Technical Reports of the Australian Museum, Online

a peer-reviewed, open-access, serial publication of the
Australian Museum Research Institute
1 William Street, Sydney NSW 2010

ISSN 1835-4211 (online)
https://doi.org/10.3853/issn.1835-4211

Number 27 · 19 December 2018

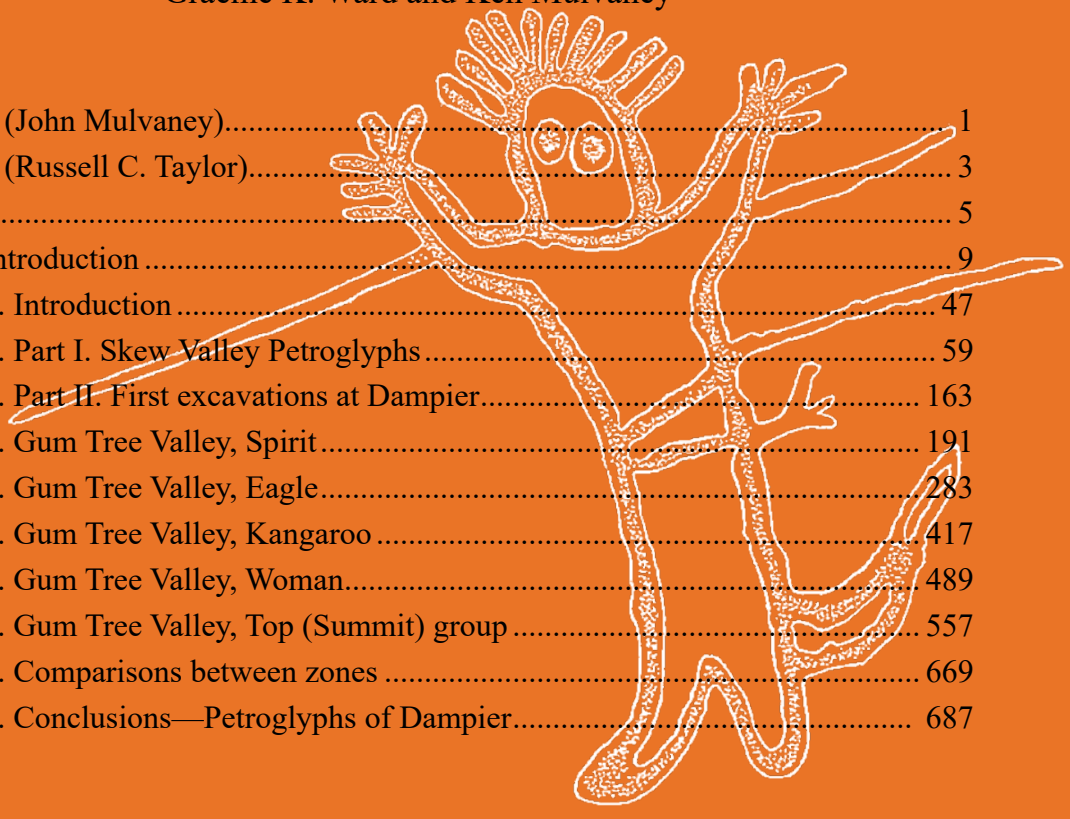
Archaeology and Petroglyphs of Dampier (Western Australia)
an Archaeological Investigation of Skew Valley and Gum Tree Valley

by

Michel Lorblanchet

edited by

Graeme K. Ward and Ken Mulvaney



Foreword (John Mulvaney)..... 1
Foreword (Russell C. Taylor)..... 3
Preface..... 5
Editors' Introduction..... 9
Chapter 1. Introduction..... 47
Chapter 2. Part I. Skew Valley Petroglyphs..... 59
Chapter 2. Part II. First excavations at Dampier..... 163
Chapter 3. Gum Tree Valley, Spirit..... 191
Chapter 4. Gum Tree Valley, Eagle..... 283
Chapter 5. Gum Tree Valley, Kangaroo..... 417
Chapter 6. Gum Tree Valley, Woman..... 489
Chapter 7. Gum Tree Valley, Top (Summit) group..... 557
Chapter 8. Comparisons between zones..... 669
Chapter 9. Conclusions—Petroglyphs of Dampier..... 687

Published by the Australian Museum, Sydney, Australia.
The Australian Museum is a statutory authority of,
and principally funded by, the NSW State Government.

Lorblanchet, Michel, 2018. *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney. *Technical Reports of the Australian Museum, Online* 27: 1–690.

[Published online-only by the Australian Museum, Sydney, as 14 PDF, the bibliographic details for which are listed below. A contents table at the beginning of each one of the 14 PDFs has DOI links interconnecting all works in this volume.]

Mulvaney, Derek John, 2018. Petroglyphs of Dampier—foreword. In Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley, ed. Graeme K. Ward and Ken Mulvaney, pp. 1–2. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1684

Taylor, Russell C., 2018. Petroglyphs of Dampier—foreword. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, p. 3. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1685

Ward, Graeme K., 2018. Petroglyphs of Dampier—preface. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, pp. 5–8. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1686

Ward, Graeme K., and Ken Mulvaney, 2018. Archaeology and petroglyphs of Dampier—editors' introduction. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, pp. 9–45. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1687

Lorblanchet, Michel, 2018a. General introduction to the research at Dampier. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 1, pp. 47–58. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1688

Lorblanchet, Michel, 2018b. The Petroglyphs of Skew Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 2 (part I), pp. 59–161. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1689

Lorblanchet, Michel, and Rhys Jones, 2018. The first excavations at Dampier (Western Australia), and their place in Australian archaeology (with addendum on radiocarbon dating of Skew Valley midden). In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 2 (part II), pp. 163–190. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1690

Lorblanchet, Michel, 2018c. The Spirit Figure Group at Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 3, pp. 191–282. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1691

Lorblanchet, Michel, 2018d. The Eagle Group at Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 4, pp. 283–416. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1692

Lorblanchet, Michel, 2018e. The Kangaroo Group at Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 5, pp. 417–488. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1693

Lorblanchet, Michel, 2018f. The Woman Group at Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 6, pp. 489–555. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1694

Lorblanchet, Michel, 2018g. The Summit of Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 7, pp. 557–668, with addenda by Jacques Evin and George Kendrick. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1695

Lorblanchet, Michel, 2018h. Comparisons between the six zones studied in Skew Valley and Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 8, pp. 669–686. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1696

Lorblanchet, Michel, 2018i. Petroglyphs of Dampier—general conclusions. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 9, pp. 687–690. *Technical Reports of the Australian Museum, Online* 27: 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1697

Author

Michel Lorblanchet joined the *Centre national de la recherche scientifique* (CNRS, France) in 1969 to study the Palaeolithic rock art of France. After graduating in 1972 from Université Sorbonne (Paris) with a doctorate in Prehistory, he was employed from 1974 to 1977 at the Australian Institute of Aboriginal Studies to conduct research into indigenous Australian rock art. From his base in Canberra, he participated in projects in Far North Queensland and in western Victoria. Between 1975 and 1976, he conducted the fieldwork at Dampier, Western Australia, on which this monograph is based, and made two further fieldtrips there in 1983 and 1984. He returned to France in 1977 to the *Centre de Préhistoire du Pech Merle* (Cabrerets). Lorblanchet was appointed *Directeur de recherches au CNRS* in 1995; he retired in 1999 and lives near Saint Sozy in the Lot Valley where he continues to research and publish about rock art. He is the author of many papers and several books on European Palaeolithic art (some are listed in the editors' introduction) as well as reports and this monograph on his Australian researches.

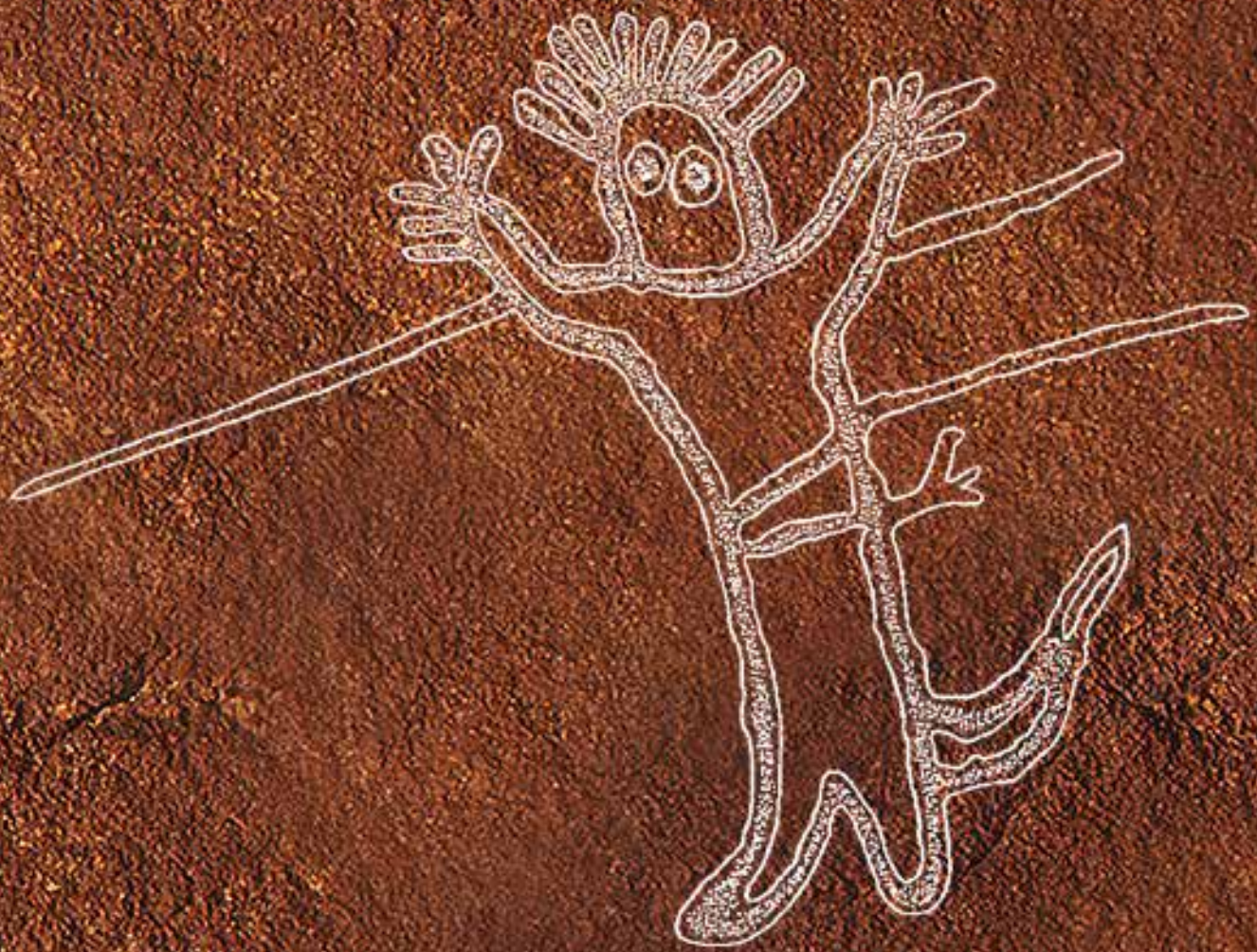
Volume Editors

Graeme K. Ward has conducted archaeological and ethno-archaeological fieldwork in the island Pacific and Australia. He gained his doctorate from The Australian National University and was employed at the Australian Institute of Aboriginal Studies where he was involved with administration of research programs including the national Rock Art Protection Program. Subsequently, as Research Fellow and Senior Research Fellow at the Australian Institute of Aboriginal and Torres Strait Islanders Studies he undertook research into Indigenous cultural landscapes in northern Australia with traditional knowledge-holders of cultural heritage places. He is the author of various research papers, of three monographs and editor of many collections of archaeological papers; he served as the editor of the Institute's journal, *Australian Aboriginal Studies*, for several years. Currently he is a visitor at the Department of Archaeology and Natural History, School of Culture, History and Language, College of Asia and the Pacific, of The Australian National University.

Ken Mulvaney has lived and worked for the past ten years on the Burrup Peninsula, where he is the Principal Advisor Cultural Heritage for Rio Tinto Iron Ore. Prior to this, Ken spent many years in the Northern Territory working with Aboriginal traditional owners documenting their cultural heritage places and land affiliations. He first came to the Burrup in 1980 when employed by the Western Australian Museum as member of a team documenting archaeological sites in areas destined for construction of a petrochemical processing plant. His doctorate from the University of New England is the first such study on the prehistory of the Dampier Archipelago. He is author of many articles on rock art and Aboriginal culture, and is currently affiliated with the Centre for Rock Art Research and Management, University of Western Australia.

Chapter 3

The Spirit Figure Group



Technical Reports of the Australian Museum, Online (2018) No. 27, pp. 191–282.
ISSN 1835-4211 (online)
https://doi.org/10.3853/j.1835-4211.27.2018.1691

The Spirit Figure Group at Gum Tree Valley

Michel Lorblanchet

Directeur de Recherches au CNRS (Centre National de la Recherche Scentifique, retired 1999),
Centre de Préhistoire du Pech Merle, Cabrerets, France, and, during the studies reported here:
Australian Institute of Aboriginal Studies, Canberra, Australia (1974–1977)

Lorblanchet, Michel. 2018. The Spirit Figure Group at Gum Tree Valley. In *Archaeology and Petroglyphs of Dampier (Western Australia), an Archaeological Investigation of Skew Valley and Gum Tree Valley*, ed. Graeme K. Ward and Ken Mulvaney, chapter 3, pp. 191–282. *Technical Reports of the Australian Museum, Online* 27, pp. 1–690.
https://doi.org/10.3853/j.1835-4211.27.2018.1691

The Spirit Figure Site

The Spirit Figure Group (or 'Spirit Group', GTVS) is located at the entry to Gum Tree Valley, more precisely at the entry to the gorge, alongside and following the stream to the Eagle Group (GTVE), which is 250 m to the east (Fig. 3.1). The site consists of a large broken steep slope, about 15 m high, oriented to the north, where the gabbro boulders are covered in petroglyphs (Fig. 3.2). This slope towers over the creek side of Gum Tree Valley. Here the creek bed is dry for about ten months of the year, while the hollows and basins of the gorge, 150 m to the east, usually retain water for most of the year.

The GTVS Group is located at the confluence of Gum Tree Valley with two other shorter valleys of small seasonal creeks, one oriented north-south (aligned with the Damper Salt road), and the other, almost east-west (Fig. 3.3).

Two shell mounds of about 15 m in diameter and about one half-metre in maximum height (Fig. 3.4: Middens A and B), both consisting of an accumulation of *Anadara granosa*, are located on either side of the confluence. Midden B, while more extensive, is less elevated and less important than Midden A.

Midden A is positioned in front of the greatest concentration of petroglyphs on the slope. An abandoned grinding stone is conspicuous at the foot of the slope beside the stream. It is this concentration, comprising 161 carved surfaces and 382 images, lying within a rectangle of 30 × 32 m, which has been named 'GTVS'. To the south, high up on the slopes, petroglyphs are almost absent (Fig. 3.4: cross-section). To the east, at the gorge entrance, the petroglyphs extend almost continuously towards GTVE, but are many fewer than at GTVS. In this sector (named 'GTVSO'), eight particularly interesting motifs have been identified and studied although they are outside the original sample area (Fig. 3.4: GTVSO-1 {p. 277} to -8 {p. 281}).

Ultimately, the location and the distribution of the petroglyphs, which become more numerous in front of Midden A, show a direct link between the habitat and the petroglyphs. As at SKV and GTVE, many of these petroglyphs therefore were made by the shellfish collectors.

The map of relative densities (Fig. 3.5) shows that the petroglyphs are more numerous at the base of the slope in Zone B while they are clearly fewer at the top of the slope in Zone H (Fig. 3.5). Finally, within Zone B, a more concentrated cluster of rocks is evident; this has been named 'Group C' (Fig. 3.5).

The Spirit Figure Group petroglyphs

Depictions of humans

Representations of humans are the most numerous motifs of the Spirit Group (Table 3.1). A total of 112 has been recorded; these represent nearly 30% of the total petroglyphs. The image dimensions are relatively small (Table 3.2).[1]

The histogram of heights is clearly bimodal; on the abscissa (horizontal, Y-axis) there are 15 height categories of 5–9, 10–15 cm etc., and on the ordinate (vertical, X-axis) are the percentages of the different classes of motifs (Fig. 3.7). The two peaks are well separated. The population of 'human' motifs at GTVS is thus heterogeneous. Two groups are apparent, one composed of motifs of heights between 21 and 25 cm and the other of 36–40 cm in height. As in other parts of Gum Tree Valley, these two groups' dimensions correspond to two different types:

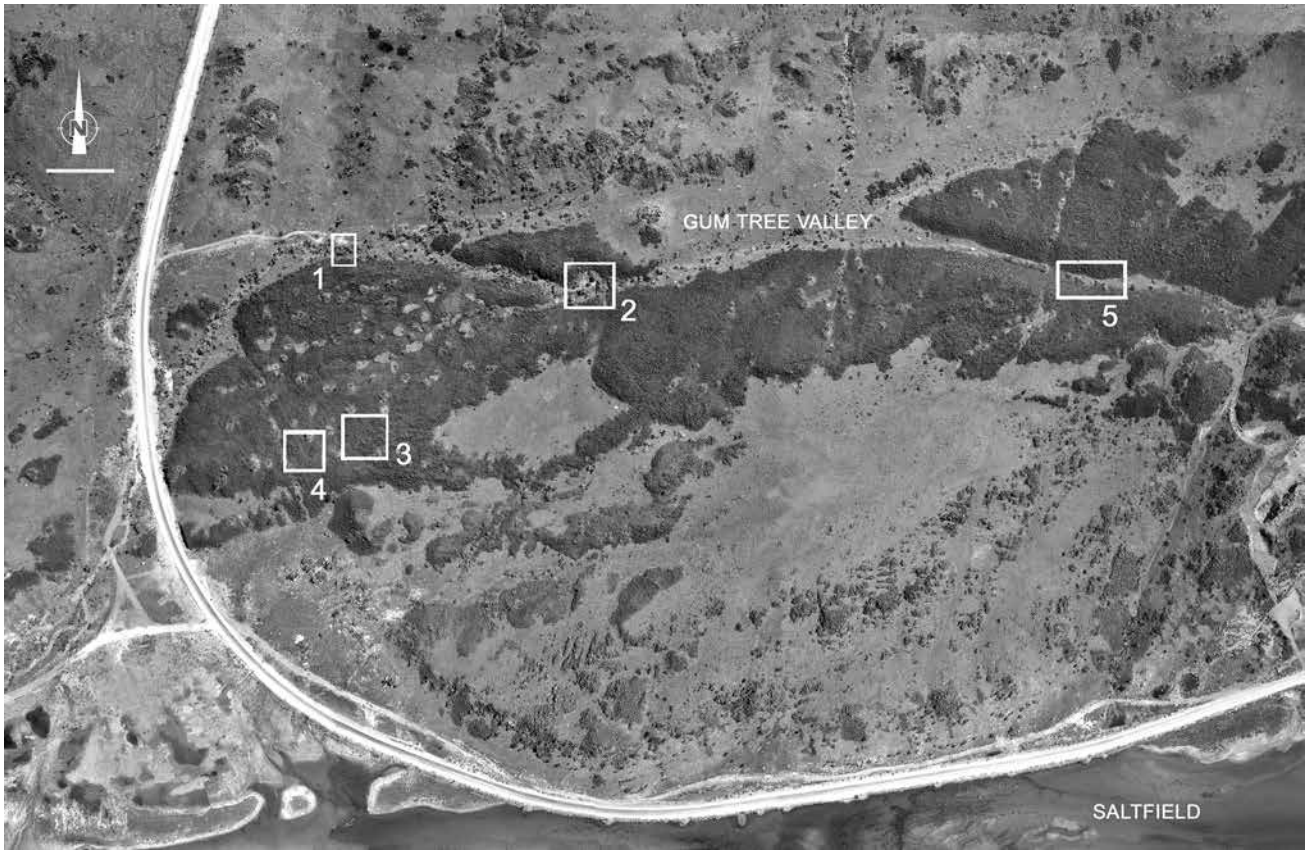


Figure 3.1. Gum Tree Valley. Aerial photograph of Gum Tree Valley with the locations of GTVS (1), GTVE (2), GTVW (3), GTVK (4), GTVT (5). Scale: 100 m. Source: Enzo Virili, Dampier Salt Company.

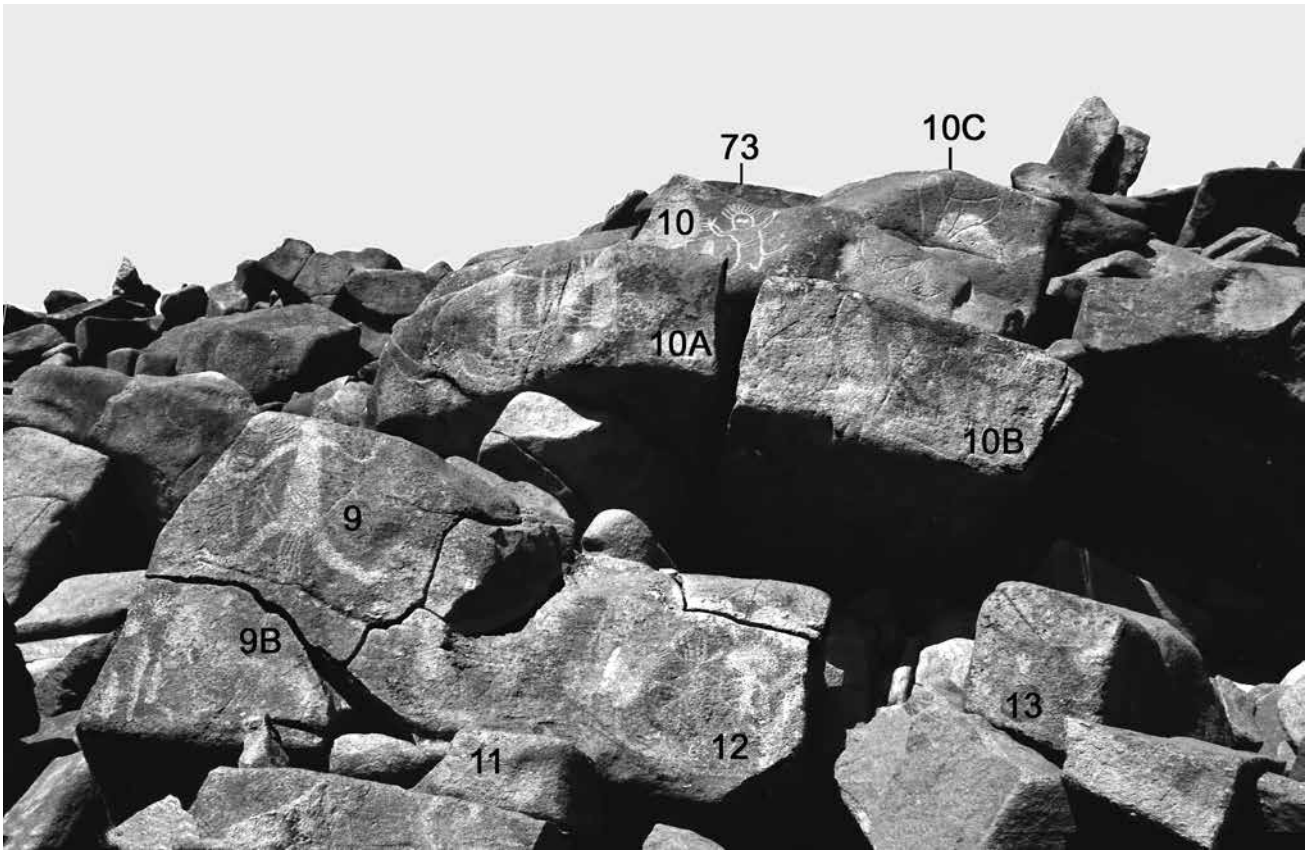


Figure 3.2. GTVS. General view of the group of carved slabs around The Spirit (GTVS 10).

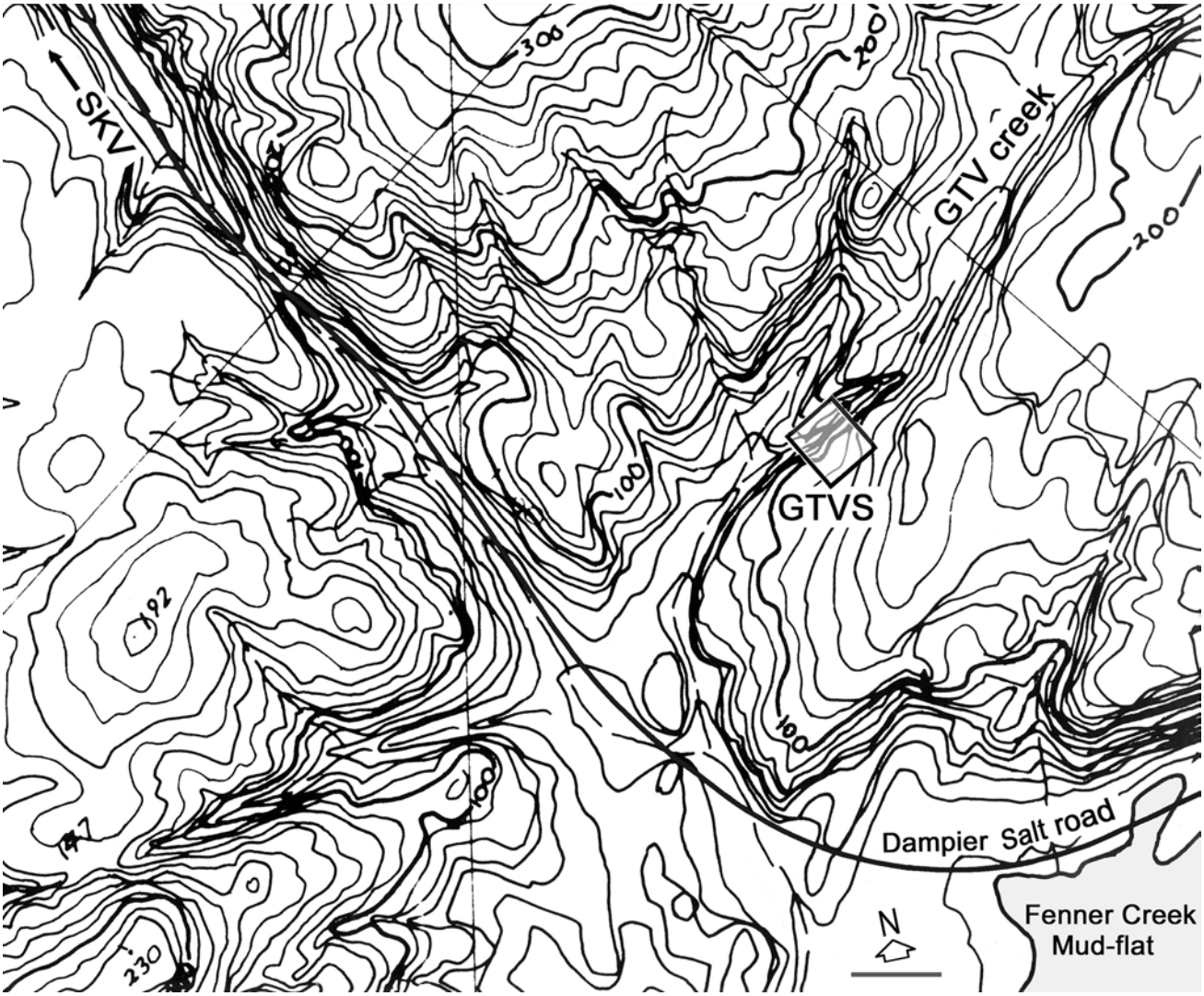


Figure 3.3. GTVS. Location of GTVS (square box) within Gum Tree Valley. Scale: 100 m.

1 Stick-figures with an average height of 230 mm; and
2 Other human motifs with an average height of 400 mm.

Various human motifs are depicted in Figs 3.8–3.12.

Stick-figures

The general category of 'stick-figures' represents more than half (52.6%) of the human motif assemblage (Table 3.1, Fig. 3.8). Their linear silhouette is typical of those observed throughout the Dampier Archipelago and elsewhere in Australia (cf. Brandl, 1978). Some examples (GTVS-10A {p. 235}, -17A {p. 239}), where the 'torso' is thicker than the 'limbs', have, however, been classified in this category because their form is slender, schematic and very standardised. All depict males.

Rudimentary depictions in profile (Fig. 3.8: 9 and 24A) are relatively few (<10%). In fact, they are less frequent here than at GTVW.

Despite their simplification, stick-figures often are depicted with various paraphernalia: 'headdresses', 'loincloths', 'boomerangs', 'spears' and other items. One motif (Fig. 3.8: 52; GTVS-52 {p. 259}) is a 'male' image with six lines positioned on one side of the body. This interesting subject allows the formulation of an hypothesis for the interpretation of another, small, motif (GTVS-30A {p. 247}): it may be a matter of a 'man' partly 'wounded' with 'spears' in a similar way to the previous motif.

Depictions of diverse humans

The category of 'diverse humans' forms nearly half of the total 'human' category (47%).[2] Most depictions are of heavier bodies, and generally they are more detailed with elaborate graphics; they are very polymorphic (Fig. 3.9).

Certain motifs show 'hands' displaying three to six individual 'digits'. The 'bodies' of some have complex patterning (Fig. 3.9: 0-1, 24A, 51.1), while others (Fig. 3.9: 49, 51-3) are rudimentary motifs thicker than the stick-figures, simply identifiable as depictions of humans by their 'body' lengths, the position and shape of their 'limbs' and their vertical stature, all of which distinguish them from other creatures depicted in the region.

Most are male depictions. The 'penises' have a round or ovoid shape, while one, GTVS-31 {p. 246} (Fig. 3.9: 31), seems bifurcated. This could be a schematic depiction of the foreskin or a reference to sub-incision.

Some motifs lack marked gender characteristics (Fig. 3.9: 9), but are presumed to represent 'males', from the associated depictions of fighting or dance equipment, of 'boomerangs' and a 'shield'. Only one depiction of a human female has been found, a motif with large, laterally delineated 'breasts' (Fig. 3.9: 58).

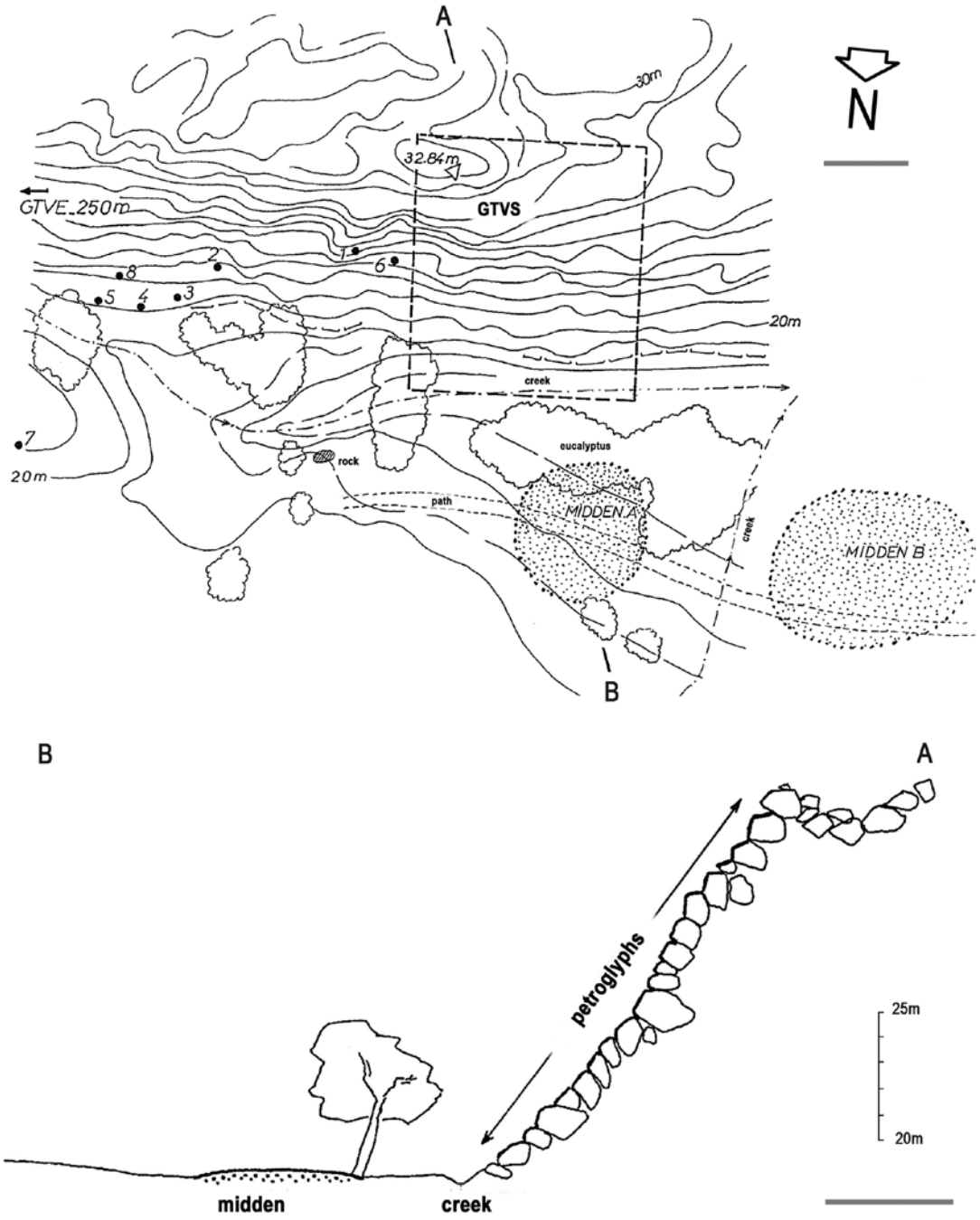


Figure 3.4. *Upper:* GTVS. General map of the site, at the entry to Gum Tree Valley, and at the entry to the gorge leading to the GTVE Group. The view is that of an observer approaching the site from the path. GTVS is on a slope overlooking a confluence of streams where two shell middens (A, B) have accumulated. The petroglyphs studied beyond the sampled area are marked on the map (GTVSO 1 to 8). Scale: 10 m. *Lower:* GTVS. Cross-section. Horizontal scale: 10 m; vertical scale: 25 m.

Among the various 'human' depictions at GTVS, a category of 'men' with exaggerated 'hands' and 'feet' is clearly apparent (Fig. 3.10). Their relative frequency is indicated by the identification of 18 examples among the GTVS Group (Table 3.1: 'Hpm'). They are forms whose extremities are particularly pronounced. The 'feet' are sometimes as long as the 'torso'. The 'fingers' are elongated. One motif (GTVS-25 {p. 245}: Fig. 3.10), which is unfinished, shows that the oval of the plantar surface of 'feet' are among the figurative elements drawn in this type of petroglyph, as if the essential character of these strange 'persons' was their oversized 'feet' (Figs 3.10, 3.11). Many are depicted carrying complex equipment, including 'headdresses' and 'boomerangs'. The 'penis' is globular or oversized and the 'testicles' are sometimes featured (Fig. 3.10: 53).

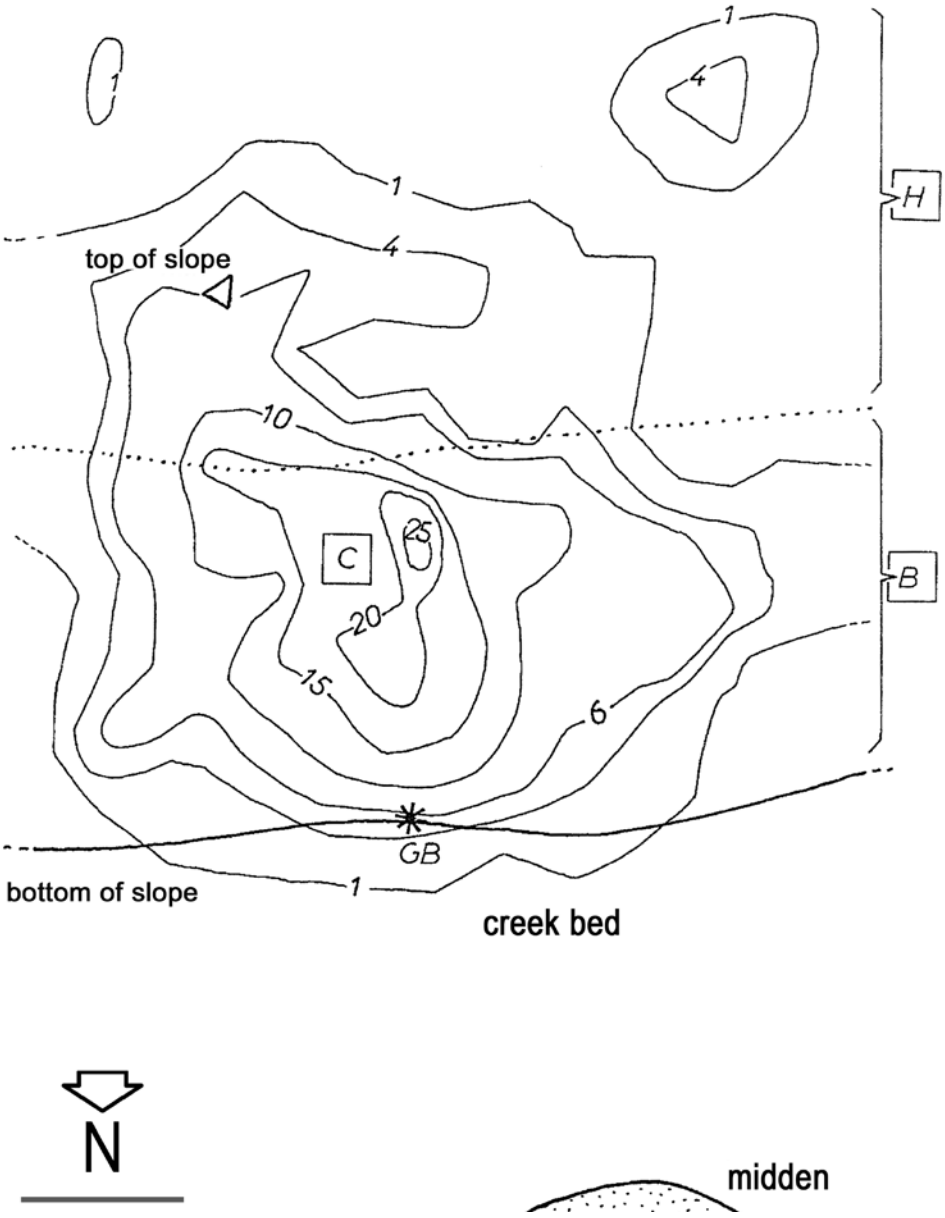


Figure 3.5. GTVS. Map of the relative densities of petroglyphs (Jekhowsky method); GB = millstone. Scale: 5 m.

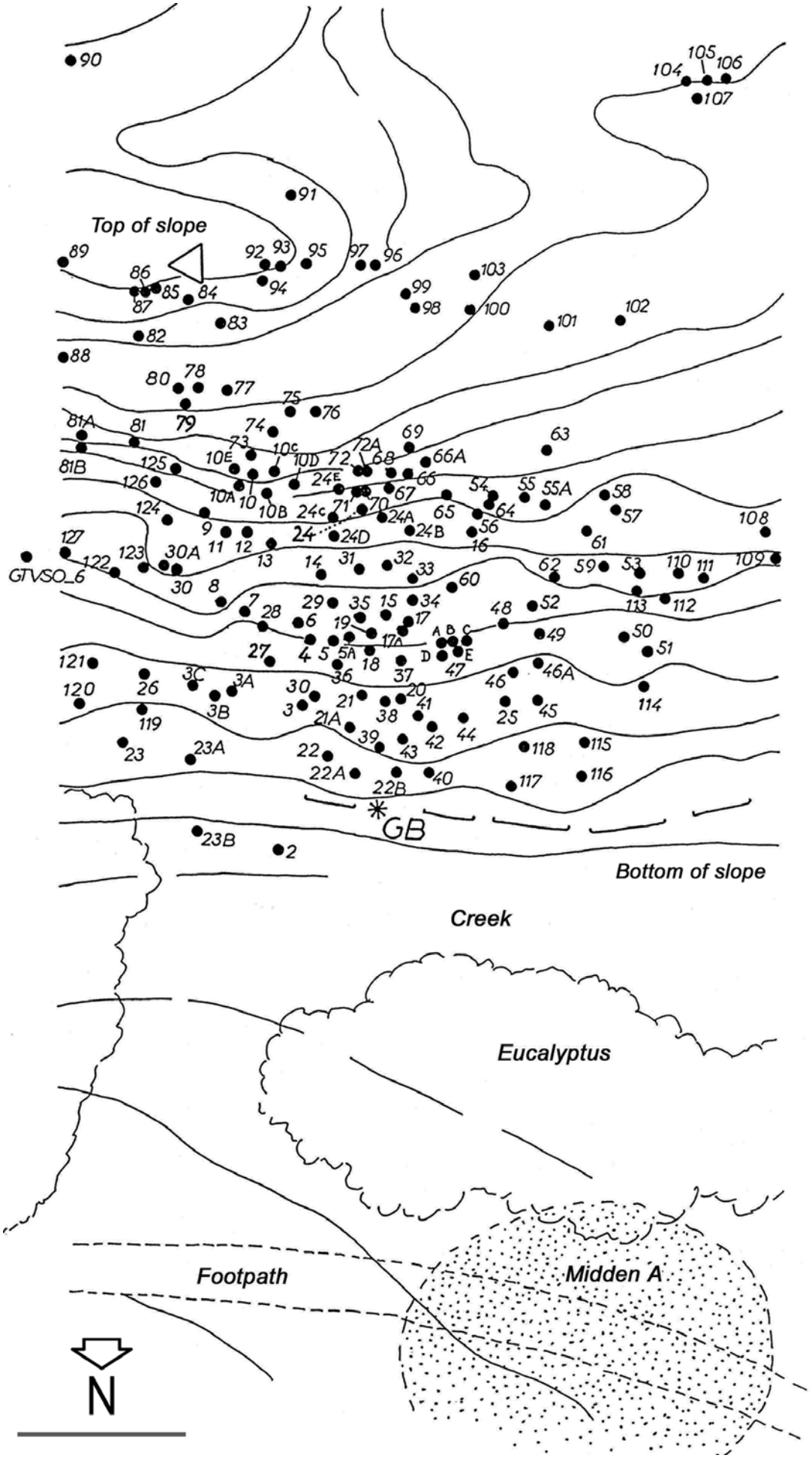


Figure 3.6. GTVS. Map with numbered blocks. Top of slope is at top of figure; GB = millstone. Scale: 5 m.

Table 3.1. GTVS. Inventory of motifs.

type of motif		number		percent	
'human' figures					
'human foot print'	Hp	1		0.26	
undifferentiated 'human' figure	H	23		6.03	
'female' figure	Hf	1		0.26	
stick-figure	Hs	54		14.17	
'male' stick-figure in profile	Hsc	5		1.31	
'phantom' form	Hfa	1		0.26	
'human' figures 'in coitus'	Hsex	10		2.62	
'human' with exaggerated 'feet' and 'hands'	Hpm	18		4.72	
Totals			112		29.39
'animal' motifs					
'kangaroo'	AK	5		1.31	
'bird'	AO	4		1.04	
'snake'	AS	2		0.52	
'turtle'	AT	14		3.67	
'fish'	AP	28		7.34	
other 'animal '	AA	2		0.52	
totals			56		14.40
'animal prints'					
of 'kangaroo'	EK	11		2.88	
of 'bird'	EO	26		6.82	
of 'turtle'	ET	4		1.02	
Totals			41		10.76
geometric motifs					
circular forms	GC	4		1.00	
concentric circles	GCC	4		1.00	
circle with rays	GCR	2		0.52	
arc-like forms	GAR	6		1.57	
triangular forms	GAR	6		1.57	
bi-lobate forms	GB	5		1.31	
oval forms	GO	10		2.62	
linear forms	GL	45		11.81	
punctations	GP	1		0.26	
other geometric forms	GA	2		0.52	
totals			85		22.30
'boomerang'	BO		6		1.57
'fruit'	FT		24		6.29
other motifs	MA		57		14.90
total motifs			381		100

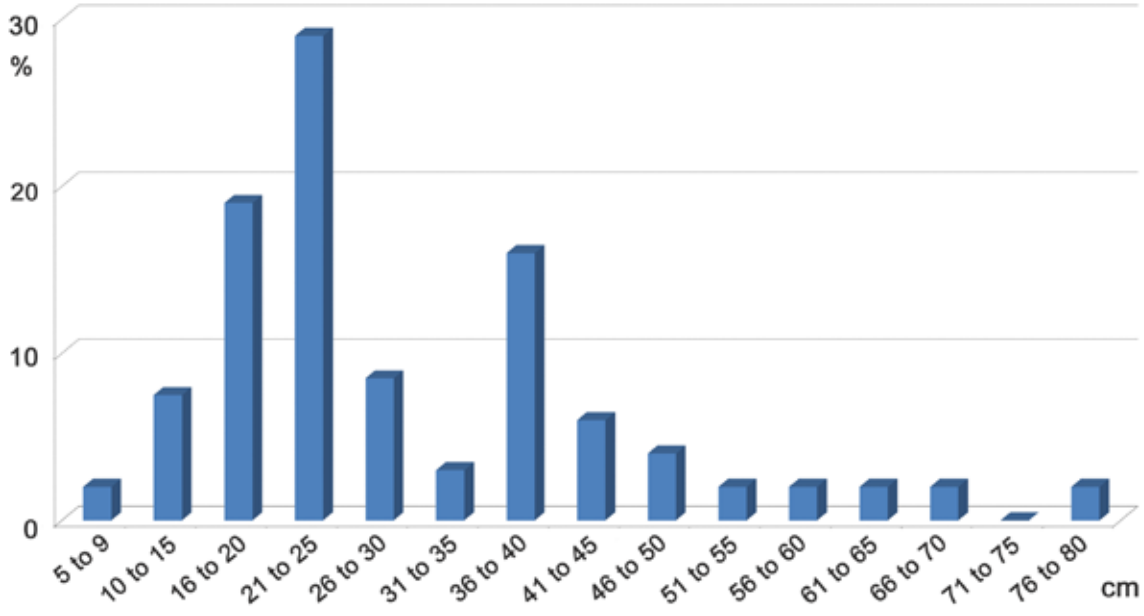


Figure 3.7. GTVS. Histogram showing proportions of heights of 'human' motifs.

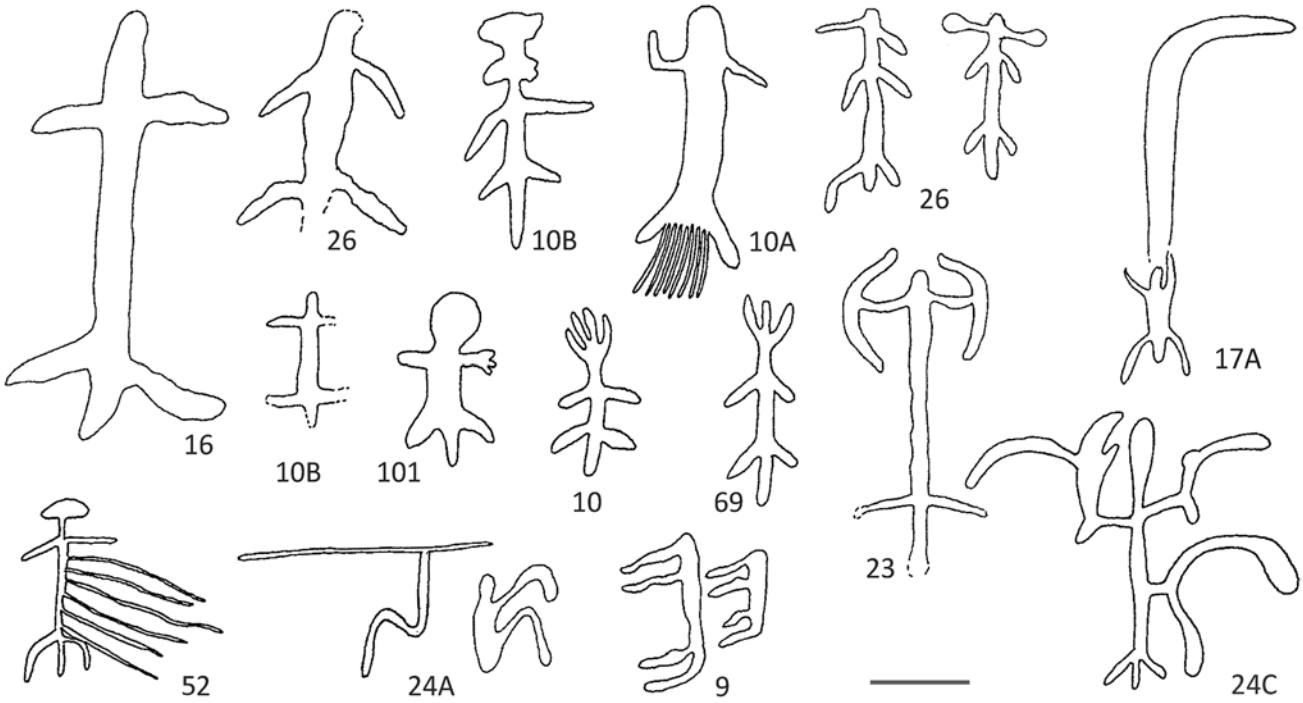


Figure 3.8. GTVS. Examples of 'human' stick figures. Scale: 100 mm.

