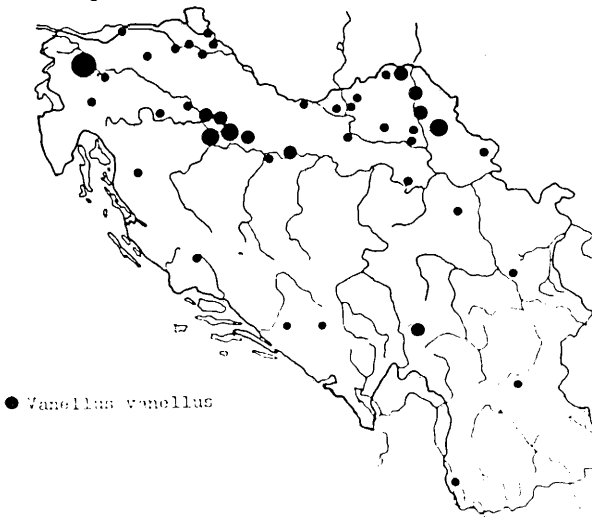


Figure 7. The breeding distribution of Lapwing in Yugoslavia. See Figure 2 for the scale of symbols.

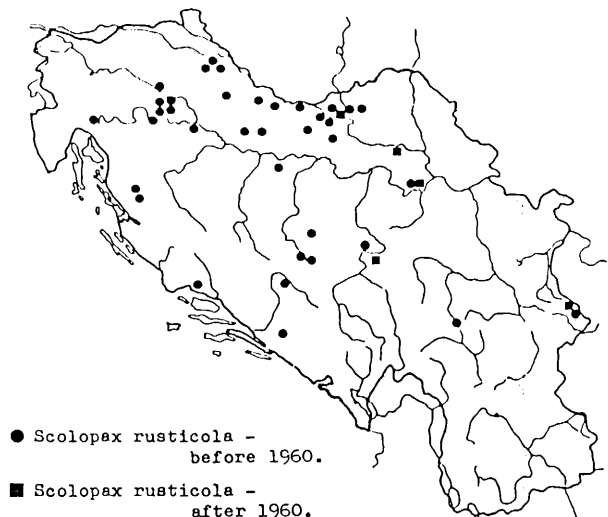


Figure 10. The breeding distribution of Woodcock in Yugoslavia. Locations are shown separately for records before and after 1960.

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