



# Typological Catalogue of the ancient Roman Scribal Tool Known as a Bone Rule

DATA PAPER

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## ABSTRACT

The dataset contains a typological catalogue of archaeological small finds of an ancient device known as a “bone rule” or “bone ruler” or “bone spatula,” together with scaled drawing and full metadata for each item in the catalogue. The ancient device has been identified as some type of scribal tool [8, 9, 13, 28, 45]. The dataset is assembled from publications; from online resources; and from individual scholars. The PDF Bone\_Rules\_Catalogue file records all pertinent available information, including find spots, inventory number, measurements, scaled thumbnails, and notes including inventory numbers, bibliographical references, and citations for plates and drawings. The PDF Bone\_Rules\_Catalogue file is best for a conspectus of known specimens. The PDF Bone\_Rules\_Catalogue file also records other bone objects improperly claimed as bone rules, and a full bibliography, both of which are included also as separate PDF files (PDF Other\_Bone\_Objects, PDF Bibliography) as a convenience. The CSV Catalogue\_Proper file contains all fields in the PDF catalogue in csv format, but also breaks spatial and measurement data into separate fields and regularizes field contents. The CSV Catalogue\_Proper file is therefore best for data processing. The full-scale drawings with metadata form the remainder of the core dataset. The catalogue and full dataset are meant to accompany the analysis and discussion in William A. Johnson, “Scribal Tools of the Trade: Bone Rules, Dividers, and Lamps as Writing Aids,” *Segno e Testa* 2023 [41].

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## KEYWORDS:

Roman tools; Roman scribes; bone rule; ancient small finds; wax tablets; bookrolls

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## (1) OVERVIEW

### CONTEXT

Eckardt 2017 and 2018 [27, 28, cf. 8, 13] isolated forty-nine writing sets or possible writing sets among grave goods in the Roman era (dated from the first to the fourth centuries CE). These writing sets are of particular interest since almost all come from the provinces and presumably represent the proud or sentimental display of marginal elites who are trying to make a case that the person buried had education and/or status, whether professional or more generally. The grave sets studied by Eckardt most commonly feature items also present in the writing sets depicted in the iconography of Roman-era sculpture and paintings: the metal remains of wax spatulas, styluses, knives, and inkwells, with the occasional survival of organic items like reed pens or fragments of a writing tablet in ivory or wood. But in a surprising number of cases, the writing sets also contain the bone object that I refer to as a “bone rule” (also called a “bone ruler” or “bone spatula”). These rules have a particular design, in three distinct types (rectangular, trapezoidal, tapering), for which quite a few examples are known from excavation and discovery (Figure 1). Their exact function, however, remains unknown.

The catalogue of sixty-six known bone rules has been compiled from identifications by several scholars, but relies especially on the lists in Obmann 1997 [53] (who thought these *tesserae*), Božič 2001a [9], Božič & Feugère 2004 [13], and Davis 2016 [23] (the last a meticulous examination of the objects discovered in London). I have added four new identifications, two from Dura-Europos (cat. III.A.05, III.A.15), one from Vindonissa (cat. I.A.09, identified by Debora Tretola), and one from Vindolanda (II.B.03, identified as a possible example by Barbara Birley). The catalogue is arranged by type and sub-type. For each item, I have located the original publication(s) —

often hard-to-obtain articles or books published by small presses or museums— and have assembled what data is available by way of inventory number, measurements, date, description, drawing or plate, and context. The catalogue is as full as possible: where, say, a publication provides only the length but there exists a photograph or to-scale drawing, I have extrapolated an estimate for the width (estimates are marked with *circa*, abbreviated “c.”). But it has not been possible to assemble full details for every object, since the publications at times treat these small finds cursorily. For each item, I have commissioned a scaled drawing (artist: Karen Parker) based on photographs and figures in the publications or in online resources. The full dataset includes the catalogue proper, a list of other bone objects improperly claimed as bone rules, the bibliography, and a full-scale drawing for each item.