Table 3.2. GTVS. Dimensions of 'human' motifs.

dimension	mm
average height	295
maximum height	790
minimum height	90
range of variation	700
standard deviation	141

'Ghost-like' ('phantom') motifs

The characteristics of the 'phantom' motifs recorded at the top of Gum Tree Valley and of the Eagle Group are depicted in Figs. 3.9:10, 3.12. Their features include a rounded 'head' without a 'neck', two large 'eyes', and 'limbs' that are simple extensions of a continuous linear outline.[3] As with several other phantom motifs from GTVE, the GTVS example wears a radiating ceremonial 'headdress'. It is, moreover, 'wounded' by three 'spears'.

It should be noted that I do not think that the carvers necessarily thought of these motifs as 'ghost-like' or as 'phantoms' or of the others as 'stick figures'. Here, 'ghost-like' or 'phantom' means that the form of the motif suggests the idea of a phantom. It is possible that there is no 'true' interpretation—these are just convenient descriptive terms. The motifs probably are schematic styles of depicting human forms.

Depictions of coitus

In the assemblage of human depictions at GTVS (Fig. 3.10: lower), 91% are 'males', 8% are 'asexual' and 1% is 'female'. In contrast to other groups of Gum Tree Valley, the Spirit Group has no 'male' motifs with exaggerated 'genitalia'. On the other hand, four 'human' couples are represented as engaged in coitus (Fig. 3.10: 10D, 19, 47E and 127). As a rule, these are symbolic presentations of coitus, in linear perspective, the two 'bodies' being placed on the same axis. These motifs are very simple: they may be stick-figures or they may be motifs of the 'diverse humans' category.

The 'genitalia' of the two individuals involved in coitus usually are not depicted. Occasionally, the 'woman' can be identified by her 'breasts' and by the oval mass of the 'vulva' (Fig. 3.10: 19, 47E, 127). Sometimes, it is impossible to determine the gender. In three of the five cases, one of the two individuals is depicted as more important than the other, being represented as larger, more detailed (for example, in the depiction of 'hands' and 'feet') and, when the motif is on a vertical wall, the larger is placed above the other. Do the physical differences depicted between the partners represent gender difference? Does the larger and more detailed motif represent the male?

'Human' motifs depicted with weapons

Many 'human' motifs of GTVS were depicted carrying arms and ornamentation. Forty-eight 'humans' (43%) carrying a range of 'equipment' were identified (Table 3.3).

The three categories of 'weapons' can be described: the 'boomerang', the 'shield' and the 'spear' (Fig. 3.13). Fourteen 'humans' are depicted carrying 'boomerangs'; 27 examples of the boomerang motif were recorded. About half of the 'boomerangs' are held at arm's length. The bearer is usually shown front-on, 'arms' extended to both sides of the 'body'; rarely are they shown in profile.

The other half are 'boomerangs' carried at the 'waist' (Fig. 3.13: 9, 10, 24C, 53, 85 and O-1). These last items either are placed to the side, extending the 'body' silhouette at waist level, or placed horizontally across the 'torso', always at waist level (GTVS-9 {p. 232}). In some cases, the 'boomerang' is simply placed against the 'waist' to which it is attached by an appendage (GTVS-24C {p. 243}). On The Spirit figure (GTVS-10 {p. 234}), the 'weapon' is placed to the side of the 'body' at waist level but it is not connected to the 'waist'. This position, however, echoes ethnographic descriptions of boomerangs being held by the waist-band (e.g., Jones, 1996: 38; Peter n.d.).

This absence of binding reflects an intellectual realism in the art of Australia; it provides the petroglyphs with a kind of graphical enumeration of objects that are not

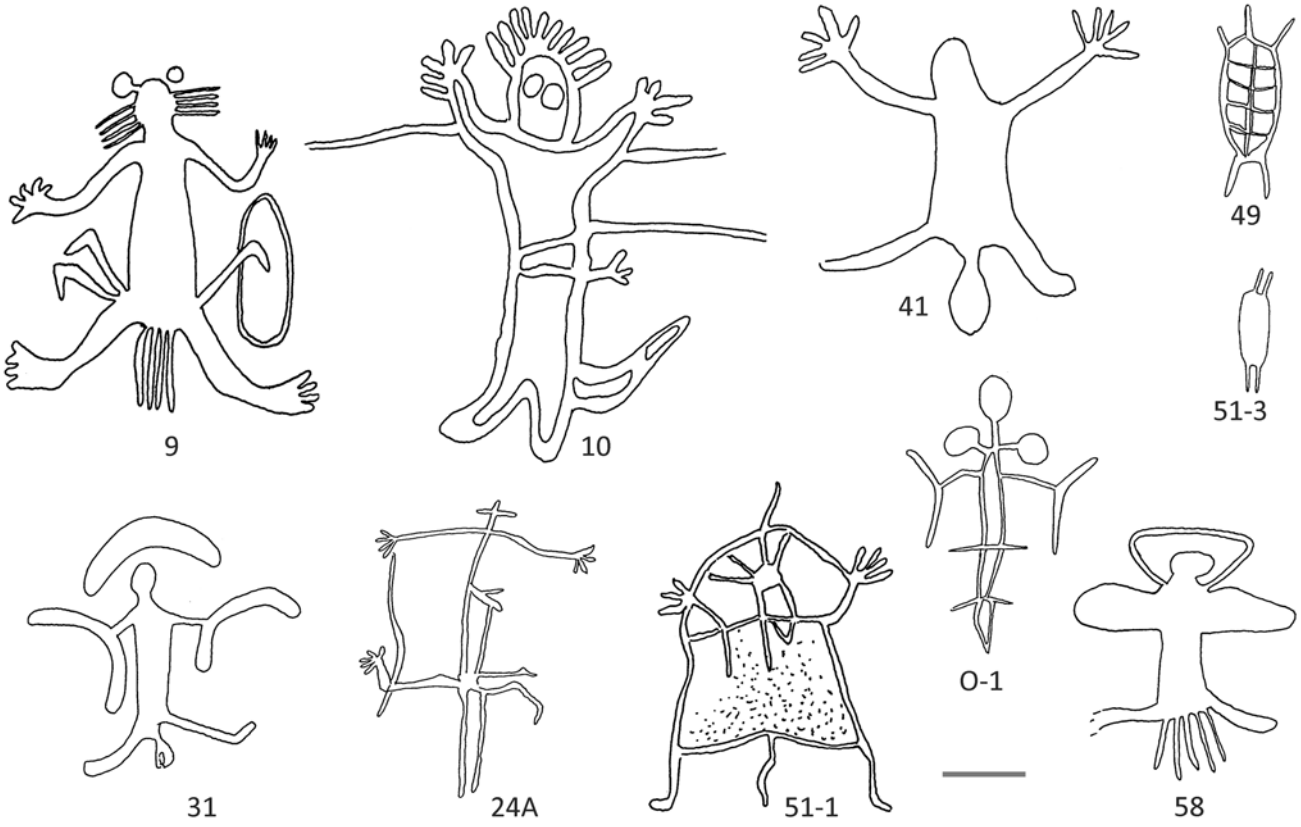


Figure 3.9. GTVS. 'Diverse human' forms and 'ghost-like' motif (10). Scale: 100 mm.

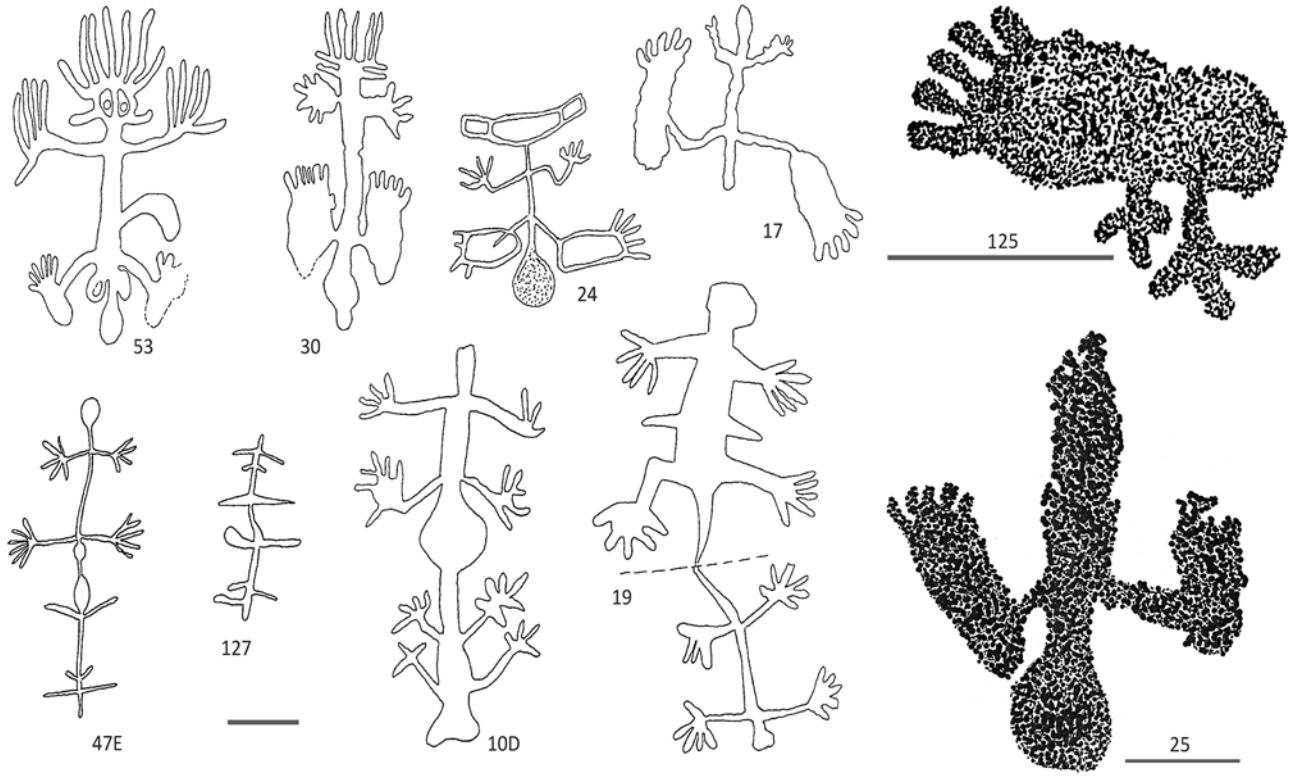


Figure 3.10. GTVS. 'Human' motifs. Scales: 100 mm. *Upper:* with depictions of exaggerated 'hands' and 'feet'. *Lower:* depictions of coitus. *Right upper:* GTVS-125. 'Man-bird'. *Right lower:* GTVS-25. Detail of unfinished 'human' figure with big 'feet'.

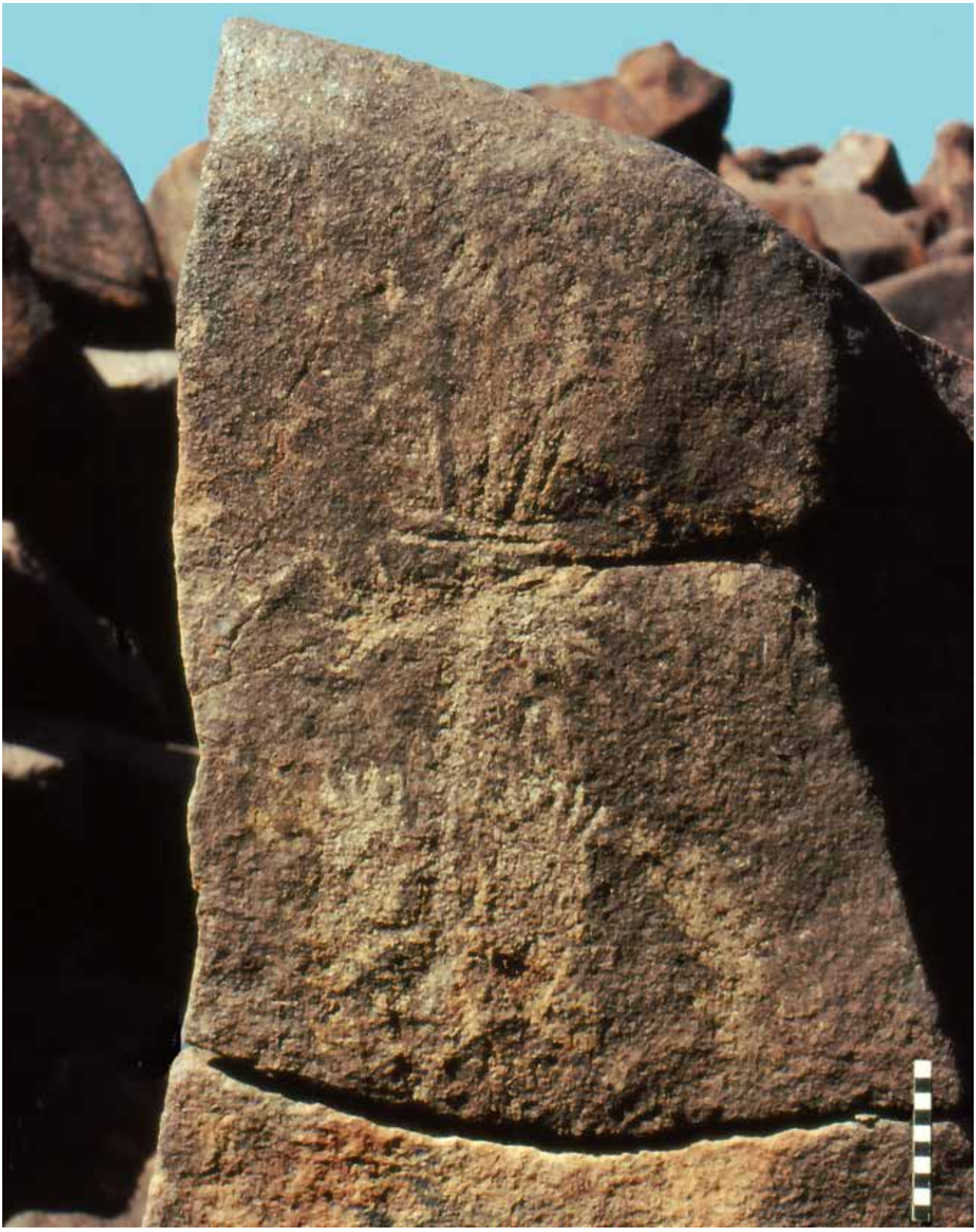


Figure 3.11 GTVS-30. ‘Human’ figure with large ‘feet’ and ‘hands’. Scale: 100 mm.

Figure 3.12. GTVS-10. The Spirit figure (detail from coloured tracing) that suggested the name for the Spirit Group. The outlines of this motif have been renovated repeatedly over time so that a white ribbon is now visible in the bottom of the grooves. Length of figure: 790 mm.

Table 3.3. GTVS. Depictions of human motifs with 'weapons' and 'clothing'.

number	type	'wounded'	'boomerang'	other 'weapon'	'head-dress'	'loin-cloth'	'waist-band'
5	Hs	—	—	—	1	—	—
5	Hs	—	—	—	1	—	—
9	H	—	3	1 'shield'	1	1	—
10	H	3 'spears'	1	—	1	—	1
10	Hs	—	—	—	1	—	—
10	Hs	—	—	—	1	—	—
10A	H	—	—	—	—	1	—
10B	Hs	—	—	—	1	—	—
15	Hs	—	2	—	—	—	—
17A	Hs	—	1	—	—	—	—
19	Hpm	—	—	—	—	—	1
23	H	—	2	—	—	—	—
24	Hpm	—	—	—	1	—	—
24A	Hsc	—	—	1 'spear'	1	—	—
24A	Hsc	—	1	—	—	—	—
24A	Hsc	—	1	—	—	—	—
24A	Hsc	—	—	1 'spear'	—	—	—
24C	Hs	—	3	—	—	—	—
26	Hs	—	—	—	1	—	—
30	Hpm	—	—	—	1	—	—
31	H	—	2	—	—	—	—
47B	Hpm	—	—	—	1	—	—
47B	Hs	—	—	—	1	—	—
47C	Hpm	—	—	—	1	—	—
47C	Hpm	—	—	—	1	—	—
51	H	—	—	—	1	—	—
52	Hs	6 'spears'	—	—	—	—	—
53	Hpm	—	1	—	1	—	—
58	Hf	—	—	—	—	1	—
63	Hs	—	—	—	1	—	—
65	Hpm	—	—	—	1	—	—
66	Hs	—	—	—	1	—	—
66	Hs	—	—	—	1	—	—
67	Hpm	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—		1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
69	Hs	—	—	—	1	—	—
72	Hs	—	2	—	1	—	—
75	Hs	—	2	—	1	—	—
85	Hs	—	3	—	—	—	—
99	Hs	—	—	—	1	—	—
124	Hpm	—	—	—	1	—	—
O-1	H	—	3	—	1	—	—
totals	Hs	2	27	3	35	3	2

placed in their functional position but in front of and to the side of the major part of the image. Similarly, none of the 'boomerangs' or the 'spears', is exactly in the bearer's 'hand'; but they are in immediate proximity, and that amounts to the same thing.

This association of these arc-like forms with the 'human' motifs, their positioning at 'waist' level or in the 'hands' (as in this last example), allows us to identify them as boomerangs. Isolated arc-like forms—having the same shape—also may also be interpreted as depictions of boomerangs.

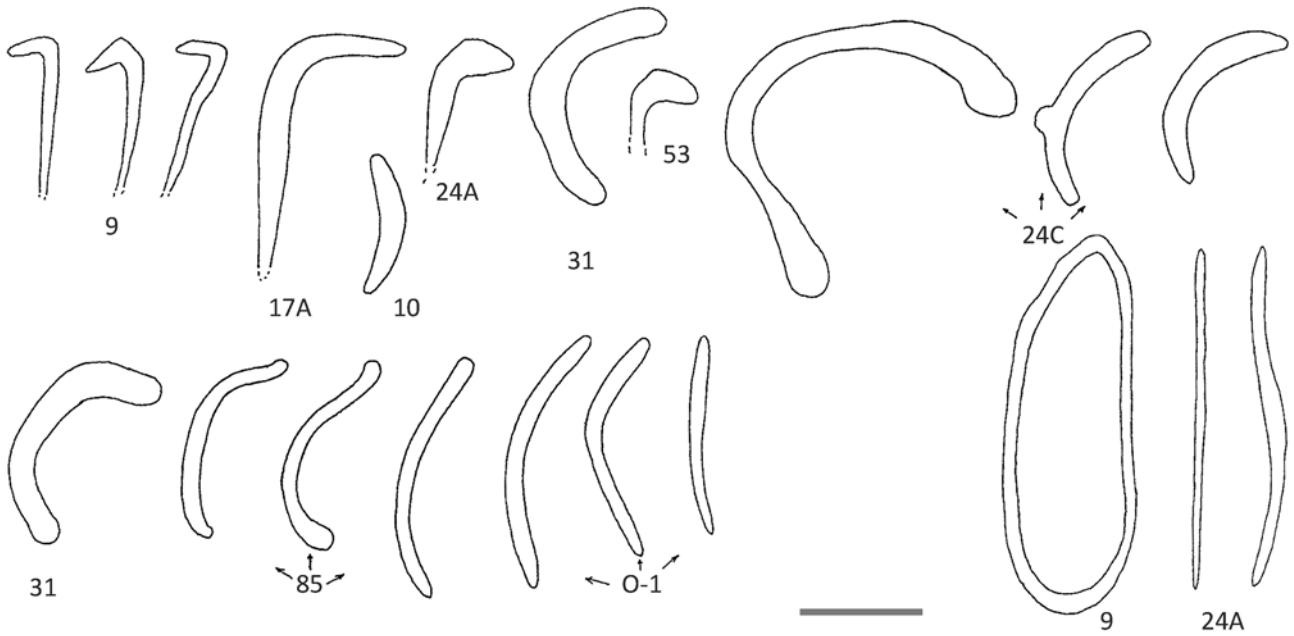


Figure 3.13. GTVS. Depictions of 'boomerangs', a 'shield' (9) and 'spears' (24A) carried by 'human' motifs. Scale: 100 mm.

The 'boomerangs' carried by the GTVS 'humans' are of two different types: the hooked boomerang (Fig. 3.13: 9, 17A, 24A and 53), and the arced boomerang whose curve is more-or-less accentuated. Some, like the one associated with a 'male', GTVS-24C {p. 243} (Fig. 3.13: 24C), has a very pronounced curve with widening at the top. Others (Fig. 3.13: 10, O-1) are very open. Finally, others seem to show a double curve like an 'S' (Fig. 3.13: 85, 24A). Some are large and others slender.

A 'human' motif (GTVS-24A {p. 242}) is depicted holding a spear. It is a simple form, not a barbed type. One of the stick-figures on this panel is depicted in profile, extremely schematic, limited to a simple sinuous line in the typical squatting posture of older Aboriginal men (e.g., Spencer & Gillen, 1899).

A 'warrior' carrying the usual apparel ('headdress' and 'boomerang') has under his left 'arm' a large elongated oval that probably represents a shield (Fig. 3.9: GTVS-9 {p. 232}). The absence of a connection between the 'shield' and the 'arm' may be explained by the style of representation mentioned above.

Depictions of headdresses and adornments

Thirty-five 'ceremonial headdresses' have been identified among the depictions of humans studied at GTVS (Fig. 3.14). A third of 'human' motifs—all are 'male'—bear a structure on the 'head' of one of the following forms:

1 **Radiating form**. This form of headdress is the most common. One example is that of 'The Spirit' (GTVS-10 {p. 234}; Fig. 3.14: 10-1) and another of the character depicted on Panel 53 (Fig. 3.14: 53, GTVS-53 {p. 260}).[4] The 'head' is surmounted by 7–15 diverging rays. This form passes progressively through intermediaries to a pectiform (rake-like style (Figs 3.10, 3.14: 30), then trident (GTVS-69-2 {p. 267}, -69-5 {p. 267}). It seems to culminate in a single example of a TV-antennae headdress (GTVS-10-6 {p. 234}).
2 **Lateral lobe form** (Fig. 3.14: O-1, 47C, 26). These are rounded shapes placed at 'ear' level or on top of the 'head'. One example (Fig. 3.14: 9) is a complex 'headdress' with both rays and lobes.
3 **Hooped form** (Fig. 3.14: 31). A large arc-like form positioned above the 'head' in the shape of a boomerang; however, it is more likely to represent an arciform headdress such as those still worn by Aboriginal men today in ceremonies and dances (pers. obs. 1974–1985). Another example (51) is an arciform 'headdress' with rays.

Other adornments appear to be 'loincloths' and 'waist-bands'. There are three 'humans' depicted wearing a fringed loincloth (Fig. 3.8: 10A; Fig. 3.9: 9, 58). In each case, they are simple coverings hanging low into the 'legs' of the wearer; they are not attached to a 'waist-band'. The number of fringes varies from five to eight. As well being worn by probable 'males' (weapons indicate their gender: GTVS-9 {p. 232}), these 'loincloths' are also worn by 'females' (GTVS-58 {p. 263}).

It has been remarked that some figures carry 'boomerangs' at the 'waist'. While on most figures, a 'waist-band' is not graphically represented, its presence and purpose are implied. On only two 'human' motifs (GTVS-10 {p. 234}, -19 {p. 240}), is a 'waist-band' portrayed: On GTVS-10 {p. 234}, two approximately parallel lines cross the waistline; GTVS-19 {p. 240} shows two lines extending each side of the 'waist' representing, in all likelihood, a waist-band ornament (although they could also represent a weapon driven into the waist).

Depictions of human feet, 'Human-Bird' and 'Human-Kangaroo' figures

Panel 125 shows an interesting petroglyph, a 170-millimetre depiction of a human foot[5] (Fig. 3.10: 125). It is associated with an incomplete representation of a human figure with large feet (GTVS-25 {p. 245}). This combination is surprising: it seems that the incomplete 'man', with his two gigantic 'feet' framing a large bulbous 'penis', seems to have influenced the execution of the second motif, the isolated 'foot' that faithfully replicates the right foot of the human figure. What is stranger still is that, attached to this latter depiction of a foot, are two 'bird footprints'! (Fig. 3.10: 125). Thus, this motif, made up of a 'human footprint' and prints of two 'bird's feet', is a half-human, half-animal composite depiction. Here we have a 'man-bird'

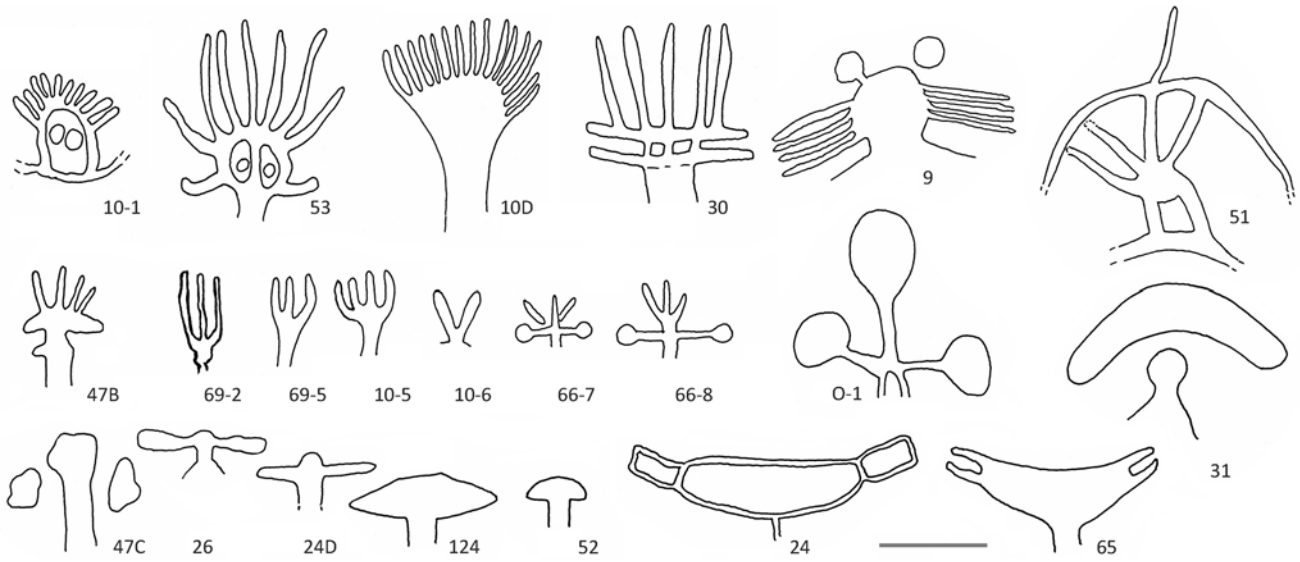


Figure 3.14. GTVS. Depictions of 'headdresses' worn by 'human' motifs. Scale: 100 mm.

formed exclusively of footprints. Such a motif emphasises the symbolic character of prints, which represent, in an abbreviated form, the totality of a creature.

This motif may well be a graphic pun or rather a symbol of a 'man-bird' of mythological significance. We are reminded that, among the petroglyphs of the Eagle Group, 300 m to the east of the GTVS-125 {p. 275} motif, a depiction of a large 'man-bird' wearing a 'ceremonial headdress' was recorded (GTVE-01, Chapter 4: Fig. 4.59); it is in the pose of a corroboree dancer along with two typical depictions of the 'man-kangaroo'. Moreover, the 'speared man', GTVS-10 {p. 234}, represents the final use of an old patinated petroglyph of a speared 'man-kangaroo' (depicted with a kangaroo tail). This motif is discussed further in the section on carving techniques in this chapter.

Depictions of animals

Depictions of macropods

Five depictions of macropods were recorded among the Spirit Group petroglyphs (Fig. 3.15); thus 'macropods' are numerically few (1.57% of all motifs).

Dimensions. The average length of the 'macropods' is 750 mm; however, this figure might not have much validity due to the small number of examples. It is probably more important to recall here the bi-modal distributions of motif sizes reported from other parts of Gum Tree Valley. Alongside the two large examples (1400 and 1000 mm long: GTVE-10A and 126-1), there is also an homogenous series of small 'macropods' with lengths of 500–600 mm. Here, as elsewhere, it is possible to see in these differences in length the characteristics differentiating kangaroo from wallaby.

Placement. All the depictions of macropods at GTVS are placed on sub-vertical surfaces; they are arranged horizontally.[6] The pose of each 'animal' is very similar. Its 'paws' are stiff and hanging or horizontal when the shape of the panel restricts the depiction.

Body proportions. Among the Spirit Group, the average 'macropod' body ratio (the ratio of body length to body height) is 1.78.[7] The average dorsal curve for all 'macropod' motifs recorded in Gum Tree Valley is 3.53, varying between 3.05 and 4.41. The 'macropods' of GTVS are therefore generally larger than those of most of the other parts of Gum Tree Valley. Some are even massive, since their body ratio falls to 1.57 or even 1.35 (Fig. 3.15: 73). By contrast, the largest 'macropods', those of the Eagle Group (GTVE-10A, -126) seem to have a more elongated 'body' (ratio greater than 2), much closer to the Gum Tree Valley average.

Other body characteristics. As is typical in Dampier petroglyphs, among the Spirit Group, the 'macropod head' is triangular, and the 'ears', always in pairs, are side-by-side, as are the 'paws'. The 'foot' is often detailed and the 'digits' feature in four of the six cases. The 'tail' is hanging except in one case (GTVS-10A {p. 235}) where it is raised to fit within the limits of the panel. All examples are depicted as asexual except for one 'male' (GTVS-10A {p. 235}). One of the subjects (Fig. 15: 73 right) is depicted as being pierced right through by a 'non-barbed spear'.

Depictions of birds

All the GTVS 'birds' are of large dimension: their length varies from 600–950 mm. Although very few (there are only four examples), the 'birds' of GTVS are diverse. They represent the following different forms:

1 One is a depiction of a raptor (Fig. 3.16: 10B). The curved 'beak' and general 'body' shape are characteristic of species still common in Gum Tree Valley and frequently found in the west of the continent: the Wedge-tailed Eagle, the sea-eagle or the osprey. This 'eagle' also features at GTVE, in an identical pose (that is, with stretched 'wings'), but at GTVE, where it is an important figure and often seen, it has, moreover, a 'radiating headdress'. The GTVS 'eagle' is equally exposed to the visitor to the Group, but, in contrast to that of GTVE, it has none of the 'man-bird' hybrid characteristics;
2 There is a depiction of an Emu in the pose of a watchful bird, 'head' raised (Fig. 3.16: 44). Another (GTVS-41 {p. 248}) also may have been intended to represent an Emu: it has the same general form, the long 'legs' and tri-digit 'feet', but the 'head' has not been carved; and
3 The last depicts an aquatic bird with webbed 'feet', a massive pelican-like 'body' and a voluminous 'beak' (Fig. 3.16: 126). Today, pelicans still visit the marshes and salt pans of Fenner Creek.

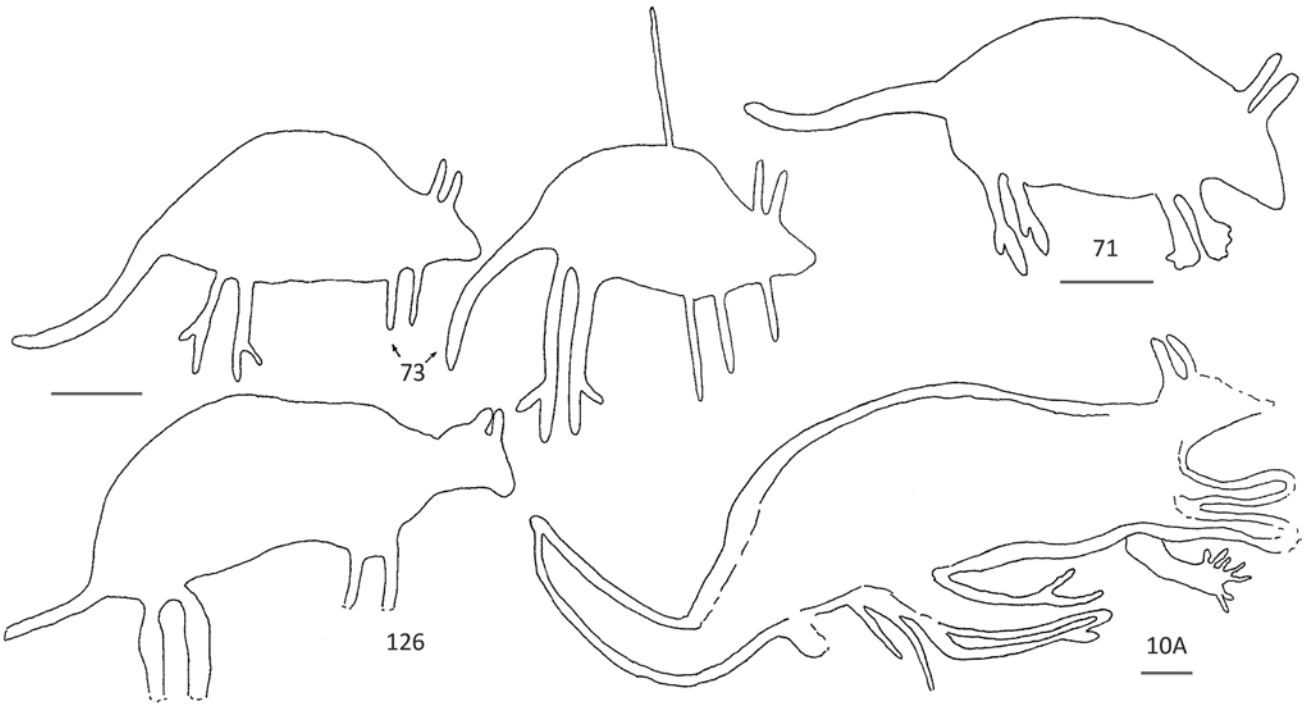


Figure 3.15. GTVS. Depictions of 'macropods'. Scales: 100 mm.

Just beyond the GTVS sample area, only a few metres from its eastern limit, other interesting bird motifs were seen: a line of four 'ibises' (GTVSO-8 {p. 281}) recognizable by their long 'legs', their three-toed 'feet' and their long curved 'beak'. A depiction of an ibis exists also among the Skew Valley Group (SKV-106-SW, Chapter 2, Part I, p. 160). A depiction of a stork (GTVSO-7 {p. 280}), probably of the black Jabiru known to frequent Western Australia today, is located just outside the Spirit Figure Group; its extended 'tail' indicates the mating season.

Depictions of snakes

Two snakes are represented at GTVS. They are both extended and not coiled in a circle as is frequently seen in the petroglyphs of the region. They have a relatively slender form and they depict the sinuosity of a snake travelling along. In fact, these drawings are more schematic than naturalistically realistic. One measures 1300 mm in length (GTVS-20), and the second is 680 mm long (Fig. 3.17: 56).

Depictions of turtles

Fourteen marine turtles are depicted at GTVE (Fig. 3.17). They do not show any particular character, and they are of a form common in the region.[8] Their average length is 350 mm. They were made using either 'linear pecking'—when details of the 'carapace' are marked by grids or parallel bars—or the silhouette is entirely pecked. One has an abnormally elongated 'body' (Fig. 3.17: 41A).

Depictions of fishes and sea mammals

Fishes are by far the most numerously depicted animal category (Fig. 3.18). Twenty-eight were recorded, representing 7.32% of the total number of motifs recorded at GTVS (Table 3.4).

The specific identification of these more-or-less schematic depictions is often difficult. Thus 16 of the 28 (Fig. 3.18: 6, 24D, 10, 41, 47E, 48, 49-1, 49-2, 66-1, 66-2; and GTVS-77, -94, -97, -103, -120, -121) allow no objective identification. Their lack of precision and detail permits only a generic

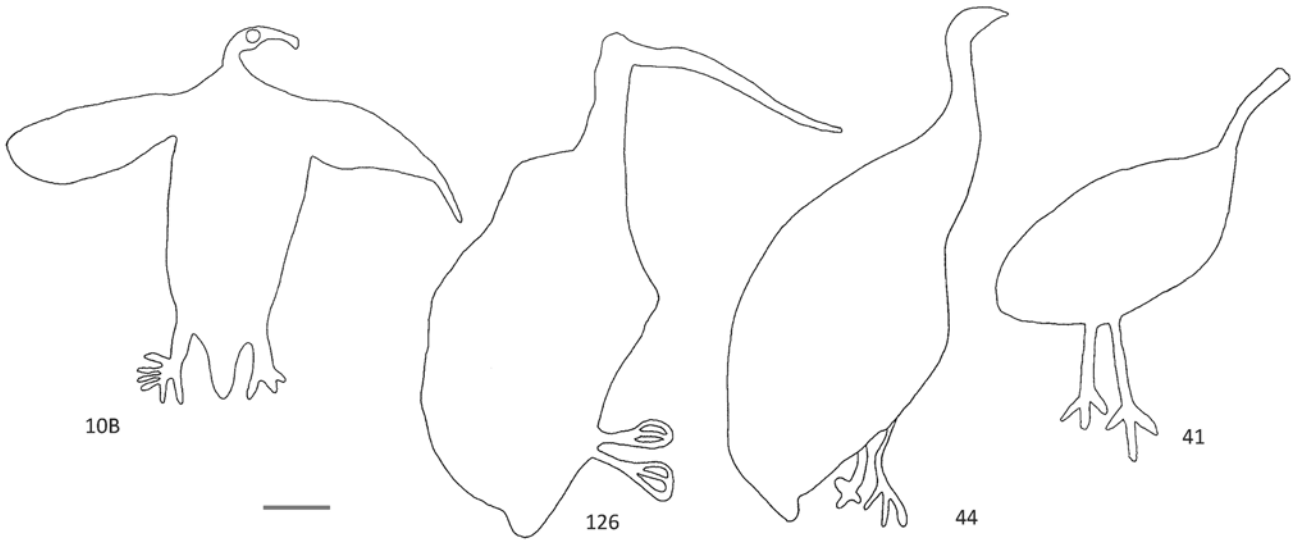


Figure 3.16. GTVS. Depictions of 'birds'. Scales: 100 mm.

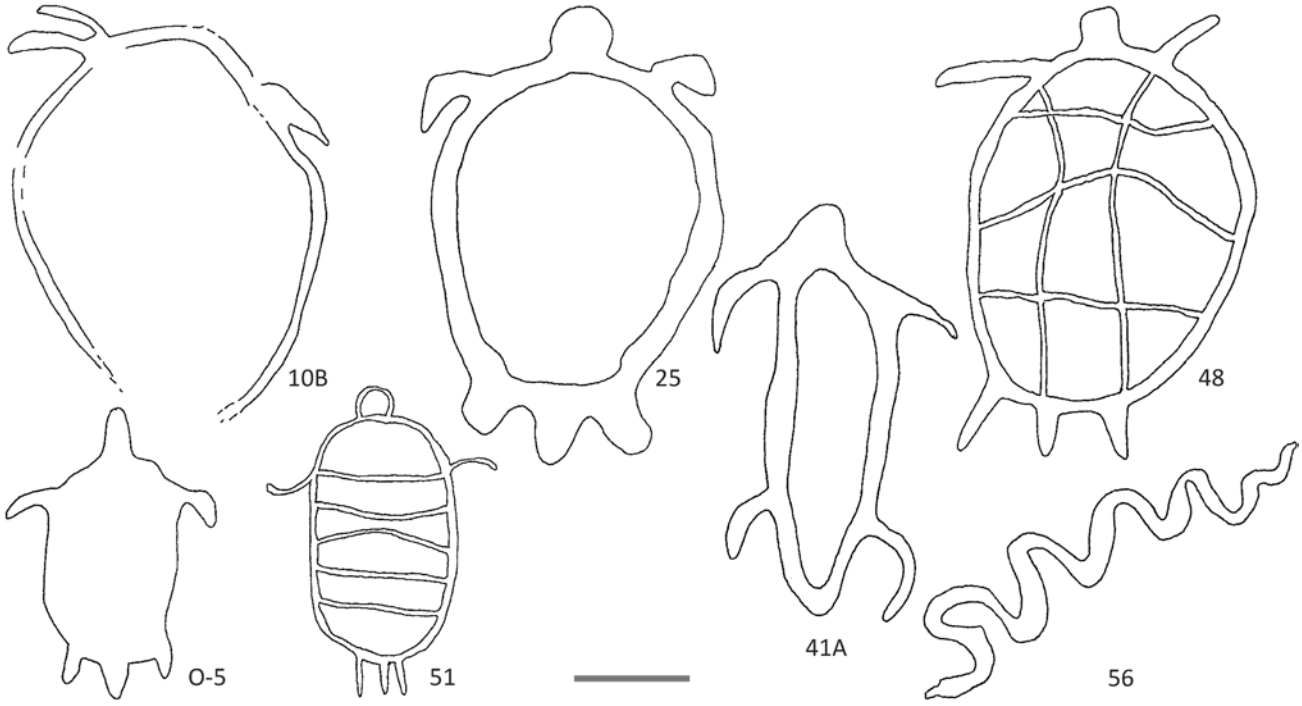


Figure 3.17. GTVS. Depictions of 'marine turtles' and of a 'snake' (56). Scales: 100 mm.

identification. Some species could be identified and some depictions (Fig. 3.18: 66-1, 66-4) testify to the practice of spear-fishing.

Catfish. One motif (Fig. 3.18: 66A; GTVS-66A {p. 266}), with its oval 'tail', probably represents a catfish (*Plotosus anguillaris* Bloch).[9] Another (Fig. 3.18: 83; GTVS-83A {p. 270}), seems to be intended to depict a Blue Catfish (*Neoarius australis*) or another variety called 'Salmon catfish' by local fishermen (*Netuma thalassina* Ruppel). Both varieties have a notched 'tail fin', evident in GTVS-83A {p. 270}, which also shows a large rounded 'head', and spindly growths each side of the 'mouth' that appear to depict barbs or feelers rather than pectoral fins, because they are placed too far forward. The flesh of these two varieties of catfish is highly esteemed.[10] They are common in the estuaries and ascend into fresh water well beyond the limit of the tide.

Rays. Five depictions of rays could be positively identified. The round, oval or diamond-shaped form is characteristic of this fish, along with the spindly tail. It is fully recognizable on some petroglyphs (Fig. 3.18: 48, 71-4, 71-6, 118; GTVS-48 {p. 255}, -71 {p. 268} and -118 {p. 273}). Many of these images show other typical body parts: the small fins on either side of the base of the tail and even the sting halfway down the tail (Fig. 3.19: GTVS-118 {p. 273}).

One motif (GTVS-48 {p. 255}) is probably a depiction of one of the speckled species, which moves along the coast, on the beaches near the coral reef or in the mangroves. The 'Blue Ray' of Australian fishermen, which lives in the sandy lagoons, has the form of diamond-shaped kite, and entirely covered with dark spots, is probably depicted in another carving (Fig. 3.18: 71-4; GTVS-71-4 {p. 268}). Another variety of Blue Ray has an oval body and a slightly angular head (GTVS-71-5 {p. 268}). A large Mangrove Ray is also speckled.[11] The rays have a large liver that is particularly appreciated by coastal Aborigines. Such livers often are depicted in the petroglyphs of this coastal region.

Other depictions of fishes (Fig. 3.18: 66-3, 66-4) have an oval 'body' and indented caudal 'fins', and central and dorsal 'fins' covered with numerous 'spines'. These features are characteristic of *Siganus spinus*, one of the genera of fishes that the inhabitants of the shores of northern Australian shores ironically call 'happy moments'.[12] The spines are venomous and can inflict serious wounds on shell collectors searching the coral bed at low tide. These fish live in deeper tropical waters, and their flesh is edible.

Table 3.4. GTVS. Dimensions of fish motifs.

dimension	mm
average length	445
maximum length	900
minimum length	190
range of variation	710
standard deviation	204

Sawfish. The sawfish (*Pristis zijsron*) is particularly well represented on a panel found near the eastern edge of the Group (Fig. 3.18: O-2; GTVSO-2 {p. 278}).[13] The 'saw' depicted on the carving has only 16 and 17 lateral 'teeth', while in reality there are about 25 on each side. While very schematic, this carving reproduces general fish forms, not only the 'beak' but also the bi-lobate form that gives the body large pectoral and ventral 'fins'. In a strange and interesting way, the carved 'sawfish' is adapted to the edge of the panel by bending around the vertical face. The sawfish, of which there are many varieties, is usually a large fish. It can be seen in rivers up to 200 km from the coast.

Dugong. This mammal (*Dugong dugon*) is recognizable on another panel (Fig. 3.18: 73).[14] The large 'body', long triangular 'tail', the protruding mass of its 'lips' and 'nose' are typical; another 'dugong' carving was found at GTVE, about 250 m to the east of this one.

Dolphin. A dolphin (*Delphinus* sp.) is depicted at GTV (Fig. 3.18: 71-7; GTVS-71 {p. 268}).[15] The spindle shaped 'body', the placement of dorsal and pectoral 'fins', the shape of the 'tailfin' and above all the top of the 'head' sharpened into the form of a 'beak' allows this identification.

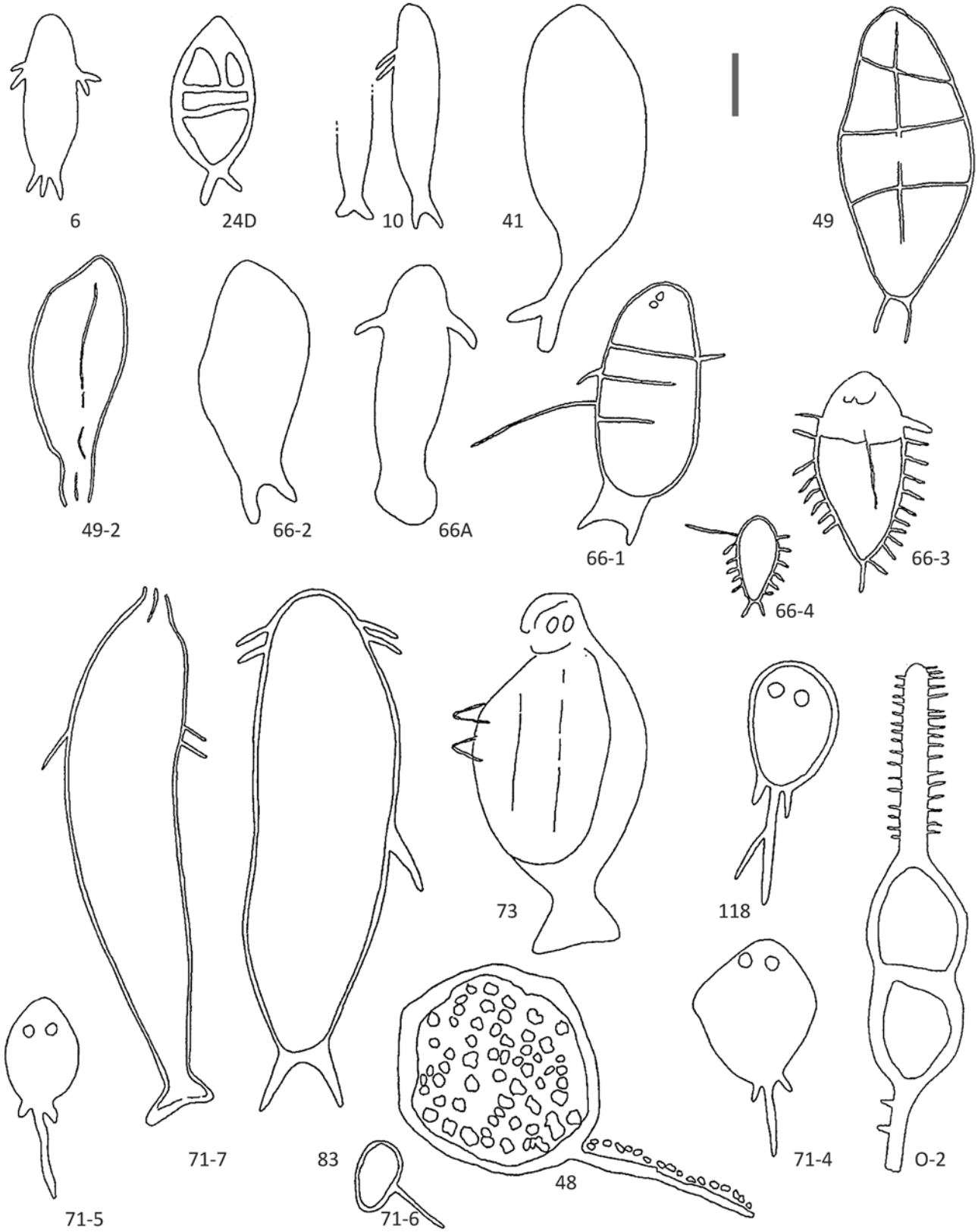


Figure 3.18. GTVS. Depictions of 'fishes' and other 'marine animals'. Scales: 100 mm.

Depictions of other animals

Panels 65 and 81B have depictions of strange creatures that are indecipherable. They are elongated ovals of 190 mm (GTVS-65-3 {p. 265}) and 600 mm, the contours of which have extensions that might represent limbs or fins. The former could be an unfinished figure. A possible depiction of an Echidna (GTVS-81B) is shown in Fig. 3.19.

