

Short note

Proposal for a new notation in bird field surveys with the territory mapping method for birds

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Abstract. The use of a new notation together with the territory mapping method is proposed for imprecisely located singing males, owing to which a position of a bird can be noted more precisely in field surveys.

Key words: spot mapping, field surveys, birds.

The territory mapping method described by Enemar (1959) and the combined version developed by Tomiałojć (1980) are used to identify the actual number of breeding pairs of territorial birds in small and representative sample plots. Though this method has many limitations (eg. Best 1975; Enemar et al. 1978; Paul & Roth 1983; Verner & Milne 1990; Morozov 1994; Bibby et al. 2000) and is time-consuming, it is still widely used in bird censuses (Bibby et al. 2000).

The basic activity in field surveys with the mapping method is to mark the locations of singing males on a sample plot map with a symbol of a species surrounded by a solid circle. If the observer is unable to locate a singing male precisely, the symbol is surrounded with a dashed line (Tomiałojć 1980) (Fig. 1a). Later interpretation of this notation on the species map is difficult because the location of a bird can be shifted with the same probability in any possible direction around the symbol on the map (Fig. 1b). This location could often be noted more precisely,

which would prevent the loss of important information. This would happen when the observer could define the direction from which he hears a singing bird but is unable to identify the distance to that bird. In these situations, I would recommend using a species symbol surrounded by a solid line on the observer's side and a dashed line on the other side (Fig. 1c). This notation allows the location of a bird to be noted more precisely than the conventional notation, because its position can be shifted only along the line drawn between the bird and the observer (Fig. 1d).

The author's field practice has shown that the use of the suggested notation is simple and intuitive. In many cases it makes it easier to delimit territories on species maps and to assign imprecisely located individuals to these territories. The use of the suggested notation could also be helpful in mapping of males near the boundary of a sample plot, when the information whether an individual sang within or just outside a sample plot may affect the final estimate of bird numbers.

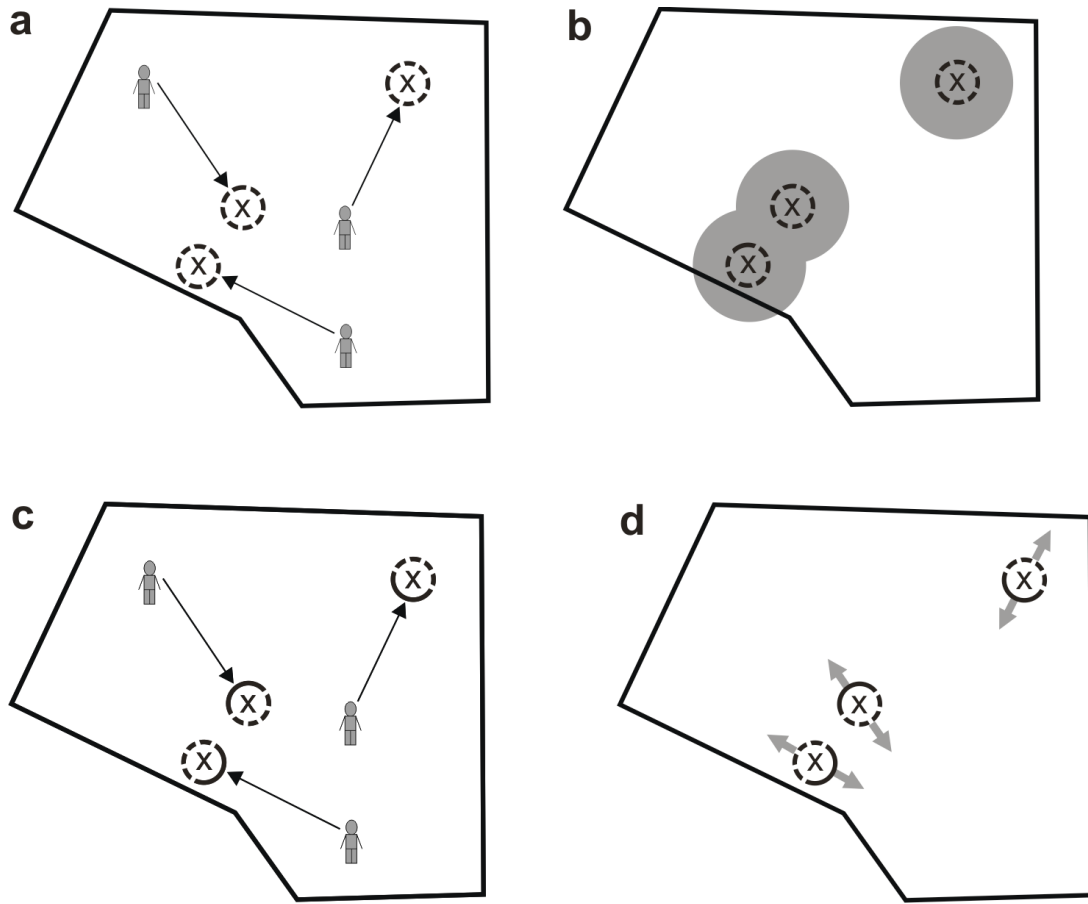


Figure 1. Boundaries of the sample plot (solid line) with three imprecise locations of singing males (X), for which the observer can define only the direction from which he hears the singing bird (black arrow). The standard notation for imprecisely located singing males – a and an example of the interpretation of their actual locations within grey circles – b. The proposed notation – c, where the actual location of singing males can be shifted only along the grey arrows – d (the lines between the ends of the grey arrows are of the same length as the radii of the grey circles)

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