The catalogue and full dataset are meant to accompany the analysis and discussion in William A. Johnson, “Scribal Tools of the Trade: Bone Rules, Dividers, and Lamps as Writing Aids,” *Segno e Testo* 2023 [41]. See that article for the full research results: particulars on the typology, iconographical evidence, and conclusions about the possible functions for this scribal tool.

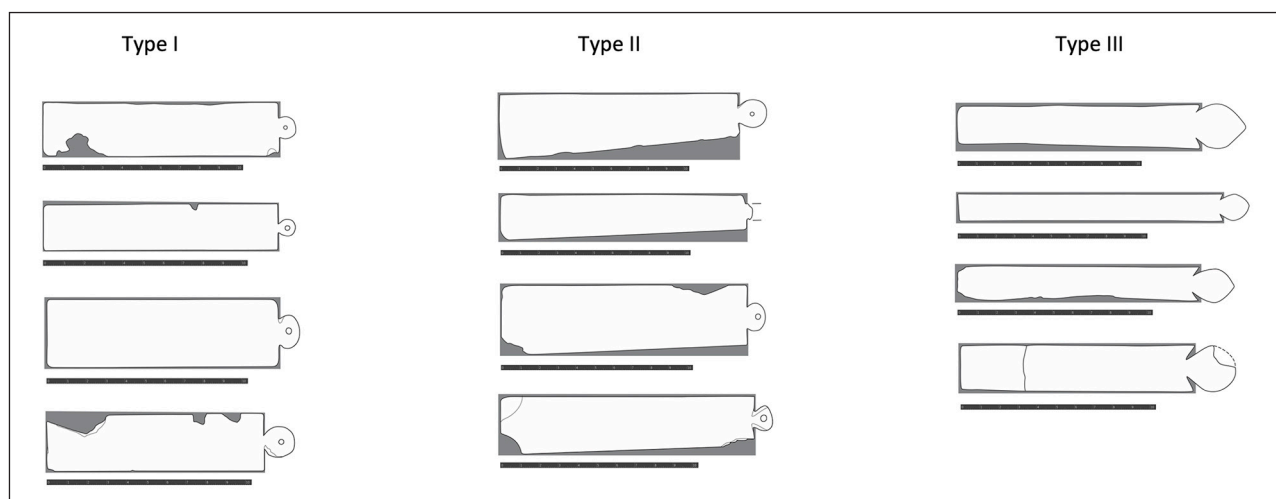
### SPATIAL COVERAGE

The items described and depicted in the dataset are small finds from excavations or discoveries from all over the Roman Empire, including present-day Spain, United Kingdom, Belgium, France, Germany, Switzerland, Austria, Italy, Hungary, Romania, Croatia, Serbia, Montenegro, Syria.

## (2) METHODS

### STEPS

The catalogue and sixty-six drawing files are assembled from a large number of publications spanning over



**Figure 1** Visual conspectus of the three basic types of bone rule (I rectangular; II trapezoidal, III tapering; examples from the typological catalogue, numbers I.A.02, I.A.03, I.A.04, I.A.05; II.A.02, II.A.04, II.A.05, II.A.06; III.A.01, III.A.02, III.A.03, III.A.04).

a century, including excavation reports, scholarly discussions, and other notices [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68]; from online resources [69, 70, 71]; and from the reports of individual scholars and museum curators (as indicated in the catalogue). The drawings are after the plates or figures in publications or online resources, scaled by means of the rulers in the plates or drawings, or from the measurements reported in publications or by museum curators.

## SAMPLING STRATEGY

n/a

## QUALITY CONTROL

Multiple bibliographical crosschecks.

## CONSTRAINTS

Since the dataset was assembled during the pandemic, it was not possible to visit the small finds collections in museums, thus the data relies on publications and information from curators rather than autopsy. In a few cases, the age or nature of a publication no longer allows identification of the exact inventory number and/or the item is no longer locatable by the museum curators.