Depictions of animal prints

Depictions of macropod prints

Eleven 'macropods prints' were recorded at GTVS (Fig. 3.20: upper). This low number confirms the limited numerical significance of 'macropods' in this Group.

Two categories of 'prints' are apparent. The former comprises 'prints' of small size (average length 11 mm).

Figure 3.19. *Upper:* example of depiction of 'stingray'—GTVS-118. Scale: 50 mm. *Lower:* example of 'other animal', probable depiction of Echidna—GTVS-81B. Scale: 100 mm.

Mostly they represent prints of rear feet, but in one instance the prints of four 'kangaroo limbs' attached to a centrally placed 'tail print' are shown in their natural positions (Fig. 3.20: 9a to e). Here the 'prints' of the front 'feet' (Fig. 3.20: 9c, d) each have six 'digits' whereas in reality there are only five. This group of 'prints' shows a kind of scene: a 'kangaroo' taking a little step and supporting itself by its 'tail'. It can be noted that the carved 'prints' of the rear 'feet' seem to have been completed by the addition of a second side 'toe' ('macropod prints' usually have only two). This appears to be an example of re-use of a 'print' and of transformation of a 'kangaroo' to an 'Emu'. Small 'macropods prints'—most often 'prints' of rear 'feet'—are habitually reduced to small asymmetrical V-signs (e.g., Fig. 3.20: 47D).

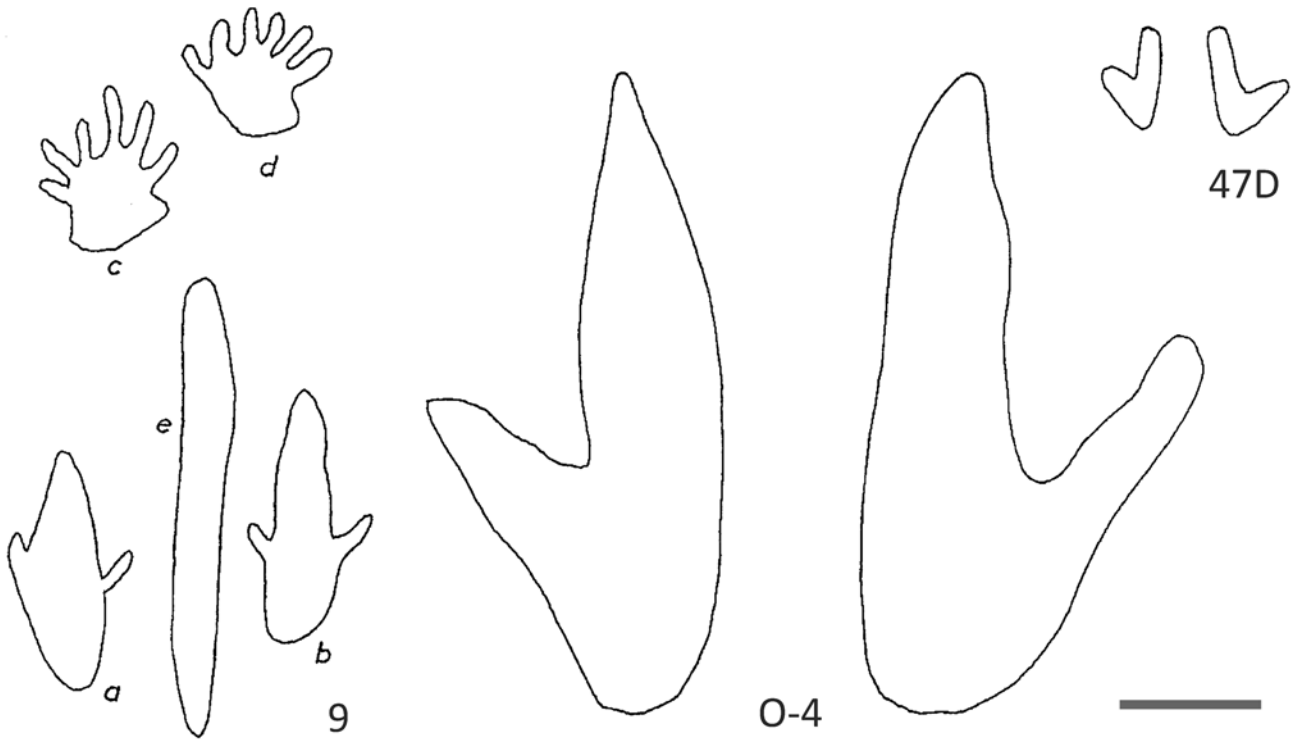


Figure 3.20. GTVS. Depictions of prints of 'macropods'. Scales: 100 mm.

A second category of 'prints' is represented by carvings located immediately to the east of the Spirit Group (Fig. 3.20: O-4; GTVSO-4 {p. 277}). These 'prints' measure 420 and 410 mm. These dimensions are four times greater than the actual size of prints of a large kangaroo. They probably represent a giant mythological kangaroo.

Depictions of bird prints

Twenty-six 'bird prints' feature at GTVS (Fig. 3.21: lower). Their average length is 165 mm, corresponding to the actual length of the adult Emu print. But these are averages. In this Group, there exist very small 'prints' (Fig. 3.21: 6) that must represent birds much smaller than the Emu. Others, longer and skinnier (e.g., Fig. 3.21: 24B) probably depict wading birds such as the heron or rather the ibis, which is represented at both GTVS and SKV.

As with the 'macropod prints', giant 'Emu prints' (440 mm in length) have been found to the east of GTVS, immediately adjacent to the two giant 'kangaroo footprints'. Exposed to view, they may illustrate the passage of supernatural beings of the Dreaming.

Finally, many of the 'macropod' and 'bird prints' of GTVS are placed on sub-vertical surfaces. Nine depictions of 'macropods prints' are on vertical walls and two are on the horizontal tops of panels. Ten carvings of 'bird prints' are on the top of rocks but eight others are on vertical surfaces and eight are on inclined surfaces. These placements contradict the general tendency of motifs seen elsewhere, to be placed horizontally, as in reality where the prints of animals are made on the ground.

Depictions of turtle tracks

A panel of the Spirit Group (GTVS-82) and another, just beyond its eastern edge (GTVSO-5 {p. 279}), show a 'turtle' associated with two sets of 'tracks' each comprising three parallel lines. There are similar isolated representations at Skew Valley (Chapter 2, Part I: Figs 2.34, 2.35). These tri-linear shapes offer interesting evidence that such motifs could represent 'turtle tracks'. A turtle moving across sand leaves behind it three parallel grooves—the displacements made by the turtle form these trails, which are very like footprints; 'turtle tracks' symbolize the coming ashore of reptiles and their clutch. These Spirit Group and Skew Valley motifs thus imply a particular season: the Australian summer from January to March.[16]

Geometric patterns

Throughout, GTVS geometric patterns are almost as numerous as at the neighbouring Kangaroo Group (GTVK). They number 85 motifs representing about one quarter (22.25%) of the total.

Circular forms

Ten circular motifs were recorded at GTVS. Their shapes are varied. Three are simple linear circles (GTVS motifs 2, 3, 36). Two are circles supporting rays (Fig. 3.22: 47D, 116); their diameters are 300 and 520 mm respectively.

Another is a circle including four interior parallel bars (Fig. 3.22: 55; GTVS-55 {p. 259}). Its diameter is 170 mm. This small motif is approximately circular and is close to other more elongated motifs that also have traverse bars and are categorized among oval motifs. The boundaries between these different categories are not always evident. Some transitional figures exist.

Some motifs comprise multiple circles—a series of concentric circles of which one finds several examples in different parts of Gum Tree Valley. But here, among the geometrics of the Spirit Group, there are simple circles, circles encompassing bars, and four instances of small spiral forms (Fig. 3.22: 49, 66; GTVS-49-1 {p. 256}, -66-6 {p. 266}; GTVS motifs 22b, 92—this second pair not illustrated). The diameters of the last range between 120 and 130 mm.

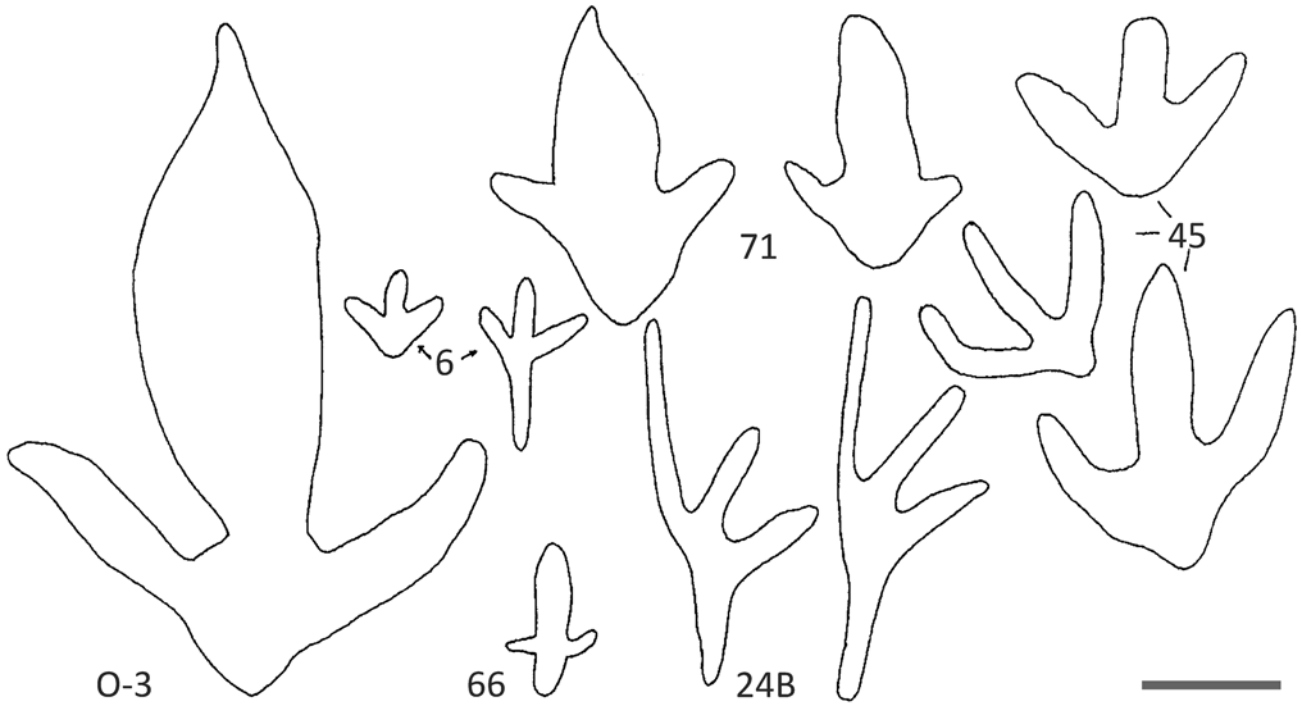


Figure 3.21. GTVS. Depictions of prints of 'birds'. Scales: 100 mm.

Arc-like forms

Six arciform motifs were recorded at GTVS (Fig. 3.23), and on Panel GTVS-131: -1 and -2 (Panel 131 is beyond the sample area, so its motifs were not recorded in detail).

Some arciform motifs might be interpreted as representing boomerangs: one, positioned at the 'waist-line' of the principal human-like figure on panel GTVS-10 {p. 234} probably depicts a weapon carried in the waist-band as is the case of those seen on other carvings, including one (GTVS-47C-2 {p. 253}) that is shown in a similar position. Another (GTVS-47C-5 {p. 253}) is also most likely a depiction of a boomerang; it is associated with another motif on the same panel that more clearly depicts a boomerang. Two further examples, on Panel 123 (not illustrated here) are, by contrast, a pair of parallel arcs similar to other stacked arcs in other sites of Gum Tree Valley and Skew Valley. In these instances, an interpretation of boomerang is equally strongly plausible.

The arciform motif GTVS-31 {p. 246}, placed over the 'head' of a 'human' motif, most likely represents a ceremonial headdress.

Triangular forms

Six triangular motifs were observed at GTVS (Fig. 3.24: GTVS-10 {p. 234}). Some (GTVS-10 and -10C {p. 269}) were carved with linear pecking; they also include internal vertical lines. Others (GTVS-68 {p. 265}) are totally pecked. Their maximum dimension varies from 200–400 mm. It is noted that while these motifs are found on vertical walls, their point is directed downwards.

Bi-lobate forms

Five typical bi-lobate motifs exist among the GTVS petroglyphs (Fig. 3.25). These motifs, whose largest dimension varies from 200–300 mm, have two sometimes

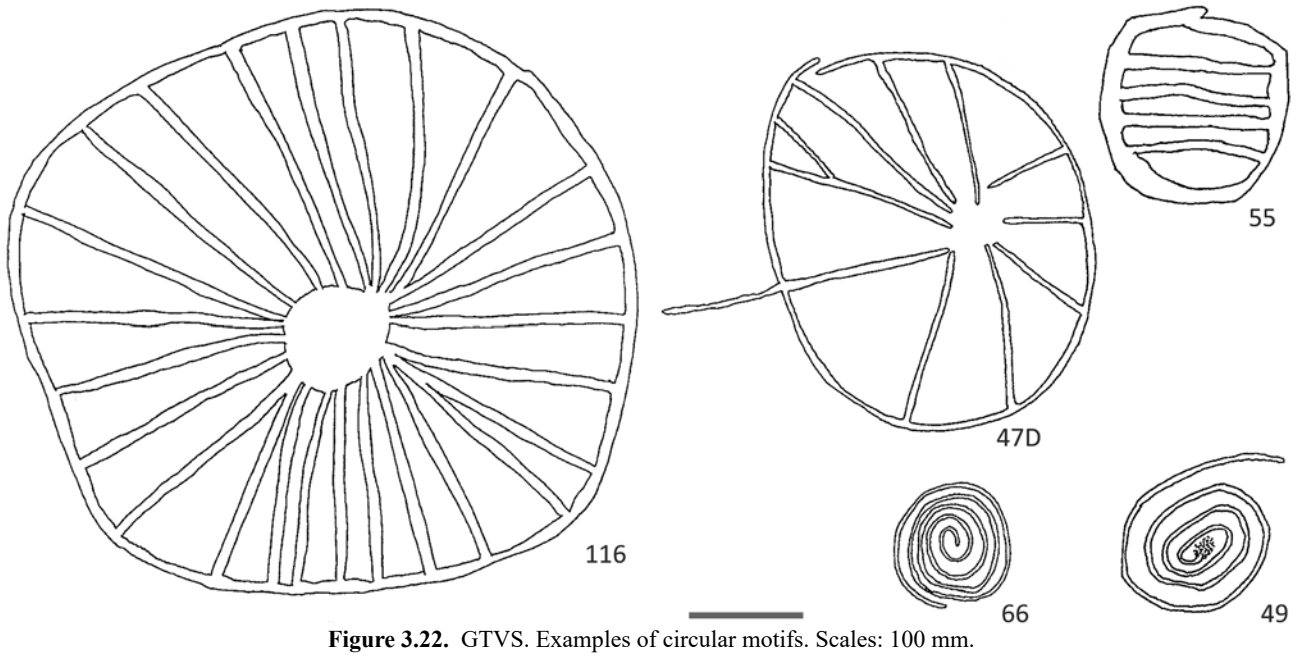


Figure 3.22. GTVS. Examples of circular motifs. Scales: 100 mm.

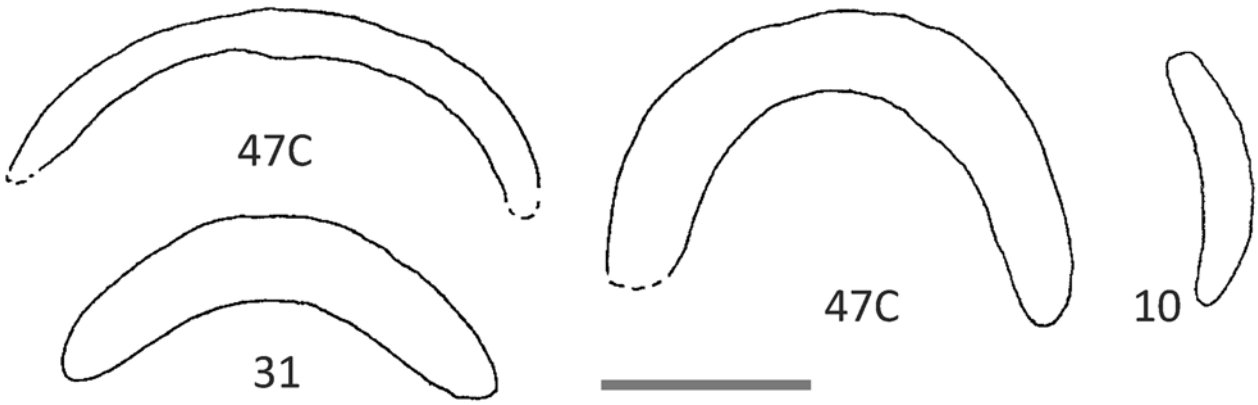


Figure 3.23. GTVS. Examples of arc-like forms. Scales: 100 mm.

unevenly-sized lobes and, in some cases (GTVS-100 {p. 272}, -101 {p. 272}), a vertical appendage at the top. When the inclination of the support block permitted, their concavities appear to be oriented downwards. In technique of production, some are linear and others are totally pecked.

Oval forms

There were ten oval motifs recorded at the GTVS Group. They may be simple large ovoid shapes (Fig. 3.26: 16A), longitudinally or transversely barred ovals (Fig. 3.26: 16, 41B; GTVS-41B {p. 250}), or they may be connected ovals forming a strange network (Figs 3.26, 3.27). They are often rather large figures; their length varies from 300–900 mm.

It is notable also that some figures (GTVS-56 {p. 261} and the depiction of a female, GTVS-58 {p. 263}) are encircled by an oval. Since they are closely associated with other carvings, these ovals have not been classified as geometric forms.

Linear forms

Linear motifs are relatively numerous among this Group; 45 have been recorded (Fig. 3.28). Among these markings, most of which seem to follow no rule or particular form (as for example, 47B), a series of parallel stick-like forms stands out (Fig. 3.28: 6; each 150–250 mm in length). One (GTVS-60 {p. 263}) is a complex network of linear markings, the execution of which seems perfectly controlled.

Punctations

Punctations appear not to exist at GTVS; a possible example has been noticed on Panel 6, but it is not certain whether it was made intentionally.

Other geometric forms

The following two motifs can be classed within the category 'other geometric forms':

1 **A semicircle** with internal bars number (GTVS-9A {p. 232}: 300 mm). This motif closely resembles the barred ovals (GTVS-16 {p. 236}, -41B {p. 250}). It is thus probable that the Spirit Group has as a theme this closed barred figure, whose form ranges from that of a circle, to a half-circle and an oval; and

2 **A rayed form** (Fig. 3.28: 17; GTVS-17 {p. 238}) consisting of a bundle of converging lines 500 mm long.

Other motifs

Depictions of boomerangs

Several 'boomerangs' carried by 'human' figures have already been described. Some of them depict hooked boomerangs such as that held by a stick-figure (GTVS-17A

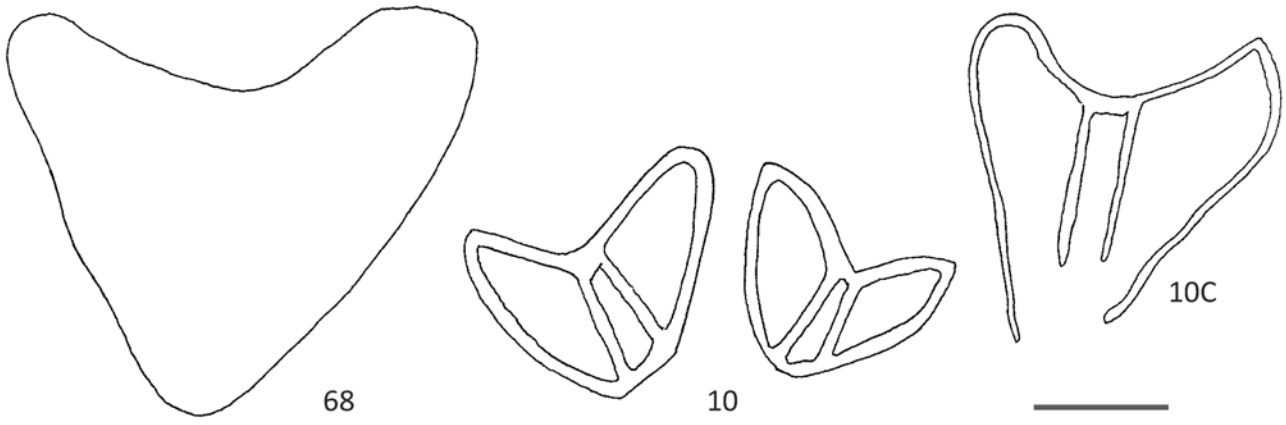


Figure 3.24. GTVS. Examples of triangular forms. Scales: 100 mm.

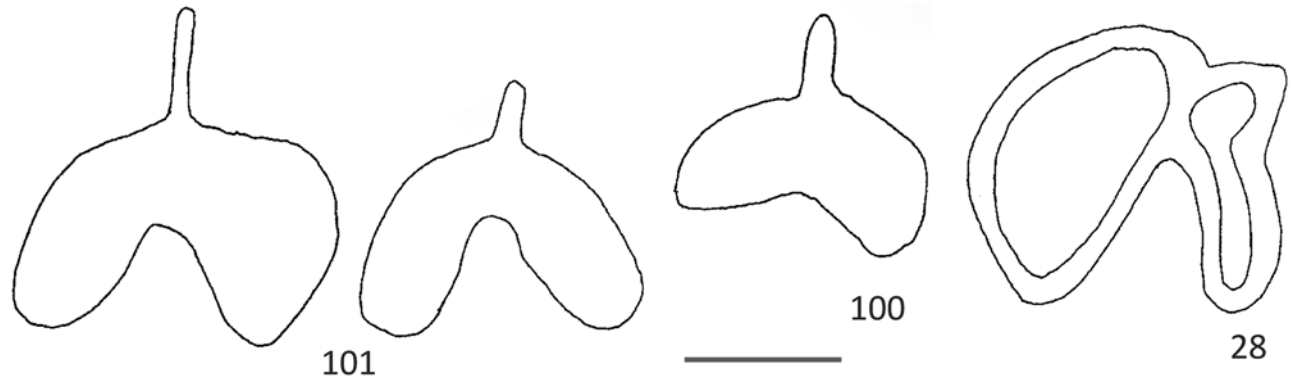


Figure 3.25. GTVS. Examples of bi-lobate motifs. Scales: 100 mm.

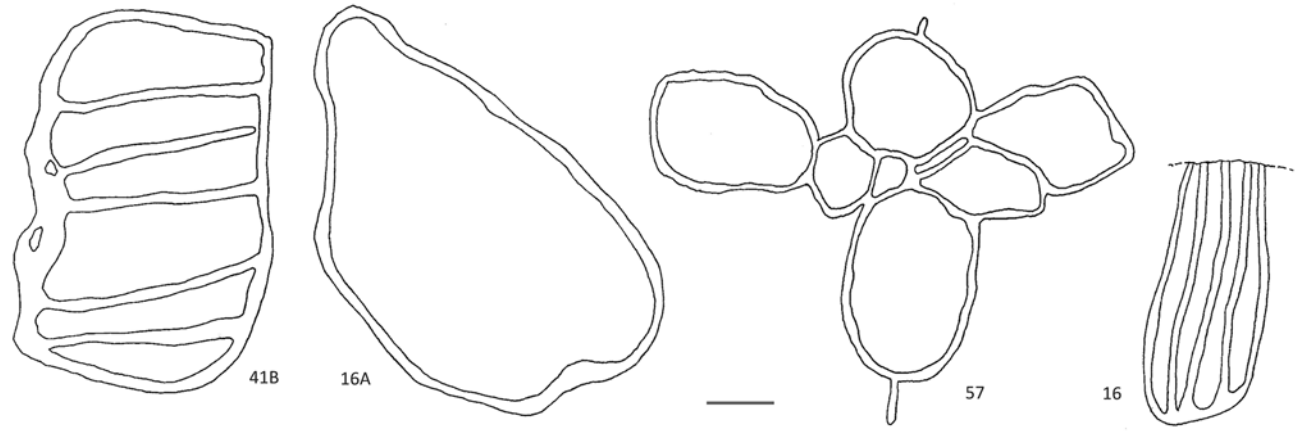


Figure 3.26. GTVS. Examples of oval motifs. Scales: 100 mm.

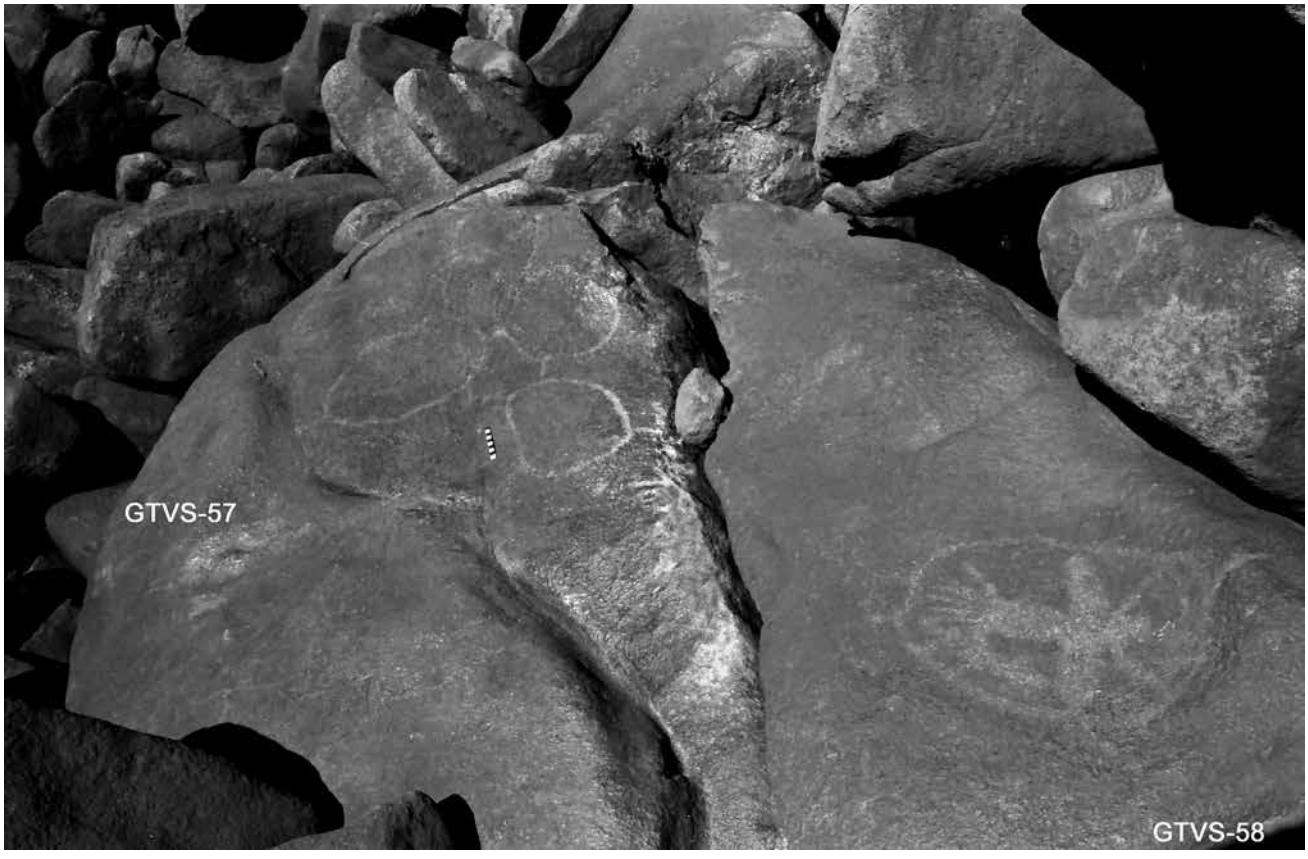


Figure 3.27. GTVS. Linked ovals. GTVS-58: Oval encompassing a 'female' figure. Scales: 100 mm.

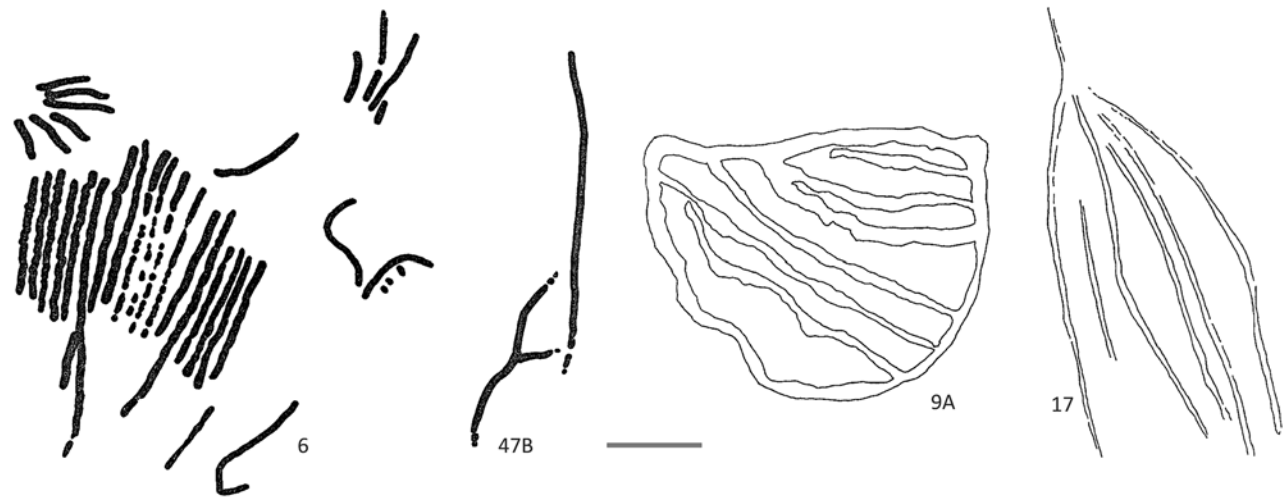


Figure 3.28. GTVS. Examples of linear (left) and other geometric motifs (right). Scales: 100 mm.

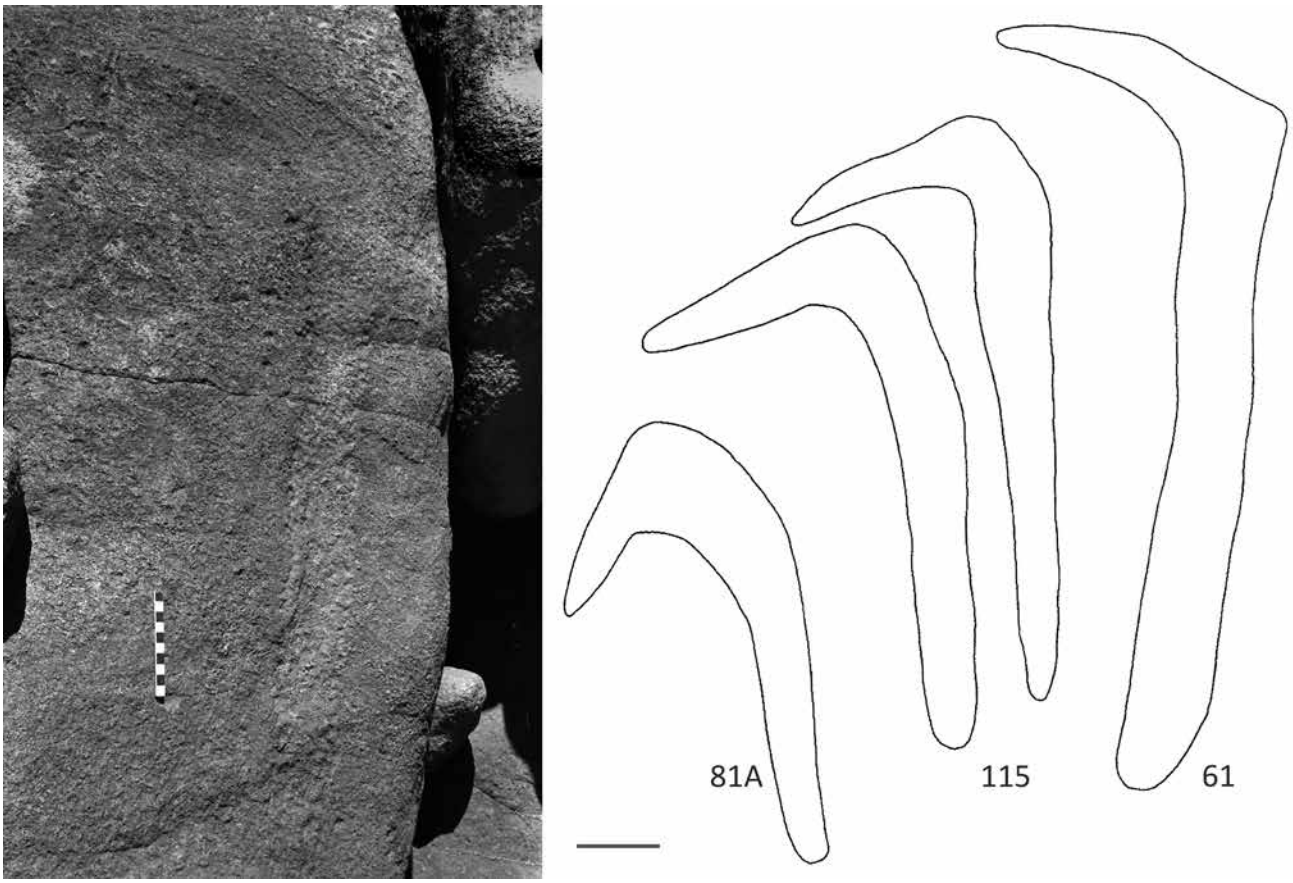


Figure 3.29. GTVS. Depictions of hooked boomerangs. Scales: 100 mm.

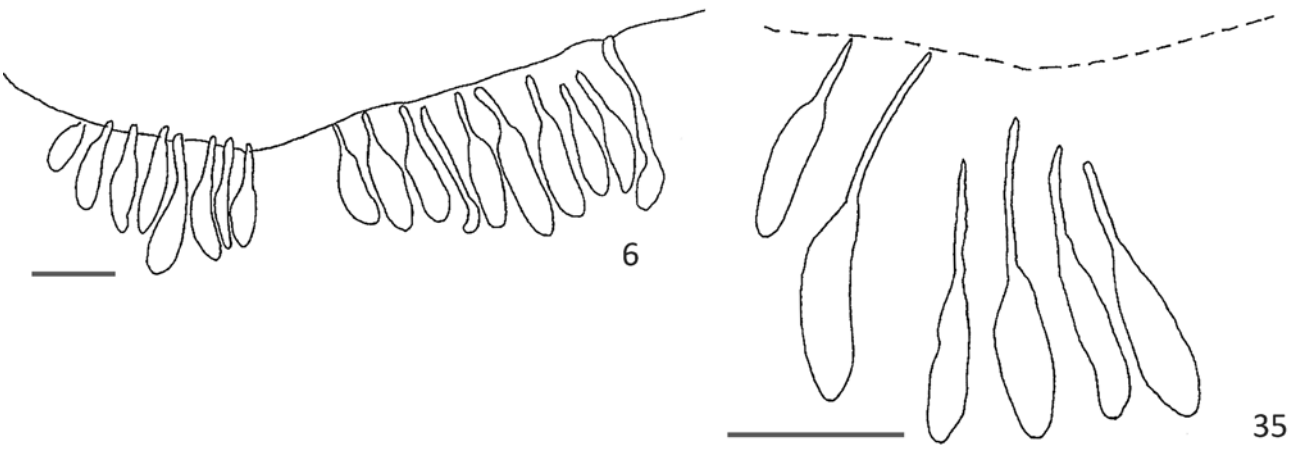


Figure 3.30. GTVS. Depictions of 'mangrove fruits' suspended at block edge and fissure. Scales: 100 mm.

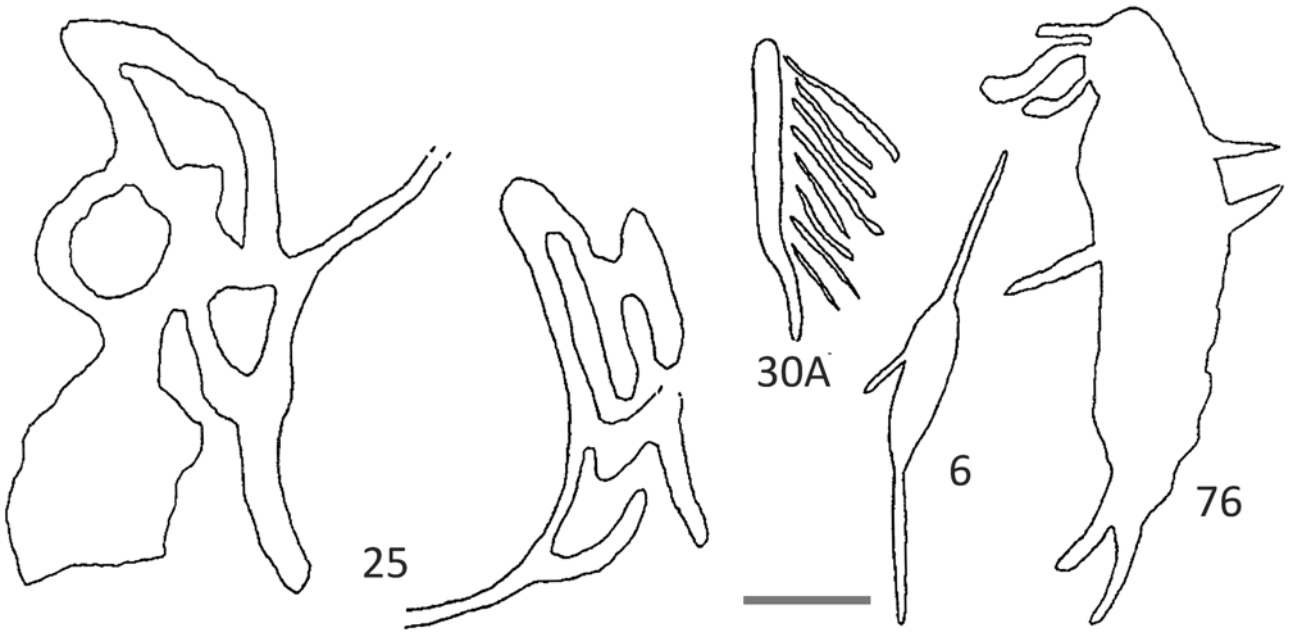


Figure 3.31. GTVS. Examples of unidentified motifs. Scales: 100 mm.

{p. 239}). Four others are carved, isolated, on slabs (Fig. 3.29: 61, 81A), and a pair on Panel GTVS-115 {p. 273} (Fig. 3.29: 115).

These single 'boomerangs' are all of the hooked type. The angle that is formed with the end of the 'handle' is more or less open. These four 'boomerang' carvings are entirely pecked and life-sized; the length of the depictions, which varies from 600–900 mm, approximates the actual length of such weapons (GTVS-61 {p. 264}, -81A {p. 271}, -115 {p. 273}). Given the quality and the accuracy of the depiction of these motifs, it is not impossible that the same object has been laid flat on the rock and that marks have been made to reproduce its silhouette through a tracing process.

Depictions of fruits

Two panels (Fig. 3.30: 6, 35) picture a series of elongated oval markings, 100–150 mm long, fitted with a stem at the top. These are more likely to be depictions of fruits rather than tubers or roots since in each case the carvings are placed on vertical surfaces and are 'clinging' to a horizontal crack, or to the top edge of the block, and thus are imitating a twig from which fruit are hanging. This intentional placing facilitates the interpretation of images that, in their simplicity, would otherwise be difficult to interpret.

The elongated oval form suggests the fruits of the mangrove that exist within a few hundred metres of GTVS, especially depictions of the hypocotyls of a plant species named *Bruguiera gymnorrhiza* (Isaacs, 1987: 129).[17]

Indeterminate motifs

As at all sites in Gum Tree Valley, at GTVS indeterminate motifs are relatively numerous: 57 petroglyphs representing 15% of the total iconography were so classified. As elsewhere, the term 'indeterminate' or 'other motifs' covers several types of motif:

1 Poorly preserved motifs (three quarters of the 'indeterminate' category). These are snippets of deeply patinated traces that cannot be identified today. An example is Fig. 3.31: 25, which could have been intended to represent an oval form, the body of a turtle, of a fish or another geometric pattern;
2 Unfinished motifs [*des motifs inachevés*]. An example is Fig. 3.31: 30A. In contrast to GTVS-52 {p. 259}, one could recognize in this pattern half of a stick-figure 'injured' by several 'spears'; but this identification must be uncertain, and it would be therefore more prudent to rank it among the 'indeterminates'; and
3 Clearly visible and apparently complete petroglyphs whose interpretation is now impossible in the absence of traditional contextualization. Examples are Fig. 3.31: 6 with two appendages, and 76 evoking both a 'human' character with 'headdress', and a 'fish', possibly a catfish with 'whiskers' or 'barbels'.
4 Types 2 and 3 together account for approximately one quarter of the 'indeterminate' category.

Distribution of, and relationships among, various motifs at GTVS

For the Spirit Figure Group, the average number of images per panel is 2.9, which is a fairly high number compared with other study zones. GTVS is also relatively homogeneous: while a single panel (GTVS-6 {p. 231}) has more than ten motifs, most other multiple-image panels have from two to five motifs.[18]

Internal relationships

Relationships among the subject matter on the panels (that is, on each rock surface) were studied here, as at the other groups. Data were grouped into two tables describing respectively intra- and inter-thematic relationships (Tables 3.5 and 3.6). An 'Index of association' identifies the tendency

of a subject to be grouped with other types of motifs; it is given numerical expression as the mean number of subjects associated with a particular theme. The higher the index, the more closely related are the subjects.

Intra-thematic relationships

The only subjects frequently found alone (isolated, or single, themes) are 'humans' (42%) and some geometric motifs, including triangular, bi-lobate, oval and linear forms, and 'indeterminates' (between 36 and 72%). Some of these single themes ('humans', ovals and 'prints'), are sometimes associated with other examples of the same subject; that is, multiple instances of the same image are carved on the same surface (e.g., GTVS-69 {p. 267}).

Inter-thematic relationships

As in other groups, the majority of subjects is found in association with other themes. However, at the outset, it should be noted that the indices of association at GTVS are often low (<2—Table 3.5, rightmost columns).

The more closely related subjects (higher indices of association) are 'fish', 'bird prints', some geometric motifs (arcs, ovals, lines and punctations), and 'fruit' (the mean number of repeated examples (NMAI) = 40). Further, they all show tendencies to group in close proximity since they are found on richly carved panels where they are associated with a large number of other motifs.

These data are shown more specifically in Table 3.6. As elsewhere, 'human' forms have the widest range of association. These are by far the most ubiquitous motifs, with some examples throughout the zone, including on poorly-decorated panels. The 'indeterminates', 'fish', 'bird prints', 'turtle' and linear forms follow a similar pattern to that of 'humans': the diversity of their intra-relationships, combined with a relatively weak index of association (the subjects with which they are associated), is limited but different every time. Other GTVS subjects have both a reduced range and generally low indices of association.

'Prints' frequently are associated with each other and infrequently with other subjects. 'Turtle tracks' are associated with other subjects, or with depictions of the turtles themselves. These are the only 'prints' associated with the 'animal' responsible for the 'print'.

Other subjects do not show marked association preferences.

External relationships

The density-curve distribution maps of various subjects simply show the main concentrations of themes (Fig. 3.32). It is notable that the area of maximum density of each tends to exhibit an elongated form perpendicular to the site's contours (cf. Fig. 3.1).

The Spirit Group area is oriented approximately north-south. It is inclined eastward because there is a double attraction: The former is the lower part of the slope that is near the midden; the latter is the massive outcrop of gabbro blocks on the upper slope that forms a protuberance and provides the canvas for the many petroglyphs. Many motifs have been placed on this point (GTVS-10 {p. 234} and nearby others); they occupy a dominant position where they are conspicuous.

Different themes do not contrast markedly in distribution. However, some are concentrated on lower slopes and others focussed higher. Thus, circles and 'prints' are especially numerous on the lower slopes, while depictions of kangaroo are placed higher up, on the rocky point.

The rock support at GTVS

Dimensions

The gabbro blocks at GTVS are large; they form a chaotic heap (Fig. 3.2). At the top of the slope, an outcrop of massive blocks fills the void; this has attracted many petroglyphs. The carvings are of modest size as the second data set shows (Table 3.7). The petroglyphs cover on average a quarter of the length of the rock support. The dimensions of the slabs do not appear to have influenced the size of the motifs. However, the shape of the blocks sometimes influences the shape of the petroglyph.

Shapes

Some cases where motifs have been adjusted to the form of their rock supports have been observed. There are examples of the use of slab edges: Depictions of fruits (GTVS-6 {p. 231}) are aligned under the edge, and thus appear to hang from a branch; similarly, the cluster of 'fruit' in GTVS-35 {p. 247} is 'attached' to a crack in the block (Fig. 3.30).

Another example shows a 'human couple' in a 'coital scene' (Fig. 3.10: 19; GTVS-19 {p. 240}). The partners are placed on different sides of the block and are united by their 'genitalia' on the narrow angle of a ledge. This particular placement illustrates a unique perspective. In the regional style of representation, 'coital partners' are usually depicted pulled down onto a single plane, and aligned on a single axis. In GTVS-19 {p. 240}, the usual graphic process is compensated for by the placement of the 'partners' on different sides of the block—that is, by using the three dimensions of the rock surface available. The intention certainly was to place the two characters one above the other and not on the same plane.

There are examples of 'total framing', in which petroglyphs occupy the entire available rock surface, their forms conforming to the shape of the slab:

1. A 'kangaroo' (Appendix: GTVS-10-A {p. 235}) has an unusually long 'body' because it follows a very long block;
2. It is the same with a 'turtle' (Fig. 3.33: GTVS-41A {p. 249}, which should probably not be seen in this instance as the depiction of a particular species of reptile); and
3. A 'turtle' (GTVSO-5 {p. 279}), accompanied by its two sets of 'tracks', fully occupies the narrow, elongated face of a small block.

I must, however, stress the rarity of cases in which the depiction is adapted to the support rock. Most motifs show no intention of this sort; they even show a complete indifference to the block shape. The most perfect example of no relationship between carvings and rock is provided by the depiction of a sawfish (Fig. 3.33: GTVSO-2 {p. 278}). The 'body' stretches easily within the boundaries of a large slab, but its narrow 'snout' or 'saw' suddenly bends to continue along the side of the rock!

Orientation of carved surfaces

The map of the orientation of the carved surfaces (Fig. 3.34) shows that nearly two-thirds of panels are vertical or inclined, and that the remainder are placed on the tops of approximately horizontal blocks. While placement on upper surfaces is relatively common, it should be noted that the preponderance of placements is on sub-vertical surfaces.

Table 3.5. GTVS. Intra- and inter-thematic relationships.

	total subjects	subjects single isolated		subjects single repeated			subjects in association with other motifs			
subjects		n	%	n	%	NMIR	n	%	IA	NMIA
HP	1	—	—	—	—	—	1	100	1.0	1.0
H	69	29	42	9	13	4	31	45	1.4	2.0
AK	4	—	—	—	—	—	4	100	1.5	3.2
AO	4	—	—	—	—	—	4	100	1.7	2.7
AS	2	—	—	—	—	—	2	100	1.5	2.5
AT	12	2	17	—	—	—	10	83	1.2	1.7
AP	20	8	40	—	—	—	12	60	2.0	7.5
AA	2	1	50	—	—	—	1	50	1.0	1.0
AA (HO)	1	—	—	—	—	—	1	100	1.0	1.0
AA (HK)	1	—	—	—	—	—	1	100	2.0	2.0
AOF	0	—	—	—	—	—	—	—	—	—
EK	4	—	—	—	—	—	—	75	1.3	2.3
EO	13	1	8	4	31	2	8	62	2.1	9.6
ET	2	—	—	—	—	—	2	100	1.0	1.0
GC	10	3	30	—	—	—	7	70	1.7	3.1
GAR	4	—	—	—	—	—	2	100	1.7	2.7
GT	5	3	60	—	—	—	2	40	2.0	3.5
GB	4	2	50	—	—	—	2	50	1.0	1.5
GO	8	5	63	2	25	2	1	13	2.0	8.0
GL	11	4	36	—	—	—	7	37	2.1	6.1
GP	1	—	—	—	—	—	1	100	5.0	57.0
GA	2	1	50	—	—	—	1	50	1.0	1.0
BO	4	2	50	—	—	—	2	50	1.5	2.5
FT	2	—	—	1	5	6	1	50	5.0	4.0
MA	5	36	72	—	—	—	—	28	1.4	5.0

Key			
HP	'human foot print'	EK	'print/s of kangaroo'
H	undifferentiated 'human'	EO	'print/s of bird'
AK	'animal': 'kangaroo'	ET	'track/s of turtle'
AO	'animal': 'bird'	GC	geometric: circular form
AS	'animal': 'snake'	GAR	geometric: arc-like form
AT	'animal': 'turtle'	GB	geometric: bi-lobate form
AP	'animal': 'fish'	GT	geometric: triangular form
AA	'animal': other	GO	geometric: oval form
AA (HO)	'animal': 'Man-Bird'	GL	geometric: linear form
	(GTVS-125)	GP	geometric: punctations or dots (smaller, different to 'eggs')
AA (HK)	'animal': 'Man-Kangaroo'	GA	geometric: other forms
	(GTVS-1-1)	BO	'boomerang'
AOF	'animal': 'eggs'	FT	'fruit'
IA	Index of Association (mean number of themes associated with a given theme)	MA	other, undetermined motif
NMI	Mean number of individuals		
NMIR	Mean number of repeated individuals		
NMIA	Mean number of individuals associated with the theme		

Table 3.6. GTVS. Inter-relationships among the petroglyphs subjects. See Table 3.5 for key to motifs.

