

AN INDIVIDUAL MARKING TECHNIQUE FOR ODONATA

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A technique for quick individual marking in the field was developed, using sharp-pointed waterproof "magic" markers, for putting an easily readable code on one hindwing.

INTRODUCTION

Most of the methods presently used in insect marking are slow and insufficiently stable for a study in which individual marking is needed. A review of the techniques used in Odonata was published by CORBET, LONGFIELD & MOORE (1960). These authors recommend the commonly used method of cellulose paint, as practised by MOORE (1952), CORBET (1952, 1960), PAJUNEN (1962) and PARR (1965). This is basically a good technique, but it is a bit slow and has one major disadvantage: the paint becomes rapidly viscous and sticky.

For marking individually a large number of animals an elaborate code is indispensable, so that e.g. marking the femurs (PAJUNEN, 1962) is out of the question and only the wings remain as a possibility.

THE NEW TECHNIQUE

Capture techniques are explained in full detail by PARR (1965). We also work in a team of two persons, one capturing the animals and passing them on to the second for marking and recording all necessary information.

Odonata are captured 10 to 20 at a time, using a butterfly net. They are removed from the net by grasping the top of the closed wings between thumb and fingers and then transferred to the other hand to hold them with head and thorax between thumb and two fingers. This permits to hold the wings against a

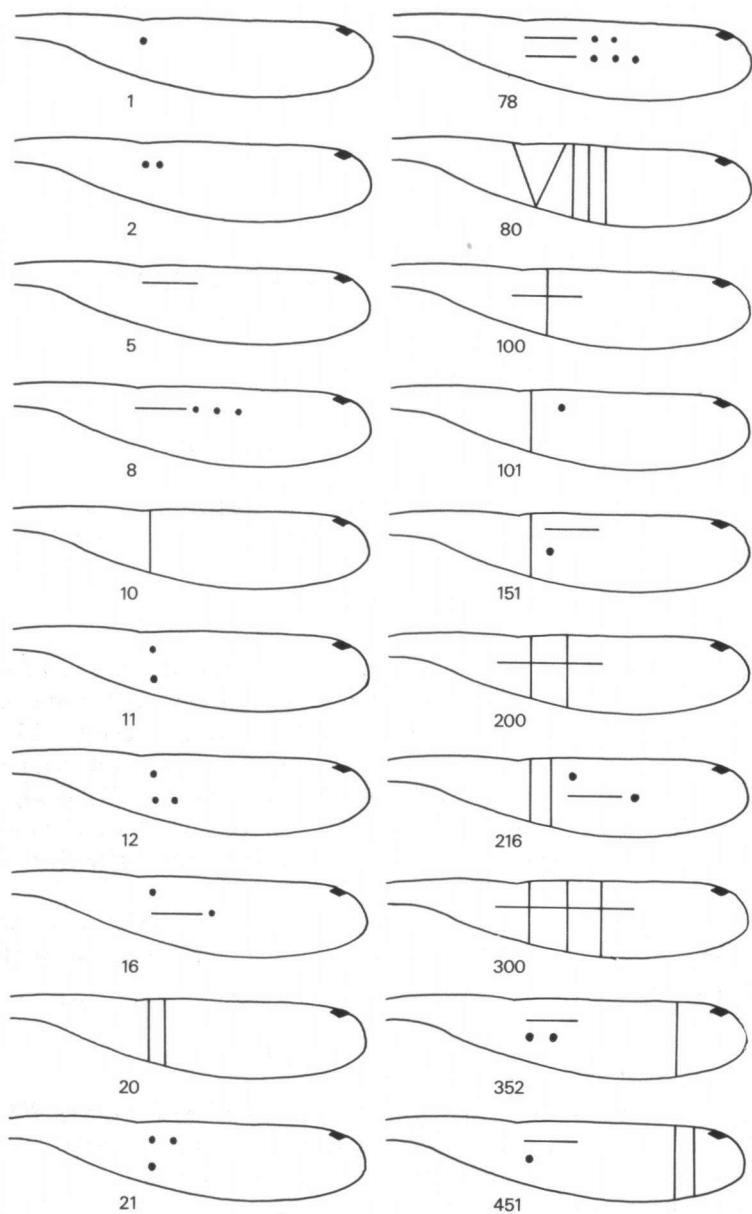


Fig. 1. Key to the code used in our individual marking technique for dragonflies.

solid surface to be marked by the second person on the underside of one hindwing using a sharp-pointed waterproof magic marker (as used in the laboratory to mark glasswork). The animals are released immediately hereafter.

Using only one wing for marking has the advantage that the code, applied at the time of capture, is read at recapture without having to spread the wings, which saves time and reduces possible damage.

The code used is shown in Figure 1. It is a modified Roman system, having a great relation with the Maya numbers. It is impossible to apply normal arabic numbers on the wings because the ink of the magic marker contracts on the wing surface. But a combination of points, stripes and eventually different colours, provides an elegant and fast solution. The following symbols were selected: a point for unity, a horizontal stripe for five, a vertical stripe for ten and two vertical stripes for twenty. For numbers above ten: use the upper side of the wing for the decades and the lower side for the units. In order to reduce the number of symbols we use for fifty, sixty, etc. the Roman numbers for five, six etc. One hundred is symbolised by a cross. For numbers above one hundred a vertical stripe is placed before the number, for those above two hundred, two vertical stripes. Above three hundred and four hundred, the vertical stripes are placed behind the number. Five hundred is about a limit for this code in small Odonata, though using several colours may extend its application considerably.

It is recommended not to use the tip of the wing, as care should be taken not to touch the marks with the fingers. The coloured substance of the magic markers is indeed soluble in the lipids of the skin. Capture or recapture, application of the code and writing down the information needed takes an average of a minute per animal. There is thus a considerable gain of time, as compared with previous techniques, beside the advantage of having at hand a powerful technique for individual recognizing of recaptured specimens.

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