## (3) DATASET DESCRIPTION

### OBJECT NAME

catalogue/

1. "01 PDF Bone\_Rules\_Catalogue.pdf" (2.1 MB)  
Aggregate PDF catalogue of known specimens of bone rules, with find spot, measurements, all known details, and thumbnails. This is the best file from which to get a conspectus of the dataset. Includes bibliography. Article with discussion and research results: William A. Johnson, "Scribal Tools of the Trade: Bone Rules, Dividers, and Lamps as Writing Aids," *Segno e Testa*, 2023. Note that, following the catalogue proper, is a list and brief discussion of items claimed as bone rules or associated with bone rules that are probably or certainly some other object. At the end of the catalogue is the bibliography.
2. "02 CSV Catalogue\_Proper.tab" (39.9 KB)  
– CSV file of the catalogue proper  
– Abbreviations and terms:  
    "c."=circa,  
    "n/a"=not available,

"[138+]"=partial length of 138,  
"incertum"=Roman town unknown or uncertain,  
"intact"=rule intact over its length or nearly so -

- Fields:  
    "Typological Item Number",  
    "Find Spot, Country",  
    "Roman Town, Province",  
    "Length (mm)",  
    "Blade Length",  
    "Intact/Partial",  
    "Width (mm)",  
    "Thickness (mm)",  
    "Shape and angles",  
    "Surfaces",  
    "Context",  
    "Date",  
    "Link to drawing",  
    "Notes"

[uploaded and available for download as CSV file]

3. "03 CSV Typology.tab" (0.8 KB)  
– CSV file of the typology  
– Fields:  
    "Type",  
    "Subtype (primary – normative)",  
    "Subtype (secondary – aberrant)"  
[uploaded and available for download as CSV file]
4. "04 PDF Other\_Bone\_Objects.pdf" (93.2 KB)  
– PDF file, excerpted from the main catalogue, of other bone objects (a list and brief discussion of items claimed as bone rules or associated with bone rules that are probably or certainly some other object)
5. "05 PDF Bibliography.pdf" (115.6 KB)  
– PDF file, excerpted from the main catalogue, containing the bibliography as a free-standing file

drawings/

Each of the 66 files below contains a hi-resolution drawing to scale (artist: Karen Parker) of the bone rule item and full metadata. The metadata for each file includes these elements: typological ID; modern place name for excavation or discovery; name of ancient Roman province; date; inventory number and museum/archive location; reference(s); basis for date; source for the drawing.

1. I.A.01\_f.jpg (63.1 KB)
2. I.A.02\_f.jpg (50.3 KB)
3. I.A.03\_f.jpg (46.8 KB)
4. I.A.04\_f.jpg (53.4 KB)
5. I.A.05\_f.jpg (53.2 KB)
6. I.A.06\_f.jpg (56.1 KB)
7. I.A.07\_f.jpg (47.9 KB)

