CENSUSING INLAND ROAD-CROSSING YEARLING NATTERJACKS

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The critical importance of correct vehicle speed in censusing road crossing yearly natterjack toads is demonstrated. Excellent 1997 breeding successes at the recently discovered, inland, flooded-meadow, breeding site are reported.

INTRODUCTION AND METHODS

July 26th 1998 was a warm, humid evening. Following heavy rain earlier it was dark at 10.30 pm. Between 10.30 pm and 11.30 pm [similar times to a previous traverse of this identical stretch of road several weeks earlier under similar weather conditions on 8th July (Bustard 1998a)] the Priestside road was checked for toads crossing.

On the previous occasion John Buckley, the driver of an HCT Peugeot, drove rather fast and I felt we *might* be missing smaller Natterjacks. On this second occasion Gwen Soutar drove an Austin Metro and I asked her to select a uniform speed which we were both sure would allow us to see all toads crossing, including the smallest. As on the previous occasion, we drove the length of Priestside from the Cummertrees turn-off to the junction and back again counting toads in both directions. At each sighting a brief stop was made while the toad was examined. It was then placed on the verge on the roadside verge in the direction it was facing. As on the previous occasion, and as observed nightly at Powfoot, toads were invariably crossing in a definite direction not moving *along* the road. During, and at the end of each traverse we carefully noted the speed at which the vehicle travelled to enable us to see all toads with certainty and in good time (Natterjacks may run off the road if not seen in advance and be lost in roadside vegetation). Once the vehicle has passed by they are very difficult to find. The ideal was found to be precisely 4 mph (6.4 kmph.) on both outward and return journeys.

On the previous occasion on 8th July we saw and checked a total of only five Natterjack Toads. On 26th July, under very similar weather conditions, the total was 16 Natterjacks. This confirms my view that at the higher speed on 8th July we were probably missing yearling toads. The 1997 yearlings were smaller than many of the larger moths attracted to the road by the car headlights reflecting off the wet surface, and we were convinced that at any faster speed we would have missed smaller toads. We feel confident, therefore, in stating that 4 mph. is the required speed to be sure of recording all yearling toads on a country road such as this.

These data refer to inland sites; the road running at between approximately 350m and 550m inland from the merse.

RESULTS AND DISCUSSION

Unless all toads are definitely recorded, breakdowns between year classes are valueless – the more especially if smaller toads are selectively missed. The distribution of Natterjack year classes on 26th July is extremely interesting. The sixteen toads recorded comprise: 1 adult female, 2 second year (1996) toads, and 13 yearling (1997) toads. In percentage terms these (rounded up to the nearest first decimal point) are:
adults 6.3%, 2nd years 12.6%, yearling 81.3%. We have no reason to believe that yearling Natterjacks are more likely to cross roads than adults or second year toads, so these figures, with 81% of the toads being yearlings, suggest a very dynamic breeding population in this area with excellent breeding success in 1997. This discovery would have been completely missed at an inappropriate, faster speed. Indeed, this result was lost in the earlier 8th July traverses when only five toads were observed, of which only two or 40% (compared to 81% here) were yearlings.

The location of the toads is most interesting, especially in view of the newly reported breeding sites recently discovered in this area (Bustard 1998b & c). With one exception – a yearling Natterjack seen 1 mile (1.6 km) west of all the others and near Priestside farm – all the Natterjacks were recorded in a 0.65 mile (1.04 km) length of road and 13 of them were on 0.5 mile (0.8 km) of road between Moss-side and Nethertown farms. Seven were seen crossing directly opposite the flooded-meadow site [recorded as a new breeding site by Bustard (1998c)] and a further seven were recorded within 0.2 miles (0.32 km) or less of this site – well within the movement of a yearling Natterjack from its site of metamorphosis. This provides excellent corroborative data on the importance of the flooded-meadow site at Moss-side farm for Natterjack breeding.

REFERENCES

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