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TRAPPING FINCHES WITH THE YUNICK PLATFORM TRAP: THE RESIDENCE BIAS

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Abstract.—The Yunick Platform Trap is one of the most successful bird traps, especially for trapping flocking birds (e.g., finches). However, a trap bias occurred among Serins (*Serinus serinus*). Newly banded birds (i.e., transients) were trapped mainly with the clap net, and birds already banded (i.e., residents) with the platform trap. This suggests trap-shyness by transients in response to the visible structure of Yunick Platform Traps. This response was not found for Eurasian Siskins (*Carduelis spinus*).

CAPTURA DE FRINGILIDOS CON LA TRAMPA PLATAFORMA DE YUNICK: EL SESGO RESIDENCIA

Resumen.—La Trampa Plataforma de Yunick es uno de los más eficientes métodos de captura para aves que forman bandos (Ej. fringílidos). Sin embargo, al compararla con el uso de redes abatibles, se detectó en *Serinus serinus* un sesgo ("bias") en referencia a los individuos que se capturaron. Los individuos sin anilla (Ej. transeuntes) fueron capturados principalmente con la red, mientras que las aves previamente anilladas (Ej. residentes) con la Trampa Plataforma. Esto puede interpretarse como resultado de la desconfianza de los transeuntes con respecto a la aparatosa estructura de las trampas. Sin embargo no hubo diferencias en la captura de *Carduelis spinus* utilizando ambos métodos.

Banding is a commonly used method in the study of avian biology, and a wide range of trapping methods is available to banders for each particular banding situation (Davis 1981, McClure 1984). Capture techniques vary and some methods may bias the sample of the population. For instance, decoy trapping has been shown to have age or condition biases (Borras and Senar 1986, Greenwood et al. 1986, Weatherhead and Greenwood 1981), whereas mist nets are known to be less efficient in trapping previously captured birds (trap-shyness) (Buckland and Hereward 1982, MacArthur and MacArthur 1974, Schmidt et al. 1986). However, in spite of its importance, there are few studies of biases due to trapping method.

Increased banding at one's home has recently made bird traps very popular, and they are used now by many bird-banders. The Yunick Platform Trap (Yunick 1971a,b,c) is one of the traps that can catch many birds at once, especially flocking birds (e.g., finches). This trap has the additional advantage of functioning as a bird table between banding sessions thereby allowing the birds to become accustomed to the platform as a feeding station.

The Yunick Platform Trap was adopted by the author as one of the main trapping methods during a long-term study of the flocking behavior of the Serin (*Serinus serinus*) and the Eurasian Siskin (*Carduelis spinus*). Part-way through the study I realized that the trap seemed to catch more

previously banded birds than other capture methods (e.g., mist nets or clap nets). This paper reports a test of this possible bias.

MATERIALS AND METHODS

Serins and Siskins were trapped at a permanent banding station in a suburban area of Barcelona (NE Spain). In this region there is a sedentary breeding population of Serins that is augmented by a large influx of birds from Central Europe in the autumn (October–November). Some of these immigrants remain in the area until the end of February–March (Senar 1986). Siskins are winter visitors with an irregular annual appearance (Senar 1983).

Although I began banding finches in the study area in 1982, a regular and successful trapping program was not achieved until spring 1985. Between 1985 and 1986 I trapped approximately 3000 Serins and 300 Siskins; these birds form the sample analyzed in this paper.

For purposes of this study, two kinds of birds were distinguished: newly banded birds, and previously banded birds. By definition, previously banded birds were birds known to have previously visited the area and the trap, and were therefore more likely to be residents than newly banded birds.

Two trapping methods were used: the Yunick Platform Trap and the clap net. The clap net is a small hand-operated version of the cannon net, and functions with two nets working simultaneously which swing over the birds when a line is pulled by the operator (Bateman 1979, Davis 1981, McClure 1984). Both methods are normally associated with baited feeders. The main difference is that in the platform trap birds have to come into a wire funnel, which may make them more susceptible to trap-shyness. A clap net is nearly invisible, and birds may only be aware of the food bait on the ground.

RESULTS

Two Serin trapping samples are displayed (Table 1): autumn migration (sampled 21 Oct. 1985–29 Nov. 1985) and post-breeding dispersion (16 Jul. 1986–19 Sep. 1986). In this second period two age classes are distinguished: juveniles, still in the typical streaked plumage, or traces of it; and birds in full adult plumage. Adult-plumaged individuals included first-year and true adult birds. Juvenile birds were by definition more inexperienced than adult-plumaged individuals.

The sample displayed for Siskins includes all the second half of the winter (February–March 1986), when significant numbers of transients entered the population. Table 1 shows the number of newly banded and previously banded Serins trapped either with the clap net or the platform trap, in two different life history periods. The relationship between trapping method and status of birds was significant for adult-plumaged birds during autumn migration and post-breeding dispersion. Newly arrived birds were trapped mainly with clap nets and residents with the platform trap. For juveniles this relationship was not significant. Newly banded

TABLE 1. Number of newly banded and previously banded Serins and Eurasian Siskins trapped with clap nets (CN) and the Yunick Platform Trap (TRP), in different life history periods.

	Serins						Wintering Siskins	
	Autumn migration		Post-breeding dispersal					
			Juveniles		Adult plumaged birds			
Banding status	CN	TRP	CN	TRP	CN	TRP	CN	TRP
Newly banded	148	11	69	25	18	4	27	24
Previously banded	30	44	24	13	13	16	52	60
χ^2	74.42		0.57		5.71		0.46	
P	<0.001		NS		<0.02		NS	

juveniles were trapped more often than adult birds with the platform trap ($\chi^2 = 9.23$; $P < 0.01$).

Table 1 shows that in Siskins there was no dependence between trapping method and status of birds.

DISCUSSION

According to present data, Serins that have not been previously caught and are probably newly arrived immigrants hesitate to enter the Yunick Platform Trap. This may be due to the visibility of its structure, compared with the clap net. Transients may be wary of entering an unfamiliar wire funnel.

Resident finches, however, soon learn that the trap offers abundant food, and include this food supply as one of their foraging patches with some birds being trapped nearly every week. Indeed, residents may be trapped more often than expected.

Newly arrived juvenile Serins are trapped more often with the platform trap than transient adults. This may be due to their more confident behavior and inexperience, which makes juveniles prone to search for food by cuing on other foragers (e.g., resident adults) (Barnard and Sibly 1981).

The tameness and curiosity of Siskins (Davis 1926, Davis 1981) appears to make all birds (residents or transients) prone to enter the trap; as a result, they do not show the resident-transient bias.

These results show that bird banders have to be cautious when interpreting their results. Trapping methods can cause biases when sampling populations, and being aware of these biases can minimize their effect (Weatherhead and Greenwood 1981). For instance, studies of the mortality rates, home ranges, and space use of resident birds, and the estimation of resident population size can be done with platform traps.

However, other trapping methods would have to be used to band transients or to detect open periods, when there is rapid turnover in the population due to substantial immigration. Furthermore, the degree of bias can vary according to the species. Researchers should test for trapping biases before initiating a study on any bird's biology.

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