	H	HP	AK	AO	AS	AT	AP	AA	AA (HO)	AA (HK)	AOF	EK	EO	ET	GC	GAR	GB	GT	GO	GL	GP	GA	GH	MA
H	21	1	2	3	2	6	7	1	1	1	—	1	2	—	3	4	1	2	1	6	—	1	—	3
HP	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AK	2	—	2	1	—	—	2	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
AO	3	—	1	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
AS	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
AT	6	—	—	1	—	2	2	—	—	—	—	—	—	2	—	—	—	—	—	—	—	1	—	1
AP	7	—	2	1	—	2	—	—	—	1	—	—	4	—	2	1	—	1	—	2	1	—	—	1
AA	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AA(HO)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AA(HK)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AOF	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
EK	1	—	—	—	—	—	—	—	—	—	—	4	—	—	1	—	—	—	1	—	—	—	—	1
EO	2	—	1	—	1	—	4	—	—	—	—	—	10	—	2	—	—	—	—	3	1	—	—	2
ET	—	—	—	—	—	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—
GC	3	—	—	—	—	—	2	—	—	—	—	1	2	—	—	2	1	—	—	—	—	—	—	—
GAR	4	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GB	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
GT	2	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	—	1	—	—	—	—	—	—
GO	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	2	—	—	—	—	—
GL	6	—	—	—	—	—	2	—	—	—	—	—	3	—	1	—	—	—	—	1	1	—	—	1
GP	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	1
GA	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GH	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MA	3	—	—	1	1	1	1	—	—	—	—	1	2	—	2	—	1	—	—	1	1	—	—	5
	H	HP	AK	AO	AS	AT	AP	AA	AA	AA	AOF	EK	EO	ET	GC	GAR	GB	GT	GO	GL	GP	GA	GH	MA

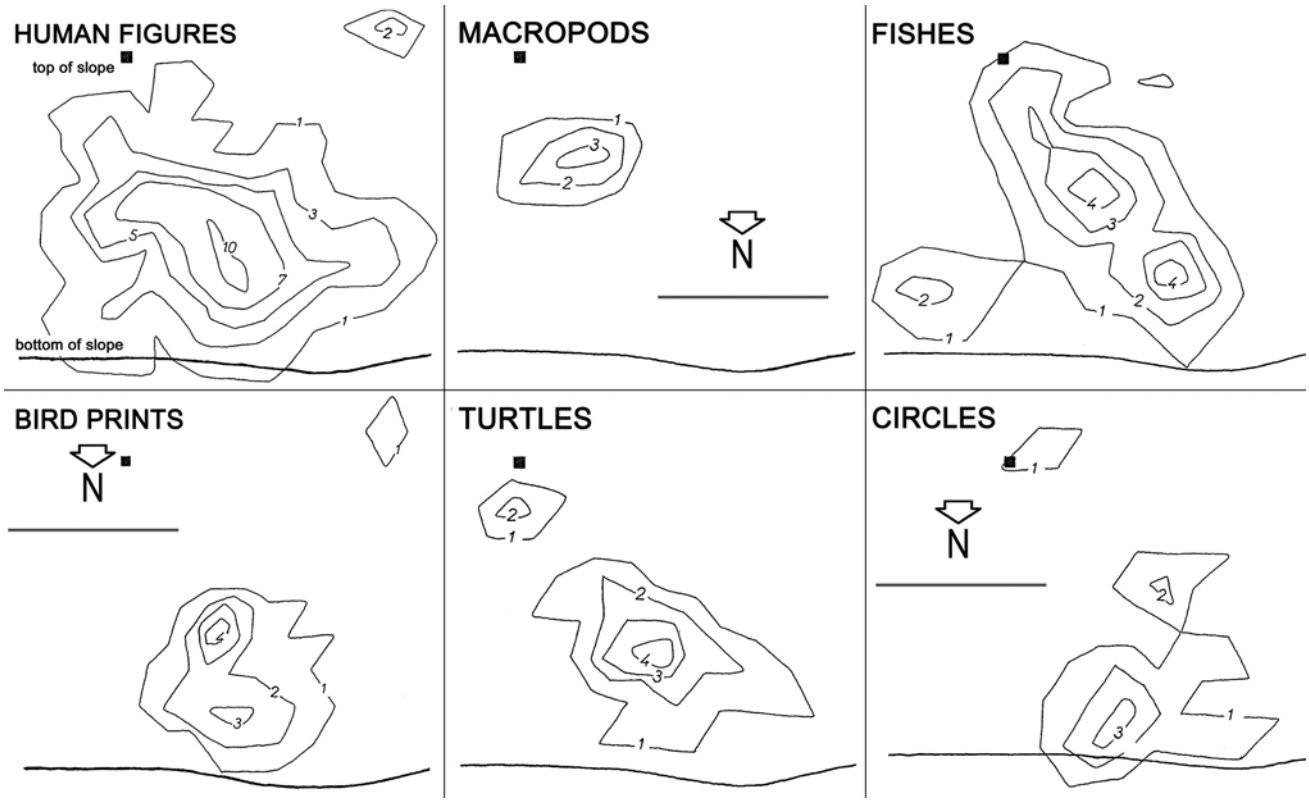


Figure 3.32. GTVS. Map of density of motif subjects. Scales: 10 m.

Table 3.7. GTVS. Dimensions of carved blocks and of petroglyphs.

dimension	carved blocks (mm)	petroglyphs (mm)
average maximum length	1340	318
maximum length	300	1500
minimum length	450	70
range of variation	2550	1430
standard deviation	570	241

As with all sites across the region, there is a dominant orientation towards the bottom of the slope and towards the shell mounds there. Most of the carved sub-vertical surfaces are oriented northward, that is, towards base of the slope and the habitation area. The relationship that most of the petroglyphs have with the middens here is further emphasized and supported by their orientations.

Moreover, if one compares the distributions of carvings made on the tops of blocks with motifs on sub-vertical walls facing the shell middens (Fig. 3.35), one sees that the former are scattered regularly over the whole site while the latter are focussed on the lower half of the slope. This seems to strengthen the relationship between the north-facing petroglyphs and the GTVS shell mounds. Table 3.8 shows the relationships between different motifs and inclinations of the rock medium.

Again, there is a noticeable contrast between human and other motifs. Depictions of humans are markedly more frequent on sub-vertical surfaces: their 'visibility index' is highest of the four categories (ignoring here the Indeterminates).[19] They are well placed to be seen. By contrast, the other three categories of motifs have a visibility index that is negative or equal to one. They are not placed to attract our attention. The geometric forms, whose index is very low (<0.3), seem, as at other sites, to be hidden on the upper surfaces of blocks where they could only be seen from a short distance by those who had climbed up to those blocks.

Carving techniques and patination observed at GTVS

Carving techniques

The Spirit Group, GTVS, exhibits a broader variety of carving techniques than the plateau sites overlooking Gum Tree Valley. All the various techniques were used here.[20]

The four techniques that comprise the two most common classes of carving—deep pecking and superficial pecking—that are most frequently found throughout the region, were used in nearly 84% of cases at the Spirit Group (Table 3.9).

Note that these calculations were made only on the 323 identified motifs; of the total, 57 are indeterminates.

Deep pecking is the most prevalent class of technique used (54%).

Superficial pecking accounts for another 30%.

Other techniques were used more rarely:

Linear incision, producing a 'V' cross-section, and made with a sharp stone flake or blade, is evident in a dozen or so petroglyphs. This technique is uncommon here; it was used for these subjects: 'humans', 'fish', 'turtle', and spirals. Only two spirals were identified at the site, those on panels GTVS-49 {p. 256} and -66 {p. 266}; these two carvings, exceptional for their unique theme and technique may have been made by the same hand.

A panel on the eastern face of one block (GTVS-51 {p. 258}), shows a pair of very surprising petroglyphs. A small 'turtle' (GTVS-51-2 {p. 257}) is associated with another small 'creature' (GTVS-51-3 {p. 257}: an ovoid 'torso' with four 'limbs' that may be a crude depiction of a human figure). The relatively fresh patina, the deep, coarse incision, and their very schematic aspect, distinguish these drawings, which seem like clumsy copies of neighbouring motifs. They are novel in that they are located in a deep crack between the blocks, in a place so difficult of access that an adult could fit only his head and chest there. In this confined position, carving would seem to be impossible. Careful observation and the use of various subterfuges, including the use of a

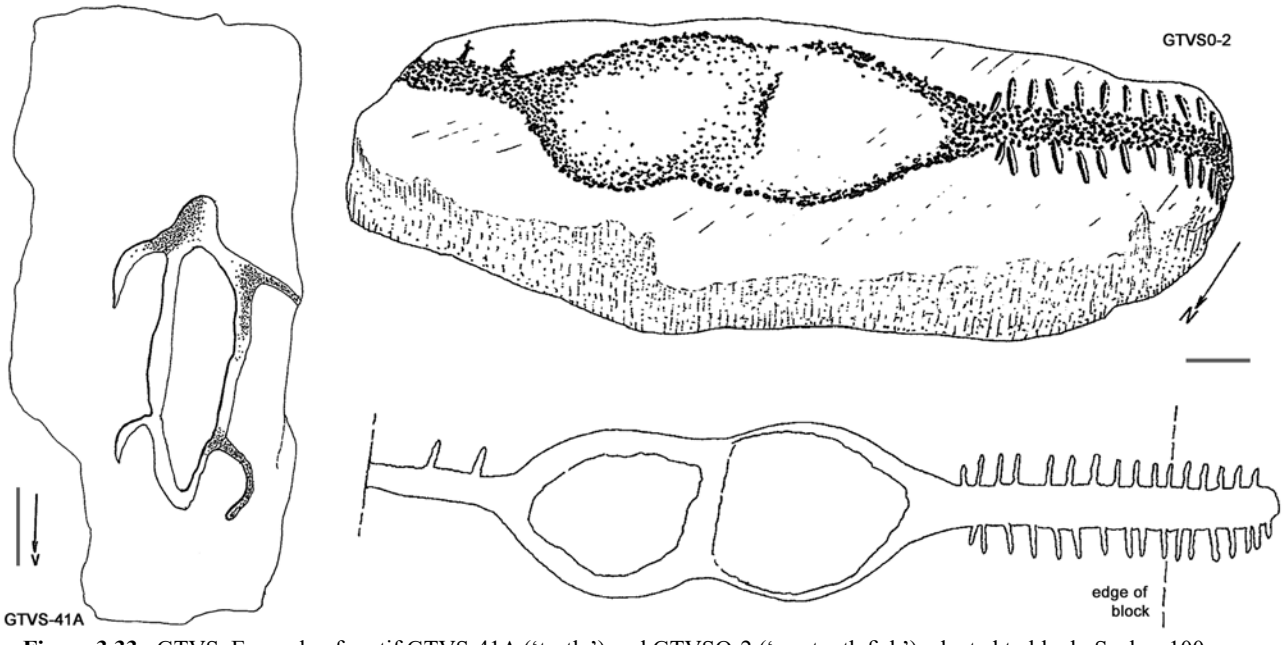


Figure 3.33. GTVS. Example of motif GTVS-41A ('turtle') and GTVSO-2 ('sawtooth fish') adapted to block. Scales: 100 mm.

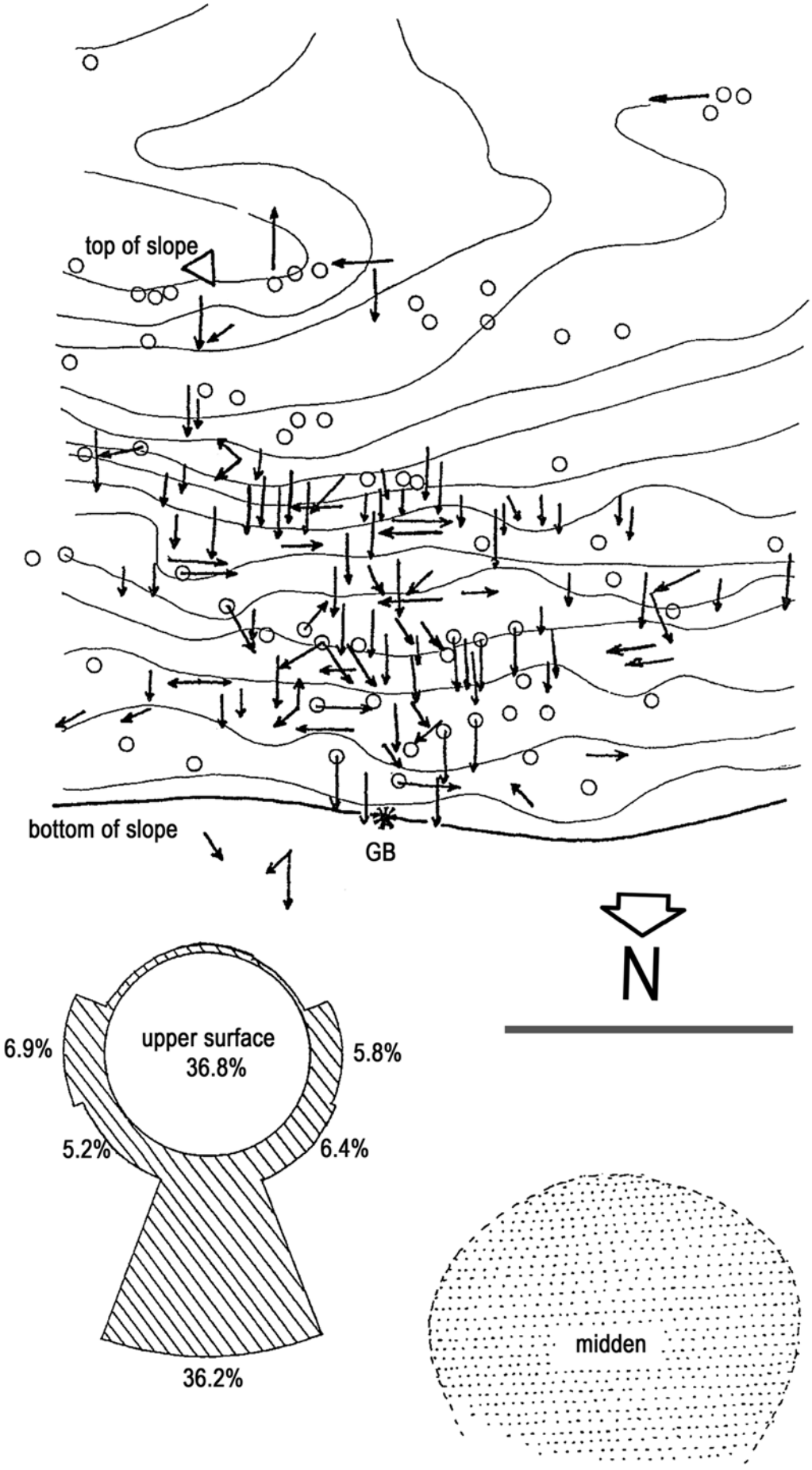


Figure 3.34. GTVS. Map of orientations of carved surfaces; Arrows indicate directions faced; circles.

Table 3.8. GTVS. Motifs and inclinations of the support blocks.

		upper surface of slab (t)		vertical rock face (v)		inclined rock face (s)		visibility index
motifs		n	%	n	%	n	%	
'humans'		27	24.1	65	58.0	20	17.9	2.4
'animals'								
'macropod'	AK	—	—	1	—	5	—	—
'bird'	AO	1	—	1	—	2	—	—
'turtle'	AT	4	—	3	—	6	—	—
'fish'	AP	11	—	8	—	8	—	—
other	AA	1	—	—	—	1	—	—
Total 'animals'		17	33.3	13	25.5	21	41.2	0.8
'prints'/ 'tracks'								
of 'kangaroo'	EK	2	—	7	—	—	—	—
of 'bird'	EO	10	—	7	—	8	—	—
of 'turtle'	ET	2	—	—	—	—	—	—
Total 'prints'		14	38.9	14	38.9	8	22.2	1.0
geometrics								
circular form	GC	3	—	3	—	4	—	—
arc-like form	GAR	1	—	2	—	3	—	—
triangular form	GT	2	—	3	—	1	—	—
oval form	GO	7	—	1	—	2	—	—
linear form	GL	37	—	4	—	4	—	—
punctation	GP	1	—	—	—	—	—	—
bi-lobate form	GB	4	—	1	—	—	—	—
others	GA	1	—	—	—	1	—	—
total geometric forms		56	36.8	14	16.5	15	17.7	0.3
indeterminates		21	36.8	19	33.3	17	29.9	0.9
yotals (n=229)		108		60		61		229
percentages			47		26		27	100

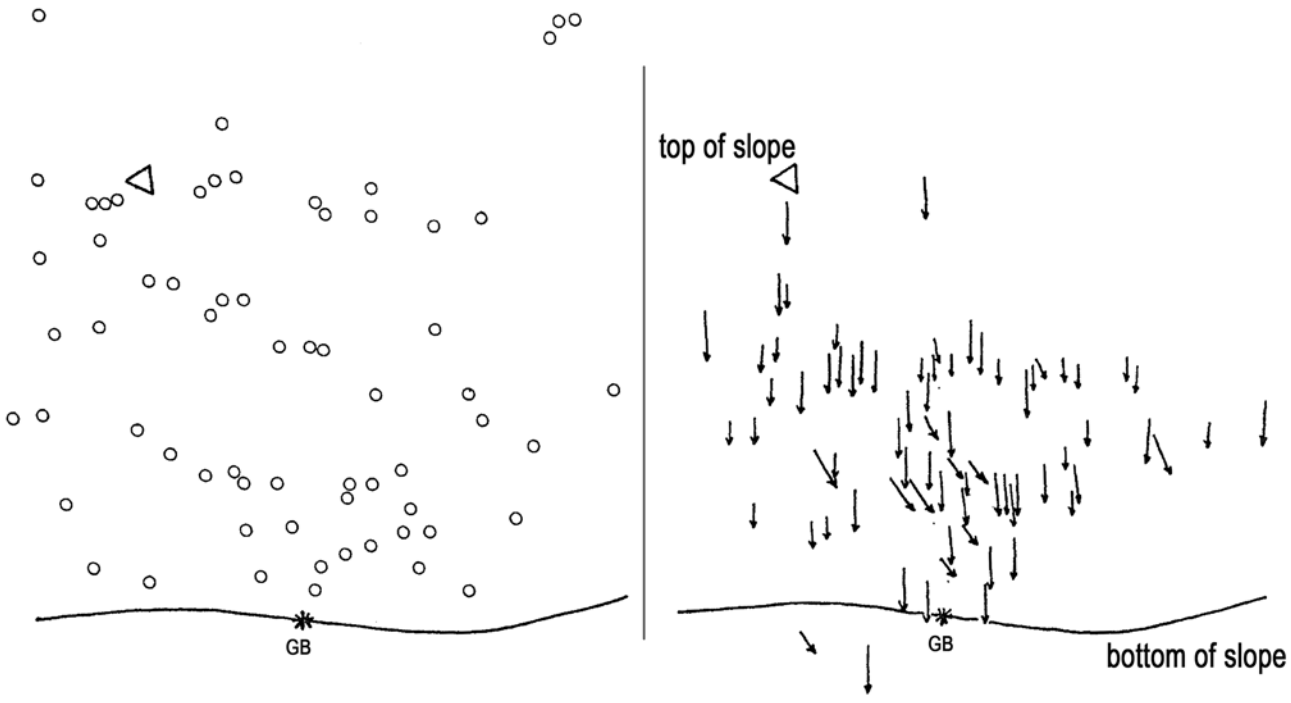


Figure 3.35. GTVS. Comparison of distributions of petroglyphs carved on upper surfaces of blocks (left), and petroglyphs oriented to the north and northwest towards the midden (right); GB = millstone.

Table 3.9. GTVS. Proportions of the four carving techniques.

technique	number	percentages	class percentages
deep pecking—linear	127	39.3	deep pecking: 54
deep pecking—overall (deep intaglio)	48	14.8	
superficial pecking—linear	33	10.2	superficial pecking: 30
superficial pecking—overall (light intaglio)	64	19.8	
linear incision	14	4.3	others: 16
deep groove outlining	13	4.0	
coarse hammering	24	7.5	
totals	323	99.9	100

mirror in the narrow spaces to complete tracings of them, led to the conclusion that only a child could slip into the hole and carve these two motifs using a back-and-forth sawing motion (probably requiring less recoil than a heavy percussion instrument). These two extraordinary motifs may provide a strong indication of the participation of children in the making of some motifs.

Deep groove outlining is among the rare techniques at GTVS. One example of its use is the motif of a 'ray' (GTVS-48 {p. 255}: which is like some 'kangaroo' motifs at GTVE).

Coarse hammering, another technique rarely found at GTVS, was used to produce an indeterminate motif (GTVS-110).

Superficial pecking and linear pecking was used especially in the re-marking of petroglyphs at the Spirit Group.

Re-marking

More than 12% of carvings at GTVS have been re-marked.[21] Of the 48 renovated motifs there are 16 depictions of humans, five of animals (a 'macropod', a 'bird', a 'turtle', and two 'fishes'), ten 'bird prints', eight geometric motifs (a circle, a linear form, three ovals, two arcs, and a bi-lobate motif), five indeterminate motifs and four 'boomerangs'.

Among the renovated depictions, a 'human' motif (GTVS-10-1 {p. 234}) is particularly interesting (Fig. 3.36). This tall petroglyph (790 mm high) is visible from afar. It occupies a prominent position at the top of the southern slope, at the entrance to Gum Tree Valley, above the shell middens. It is this 'Spirit' motif that I used to name the site ('*Groupe de l'Esprit*'). Made in grooved outline, it is one of the category of 'phantom' or 'ghost-like' figures that is almost unique to this zone.

The figure has two large 'eyes'. It displays three long lateral straight lines, two to the right and one to the left, that reminds me of the marks driven into the back of certain depictions of kangaroo and that might be interpreted as 'spears'. It is, probably, one of the 'wounded anthropomorph' category of which there are few other examples in Gum Tree Valley.

The base of the motif consists of three parts. The right one, longer than the others and pointing upwards, apparently represents a tail, identical to the 'tails' of large carvings of 'kangaroo' (depictions often marked in the same grooved

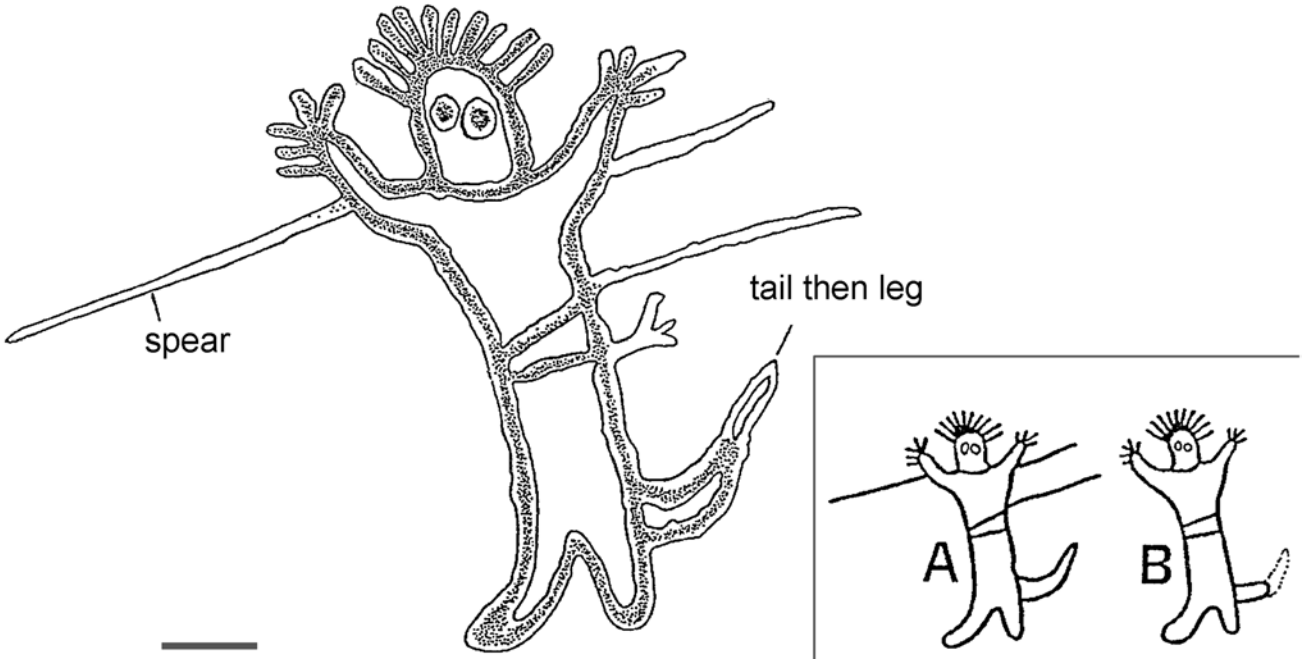


Figure 3.36. GTVS-10. Re-marked 'human' motif. Scales: 100 mm.

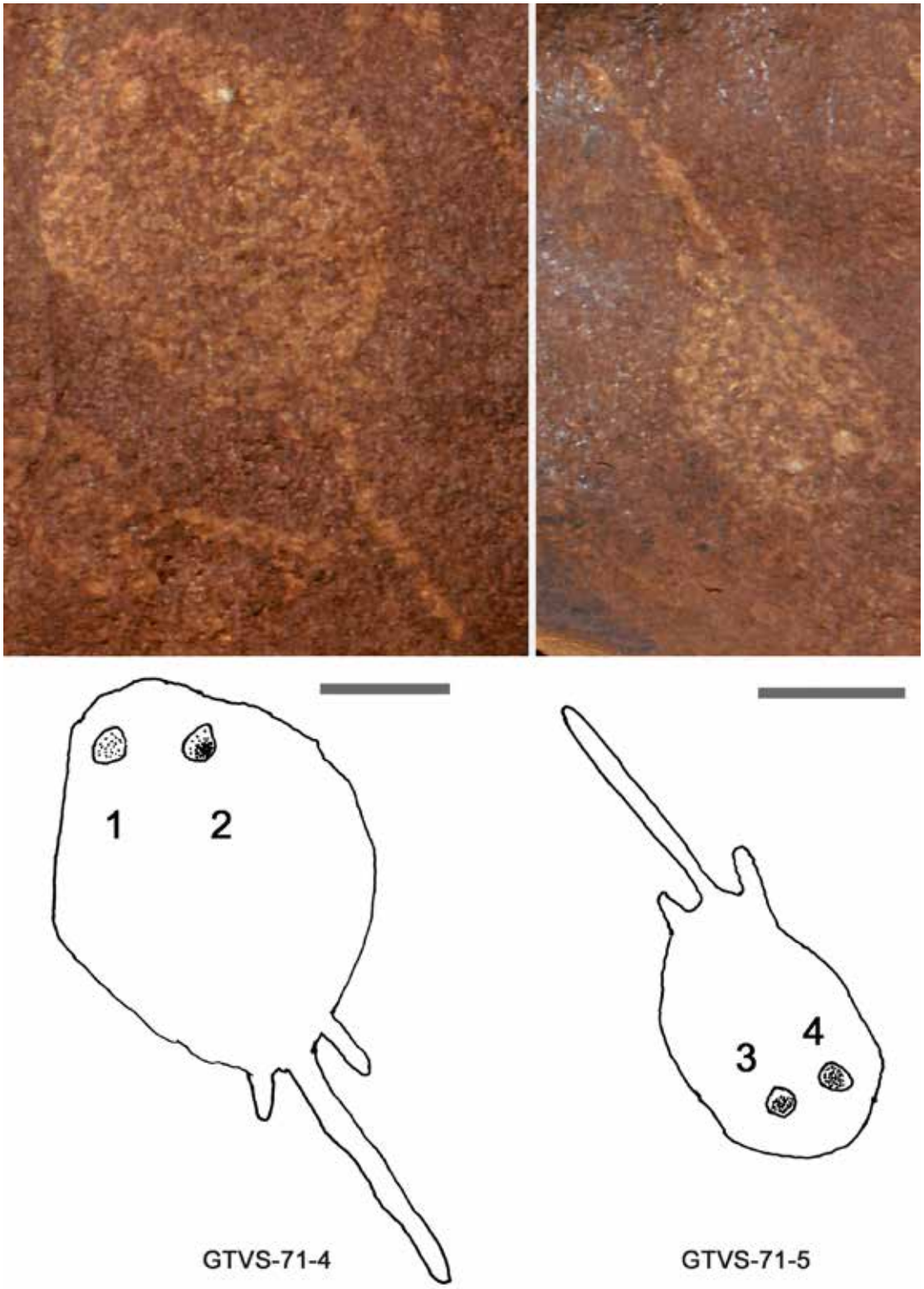


Figure 3.37. GTVS-71. Example of re-marking. Left: GTVS-71-4: Both 'eyes' of the 'stingray' have been renovated more than once, but on the last occasion, only the right 'eye' (2) was re-carved (Scale: 50 mm). Right: GTVS-71-5: Each 'eye' equally renovated; 1–4 = 'eyes'. Scales: 100 mm.

outlines). It should be emphasized, moreover, that this 'torso' part is separated from the image's 'legs' by a line. Its interpretation as a tail seems, then, to be supported.

This motif could well be classified with the 'kangaroo-men', two examples of which have been described in the Eagle Group. However, the contribution of 'kangaroo' to this composite motif is made here on the basis of the 'tail' and not the 'head', as in the other cases. The radiating 'headdress' is common to depictions of humans in this area. All these characteristics give the motifs a particular place in the Gum Tree Valley rock-art assemblage.

The grooves forming the outline of the anthropomorph are deeply patinated, similar in appearance and even the chocolate brown colour to the surrounding surfaces. But in the bottom of the grooves a smoother, softer to the touch, and yellow-whitish, narrow carved band contrasts with the ridges and slopes of the grooves to stand out clearly against its dark background (Fig. 3.12). Above all, these clear lines are visible from afar. However, they do not follow the entire course of the patinated grooves.

This figure comprises, in fact, two superimposed versions of the same motif: an initial 'wounded' anthropomorph with a 'tail' has been deeply carved (at an earlier date since it is deeply patinated); later, this motif was copied and renovated by a fresh and simpler outline, whitish in appearance. The original motif depicts an asexual hybrid being, half-human, half-animal, pierced with spears; the more recent depiction is of an anthropomorphic male with a ceremonial headdress of a type common in the Dampier region and throughout Australia (pers. obs. 1974–1985).

The 'spears' were ignored during the re-marking, and the 'tail' of the first motif has been shortened and transformed into the left 'leg' of the second anthropomorph. The left 'leg' of the fantasy being became the 'phallus' of the second motif, which thereby acquires a conventional three-part base (Fig. 3.36). The meanings of the two depictions are certainly different, although their outlines are partly the same.

Sometimes, re-marking of a petroglyph consists of a simple superficial hammering of the surface beside or on top of the motif (these may also be 'ritual marks'). An example is found on GTVS panel 64. Often, however, an outline is re-carved accurately only on a short section of the motif. The 'eyes' of The Spirit Figure, GTVS-10 {p. 234} (Figs 3.10, 3.36), and of certain 'fishes' such as the 'stingray' (Fig. 3.37) have been pecked intensively to produce in these motifs a staring expression visible from afar, thereby giving the creatures a new strength and a renewed life. Sometimes only one 'eye' has been re-marked (Fig. 3.37); this may have a symbolic meaning, a localized ritual action in which the image is simply re-touched to breathe a new energy into it.

Re-marking of the Spirit Group figures has been implemented either by fine superficial and linear pecking (6%) or overall pecking (5%) on earlier deeply pecked motifs, or occasionally (less than 2%) by rough hammering over old grooved or deeply pecked marks.

Patination

The patination states of the petroglyphs have been classified here, as elsewhere, according to two complementary processes. The former is a visual classification into three grades: Patina 1 ('deeply patinated'), Patina 2 ('patinated'), and Patina 3 ('fresh'). The second process is a photometric measure of density contrasts; this latter allows a more detailed and precise classification.[22]

General proportions

The histograms (Fig. 3.38: left) of the three visual grades of patination show a strong preponderance of Patina 1 and 2, and a less significant presence of Patina 3 (9.3%). Both ancient and recent uses of the site thus are established.

The patination histogram ascertained on the basis of photoelectric measurements (Fig. 3.38: right) highlights the wide range of patination states, their contrasts values ranging from 0 to over 0.40. Deep patination has zero contrast; fresh patination has strong contrast, almost identical to that of the experimental carvings that I carried out on gabbro. The distribution of these values attests to the long use of the site. The peaks are, presumably, related to periods of higher site traffic.

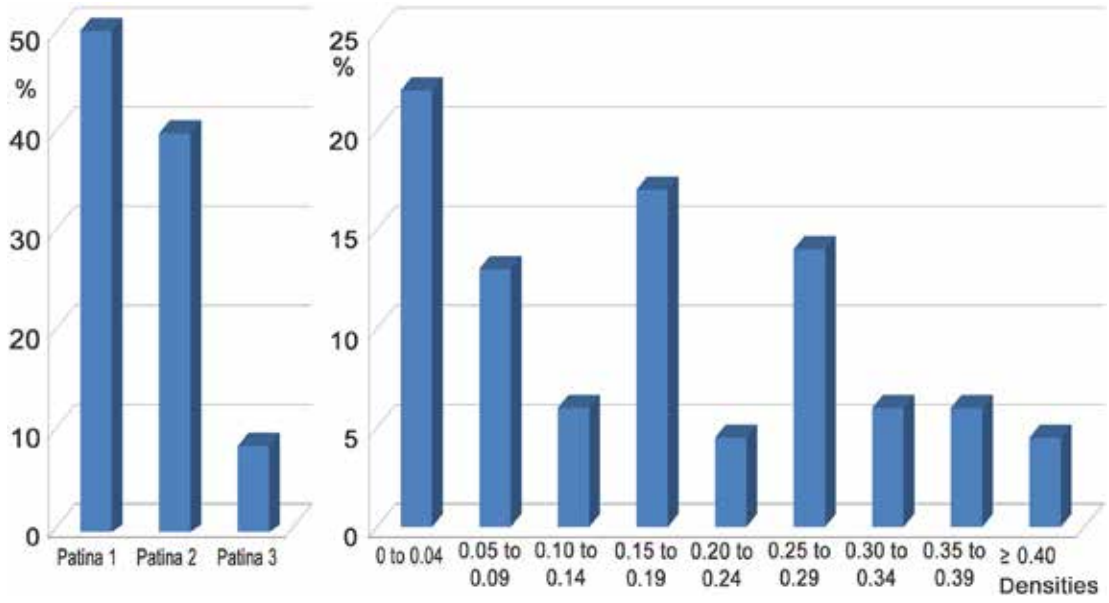


Figure 3.38. GTVS. Categories of patination. Left: Visual evaluation. Right: Analysis using photoelectric cell.

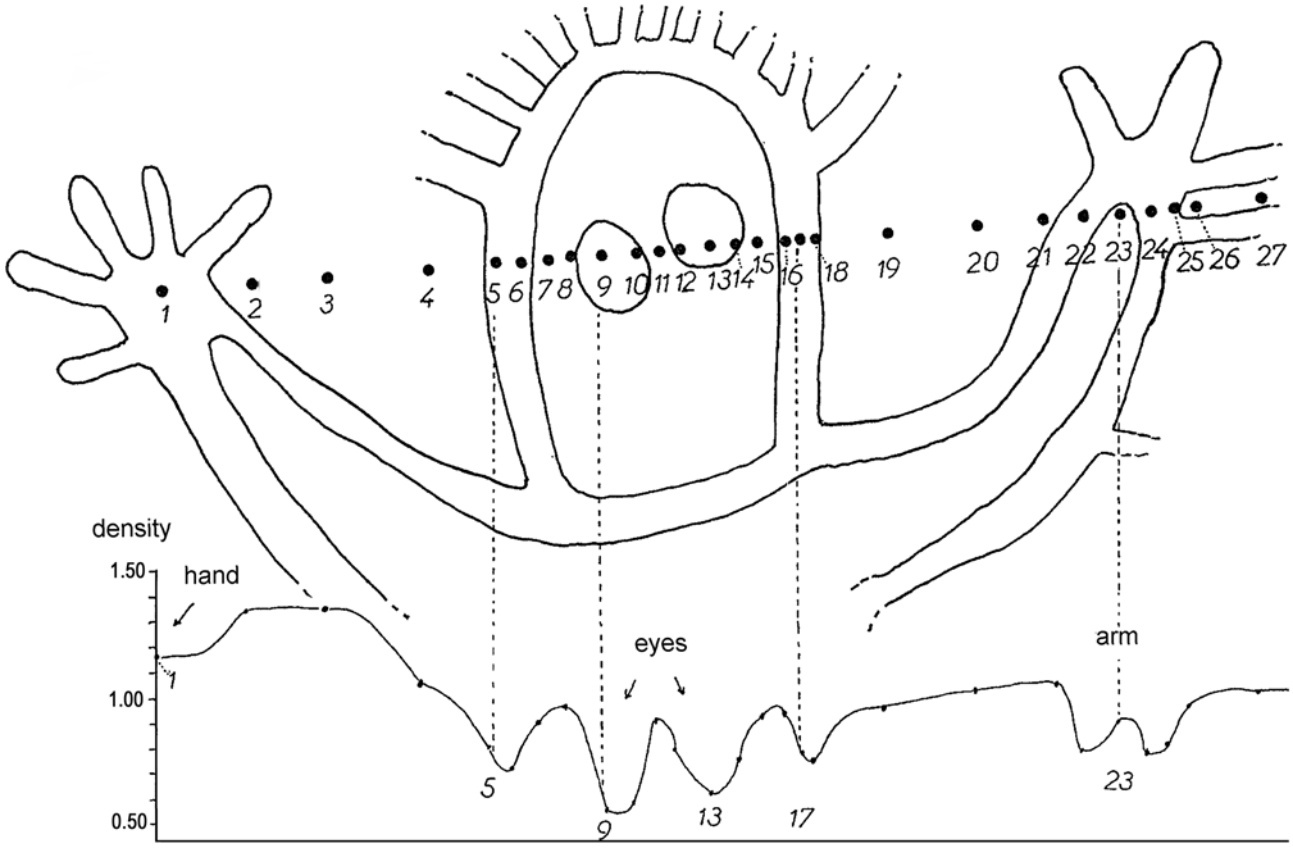


Figure 3.39. GTVS-10. Example of a densitometric section of a petroglyph (re-marked motif).

Densitometric sections

This timely measurement of the density as I observed it at sites of the region provides some objective and quantifiable data on the renovation of the carvings. For example, the densitometric section of the 'arms' and 'head' of the 'human' (GTVS-10-1 {p. 234}) clearly shows the retouching of the outline of this beautiful image (Fig. 3.39). The interiors of the 'hand', edges of the 'head', of the 'eyes', and of the 'arms', result in troughs, more-or-less deep, of the densitometric section (Fig. 3.39: horizontal curve). Note that the 'eyes' appear brighter than the rest of the motif since they have been more often and more intensively pecked than other elements of the image.

The clear bands that the re-marking of the carvings have made in the bottom of the grooves have a small density value, while the grooves of the rock face and slopes are dark and deeply patinated. The value contrasts are visible throughout the curve thus obtained: note that the 'head' has been re-carved more intensely and probably more often than the 'arms' and the 'hands' of the character. The 'eyes' are the element of the design that reveal the deepest hollows.

Recent re-marking of carvings is often limited to a single freshening of the 'eye sockets' by an intense pecking. To revive the character, it was enough to give it some new, bright, 'eyes': these impressive white 'eyes' are visible from the bottom of the valley.

Patination and motifs

The population data for Patinae 1, 2 and 3 are of varying significance. A total of 212 petroglyphs are deeply patinated and are associated with Patina 1. Included in this number, are motifs with Patina 1 that have been retouched. Some 141 motifs have a Patina 2 grade (including re-markings), and only 37 show a grade of Patina 3. These populations consist of different thematic compositions as shown in Table 3.10.

The thematic changes marking the transition from Patina 1 to Patina 2, then to Patina 3, take place primarily in two opposing directions:

1 The proportion of 'humans', 'animals' and 'animal footprints' increases; and
2 The percentage of geometric motifs drops dramatically to zero at the Patina 3 classification.

Along with these shifts, the 'indeterminate' motifs, after having increased proportionally, finally diminish. Visual representation of this change in proportions of various subjects is provided by the graph (Fig. 3.40). The GTVS Group reveals the same evolutionary trend as that recorded in other zones, including GTVW and GTVK. This trend is defined throughout by an increase over time in depictions of animals, prints and especially humans at the expense of geometric motifs, which decrease and eventually disappear. At a greater level of detail, the analysis showed that *the growth in the proportion of 'animal' motifs at GTVS is due to a clear increase in the proportion of 'fish' and 'turtle'; that is, of 'marine creatures*'.

Table 3.10. GTVS. Relationships between petroglyphs and patination.

	Patina 1 ('deeply patinated')		Patina 2 ('patinated')		Patina 3 ('fresh')	
motif	n	%	n	%	n	%
'human' motifs	64	30.2	46	32.6	19	51.3
'animal' motifs	21	10.0	29	19.4	9	24.3
'animal prints'	20	9.4	18	12.8	8	21.7
geometrics	75	35.4	18	12.8	0	0.0
undetermined	32	15.0	30	21.3	1	2.7
totals (rounded)	212	100	141	100	37	100

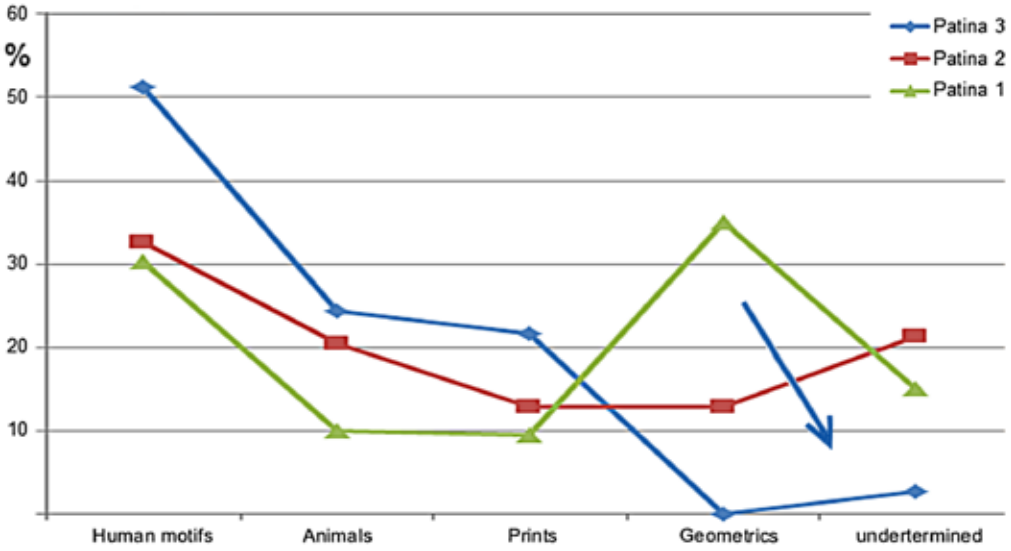


Figure 3.40. GTVS. Patination and motifs. Change over time in proportions of subjects as a function of the state of patination. Arrow indicates trend of change over time.

Patination and carving techniques

As has been noted for other parts of Gum Tree Valley, at GTVS Patina 1 is associated mainly with deep linear or overall pecking and, more unusually, with linear incision. Patina 2 tends to be associated mainly with deep pecking and secondarily with superficial pecking and with grooving. Some petroglyphs made by linear incision also are of Patina 2 grade. Patina 3 is found almost exclusively with superficial pecking, hammering and, more rarely, linear incision.

Distribution of patination

The distribution of carvings according to their patination condition (Fig. 3.41) highlights an interesting phenomenon: The petroglyphs of Patina 1 are scattered over a large area of the site, occupying in full the summit and the edge of the plateau to the base of slope. The dispersion of carvings is fairly regular throughout the site. There is no significant concentration. By contrast, carvings with Patina 2 have a distribution concentrated on the lower half of the slope and in the centre of the site. Carvings with Patina 3, numerically fewer, fall into the same sector, that is to say, on the lower slopes, and more towards the centre.

It appears that *many 'deeply patinated' (Patina 1) petroglyphs probably pre-date the appearance of the shell middens. These are followed by mainly motifs that today exhibit grade 2 and 3 patination, which have been pecked successively by the shell-collectors on the rocks overlooking their habitation.*

Cultural remains recovered from among the carvings at GTVS

The remains discovered among the carvings at GTVS include more than 200 shells, 112 stone flakes, 16 stone tools and a grinding stone.

Shells

As in other sectors of Gum Tree Valley and Skew Valley near the shell mounds, shell remains are mainly of *Anadara granosa* and a few *Terebralia palustris*. There are also about 20 fragments of the large *Melo amphora* (Bailer shell) and *Syrinx aruanus* (Trumpet shell), which served as receptacles. These are the usual species that correspond mainly with the upper level of the Skew Valley shell mound.

These shells have become concentrated in the cracks around large blocks, many of which have been carved. Their disposition could indicate that casual meals were eaten on the large slabs, that is, in close proximity to the petroglyphs. As with the stone tools that accompanied them, they demonstrate that—at least for some periods of the use of the site—domestic activities and carving were intertwined here.

Stone artefacts

A total of 112 unretouched stone flakes were found among the carvings; all were made in the local rocks, gabbro and granophyre (the latter is common in Skew Valley, about 500 m distant), except for one that was made from quartz.

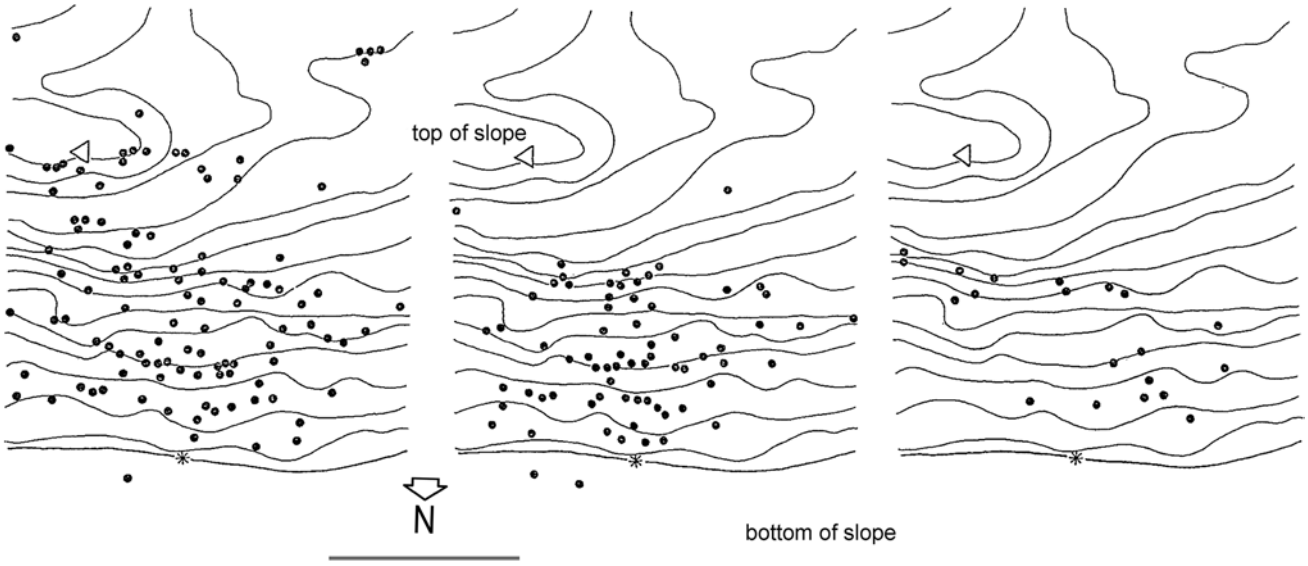


Figure 3.41. GTVS. Distribution of petroglyphs according to their state of patination. Scale: 10 m. Left to right: Patina 1 ('deeply patinated'); Patina 2 ('patinated'); Patina 3 ('fresh').

Of these, 16 pieces are of greater interest (Table 3.11); two of these stone tools are illustrated in Fig. 3.42, and their locations are indicated on Fig. 3.44.

Some cores, including large globular examples, served as hammers; they sometimes show characteristic edge wear. They are probably the tools of the carvers. A very characteristic adze (Fig. 3.42: 16) can be compared to those discovered at GTVE. Similar tools also were recovered from the upper layer of the Skew Valley shell midden.

Grindstone. One of the blocks found at the foot of the slope has a characteristic polished surface. As at Skew Valley and the Gum Tree Valley Eagle site, such slabs were located near the creek and in close proximity to the shell mounds (Fig. 3.43). These stones were used for the preparation of food, including the crushing of fruits and seeds of wild grasses (Moya Smith, 1985). The abandoned millstone at GTVS again indicates the presence of women on the site, among the carvings. This evidence stresses the overlapping of domestic and artistic activities by the shell gatherers in this place.

