Brief Guidelines for Using the Excel Sheets, with Two Examples:

We provide two worksheets in a single Excel workbook (file) for estimating the additional sample size required to reach a fraction g of S_{est}. According to data type, select a proper sheet from the following:

Sheet 1: Abundance data
Sheet 2: Incidence data

Running Procedures:

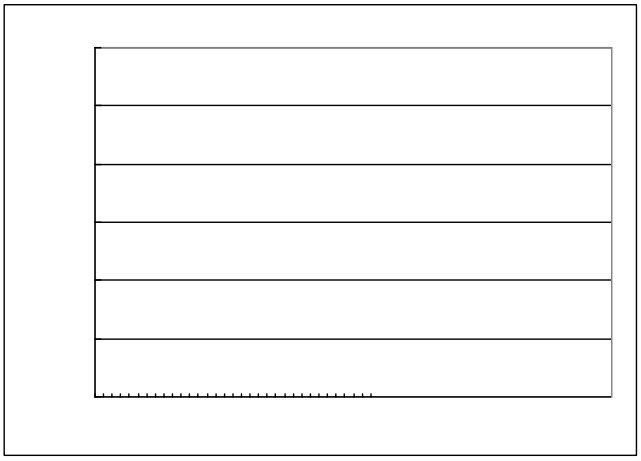
(1) First, input data in entry cells B5-B8 of the selected sheet. (All data input cells are highlighted in light green and outlined in black.) For incidence data, an input of T (the total number of incidences, in data entry cell B4) is optionide

Two examples (from Tables 1 and 2 in the main text) demonstrate the above procedures:

Example 1: (incidence data in Table 2 of the main text)

Habitat, Taxon, and Locale	t	T	S_{obs}	S_{est}	Q_1	Q_2
Hedgerow carabid beetles in soil, litter and vegetation samples (Great Britain)						

Adjust the range of the figure, say, *x_ min* = 0.1 (in data entry cell E5) and *x_ max* = 2 (in data entry cell E6). Now you will see a detailed plot in the range (0.1, 2), as shown below. It is clearly seen that the correct intersection does occur at x^* = 1.268. One can further check this result by examining the numerical values for the two functions in columns E and F of the worksheet. Thus, we can assure that x^* = 1.268 and $m = tx^*$ = 20.29 are the correct answers.



Example 2: (abundance data)

(1) Select the *Abundance Data* sheet and enter the required data (key in 3, 2, 161, 9, respectively, in data entry cells B5, B6, B7, B8 in the Excel worksheet).
(2) Try an initial value of x_0 = 1 for starting iteration (in data entry cell B15). However, the iterations do *not* converge. Try another initial value of x_0 = 2, yielding the convergent value of x^* = 2.221. This result indicates that the required additional number of *individuals* is $m = nx^*$ = 357.6. That is, 358 additional individuals are needed to observe S_{est} = 11.25 species (i.e., to observe two previously undetected species).
(3) In this example, S_{est} = 11.25. Thus in the second part (g < 1), we45 Tm[in(e)24 Tm[78,/F1 12 Tf-7(e)4(4

NOTE: To make sure that the converged value $x^* = 2.221$ is the correct point at which $h(x) = v(x)$, we may set $x\_min = 1.5$ (in data entry cell E5), and $x\_max = 2.5$ (in data entry cell E6). The resulting detailed plot in the range (1.5, 2.5) is shown below. It is clear that the correct intersection does occur at $x^* = 2.221$.