8. I.A.08\_f.jpg (51.8 KB)
9. I.A.09\_f.jpg (55.0 KB)
10. I.A.10\_f.jpg (42.7 KB)
11. I.A.11\_f.jpg (39.9 KB)
12. I.A.12\_f.jpg (32.5 KB)
13. I.A.13\_f.jpg (32.9 KB)
14. I.A.14\_f.jpg (53.2 KB)
15. I.A.15\_f.jpg (33.6 KB)
16. I.A.16\_f.jpg (123.6 KB)
17. I.A.17\_f.jpg (127.7 KB)
18. I.A.18\_f2.jpg (166.1 KB)
19. I.B.01\_f.jpg (63.9 KB)
20. I.B.02\_f.jpg (47.1 KB)
21. I.B.03\_f.jpg (44.0 KB)
22. I.B.04\_f-1.jpg (36.5 KB)
23. I.B.05\_f.jpg (55.6 KB)
24. I.B.06\_f.jpg (37.5 KB)
25. II.A.01\_f.jpg (65.1 KB)
26. II.A.02\_f.jpg (66.9 KB)
27. II.A.03\_f.jpg (77.6 KB)
28. II.A.04\_f.jpg (50.7 KB)
29. II.A.05\_f.jpg (58.9 KB)
30. II.A.06\_f.jpg (68.3 KB)
31. II.A.07\_f.jpg (70.1 KB)
32. II.A.08\_f.jpg (64.1 KB)
33. II.A.09\_f.jpg (65.1 KB)
34. II.A.10\_f.jpg (67.2 KB)
35. II.A.11\_f.jpg (61.7 KB)
36. II.A.12\_f.jpg (66.8 KB)
37. II.A.13\_f.jpg (66.1 KB)
38. II.A.14\_f.jpg (62.5 KB)
39. II.A.15\_f-1.jpg (60.3 KB)
40. II.A.16\_f.jpg (26.3 KB)
41. II.A.17\_f.jpg (35.2 KB)
42. II.A.18\_f.jpg (27.3 KB)
43. II.B.01\_f.jpg (63.1 KB)
44. II.B.02\_f.jpg (66.0 KB)
45. II.B.03\_f.jpg (46.4 KB)
46. II.B.04\_f.jpg (62.4 KB)
47. II.B.05\_no\_image.jpg (30.0 KB)
48. II.B.06\_f.jpg (35.2 KB)
49. III.A.01\_f.jpg (67.8 KB)
50. III.A.02\_f.jpg (50.5 KB)
51. III.A.03\_f.jpg (53.3 KB)
52. III.A.04\_f.jpg (53.5 KB)
53. III.A.05\_f.jpg (54.3 KB)
54. III.A.06\_f.jpg (53.5 KB)
55. III.A.07\_f.jpg (57.6 KB)
56. III.A.08\_f.jpg (49.1 KB)
57. III.A.09\_f.jpg (43.5 KB)
58. II.A.10\_no\_image.jpg (57.5 KB)
59. III.A.11\_f.jpg (43.8 KB)
60. III.A.12\_f.jpg (29.7 KB)
61. III.A.13\_f.jpg (31.2 KB)
62. III.A.14\_f.jpg (44.2 KB)

63. III.A.15\_f.jpg (47.0 KB)
64. III.A.16\_f.jpg (55.2 KB)
65. III.B.01\_f.jpg (59.3 KB)
66. III.B.02\_f.jpg (52.2 KB)

#### DATA TYPE

Secondary data and final report.

#### FORMAT NAMES AND VERSIONS

PDF, CSV, JPEG

#### CREATION DATES

August 2018–November 2022

#### DATASET CREATORS

n/a

#### LANGUAGE

English

#### LICENSE

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#### REPOSITORY LOCATION

Johnson, William A., 2022, "Bone Rules Catalogue", <https://doi.org/10.7910/DVN/SCV3ZB>, Harvard Dataverse, V7, UNF:6:ss2aKF9uUT7x0VJtIX7XLg== [fileUNF].

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## (4) REUSE POTENTIAL

The debate over the function of the archaeological scribal artefact known as the "bone rule" has been vigorous over several years [see especially 8, 9, 12, 13, 23, 28, 41, 45, 53]. For future research on this scribal tool, on ancient writing implements in general, and on the reconstruction of ancient scribal behaviors, the dataset here will be foundational. Specifically, the data set can be used for identification (positive and negative) of similar objects from excavation and in museums; analysis of how this bone object is in alignment with, or is differentiated from, other bone tools; analysis of the spatial distribution of the finds; collection of the (sometimes obscure) bibliography; augmentation and correction of other catalogue materials; re-evaluation of the typologies for this and other bone tools among the small finds, such as the typology and collection of this and many other small finds in [artefacts.mom.fr](http://artefacts.mom.fr).

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## COMPETING INTERESTS

The author has no competing interests to declare.

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## ONLINE RESOURCES

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