Table 3.11. GTVS. Stone tools recovered.

number	description
1	core with a platform
2	globular core
3	steep-edged scraper
4	globular core with two striking surfaces and an edge
5	core with a platform
6	core with trimming edge (i.e. edge hit to obtain flakes)
7	globular core
8	globular core
9	core with one platform
10	core with one platform
11	core with one platform
12	steep flake scraper
13	core with a platform
14	Levallois-type core (Fig. 3.42: 14)
15	core with a platform
16	tula adze in chalcedony (Fig. 3.42: 16)

Distribution of remains

The distribution map of the shell and artefact remains (Fig. 3.44) reveals two interesting facts:

1 The distribution of artefacts and shells are superimposed. It is possible that these two categories of relics are contemporaneous. In any case, no evidence indicates that these tools derive from a period prior to the building of the shell mounds; and

2 The distribution of artefacts and shells, which are localized on the lower half of the slope, clearly corresponds to those of the petroglyphs with Patinae 2 and 3. It is partly different from the areal distribution of deeply weathered carvings (Patina 1), which spans a larger area to the summit slopes and to the edge of the plateau, where there are no other remnants. *It is possible to conclude that the midden builders were the authors of carvings with Patina 2 and 3, and that at least the majority of Patina 1 carvings predate the use of the site by the shell gatherers*.

GTVS—Conclusions

As at the sites of SKV and GTVE, the Spirit Figure Group occupies a sloping site associated with shell middens. It is located at the entrance of Gum Tree Valley, along a seasonal creek, on the southern slope overlooking two middens, A and B. It is situated opposite the more important Midden A.

The Spirit Group comprises a concentration of petroglyphs, consisting of 161 richly carved surfaces with a total of 381 motifs. This concentration can be circumscribed by a rectangle of 32 × 30 m. Outside this rectangular area—constituting the sample zone—the carvings are many fewer. As in other parts of the region, the increase in the number of carvings as one approaches a visible shell mound, posits the existence of a link between habitat of the shell gatherers and at least a proportion of the petroglyphs.

'Human' motifs are the dominant subject (representing nearly 30%). Over one half are stick figures. Among other types, motifs with exaggerated 'hands' and 'feet', are frequent, as are depictions of coitus. Many depictions of

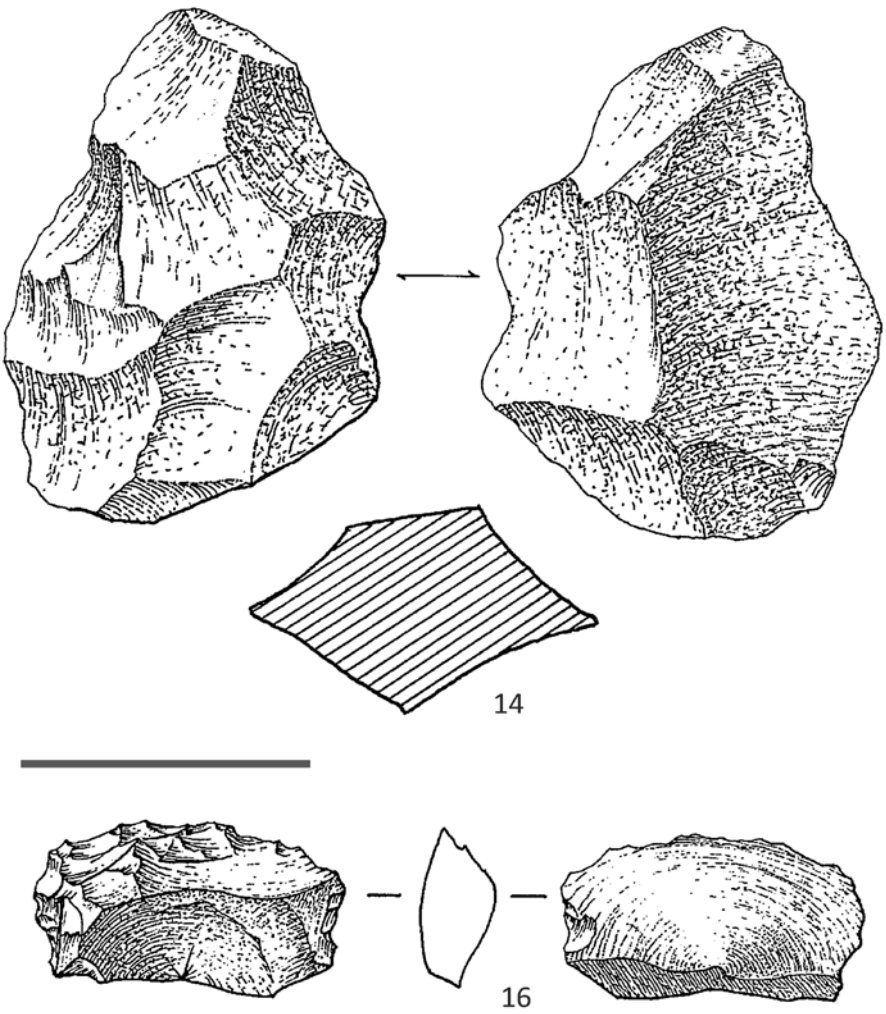


Figure 3.42. GTVS. Examples of tools associated with the petroglyphs. Scale: 50 m. 14: Levallois-type core in gabbro. 16: Tula 'adze' in chalcedony.

humans are accompanied by 'weapons' ('boomerangs', 'spears'), and their 'heads' support 'ceremonial headdresses'.

Animal depictions represent nearly 15% of the motifs. Those of 'fish' and 'marine turtles' are dominant. The marine creatures depicted are varied: catfish, rays, sawfish, dugong, dolphin and others. The 'animal footprints' are mostly those representing birds. Some 'prints' have unusual dimensions, and may represent gigantic 'animals' associated with mythology.

Geometric motifs are relatively abundant (more than one fifth of the total). They comprise linear and circular forms, barred ovals and other motifs.

One of the specialties of GTVS is the depiction of boomerangs (1.6%) of the old type—the hooked shape. Depictions of fruit, probably of the mangrove, are also represented (6.3%). Finally, indeterminate motifs occupy 15% of the assemblage.

The study of relationships among the motifs within the same panel (internal relationships), and on neighbouring panels (external relationships) has shown that some subjects frequently are found as single examples; these include 'humans', some geometric, and indeterminate motifs. 'Prints' may be repeated on the same surface.

Other data point to the general weakness of 'indices of association' at this site. Depictions of 'human' figures are ubiquitous. They have a very wide associative range, and are present everywhere, even on panels with few motifs. 'Fish', 'turtles', 'bird prints', and linear forms show a similarly wide range of iconographic relationships.

By contrast, other subjects possess at the same time both a small range of relationships and a low association index. They associate infrequently with others and almost always with the same two or three subjects.

The study of external relationships has not produced any unexpected results: the distribution maps of different subjects show a generalized central concentration.

'Deep pecking' is the carving technique most common at GTVS: more than half of the motifs have been executed in this way; 30% of motifs were made with 'superficial pecking'. Other techniques such as 'linear incision' or 'grooving' are unusual. What is more notable is the relatively high percentage of re-marked petroglyphs: 12.5% of GTVS motifs have been renovated over the course of time.

The study of the support blocks revealed that the 'human' motifs have the strongest visibility index. They tend to be located upon sub-vertical surfaces where they are most visible; by contrast, other motifs are found more frequently on sub-horizontal surfaces. Geometric motifs in particular are found on the tops of panels, and thus are hidden from observation from the midden area below the slope.

The majority of petroglyphs on inclined or sub-vertical faces are oriented towards the shell midden; this factor highlights the relationship between these motifs and the habitation area.

Figure 3.43. GTVS. Grindstone (GB) at the foot of the slope near the petroglyphs. The horizontal polished surface shows that wild grains have been ground on it. Scales: 100 mm.

These links are supported by the study of patination and of the remains found among the carved blocks. The different states of patination of the GTVS petroglyphs attest to the long use of the site. A comparison of thematic composition with the populations of 'deeply patinated', 'patinated' and 'fresh' carvings shows that, over thousands of years, the percentages of 'human', 'animal' and 'print' motifs consistently have increased at the expense of geometric forms, the incidences of which diminish and eventually disappear. The topographical distributions of motifs that are 'deeply patinated', and those that are simply 'patinated' or 'fresh', are different. The oldest motifs, those which show the lowest contrasts, are widely and regularly disseminated throughout the site, while subjects less patinated, and those that have been re-marked, are concentrated at the bottom of the slope, near the shell mounds.

Thus, the impact of the middens on the carvings manifests itself over the course of time. Many 'deeply patinated' carvings predate the site's occupation by the shell-gatherers; they suggest a diffuse, sporadic visitation of the site, probably spread over a long period.

At a more recent date, the formation of the middens corresponds to an increase in interest in the area, and an intensification of activities on the site. Some other data also support this interpretation:

1 Petroglyphs on vertical rock surfaces are concentrated at the base of the slope near the shell midden, while petroglyphs on the tops of slabs are much more widely spread and appear not to be associated with the middens;
2 'Deeply patinated' carvings are mainly found on the tops of slabs while 'patinated' and 'fresh' carvings are more frequently found on vertical surfaces. Moreover, they are mostly oriented towards the shell mound. The proportion of subjects on vertical or inclined surfaces varies from 46.8% of the population of Patina 1 (old) carvings, to 76% in the more recent (Patina 2 and Patina 3) motifs; and
3 The bivalve shells and the artefacts found among the carvings, evidence that provides indisputable links with occupation by the shell gatherers, are limited to the lower half of the slope. Their topographic distribution coincides with that of the lightly patinated and 'fresh' carvings that are the work of the *Anadara granosa* collectors.

Therefore, there seems to be two assemblages of carvings at GTVS (which are otherwise heterogeneous):

1 An earlier assemblage (Patina 1) arising from a long, diffuse use of the site without relationship to the middens; and
2 A more recent assemblage of carvings (Patina 2 and 3) made around their habitation by the gatherers of shellfish. These new carvers were closely associated with the middens. Many petroglyphs were then carved or re-carved, making them clearly visible; they were focussed toward the camp, around which they clustered.

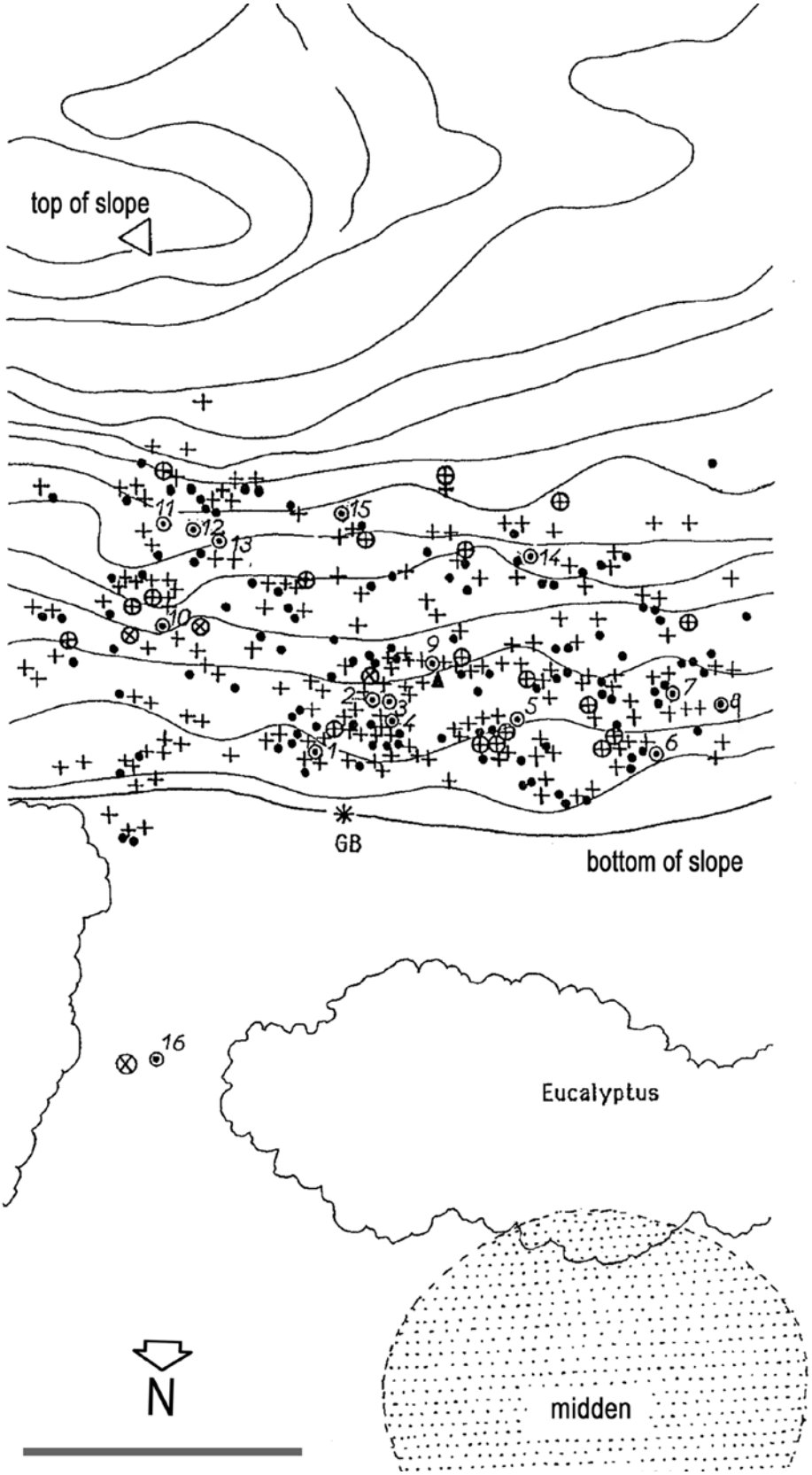


Figure 3.44. GTVS. Distribution of remains recovered from among the petroglyphs. Scale: 10 m. Key: + = shell of *Anadara granosa*; ⊗ = fragments of *Syrinx aruanus;* ⊕ = fragments of *Melo amphora;* ● = gabbro flake; ▲ = chalcedony flake; ⊙ = tool (Table 3.11); and GB = millstone.

References

ABRS. 2009. *Australian Faunal Directory*. Canberra: Australian Biological Resources Study. [Accessed 11 April 2011]. http://www.environment.gov.au/science/abrs

Brandl, Eric J. 1978. Human stick figures in rock art. In *Form in Indigenous Art: Schematisation in the art of Aboriginal Australia and prehistoric* Europe, ed. P. J. Ucko, pp. 220–242. Canberra: Australian Institute of Aboriginal Studies.

Isaacs, Jennifer. 1987. *Bush Food: Aboriginal Food and Herbal Medicine*. McMahons Point, NSW: Weldons.

Jones, Philip G. 1996. *Boomerang: Behind an Australian Icon*. Kent Town, SA: Wakefield Press.

Peter, Hanns. n.d. Boomerang Collections of Australia: a Description. Unpublished manuscript (TS & holograph, nine volumes, 1339 l. 1976.), copy held by AIATSIS Library (MS 831, cf. MS 852).

Smith, Moya A. 1985 Bardi plants: an annotated list of plants and their use by the Bardi Aborigines of Dampierland, in northwestern Australia. *Records of the Western Australian Museum* 12(3): 317–359.

Spencer, Baldwin, and Frank J. Gillen. 1899. *The Native Tribes of Central Australia*. New York: The Macmillan Co. [Accessed January 2015] https://ebooks.adelaide.edu.au/s/spencer/baldwin/s74n/chapter1.html

Endnotes

1 Examples of various motifs are included in the text figures. Illustrations of many petroglyphs prefixed 'GTVS-' are provided the Appendix. Some motifs—identified, numbered, studied, traced in detail, photographed, located on maps, and sometimes included in computations reported in Lorblanchet's study—are neither included in text figures nor in the illustrative appendices accompanying each chapter due to the large number of petroglyphs at each site—Editors.

2 'Diverse humans', that is depictions of various types of human-like motifs. 'Human' forms are discussed in greater detail in Chapter 2, Part I: *Descriptions of the petroglyphs*, and in Chapter 6: *The Woman Group petroglyphs*—Editors.

3 'Ghost-like' or 'phantom' motifs are discussed in greater detail in Chapter 7: *The Top Group petroglyphs*—Editors.

4 As in other chapters, a motif may be illustrated in an accompanying text figure (e.g., Fig. 3.14, item 53), and/or in the appendix following the relevant chapter (e.g., GTVS-53 {p. 260}) arranged more-or-less in serial number order. Repetition of the motif numbers serves to remind the reader that a higher-resolution image is available in the Appendix—Editors.

5 Qualification of use of the term 'human prints': *(a)* These are not 'hand prints' comparable to the ubiquitous pictograms found throughout Australia (and widespread throughout the world) that are produce by blowing pigment across a hand (also done with other items such as a boomerang), or made by pressing a hand wet with pigment onto a shelter or cave wall. *(b)* Rather, in the context of this discussion of Dampier petroglyphs, 'human hand print' and 'human foot print' are shorthand terms for representations of the hand/s or foot/feet of a 'human'. *(c)* Since they are most often the depiction of part of the integral anatomy of a being, they are qualitatively different from the 'animal prints' discussed subsequently in each chapter, the 'kangaroo track', 'bird print' and 'turtle track', which represent simply the 'footprint' left in the soft ground by a passing animal.—Editors.

6 The terms 'sub-horizontal' and 'sub-vertical' designate rock surfaces that are approximately horizontal or vertical with respect to their position in the landscape—Editors.

7 Average body ratio is dealt with more extensively in Chapter 4: *Body proportions*. For a macropod, 'body length' measurement is distance from base of the neck to the base of the tail, and 'body height' is between the line of the belly and the highest point of the arched back. The 'dorsal curve' is the ratio between the length of the back (from neck to tail) and the height of the arc above this line—Editors.

8 Representations of turtles, their tracks and eggs are discussed further in Chapter 6—Editors.

9 *Plotosus* sp. *Netuma* sp., family Plotosidae; various eel-tailed catfishes, common throughout Indian Ocean and western tropical Pacific freshwater, estuarine and coastal marine habitats; nine genera known from Australia (ABRS, 2009)—Editors.

10 According to many indigenous Australians with whom I worked, including Johnny Flinders (CYP), Cliff Coulthard (Flinders), and Mr Ben, my Dampier field colleague.

11 Family Dasyatidae, Stingrays; a widespread tropical Australian species known by a variety of common names including Reef Ray, Blue-spotted Fantail Ray or Blue-spotted Lagoon Ray: *Taeniura lymma* (Forsskål, 1775). Speckled species: e.g., Speckled Ray *Raja* spp. (Linnaeus, 1758). Mangrove ray: *Himantura granulata* (Macleay, 1883), also known as Mangrove Whipray, Coachwhip Ray, Mangrove Stingray; habitat: benthic, continental shelf, estuarine, inshore, mangrove (ABRS, 2009)—Editors.

12 *Siganus spinus* (Linnaeus, 1758), family Siganidae, Rabbitfishes; Indo-west-central Pacific, and widespread around Australian western, northern and eastern coasts; common names include: Black Spinefoot, Black Trevally, Happy Moments, Rabbitfish, Spinefoot; habitat of *Siganus spinus* is shallow-water outer reef areas with algae (ABRS, 2009)—Editors.

13 *Pristis zijsron* (Bleeker, 1851): family Pristidae, Sawfishes; distribution is circum-global, common on northern coast of Western Australia; habitat is muddy or sandy bottoms in inshore marine areas (ABRS, 2009)—Editors.

14 *Dugong dugon* (Müller, 1776): family Dugongidae; Western Australia and Queensland. Continental shelf, gregarious, herbivore (ABRS, 2009)—Editors.

15 *Delphinus* sp., family Delphinidae. The Common Dolphin, *Delphinus delphis* (Linnaeus, 1758), widespread along western and eastern Australian coasts, is a pelagic predator (ABRS, 2009)—Editors.

16 Representations of turtle tracks are discussed further in Chapter 6—Editors.

17 *Bruguiera gymnorrhiza*, family Rhizophoraceae; the Black Mangrove or Large-leafed Mangrove is a small tree up to 10 m high; it is found on the seaward side of mangrove swamps. The mature spindle-shaped fruits fall to become embedded upright in mud where they develop roots (ABRS, 2009)—Editors.

18 The definitions and methodology of internal- and external- relationship analyses are discussed in more detail in Chapter 6: *Distributions and associations of various motifs*, and Chapter 7: *Associations and groupings*—Editors.

19 The character and analytical role of the 'visibility index' or 'index of visibility' is discussed in greater detail in Chapter 7 GTVT—Editors.

20 The range and specific characteristics of carving techniques are discussed in greater detail in Chapter 4 GTVE, and Chapter 7 GTVT—Editors.

21 Re-marking (renovation) is discussed extensively in Chapter 4 GTVE, and again with use of the 'contour gauge' in Chapter 5 GTVK—Editors.

22 Use of the photoelectric cell to quantify patination states is discussed more fully in Chapter 5 GTVK 'Carving techniques and patination observed at the Kangaroo Group'—Editors.

Chapter 3—Appendix

Recordings of the petroglyphs of the Gum Tree Valley Spirit Group (GTVS)

In order to define the orientation of each figure, on each recording are indicated: *(a)* the north orientation when it is a horizontal panel on top of a slab, and *(b)* the vertical orientation (an arrow with a 'V') when the surface is close to the vertical. Unless otherwise indicated, all scales represent 10 mm.

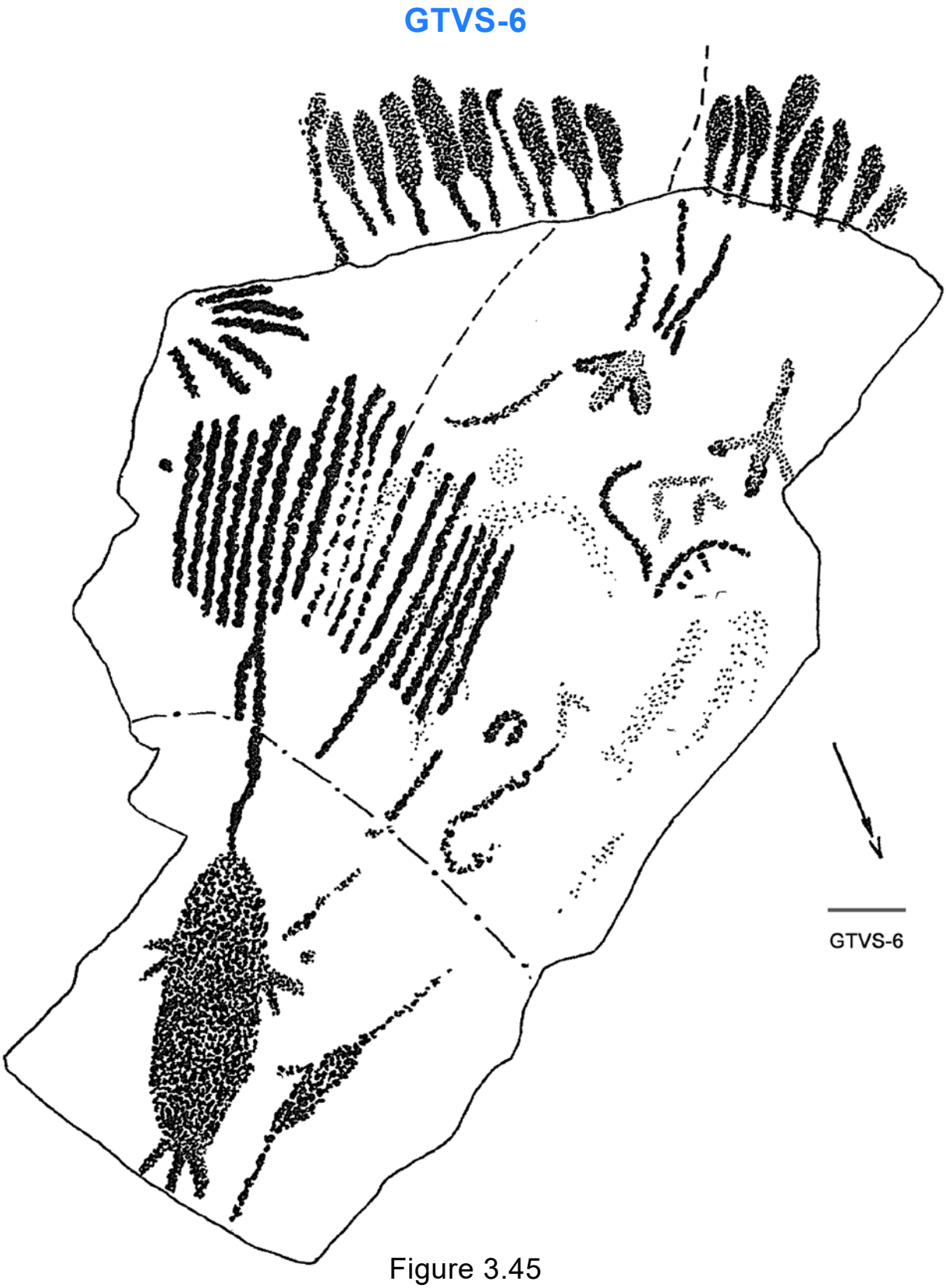


Figure 3.45

GTVS-9 +9A

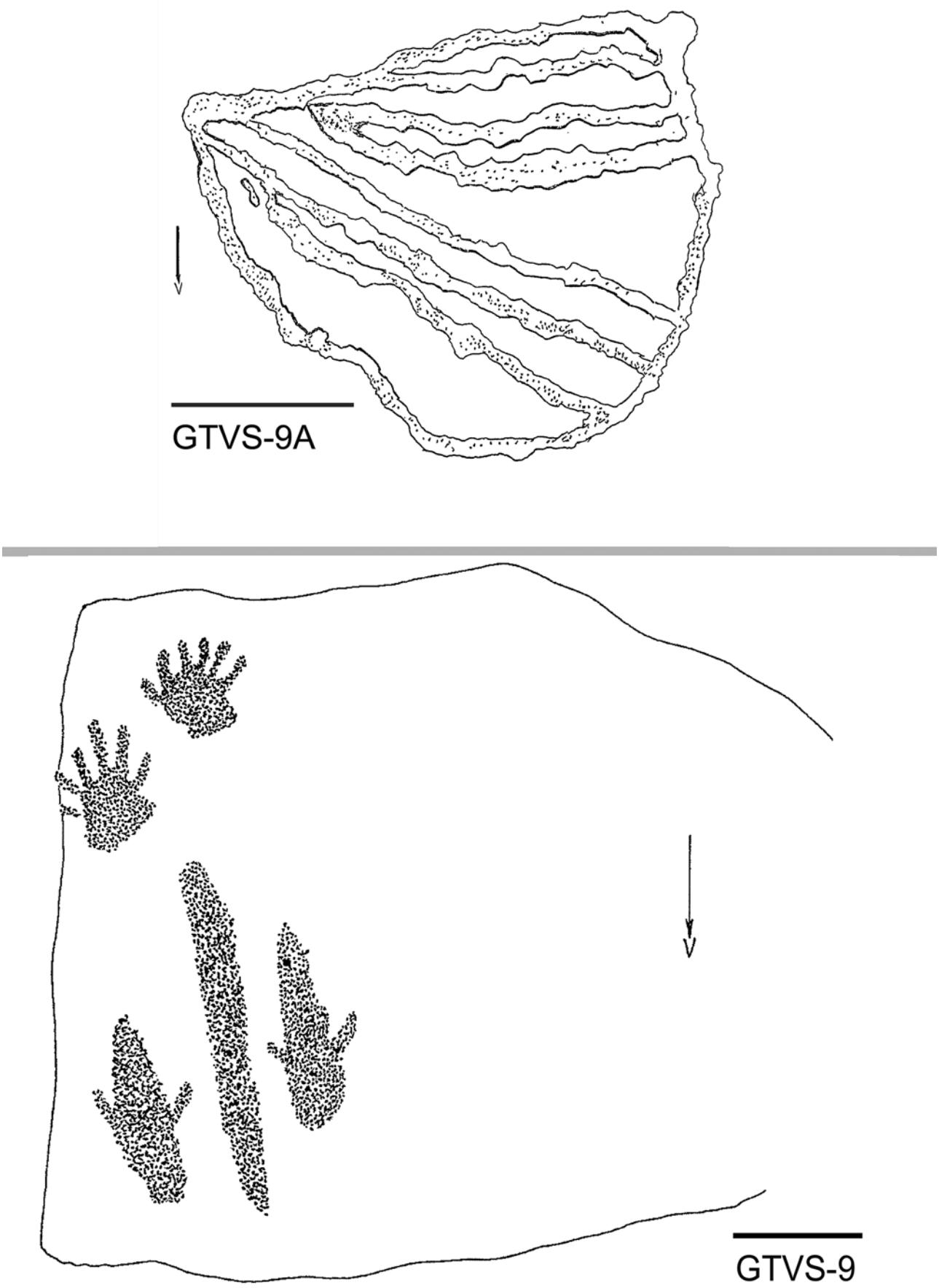


Figure 3.46

GTVS-9+9B

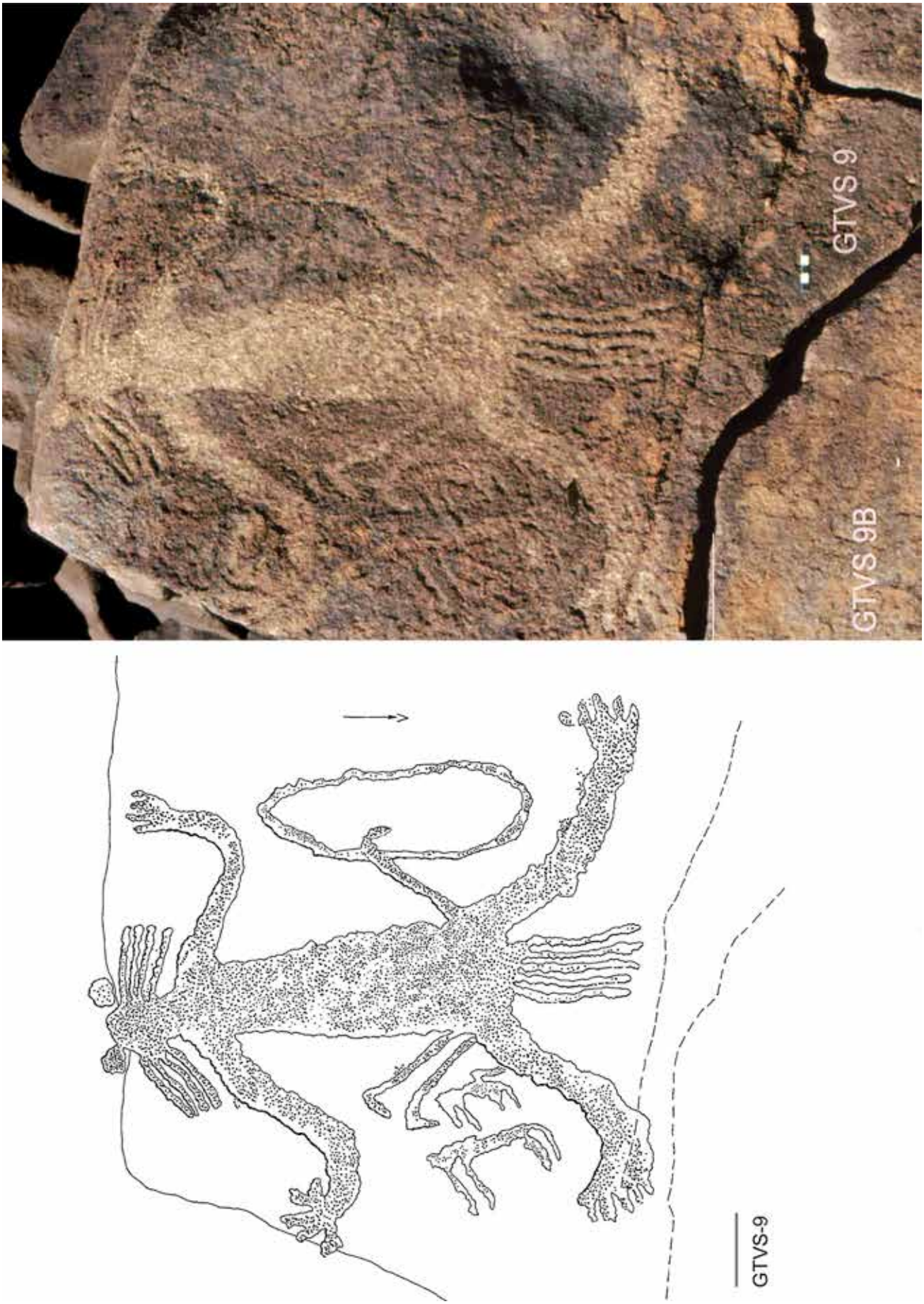


Figure 3.47

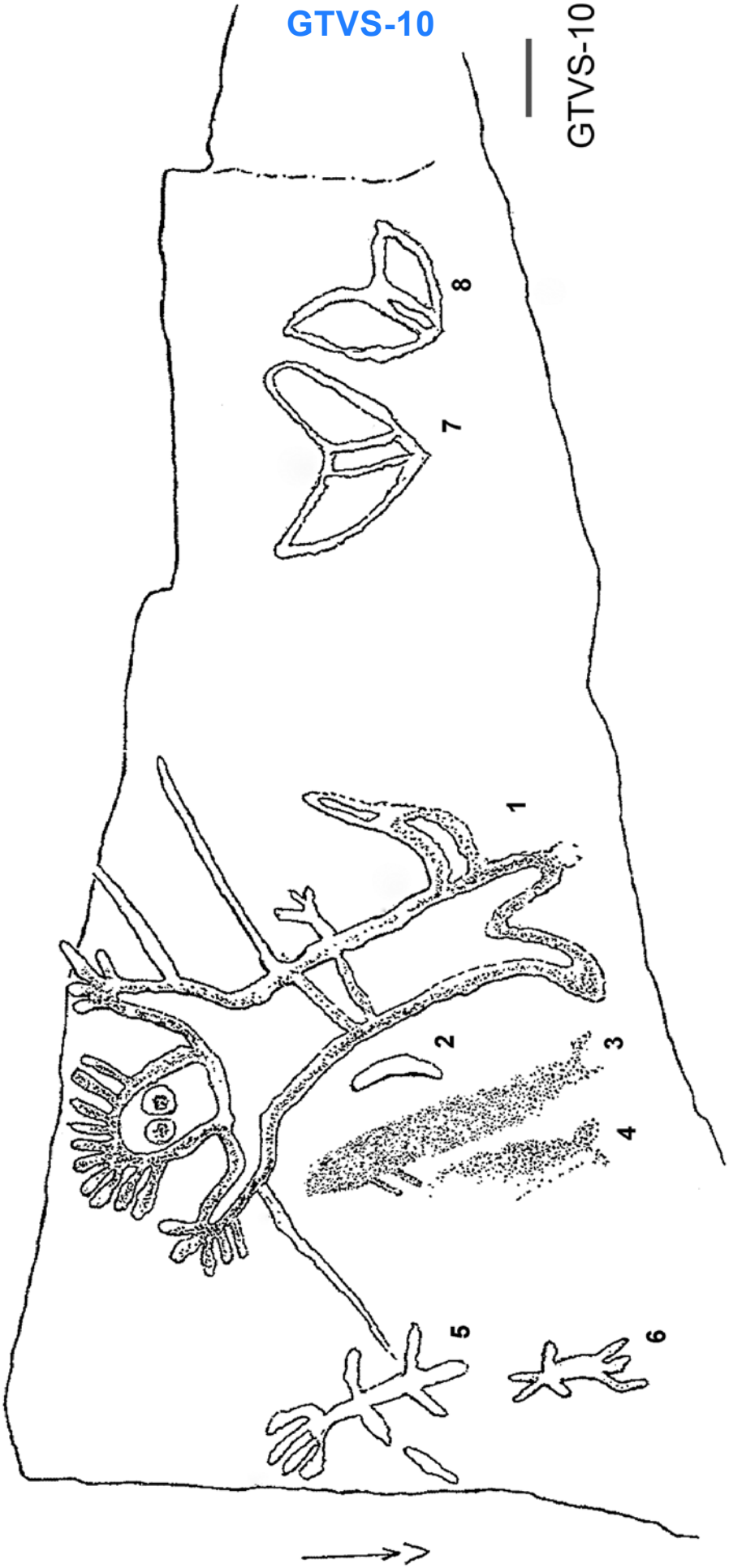


Figure 3.48

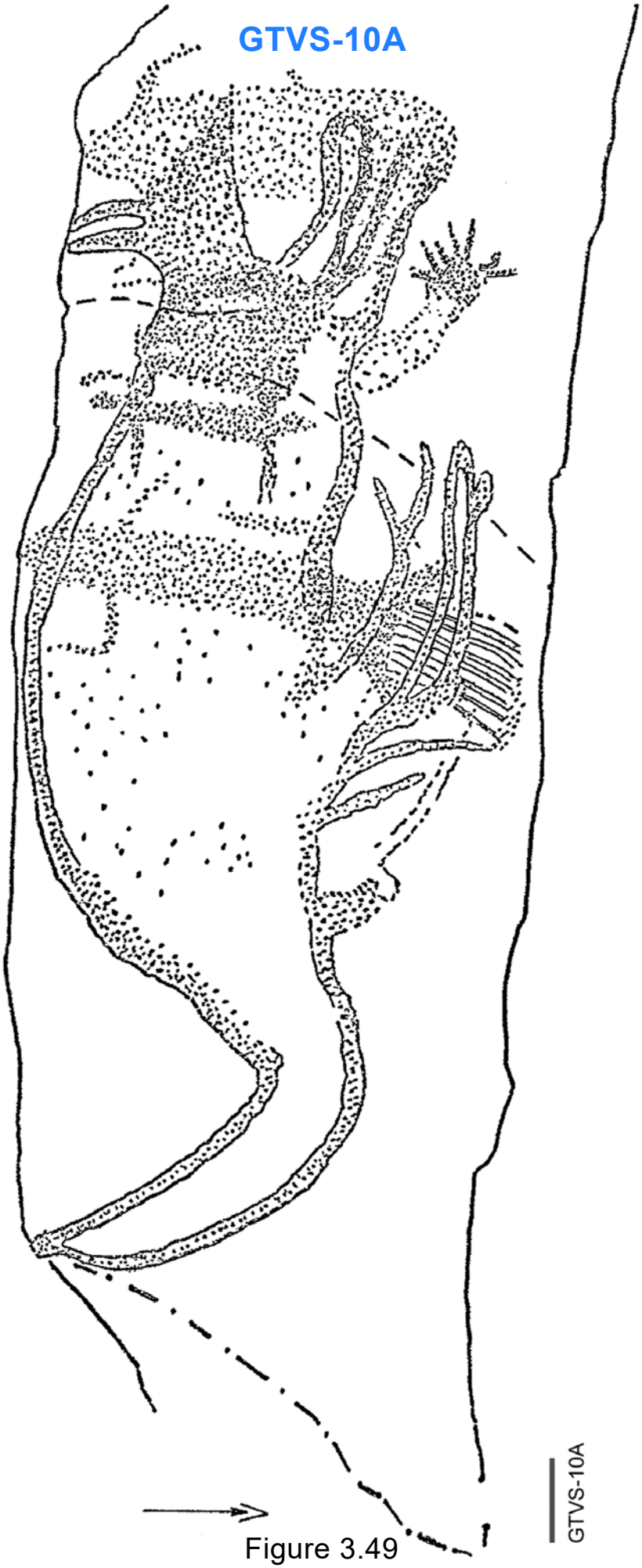
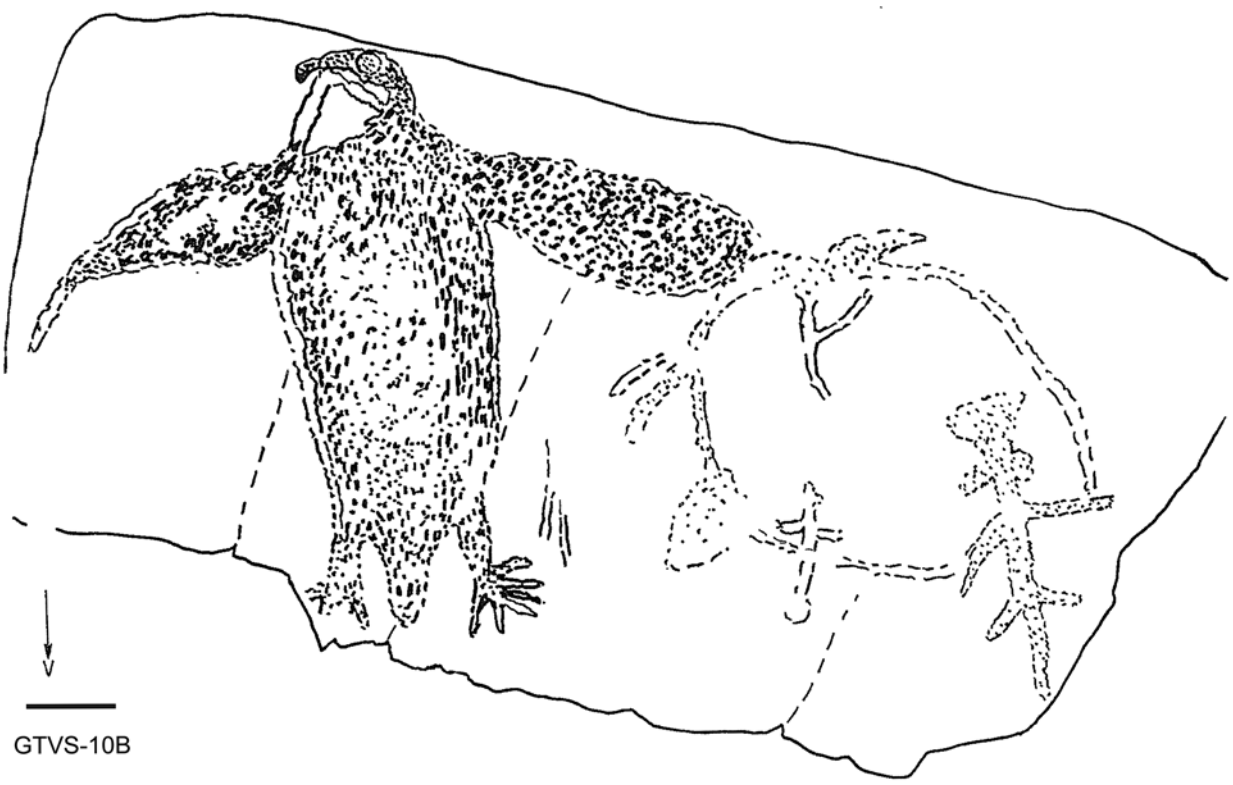


Figure 3.49

GTVS-10B+10D+16



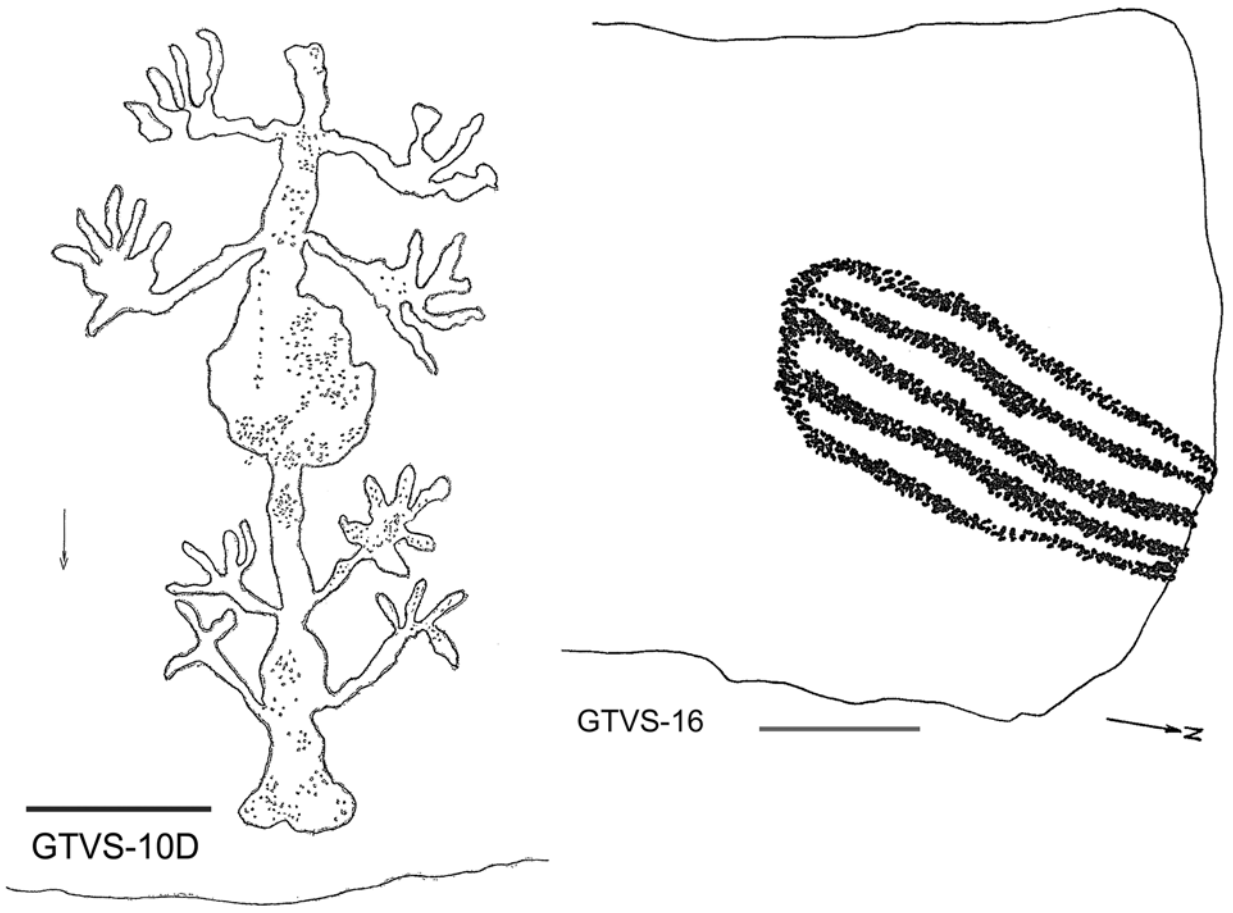


Figure 3.50

GTVS-10detail

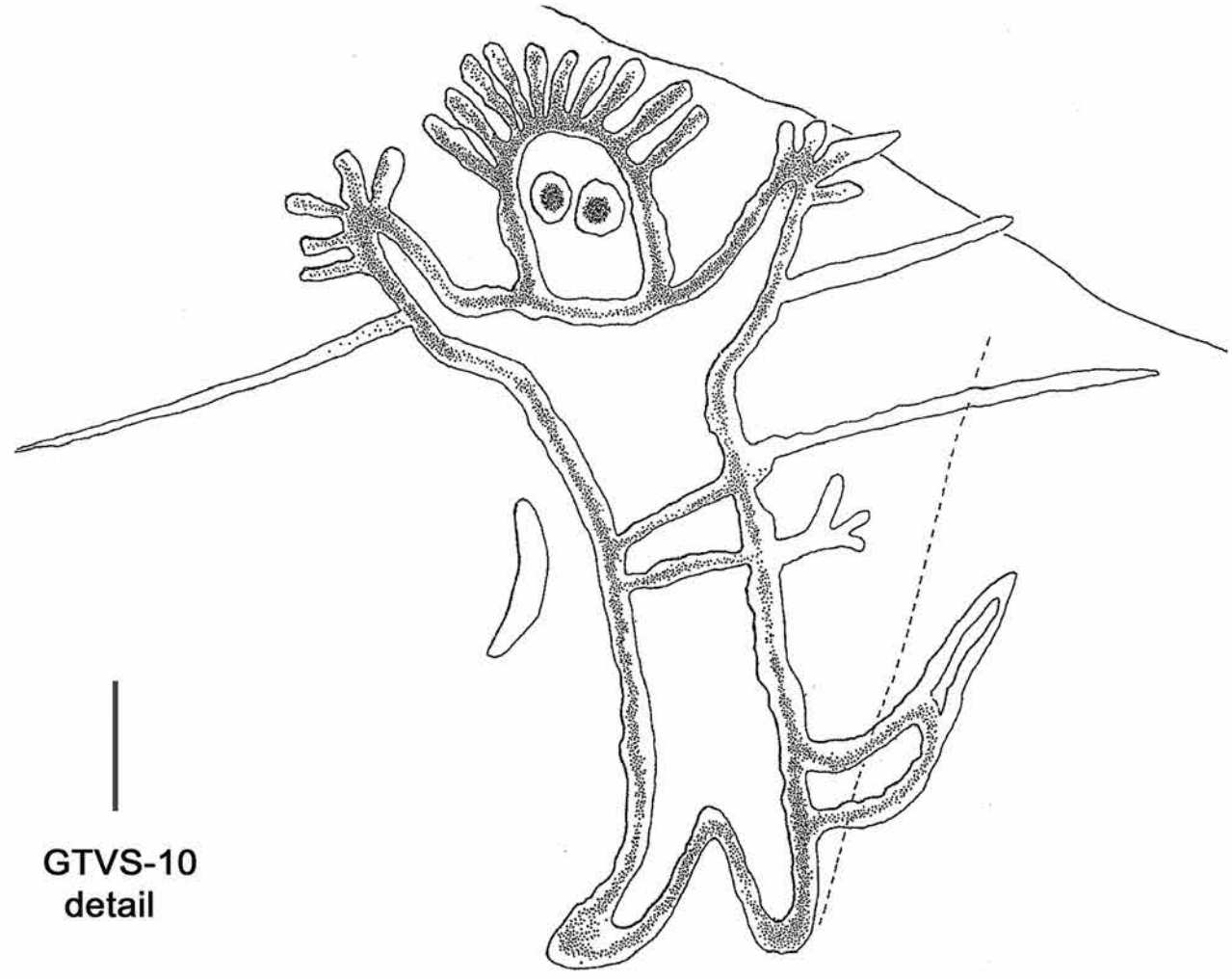


Figure 3.51

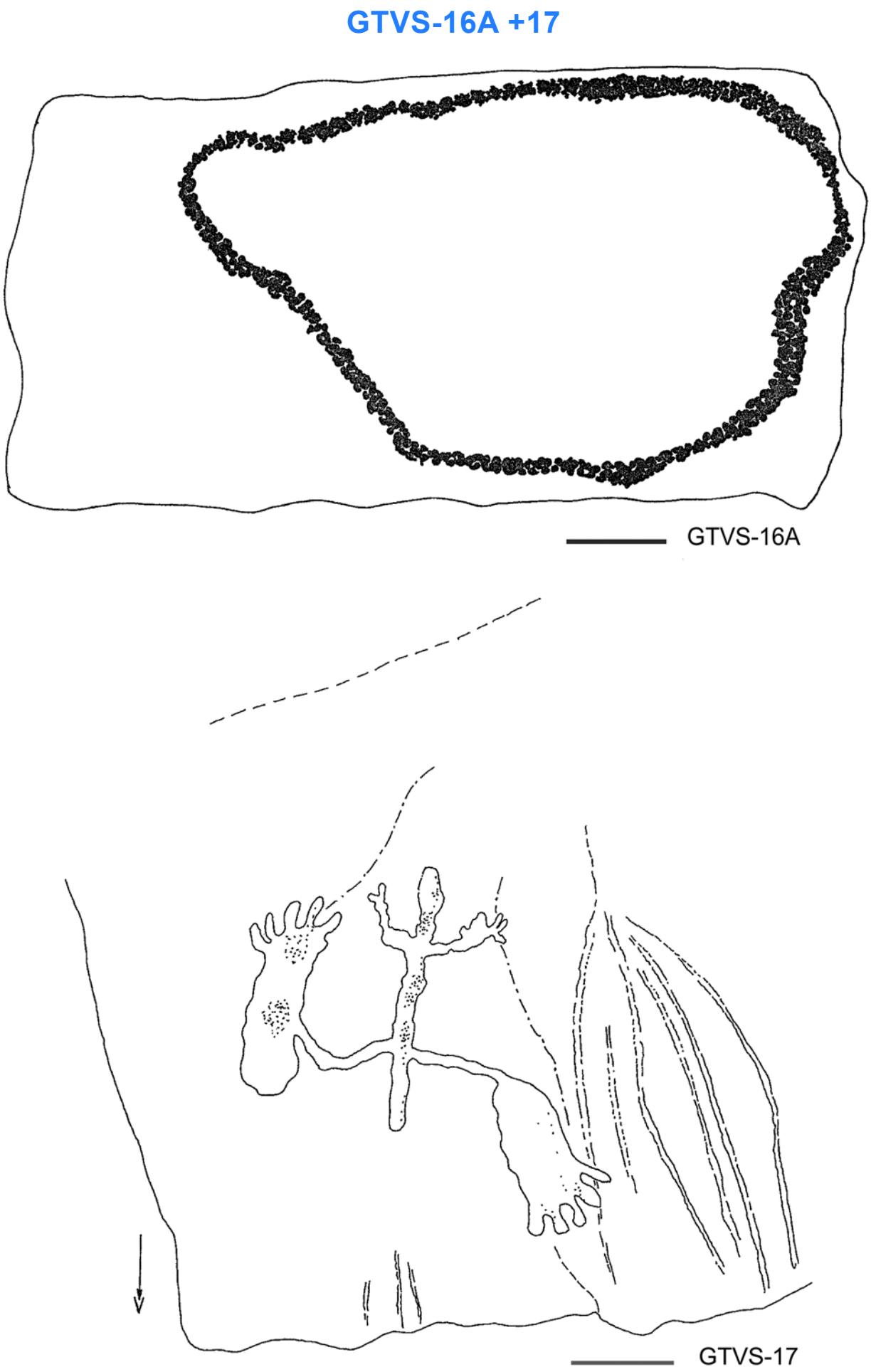


Figure 3.52

GTVS-17A

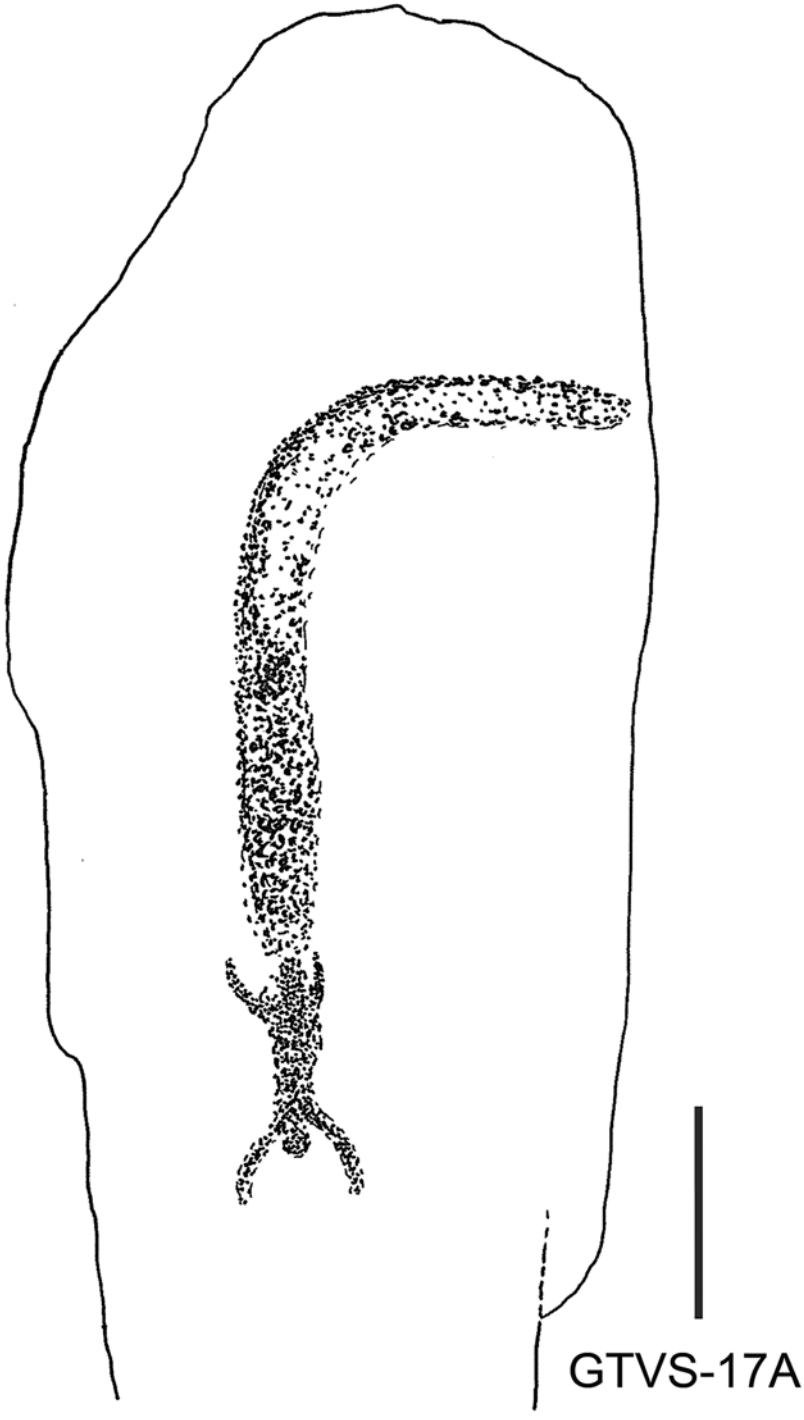


Figure 3.53

GTVS-19

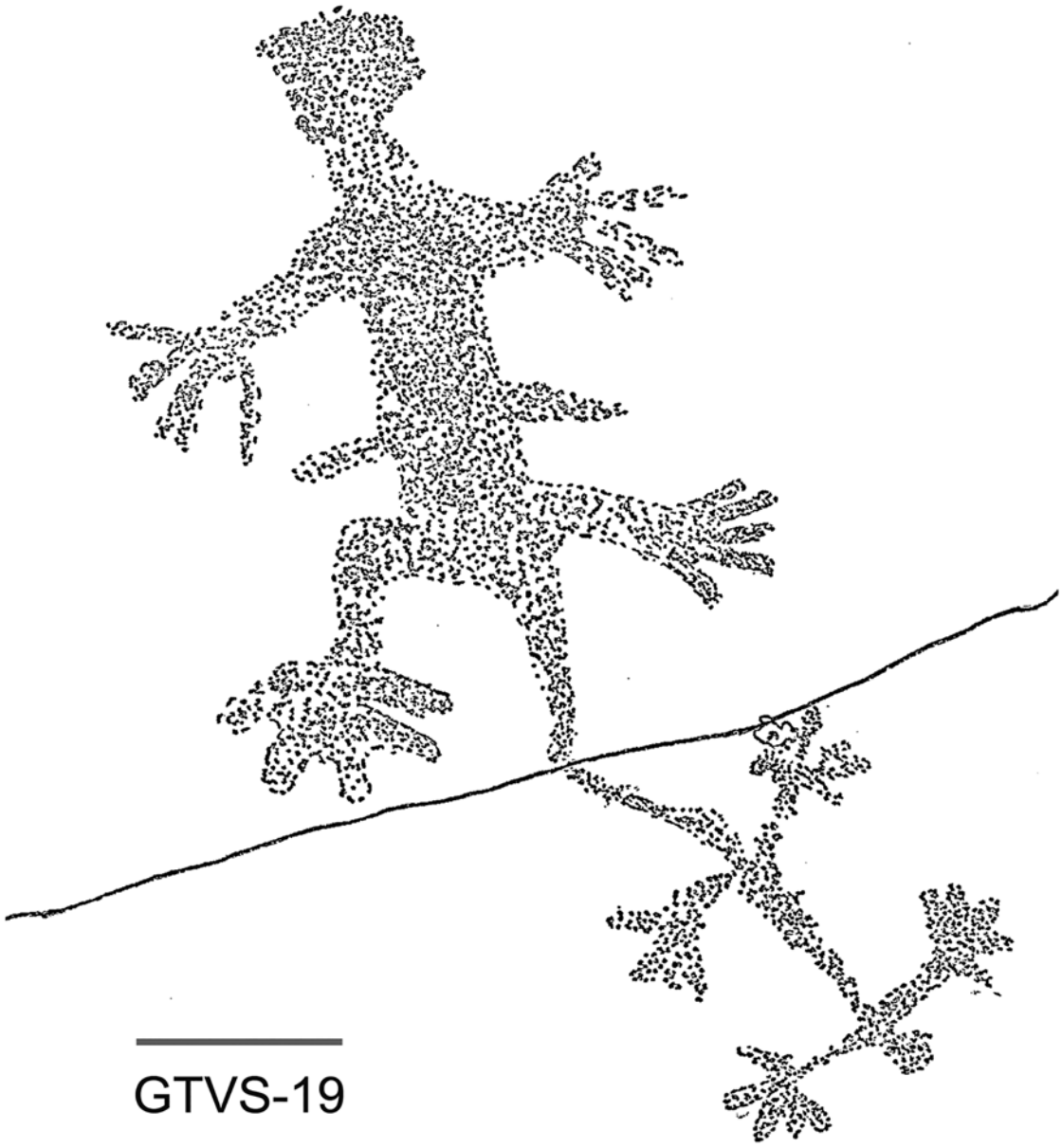


Figure 3.54

GTVS-24

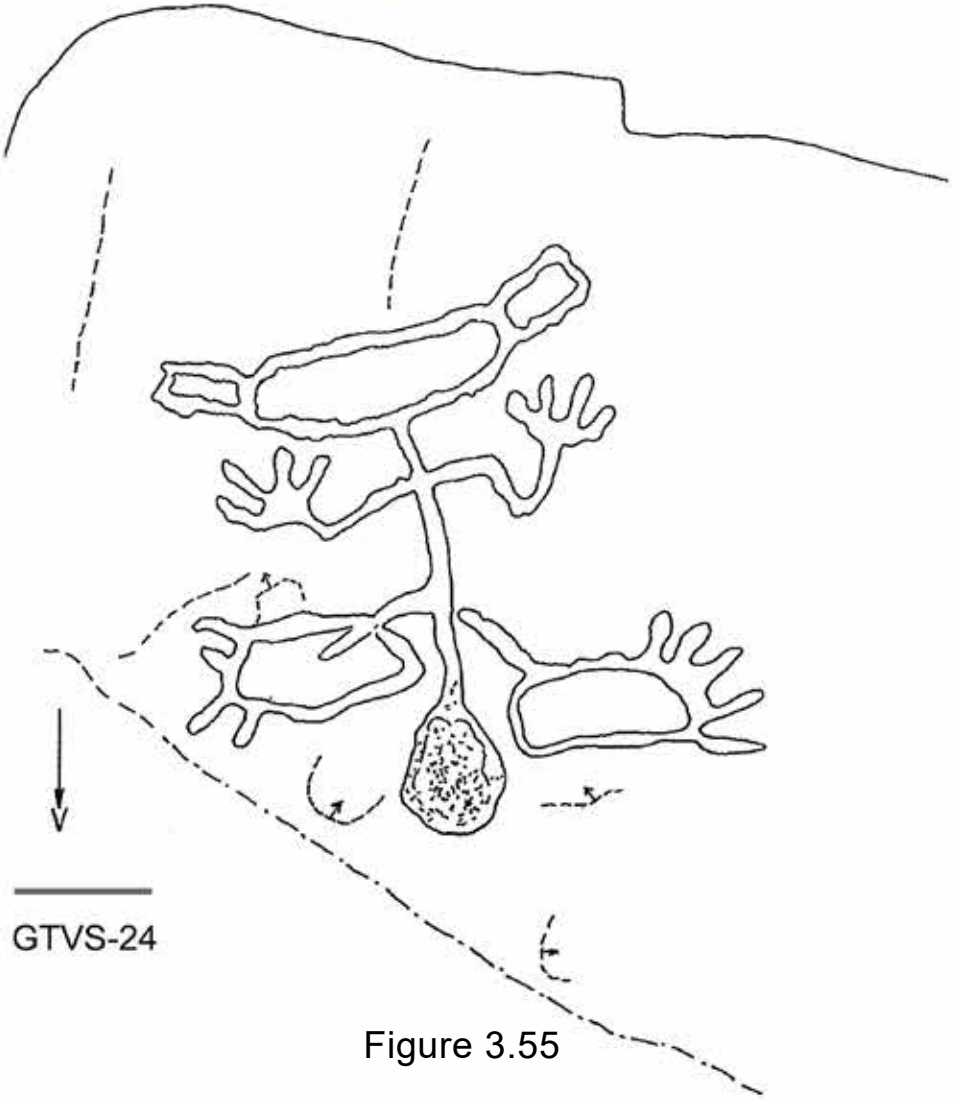


Figure 3.55

GTVS-24A+24B

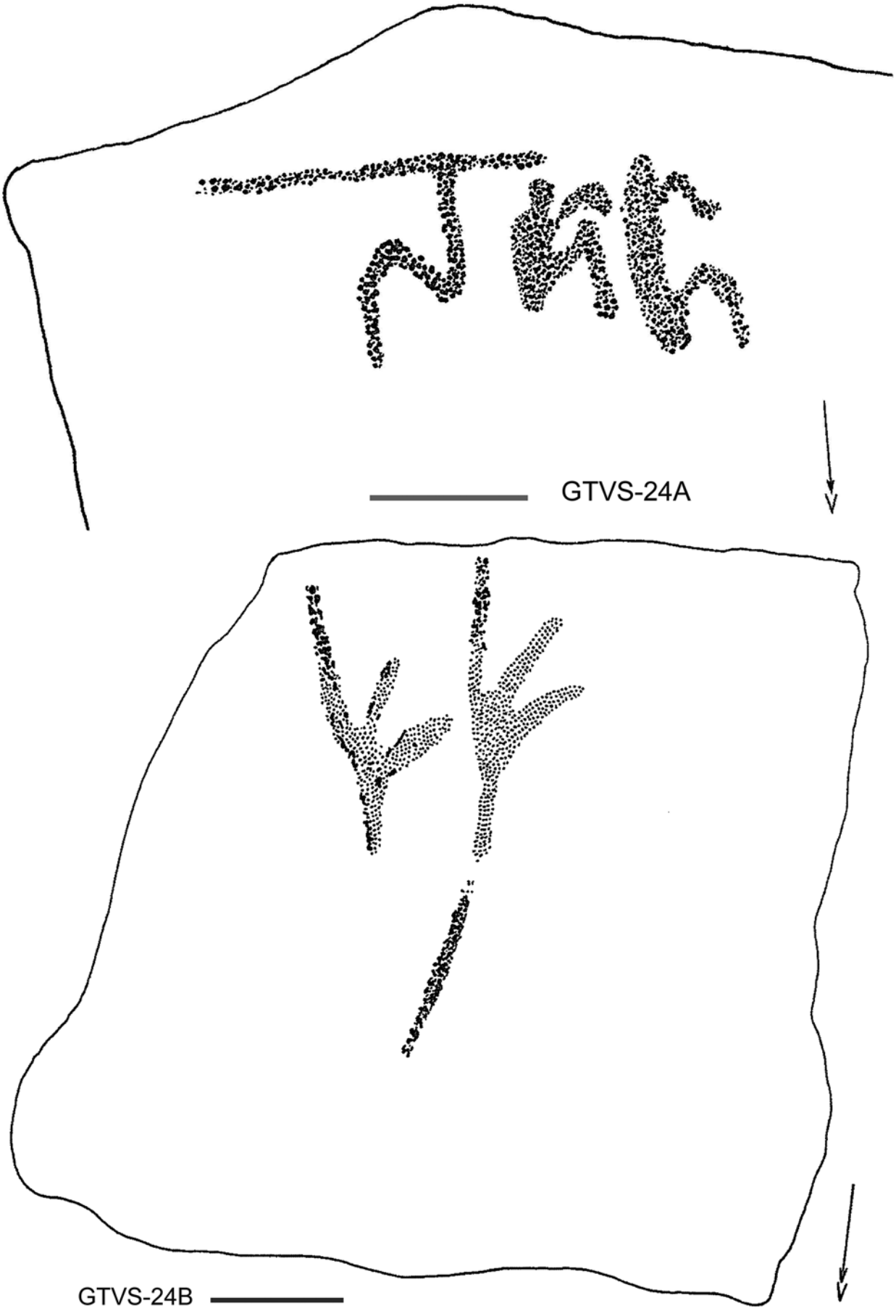


Figure 3.56

GTVS-24C+24D

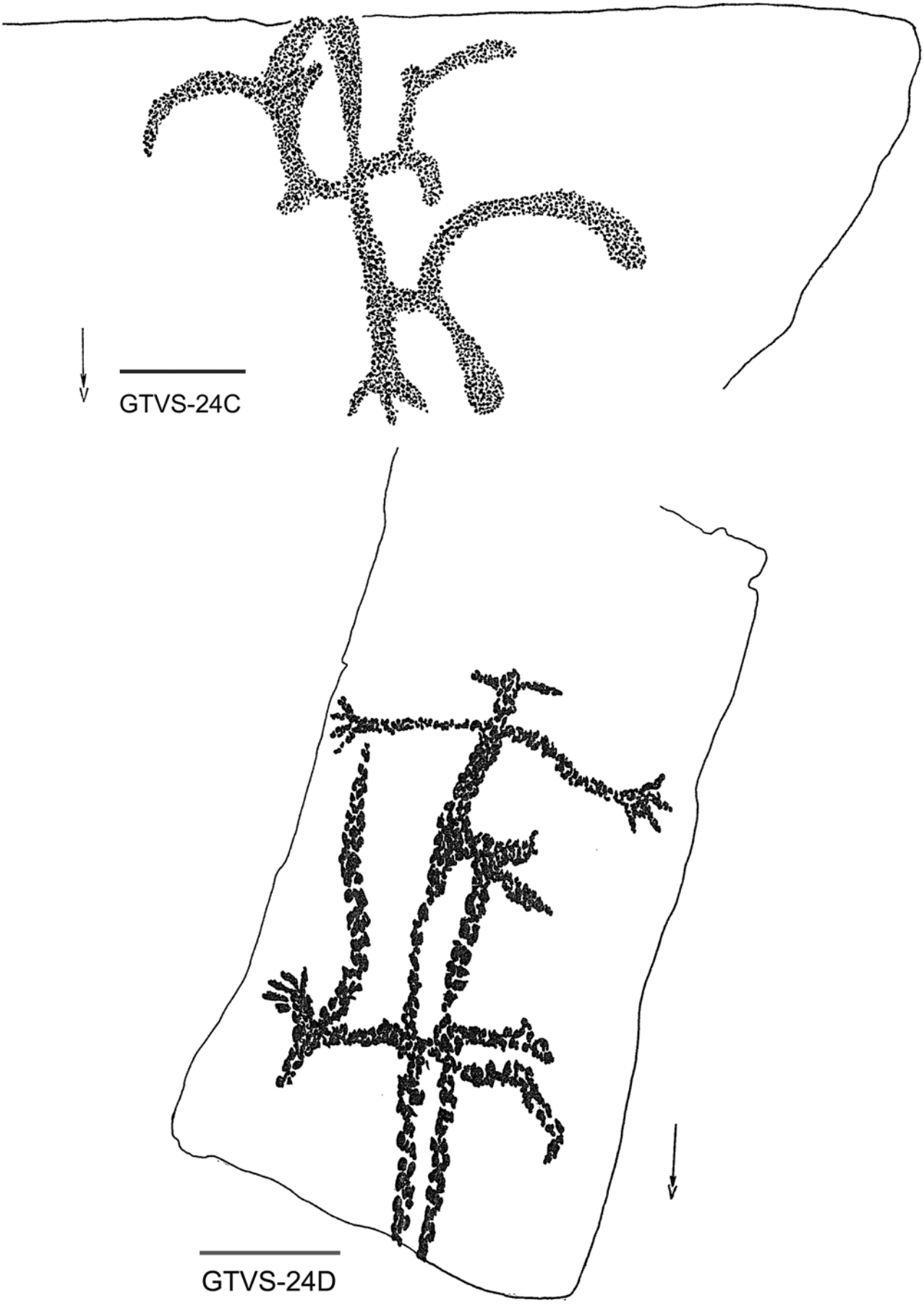


Figure 3.57

GTVS-24E+24F

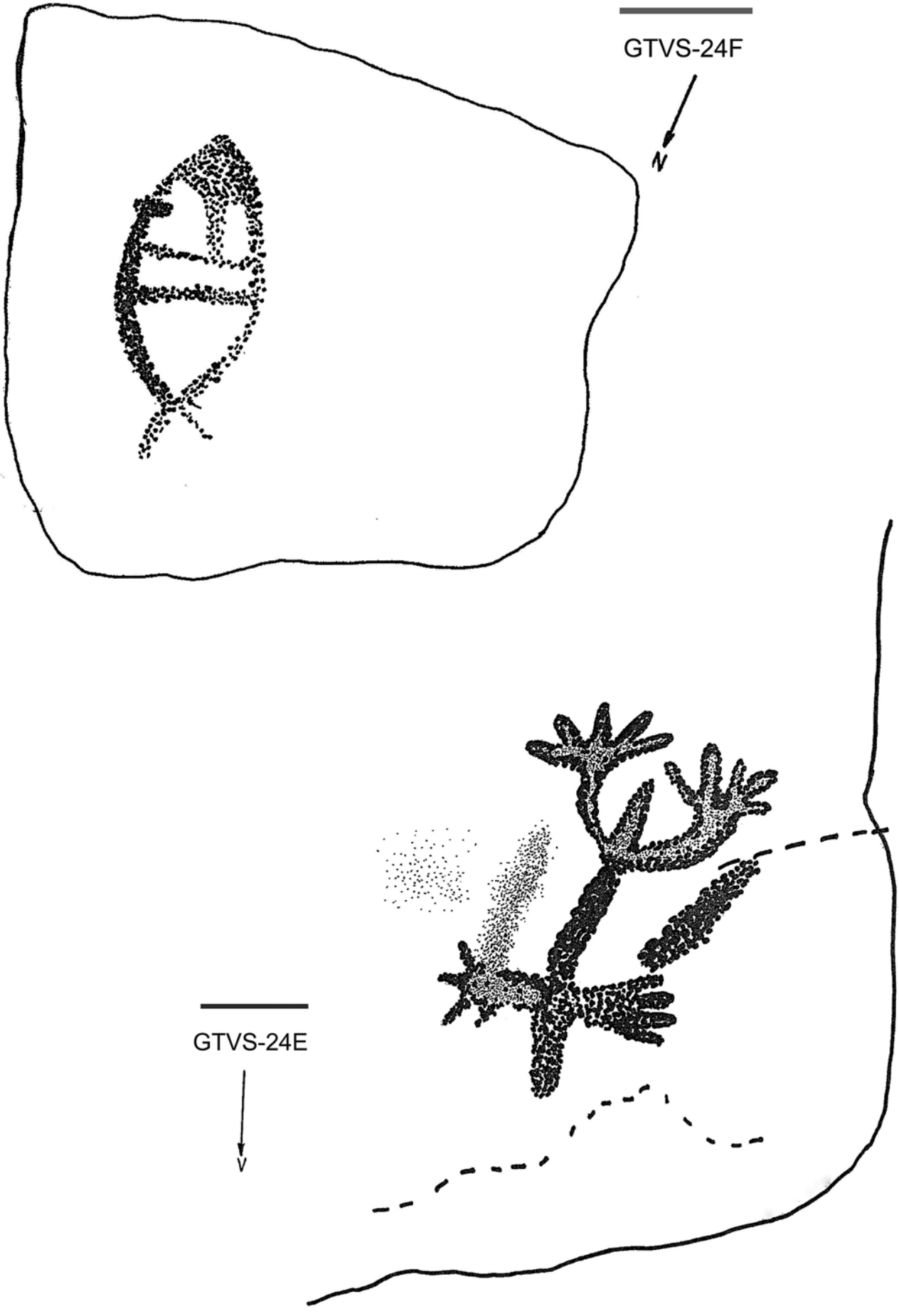
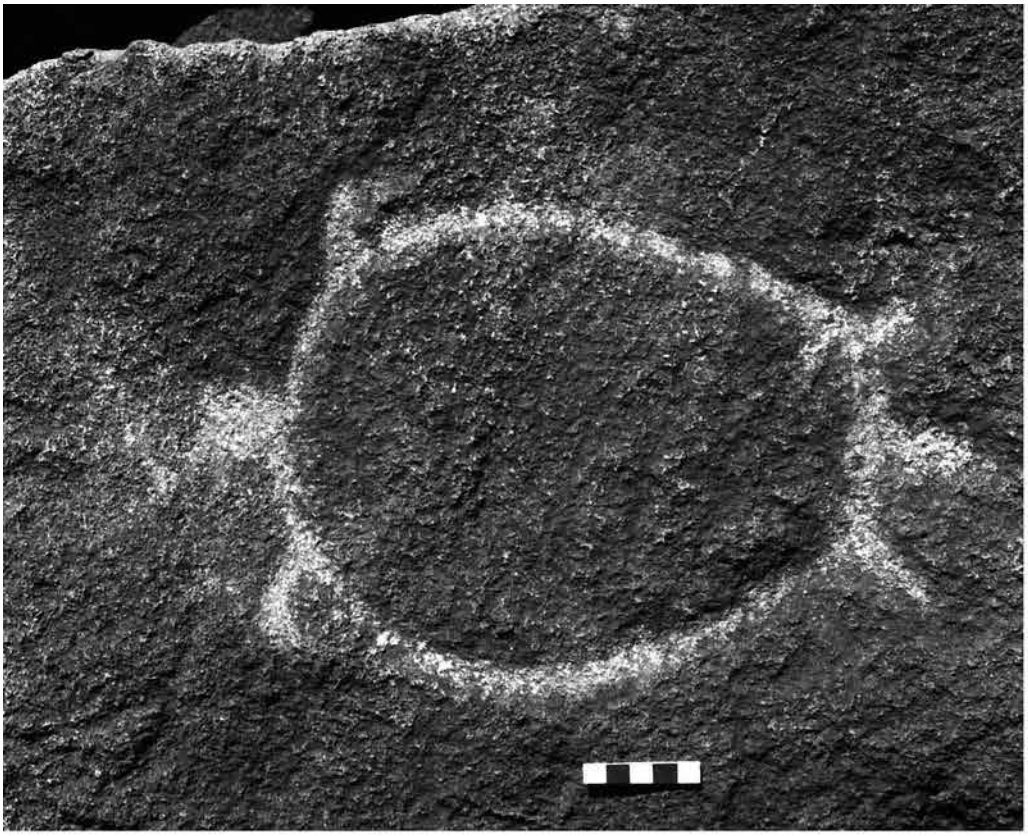


Figure 3.58

GTVS-25



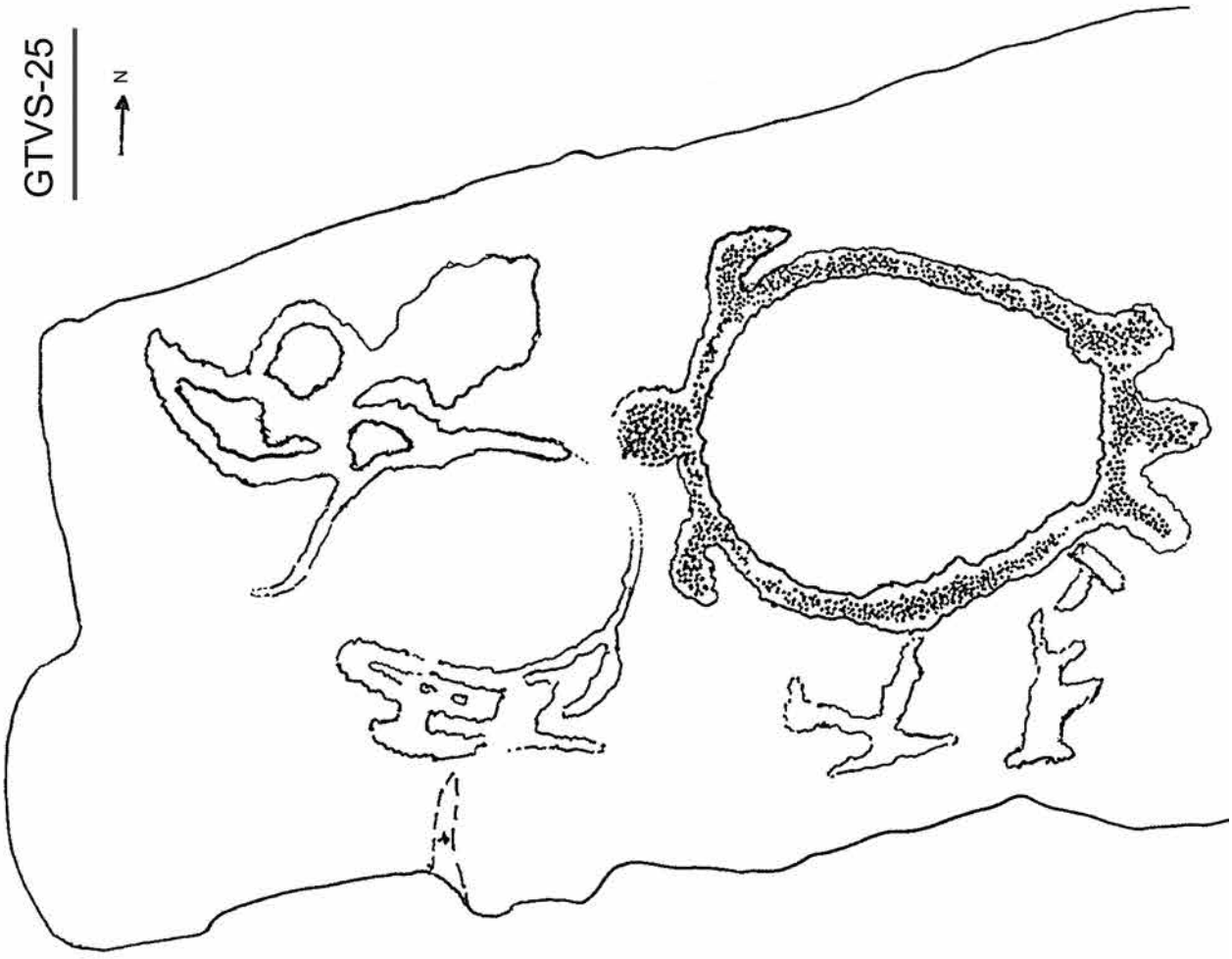


Figure 3.59

GTVS-26+28+31

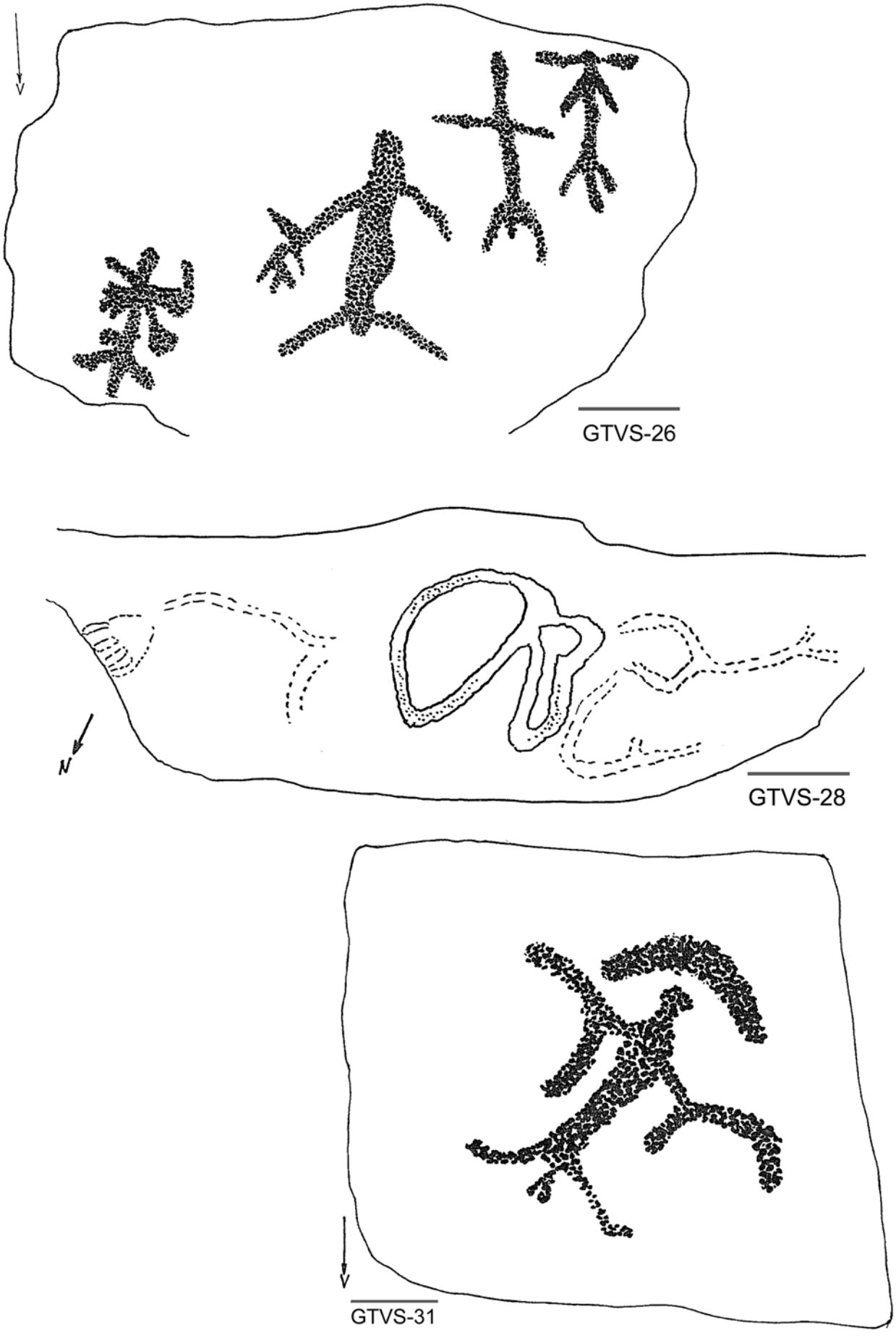


Figure 3.60

GTVS-30+30A+35

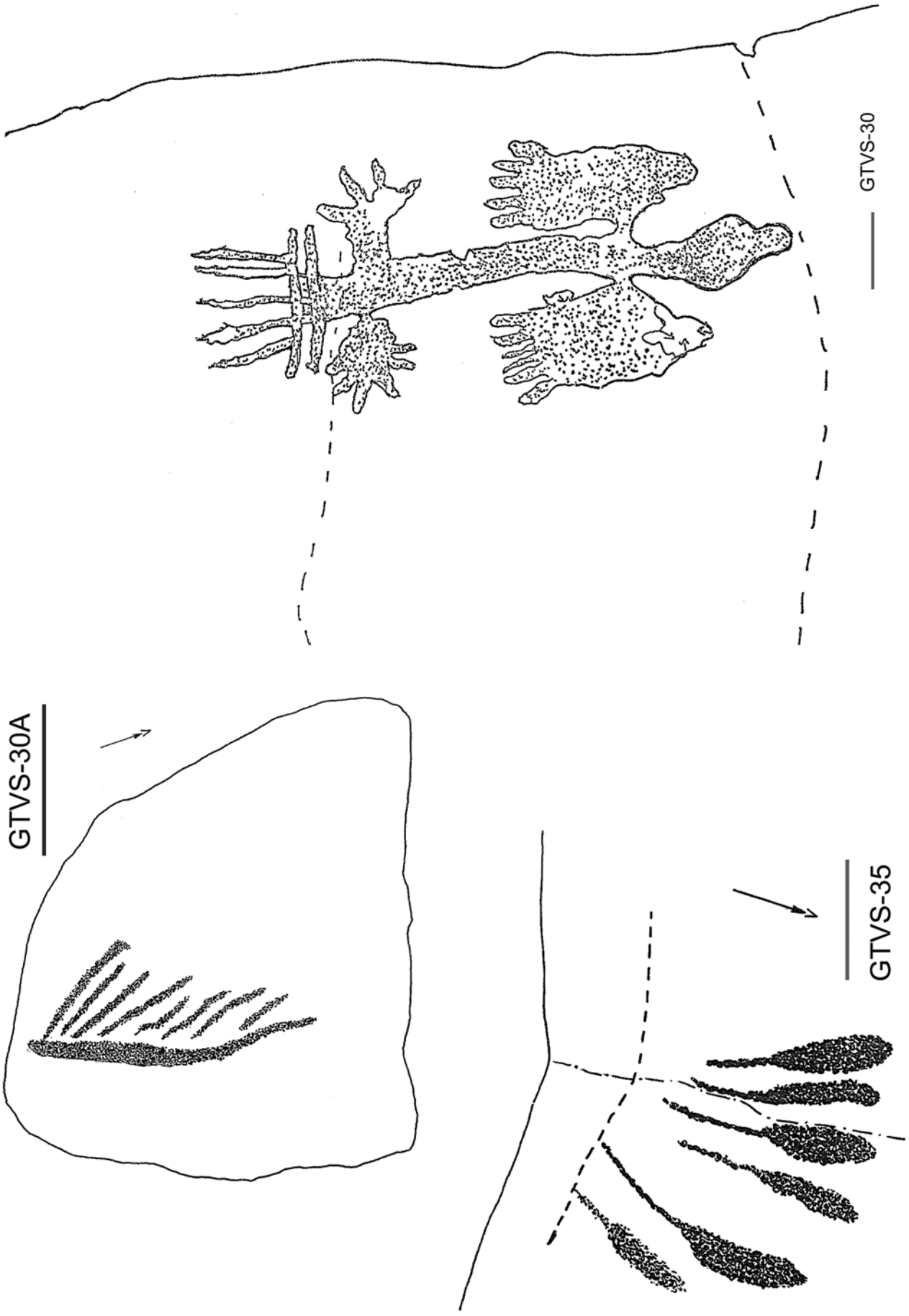


Figure 3.61

GTVS-41

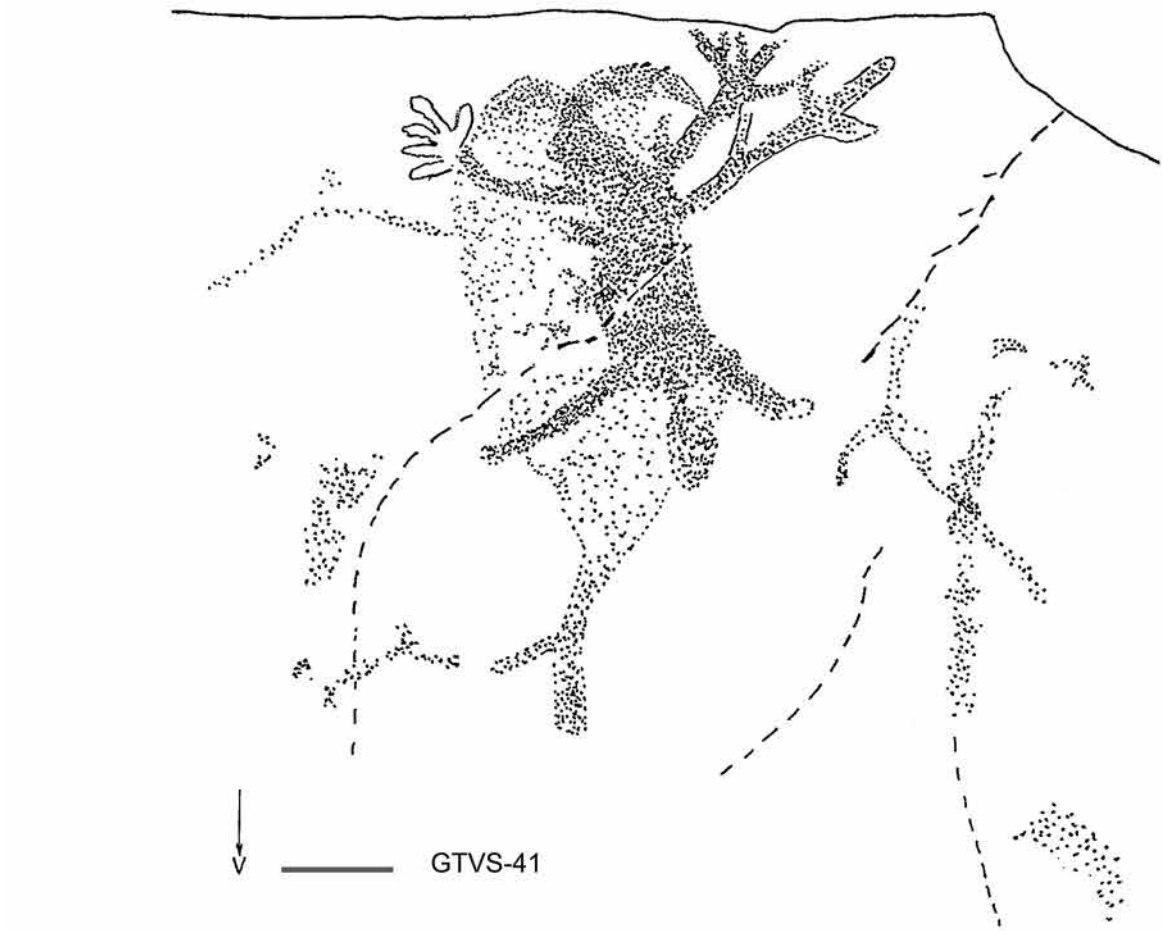


Figure 3.62

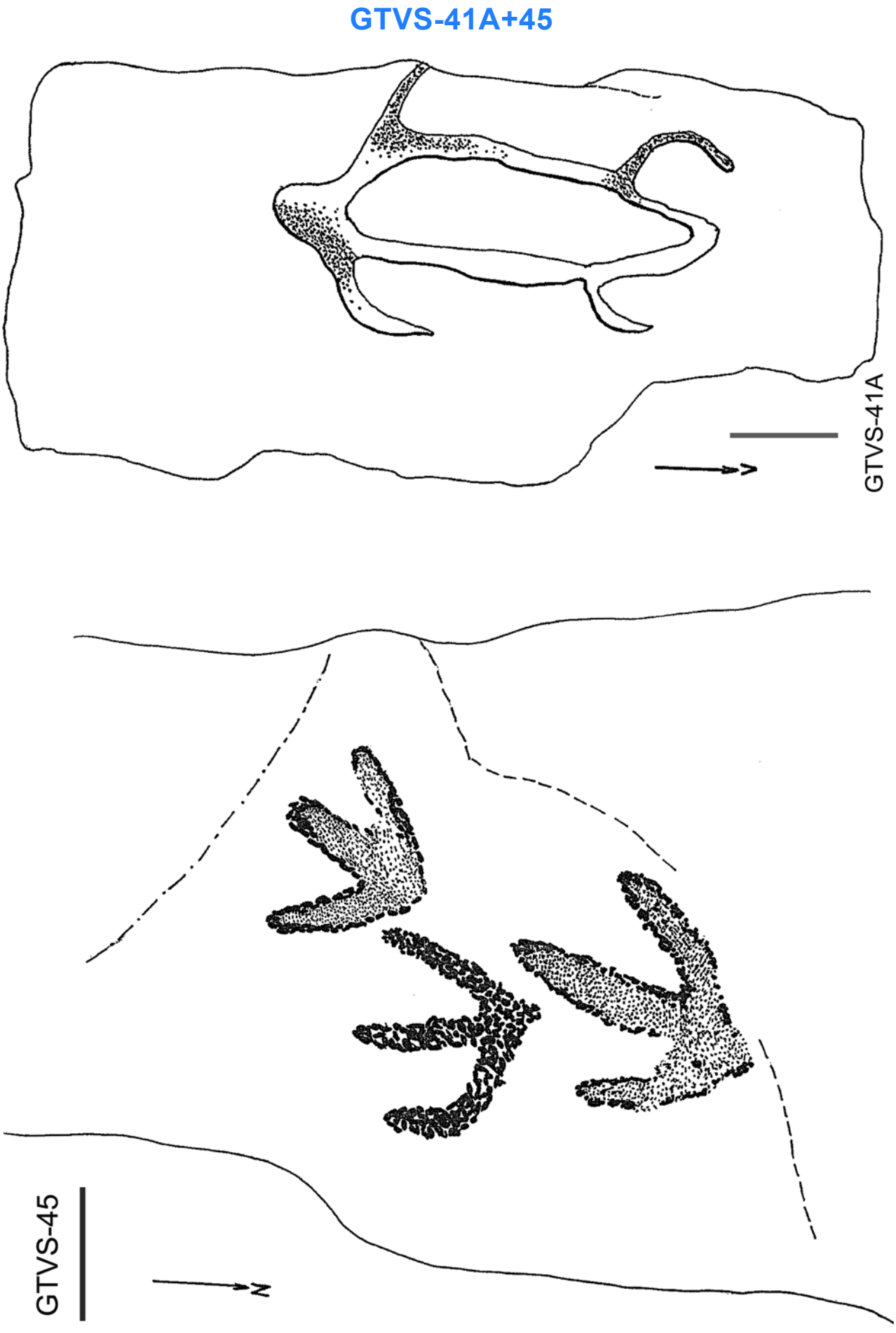


Figure 3.63

GTVS-41B

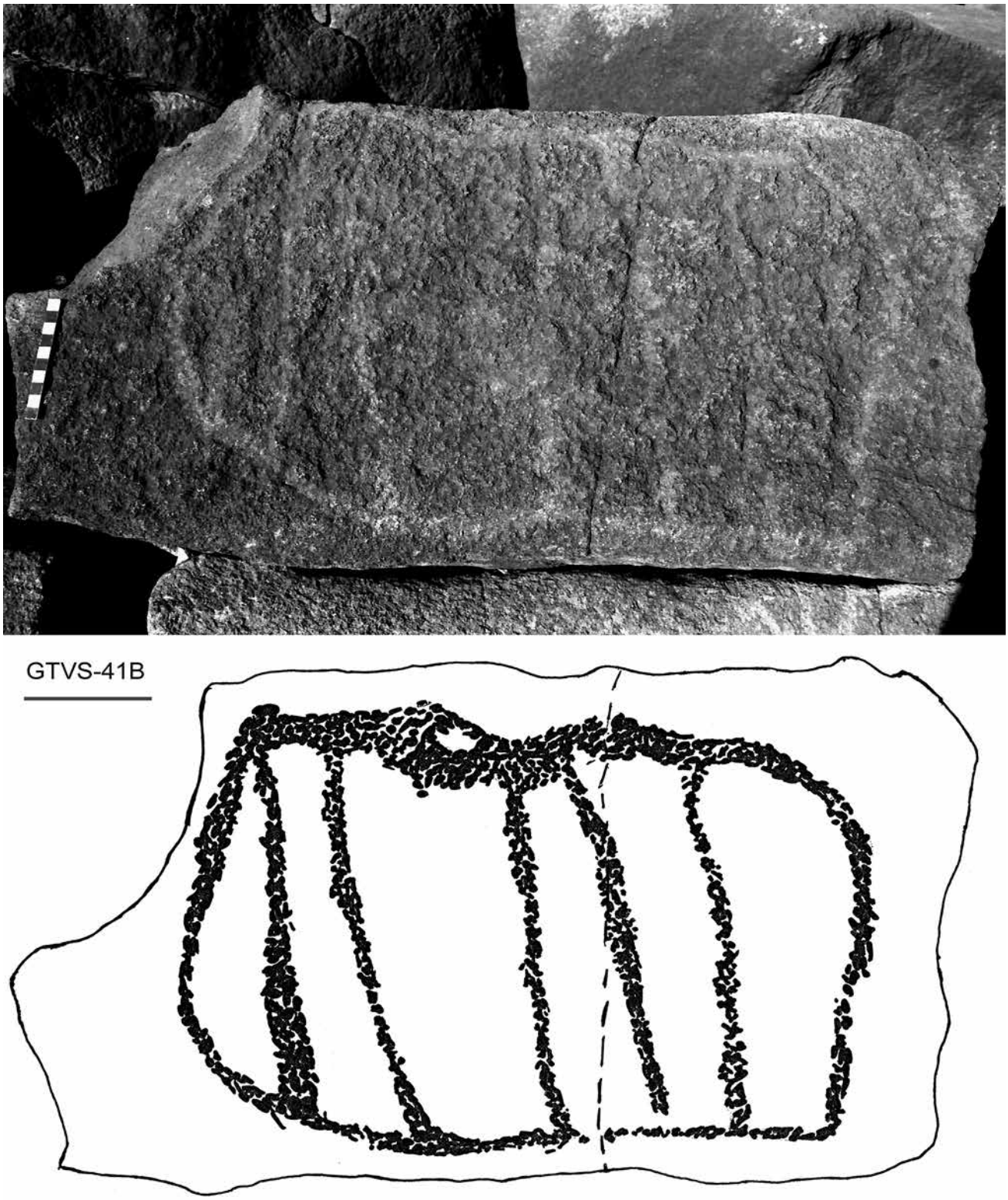


Figure 3.64

GTVS-44

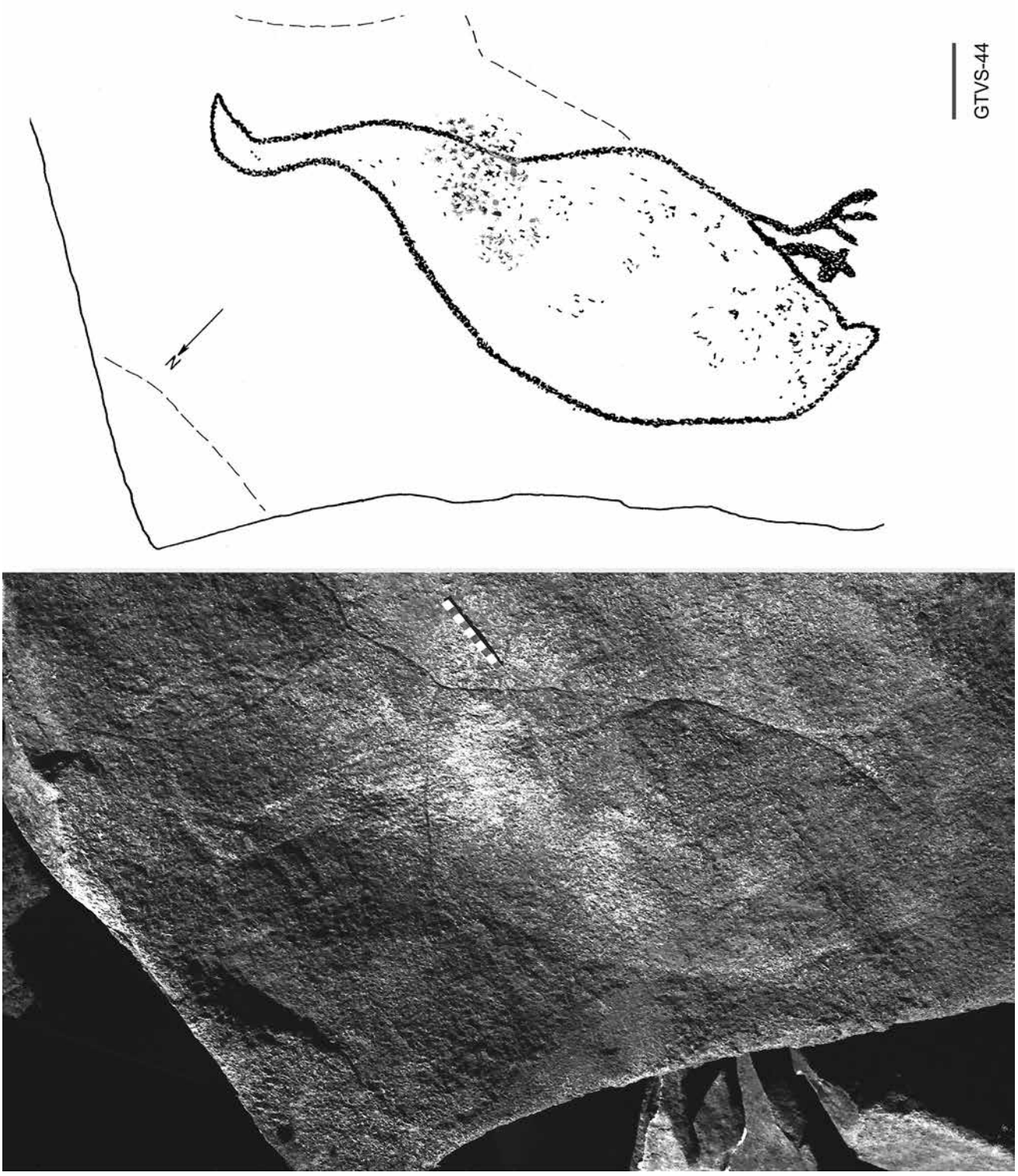


Figure 3.65

GTVS-47+47B

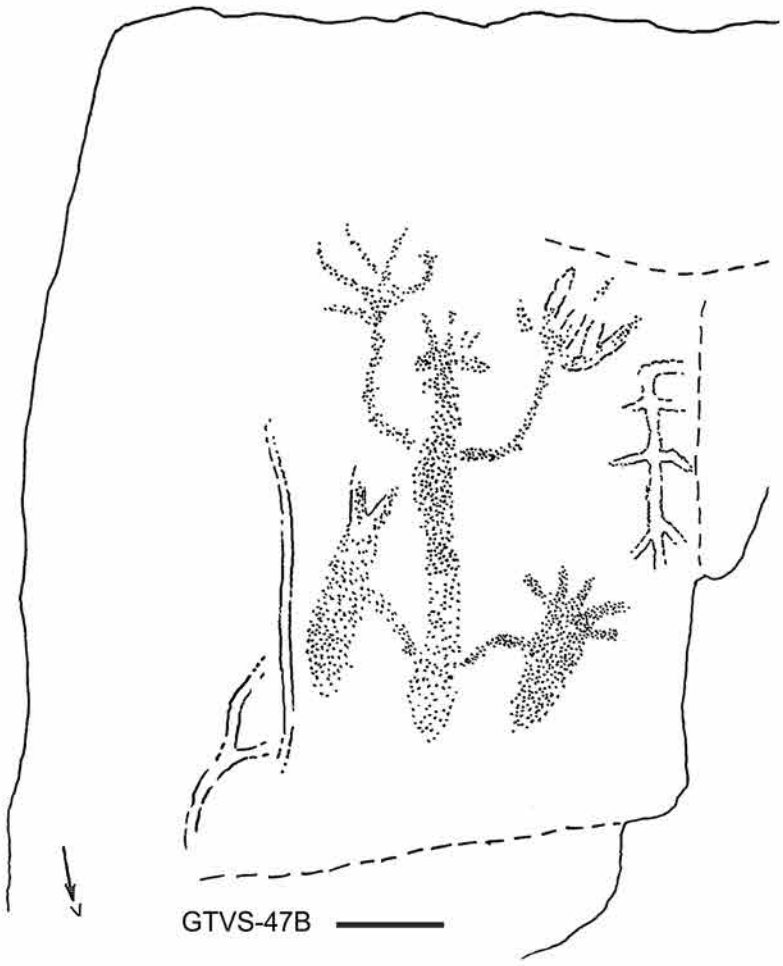


Figure 3.66

GTVS-47C+47D

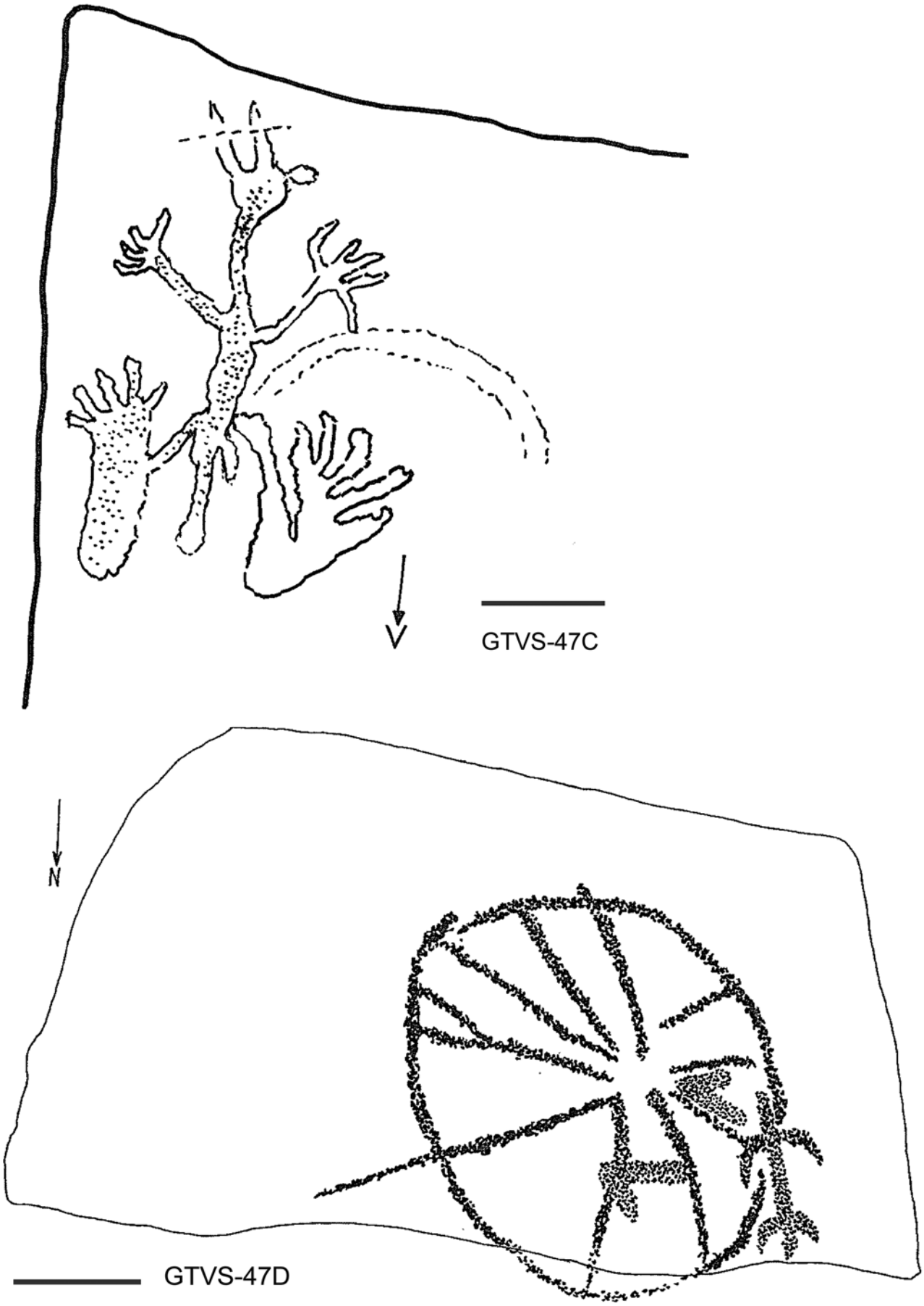
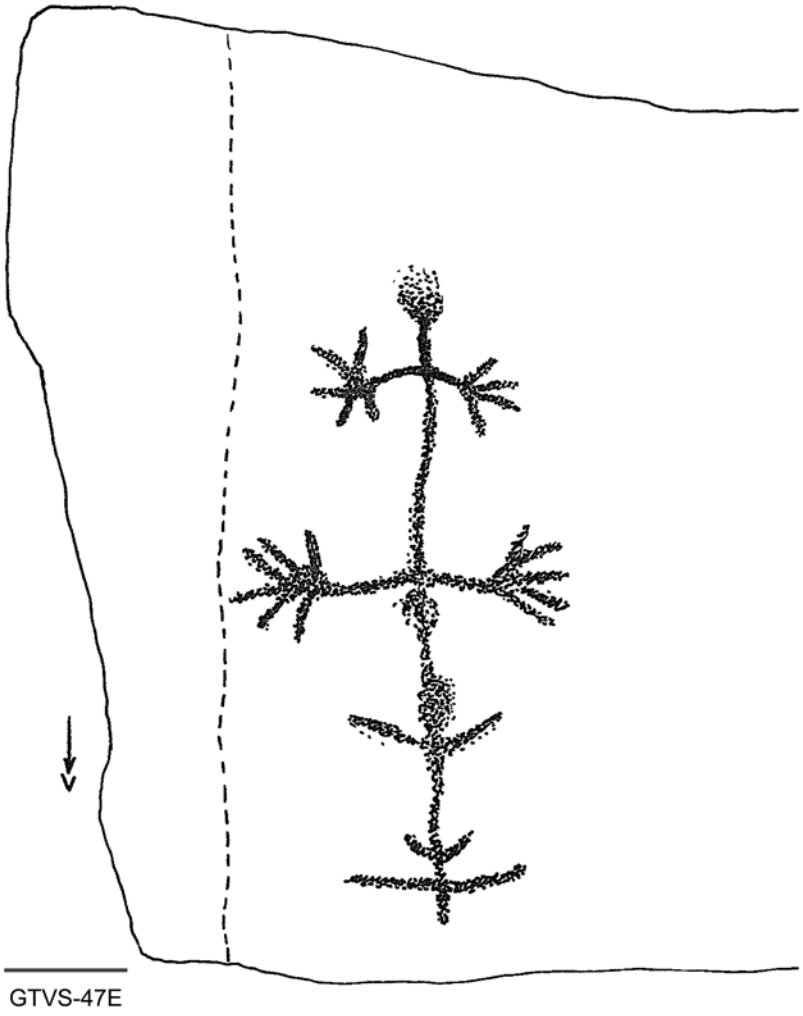


Figure 3.67

GTVS-47E+47E-2



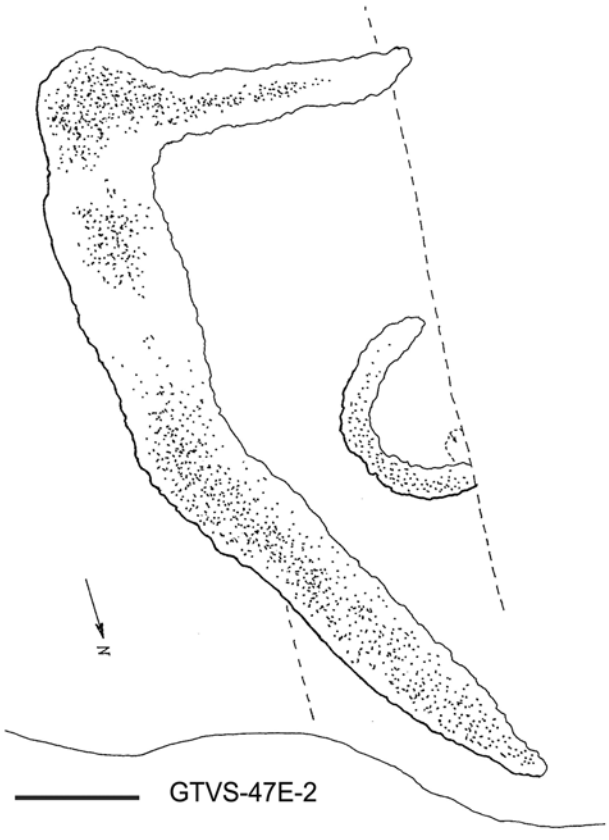


Figure 3.68

GTVS-47E-3+48

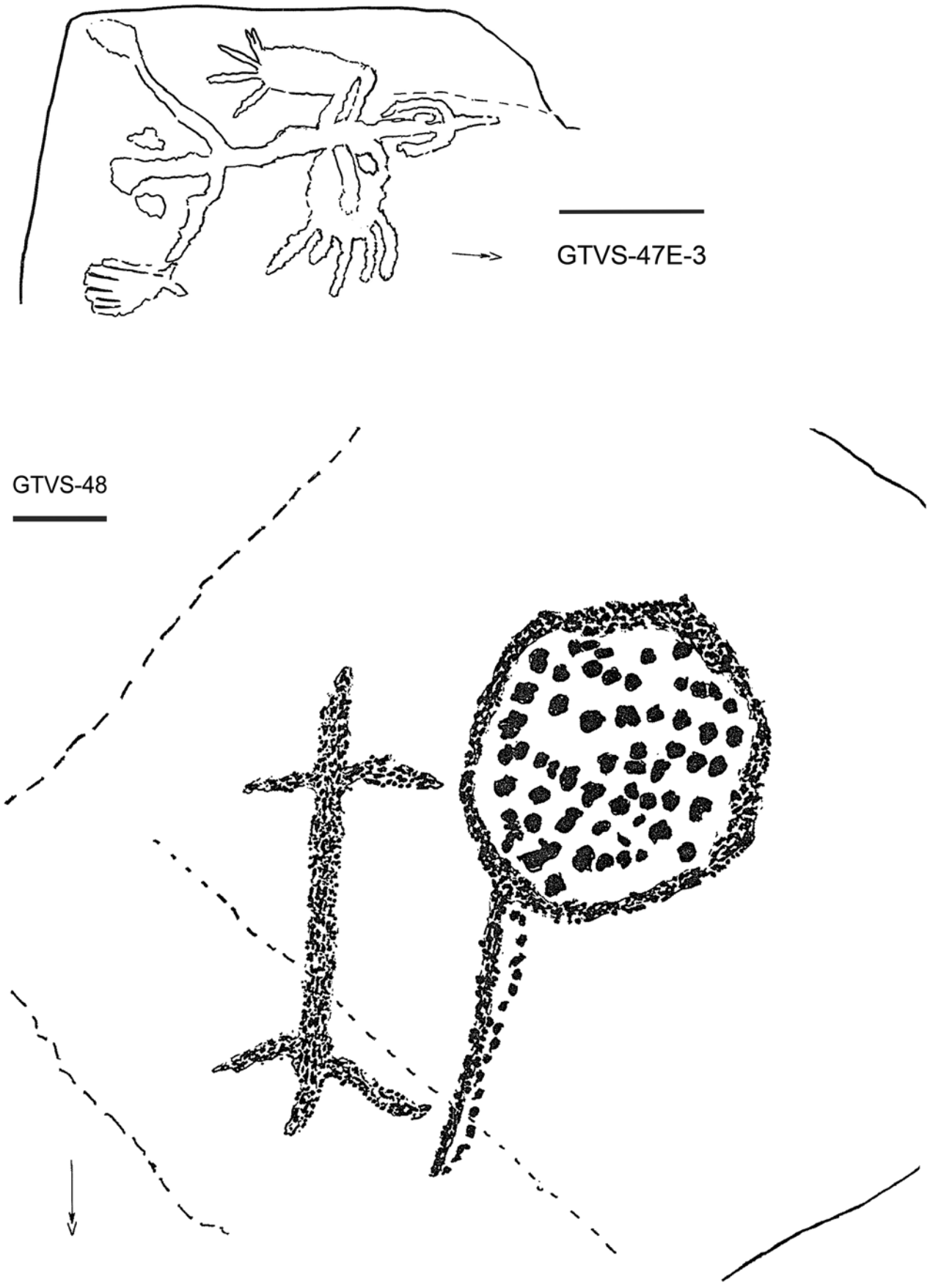


Figure 3.69

GTVS-49

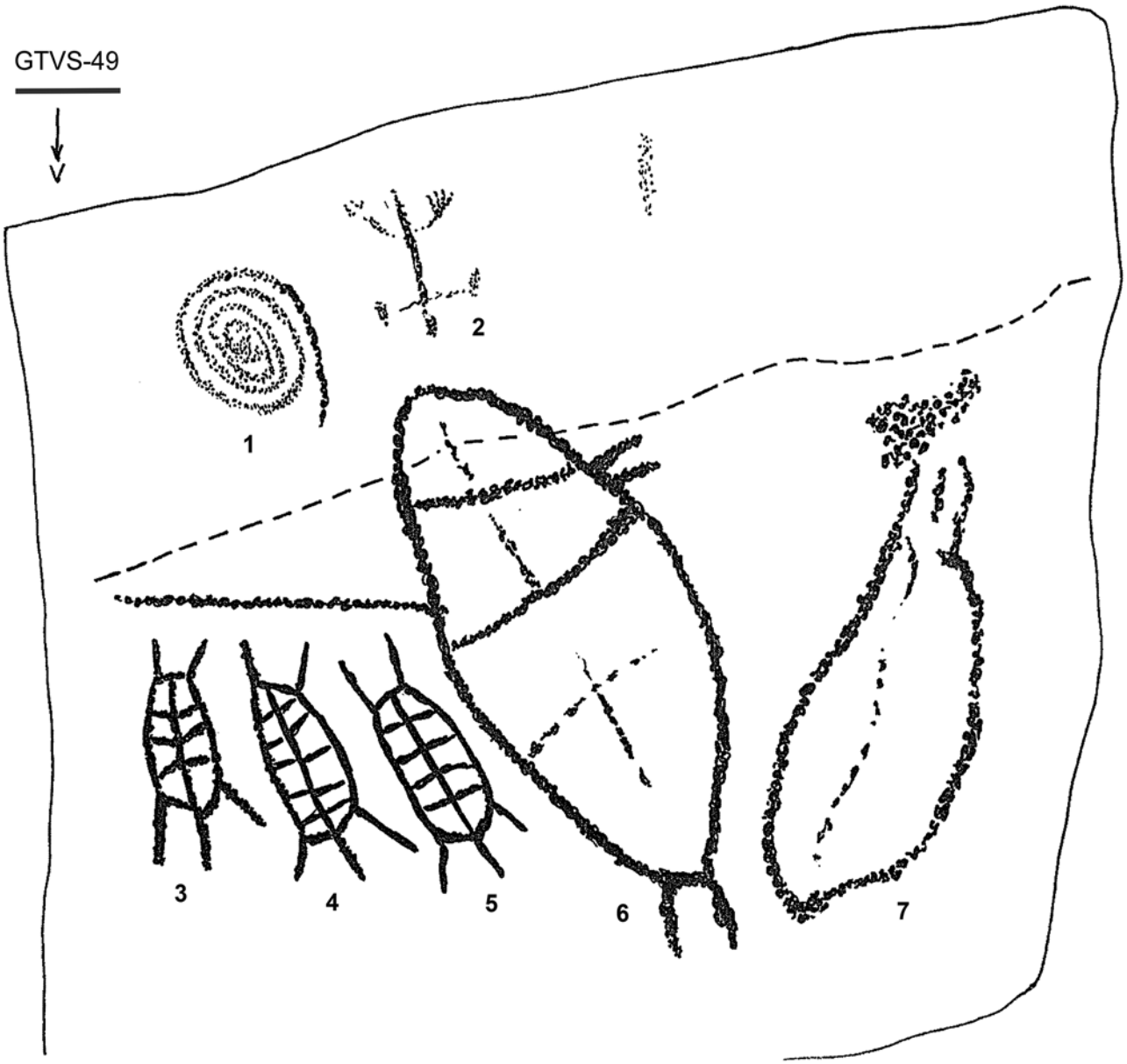


Figure 3.70

GTVS-51-3+51-2

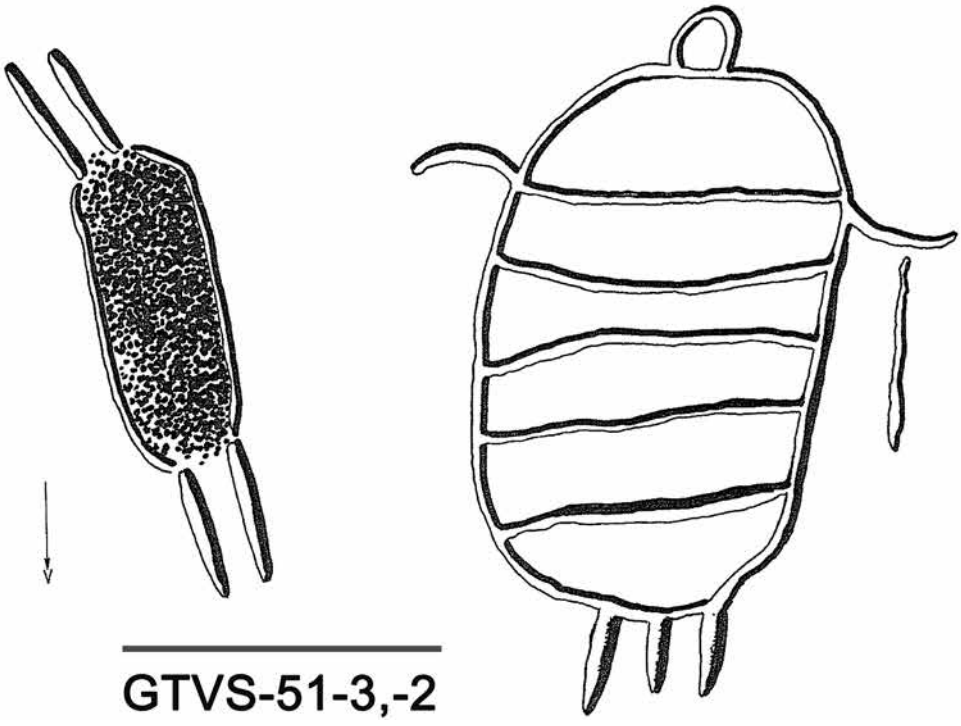
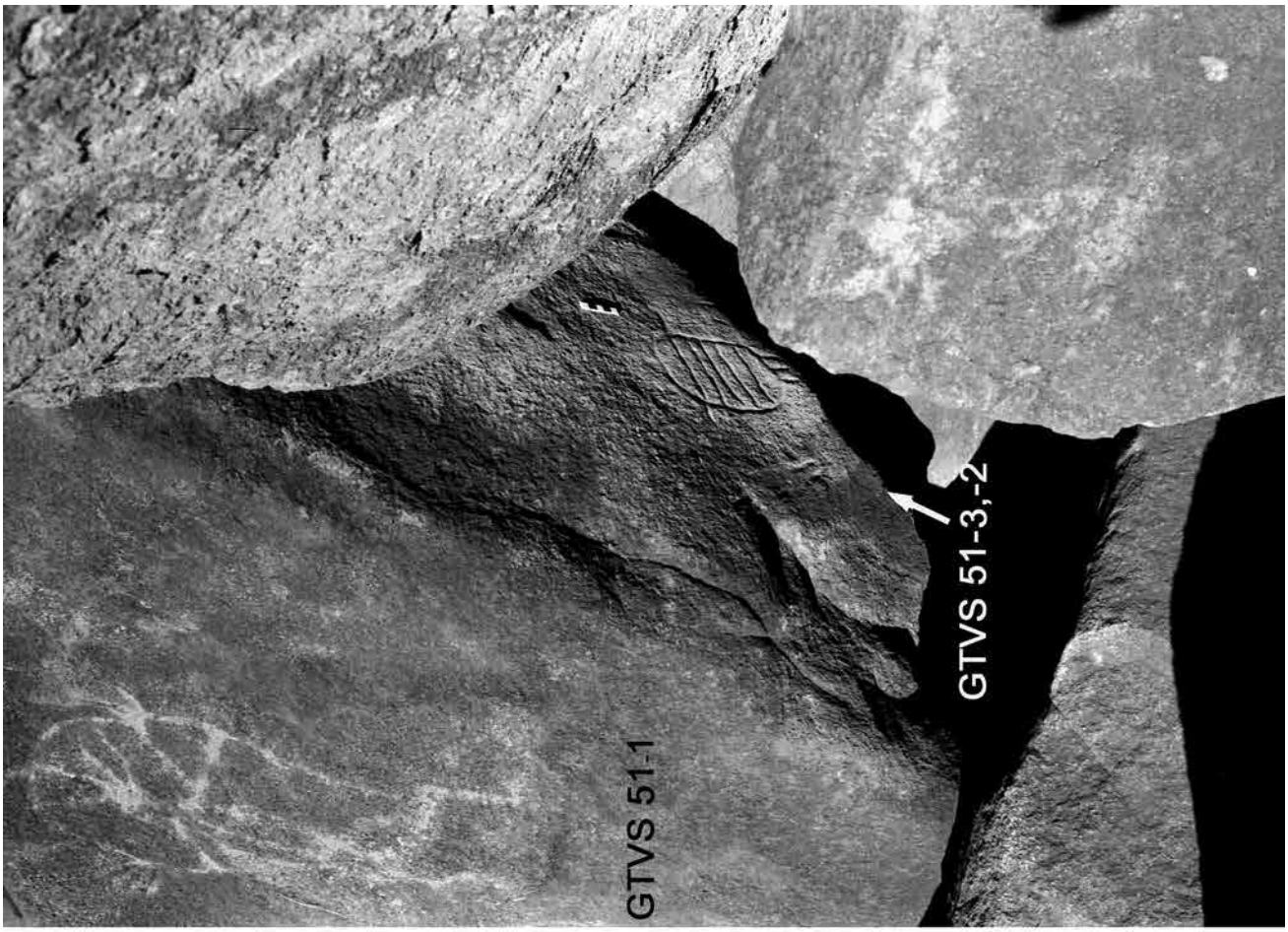


Figure 3.71

GTVS-51



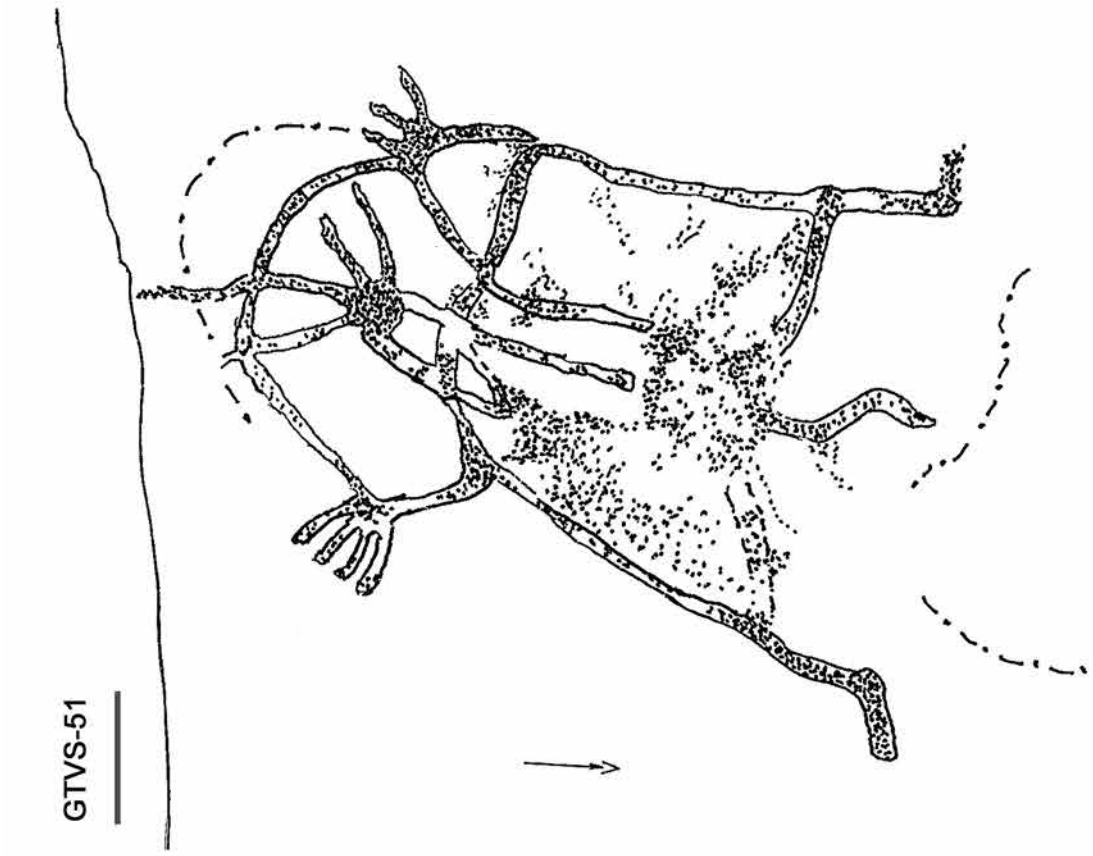
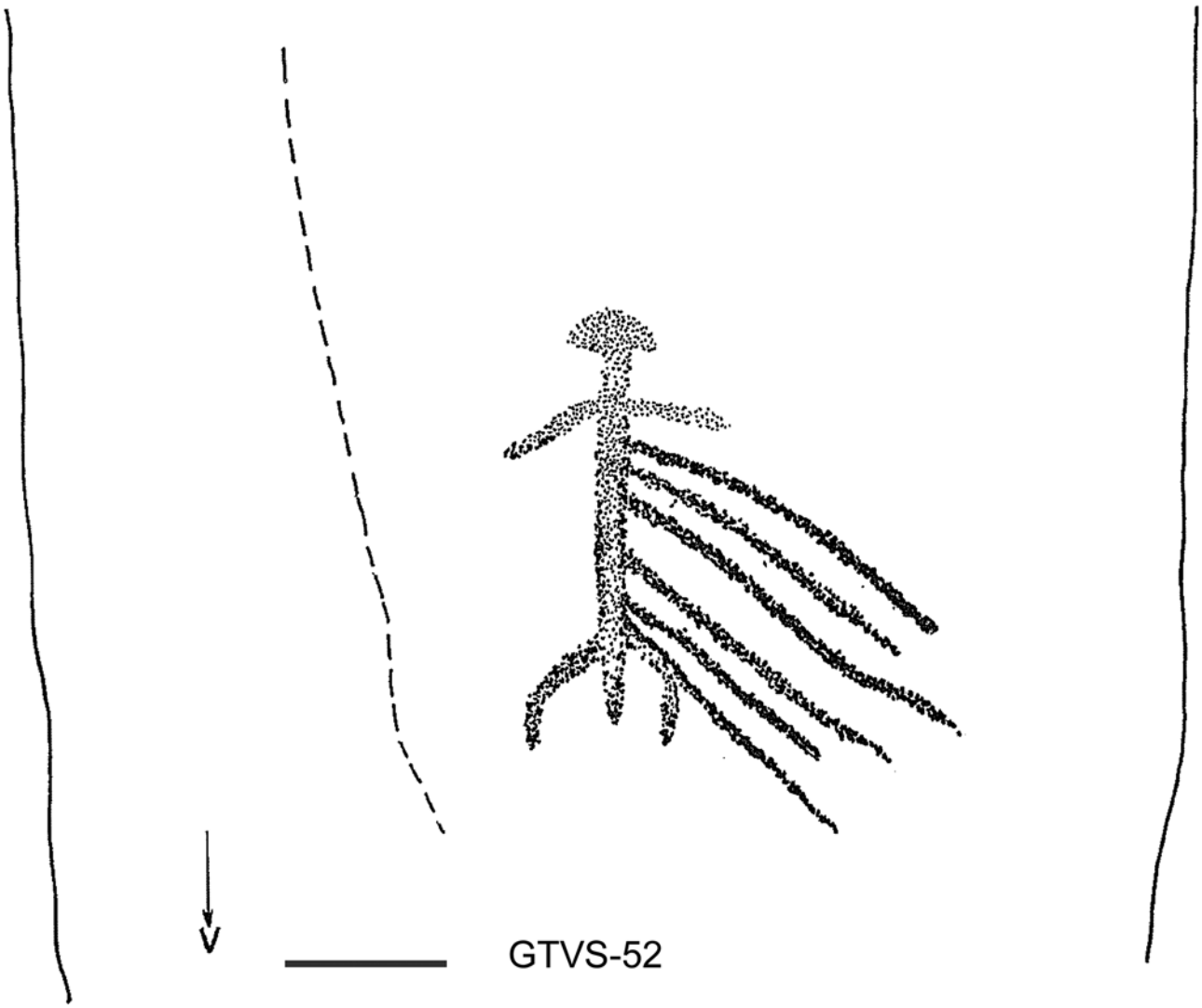


Figure 3.72

GTVS-52+55



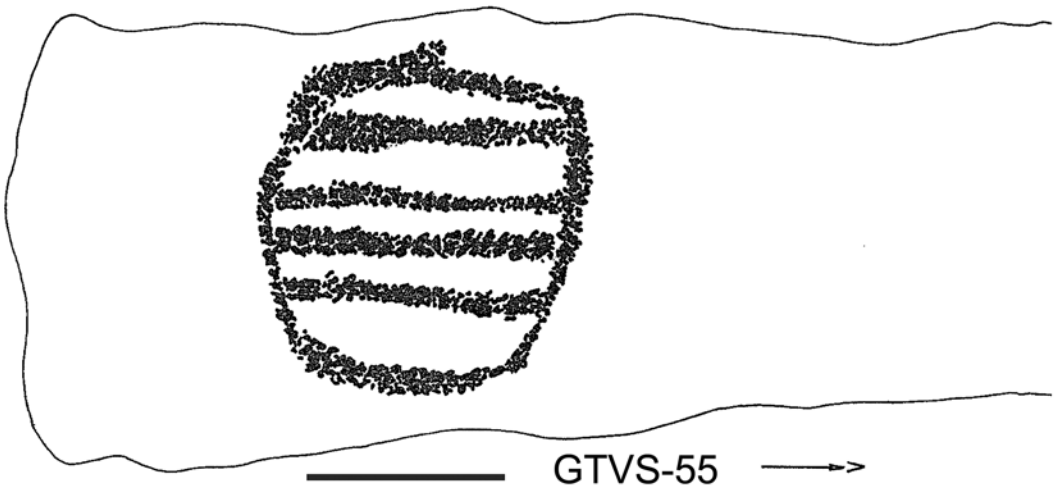


Figure 3.73

GTVS-53

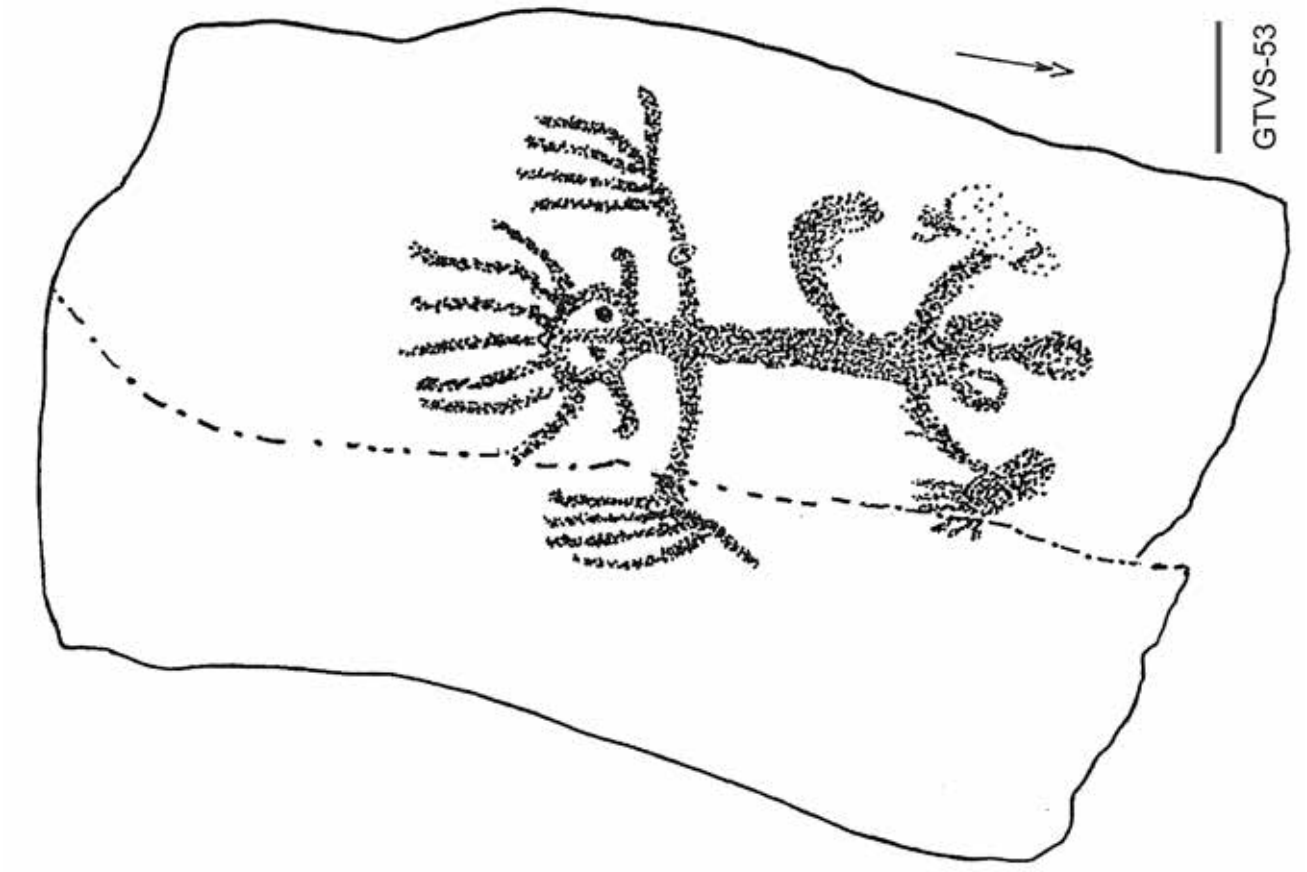


Figure 3.74

GTVS-56

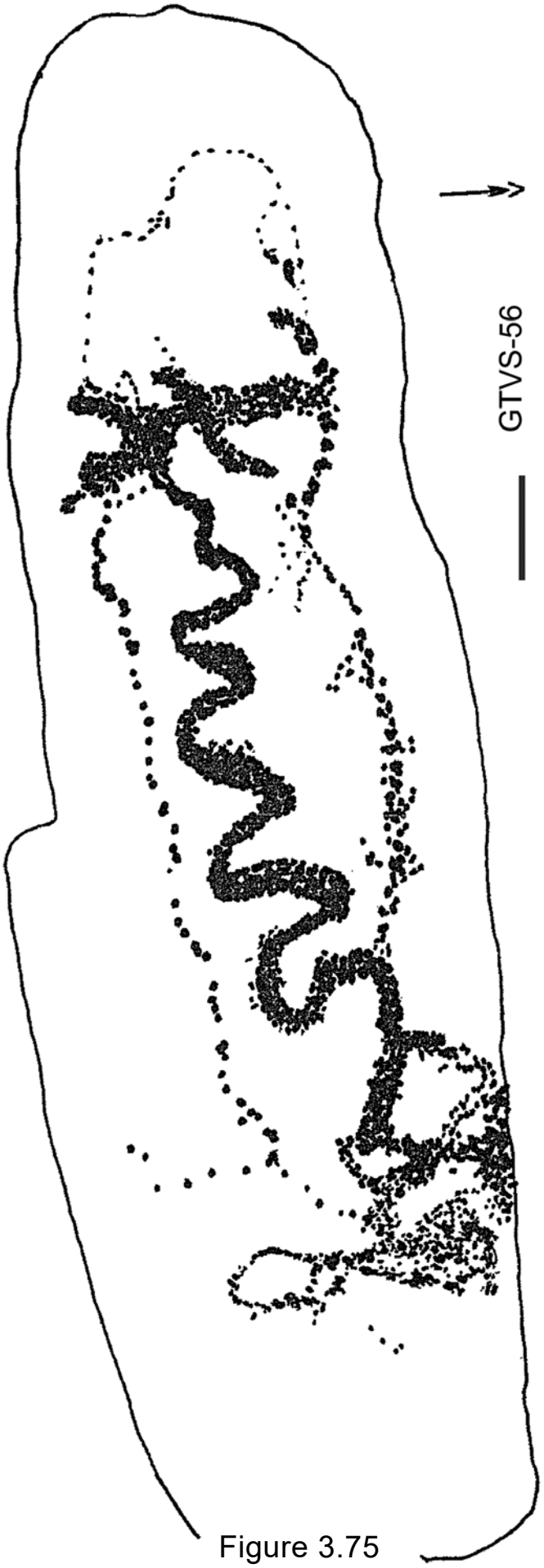
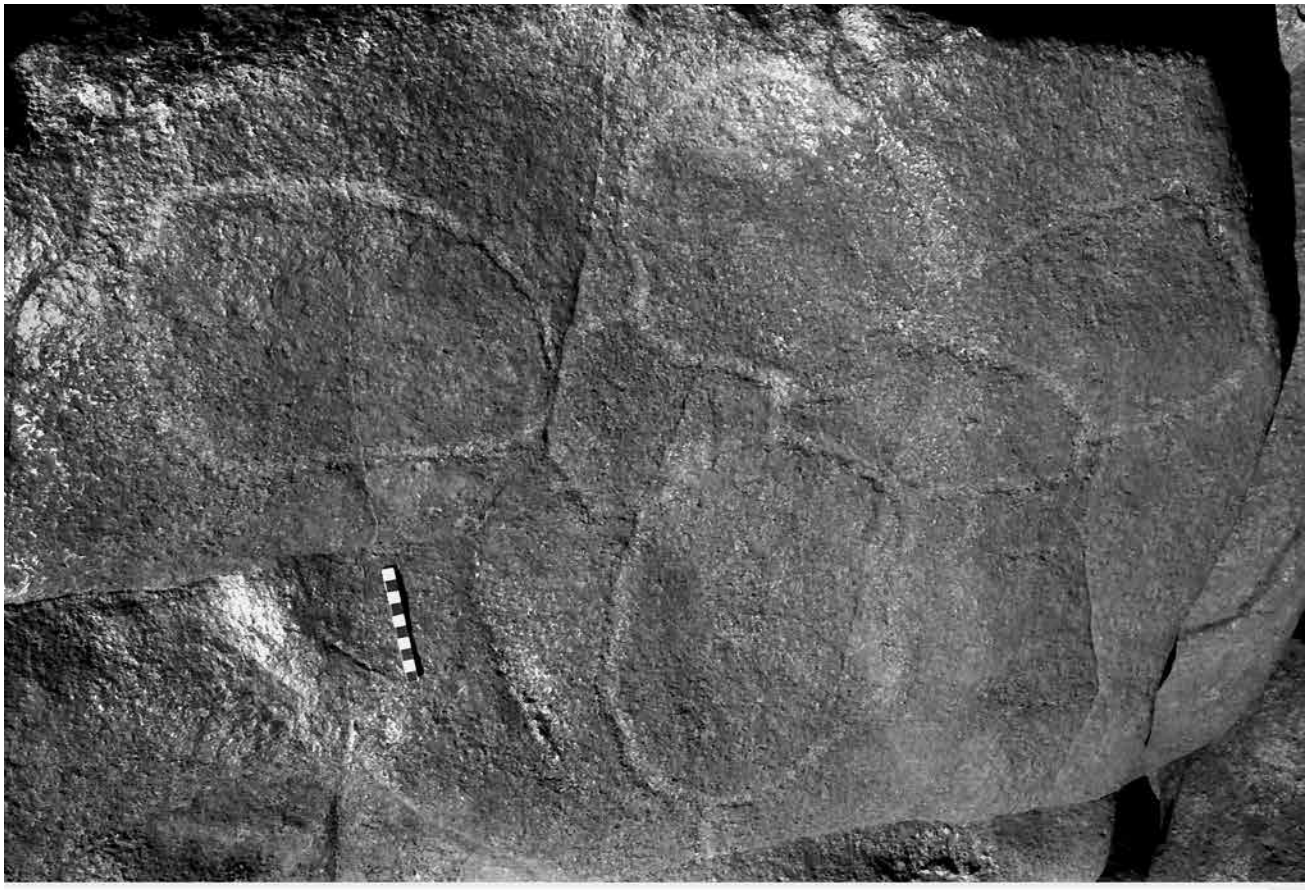


Figure 3.75

GTVS-57



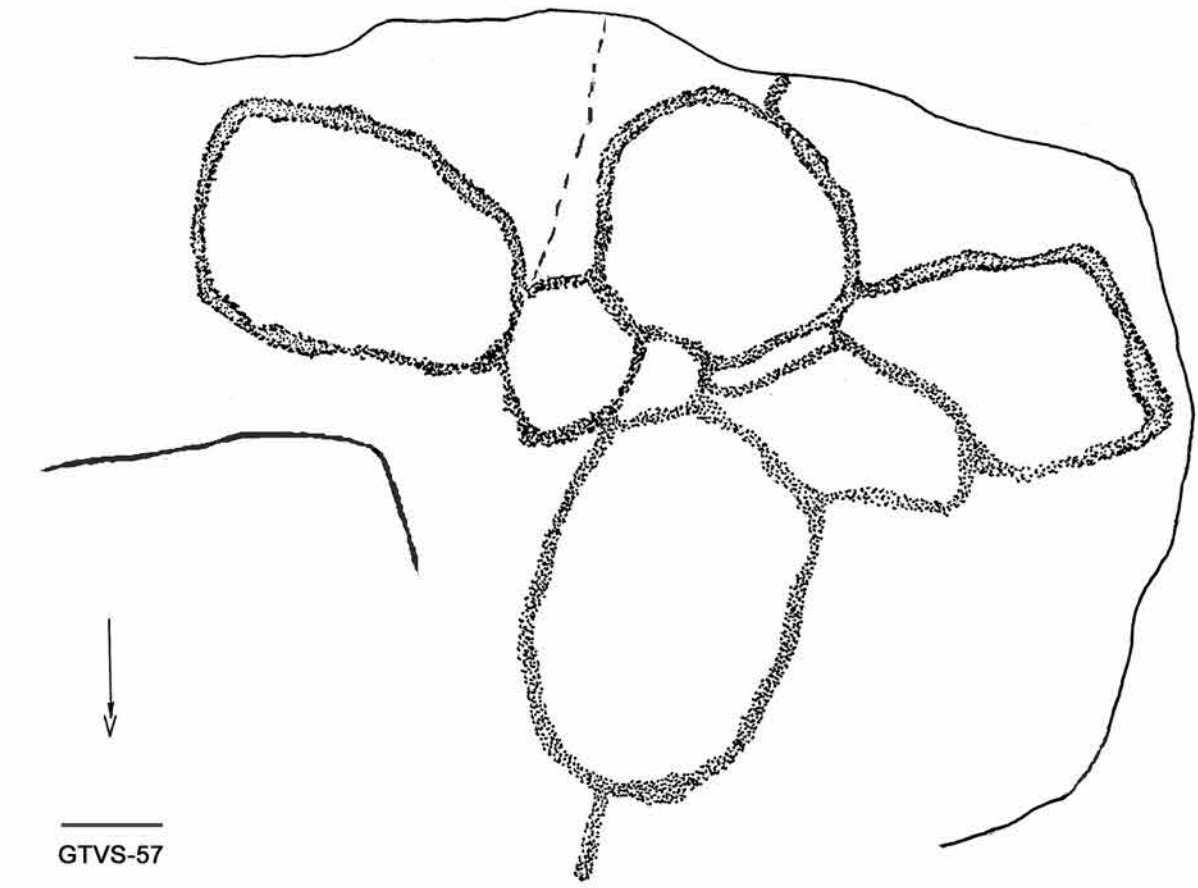


Figure 3.76

GTVS-58+60

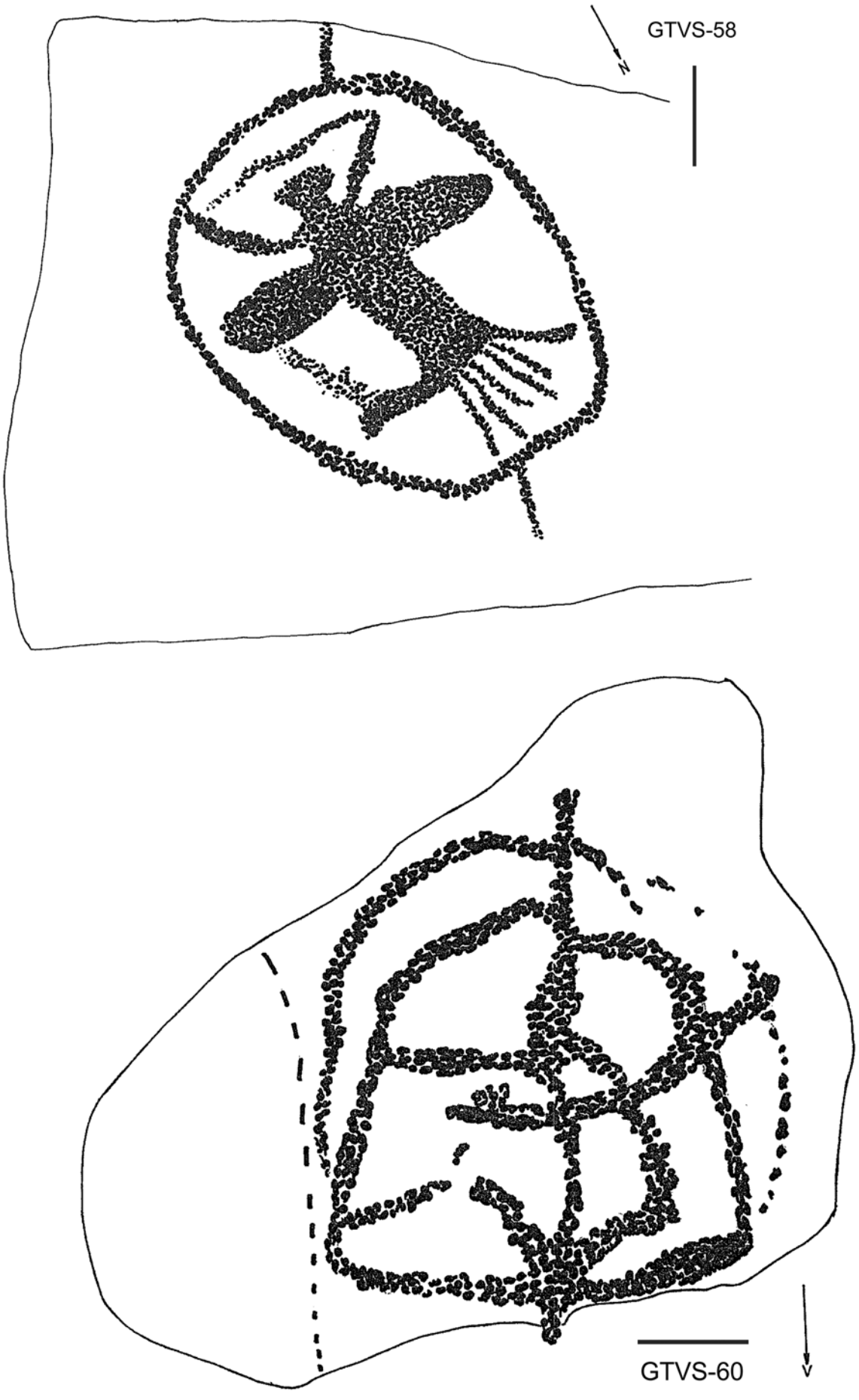
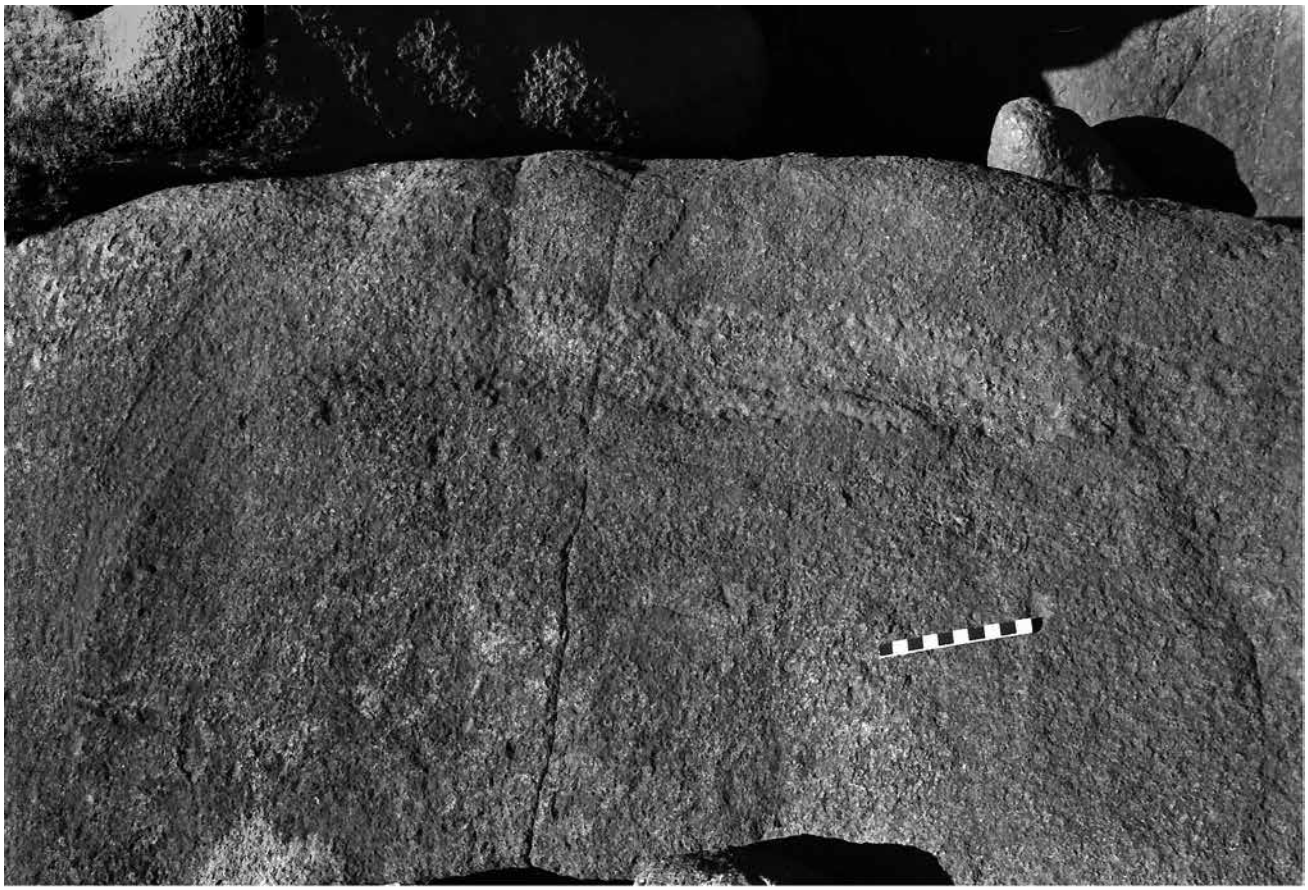


Figure 3.77

GTVS-61



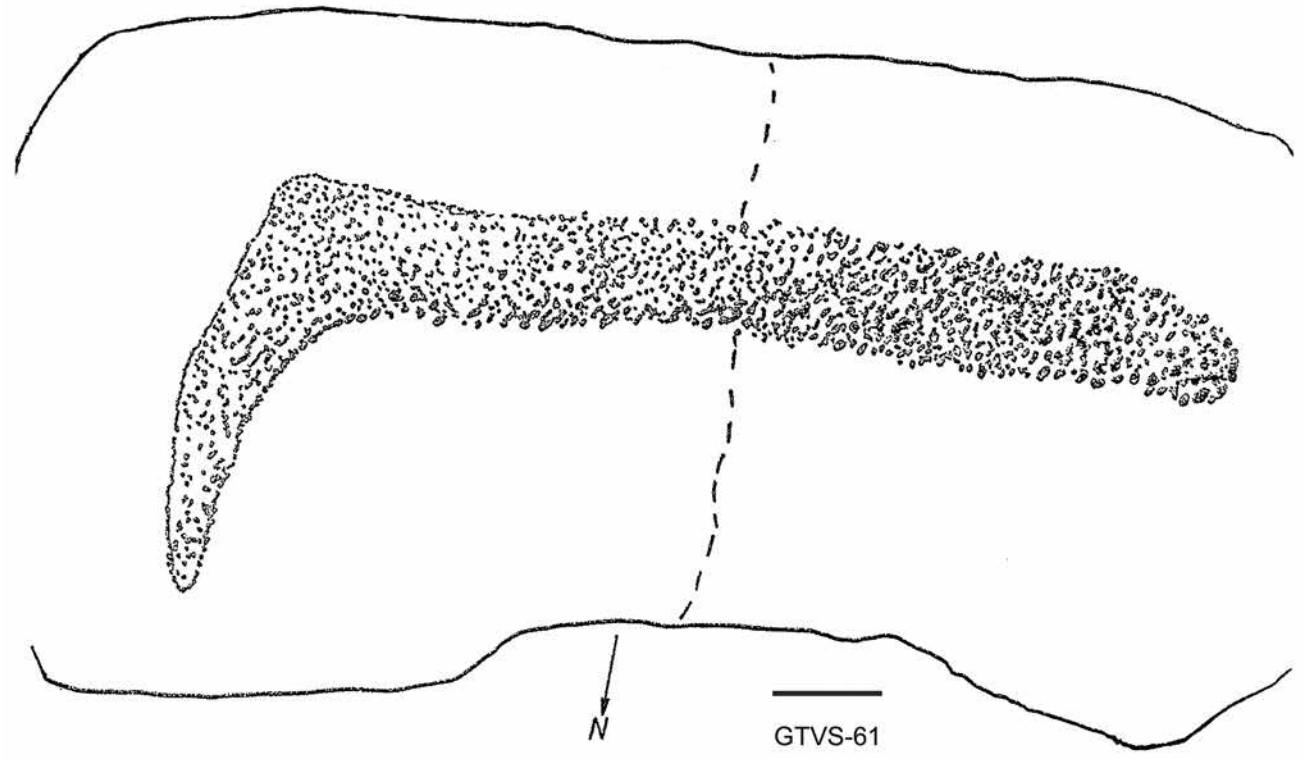


Figure 3.78

GTVS-65+66A+68

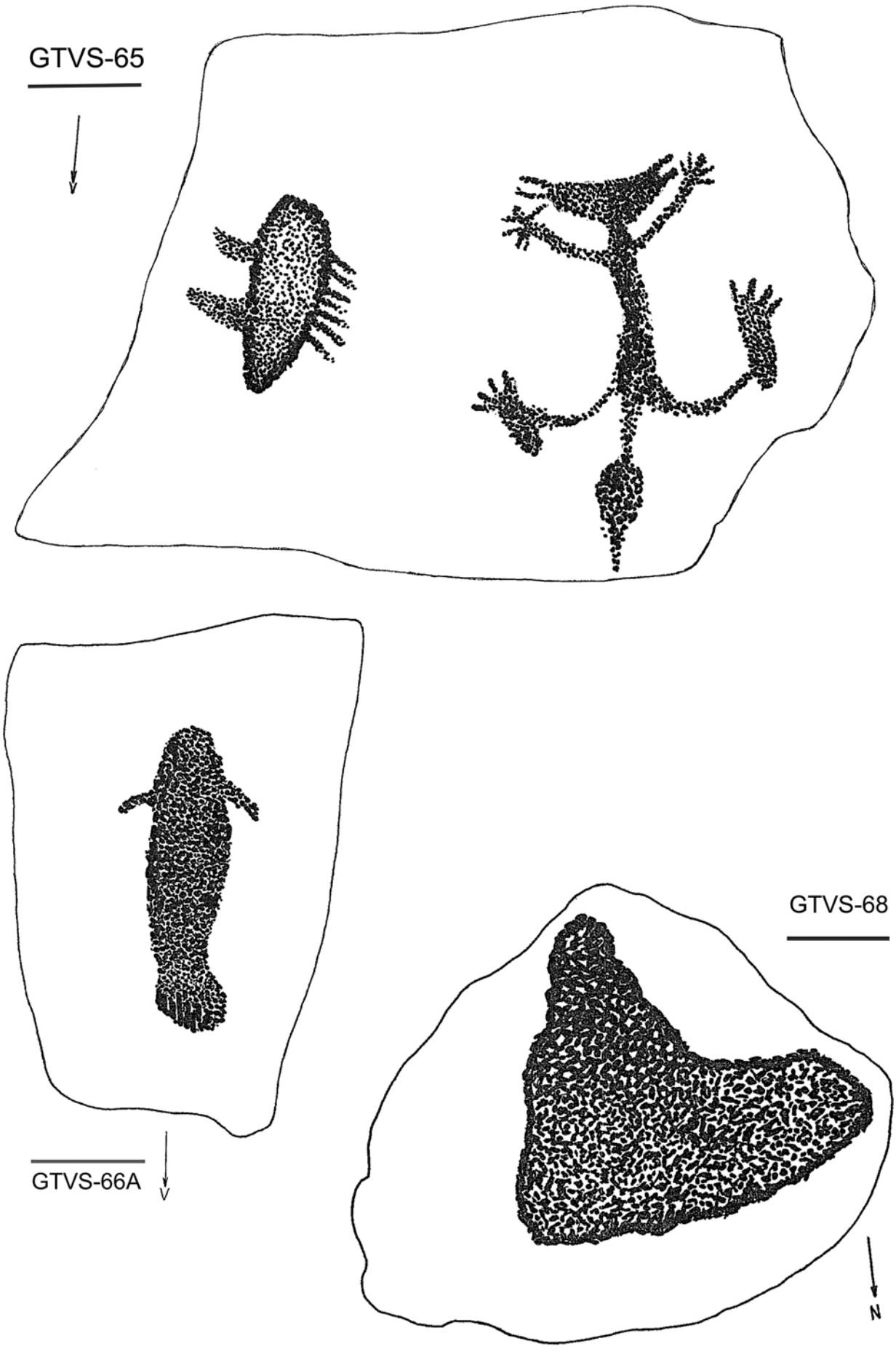


Figure 3.79

GTVS-66

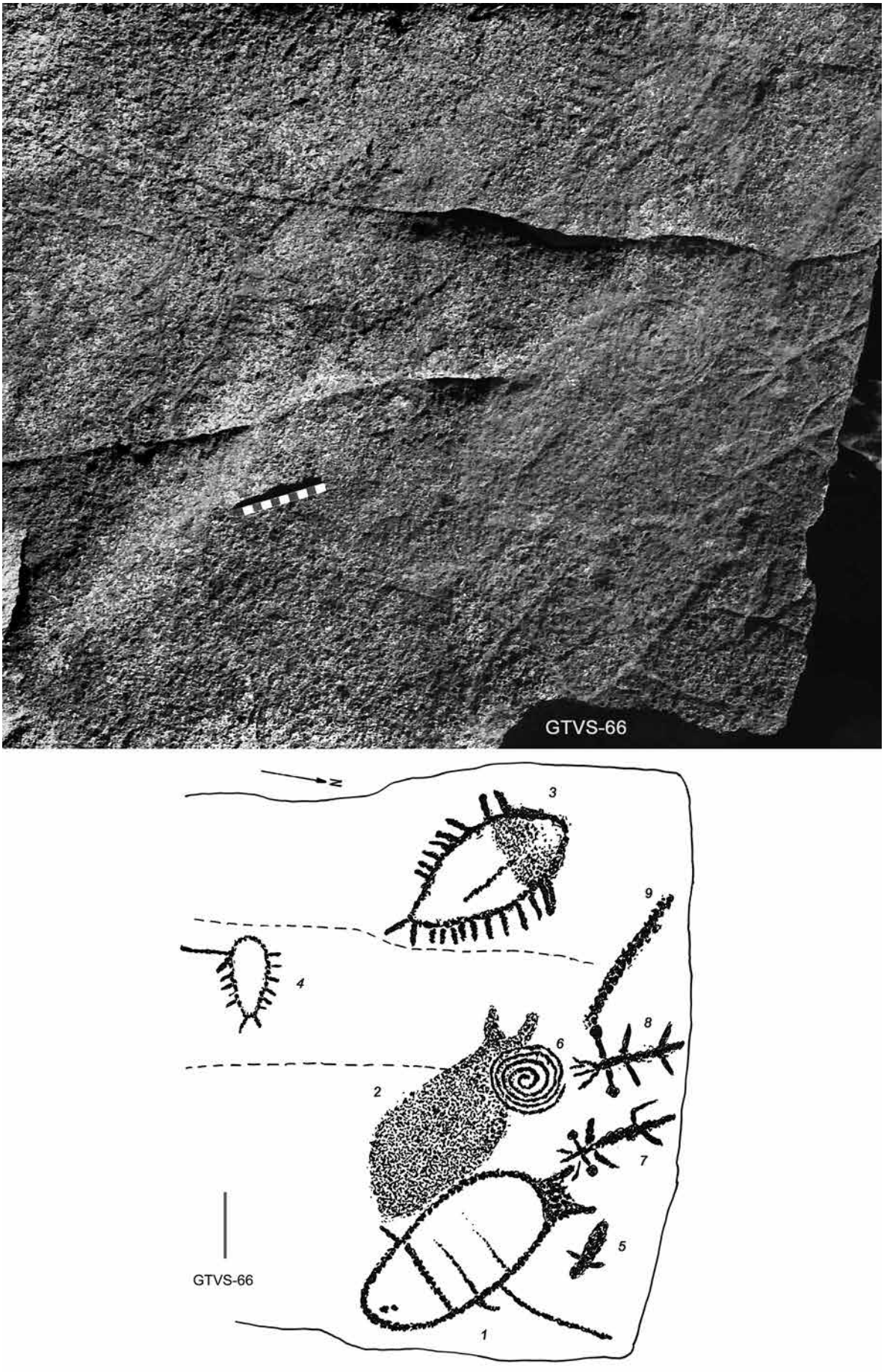
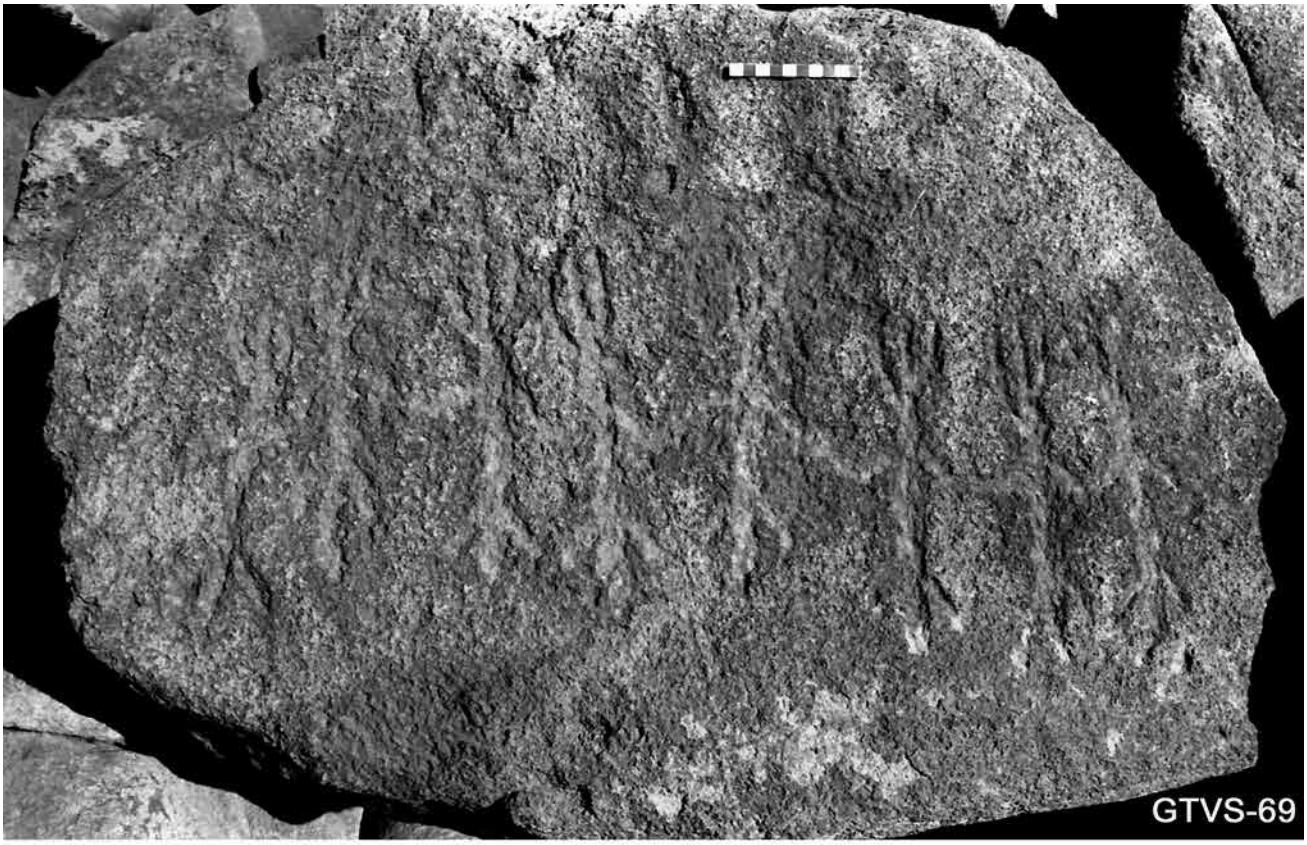


Figure 3.80

GTVS-69



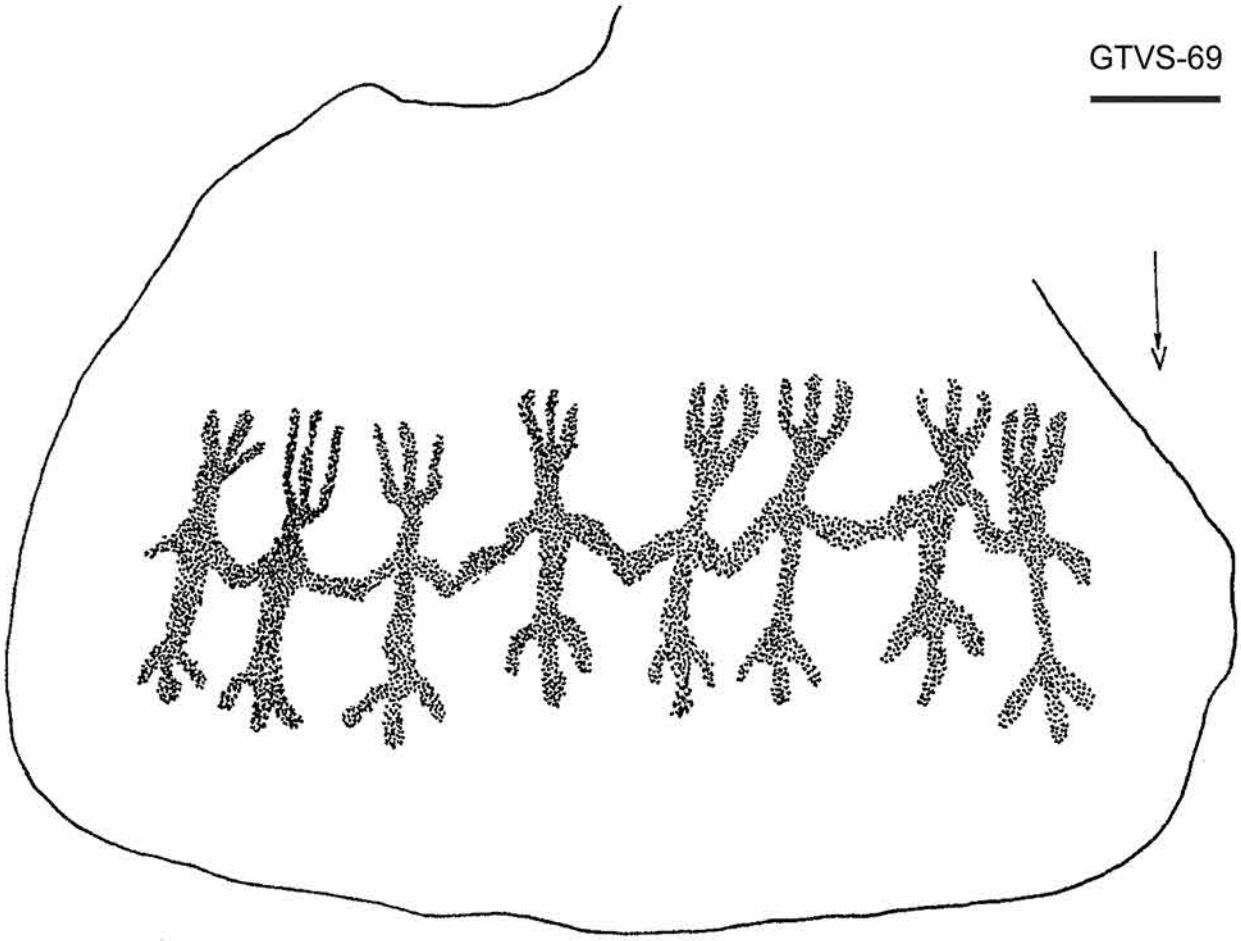


Figure 3.81

GTVS-71

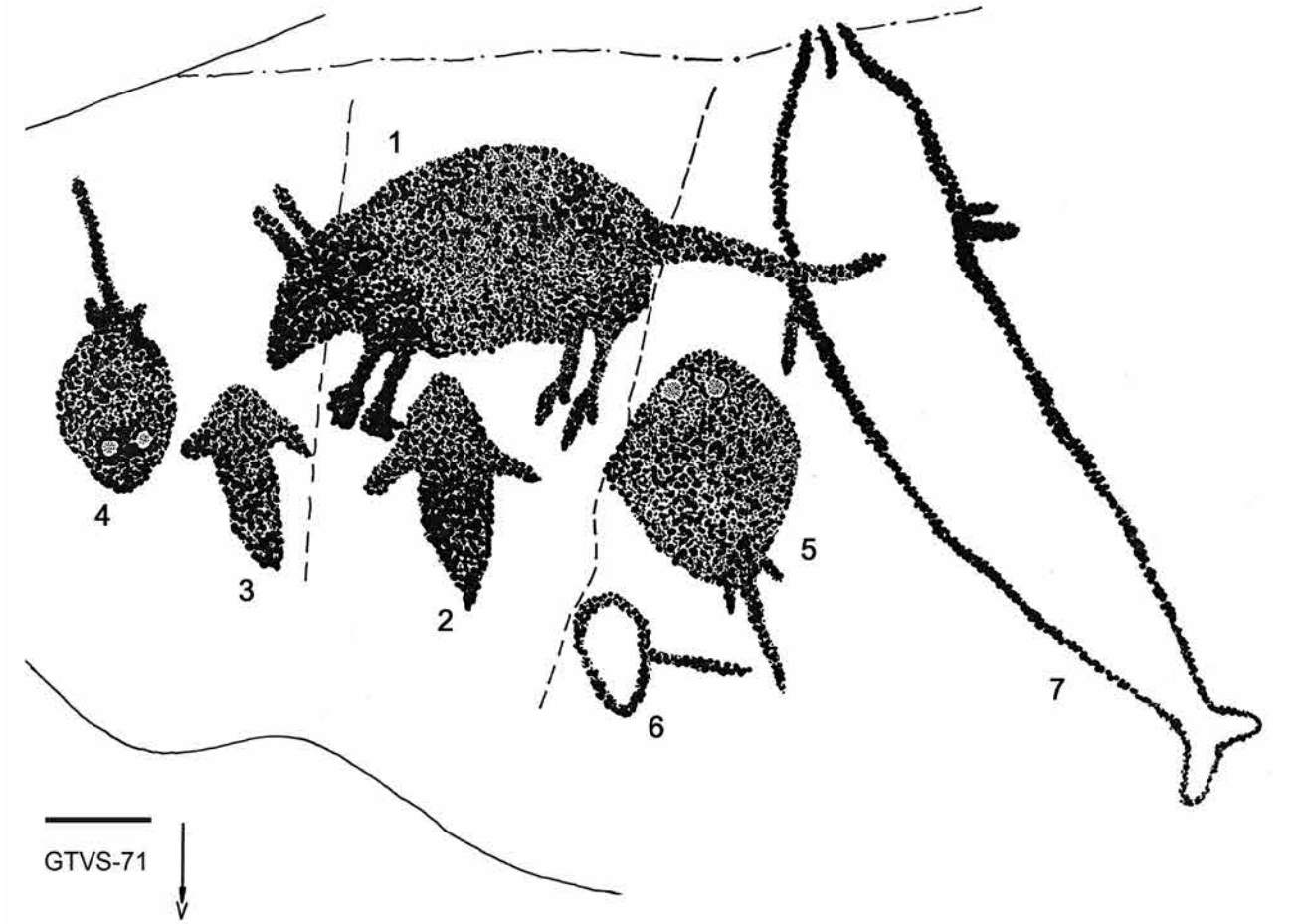


Figure 3.82

GTVS-73+10C+73-3

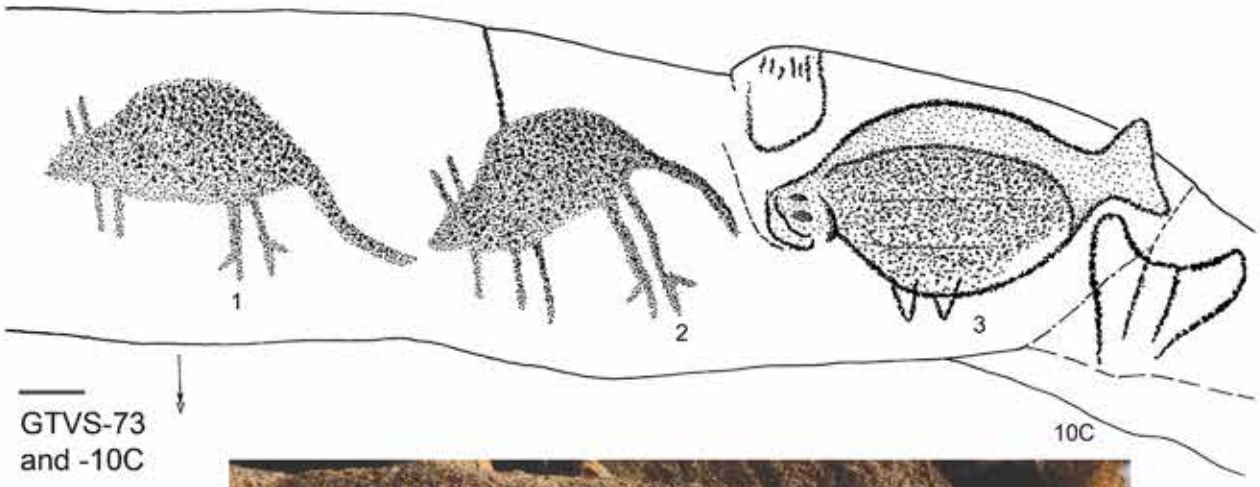


Figure 3.83

GTVS-76+83

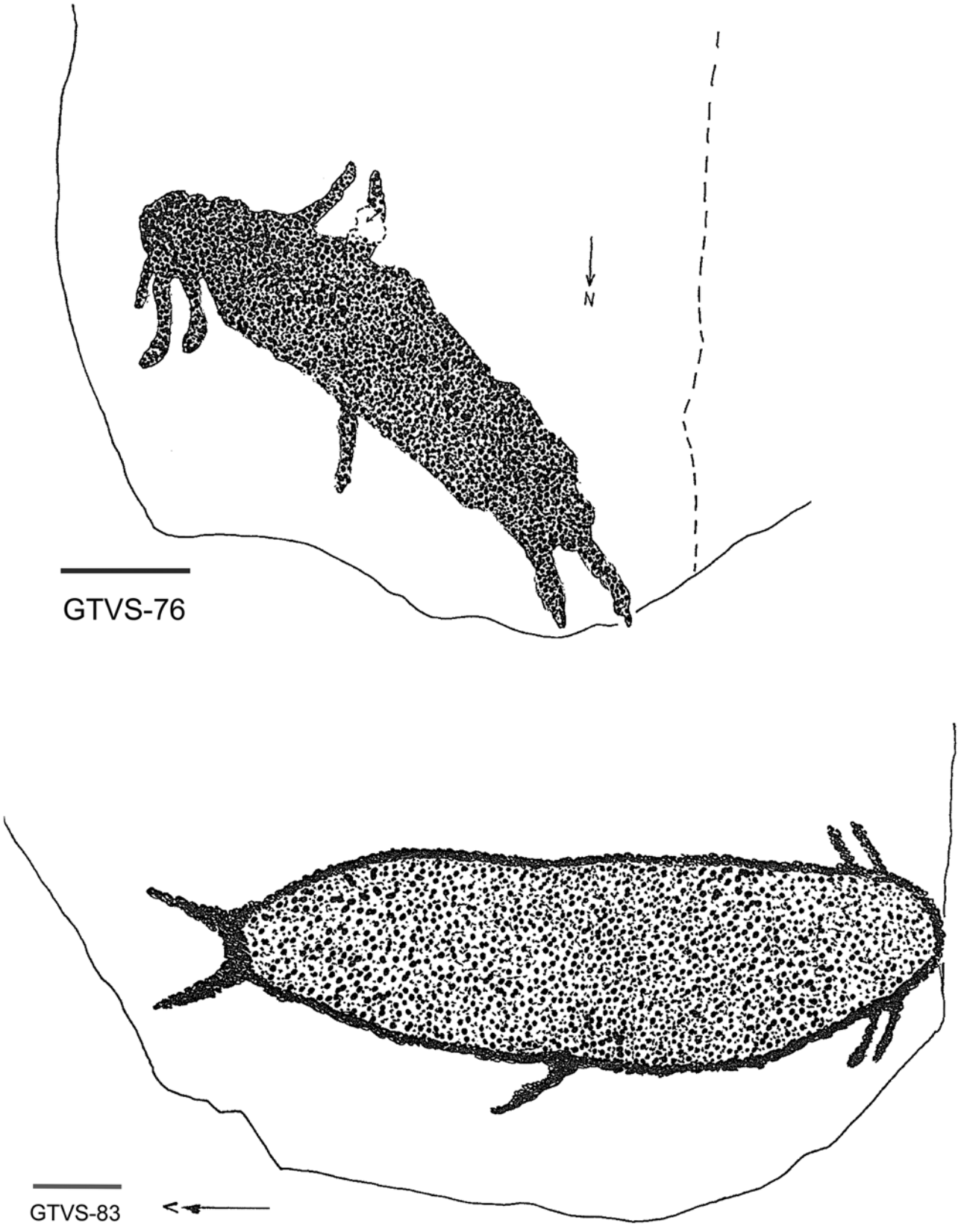


Figure 3.84

GTVS-81A

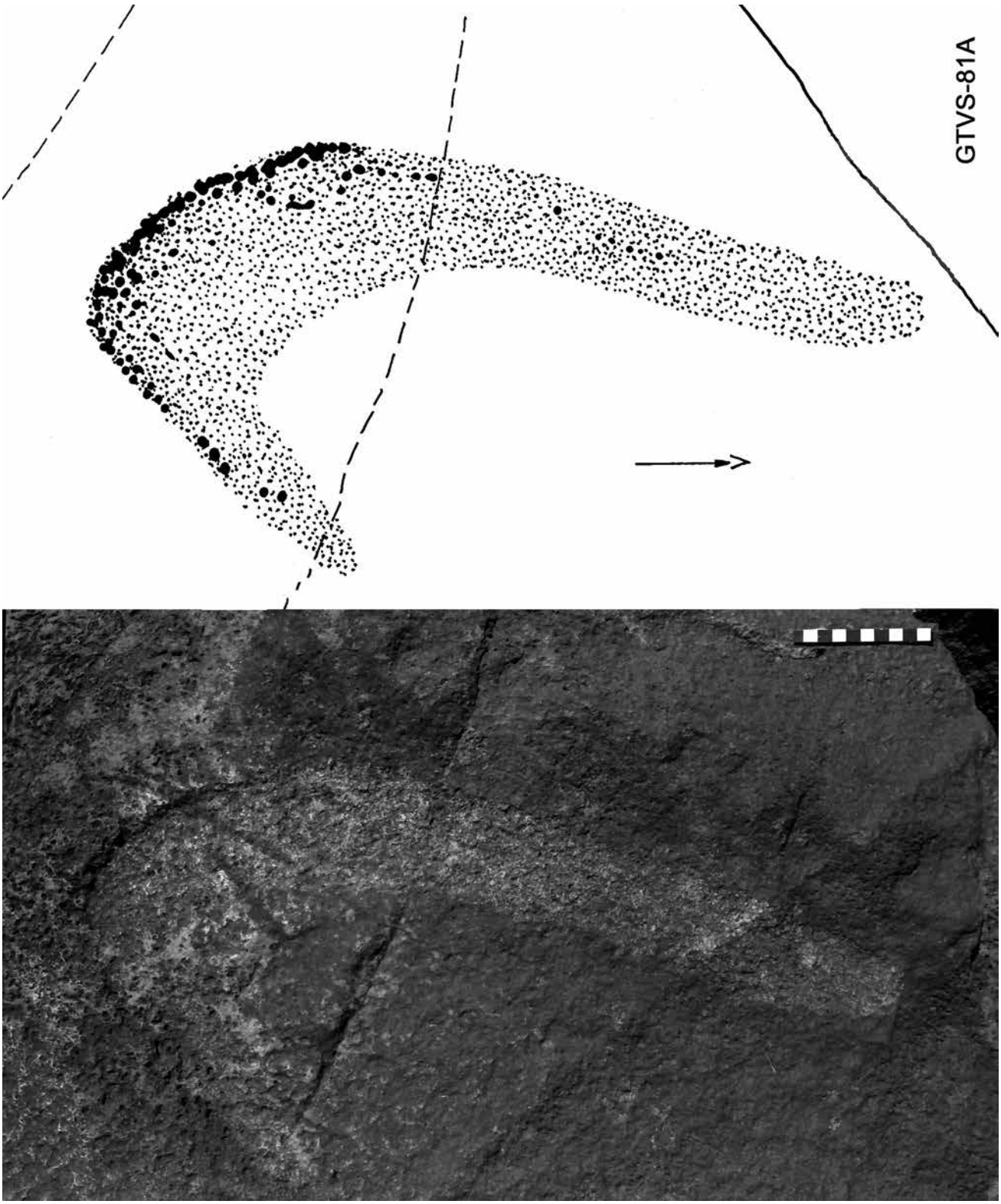


Figure 3.85

GTVS-85+100+101

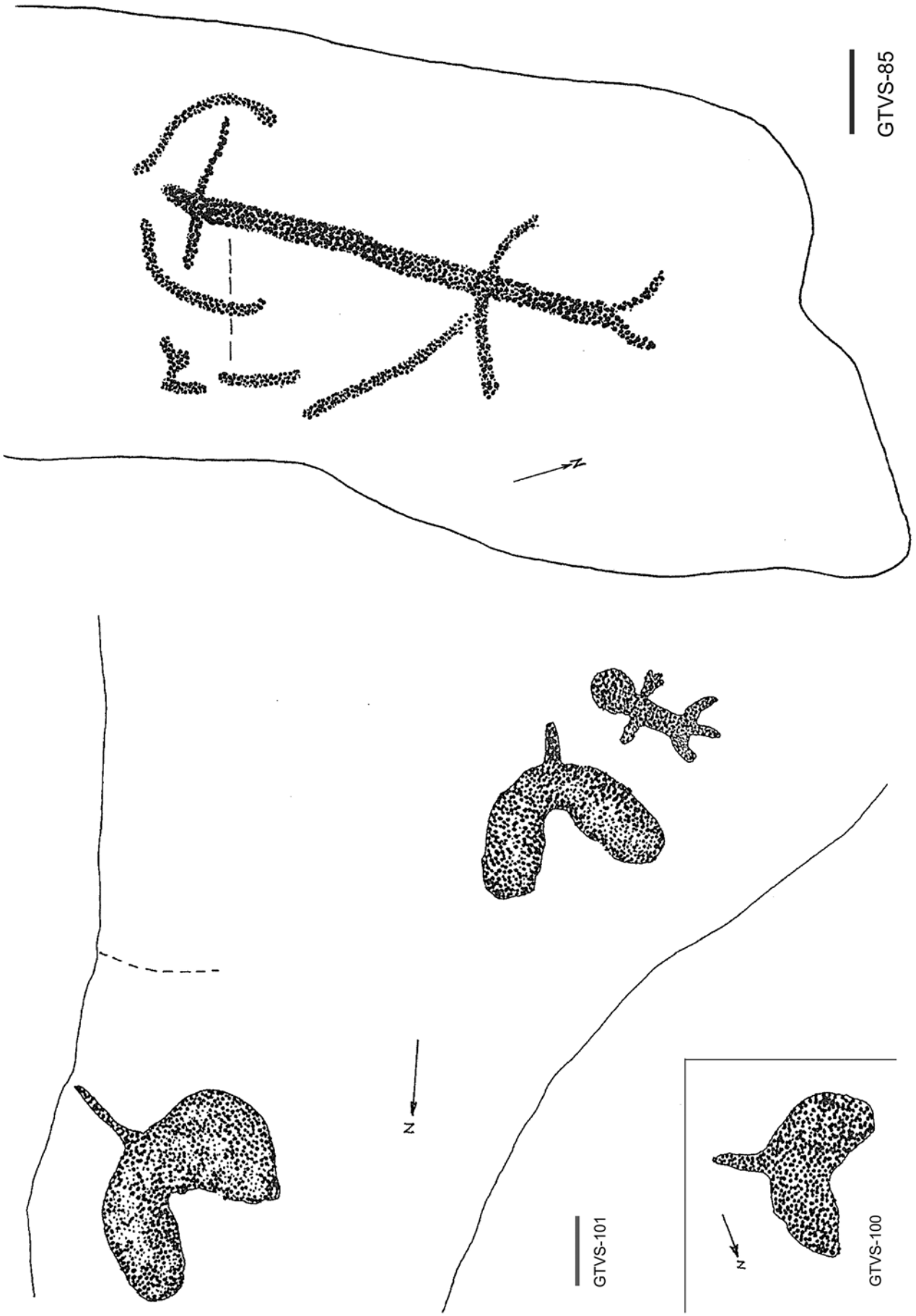


Figure 3.86

GTVS-115+118

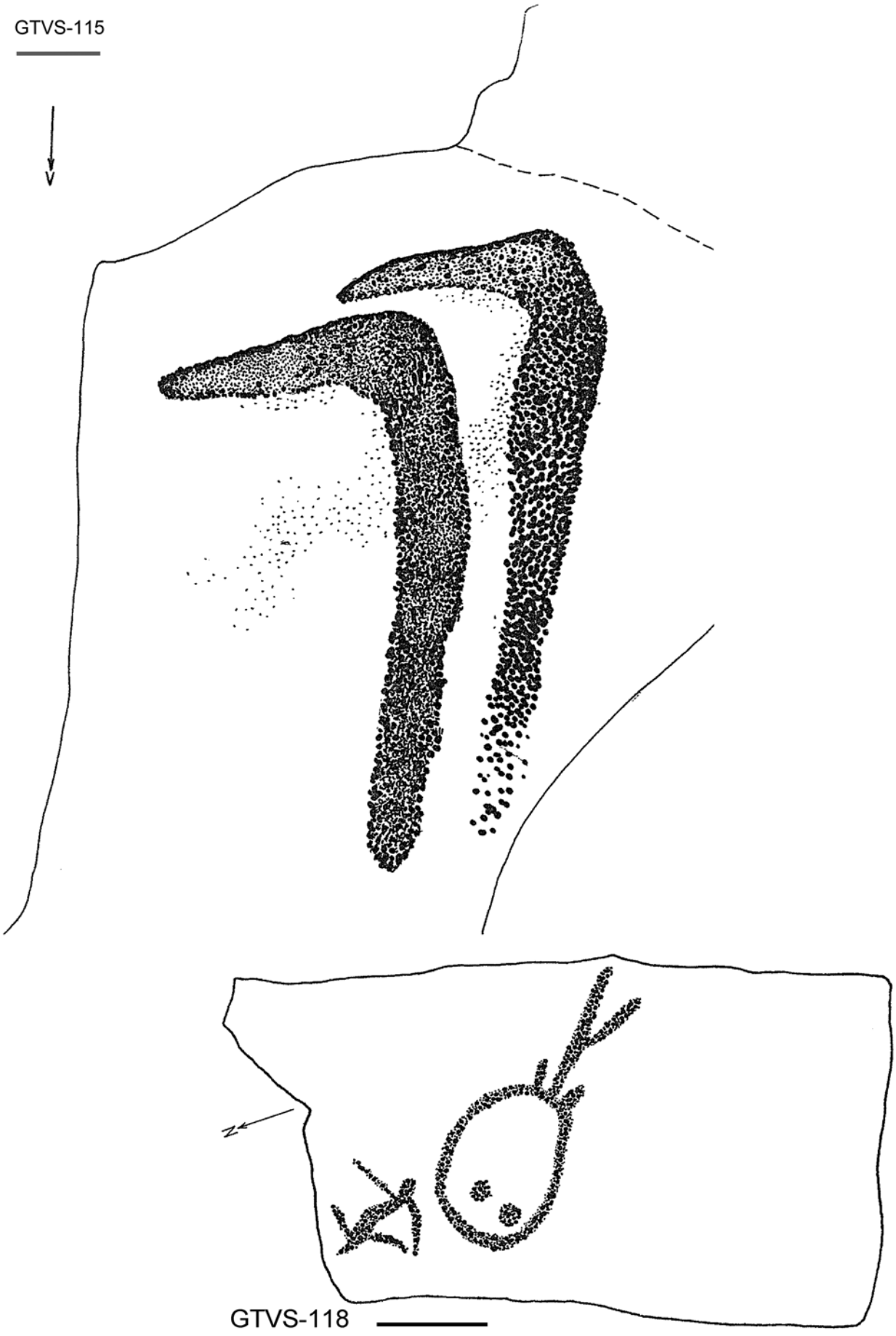


Figure 3.87

GTVS-116

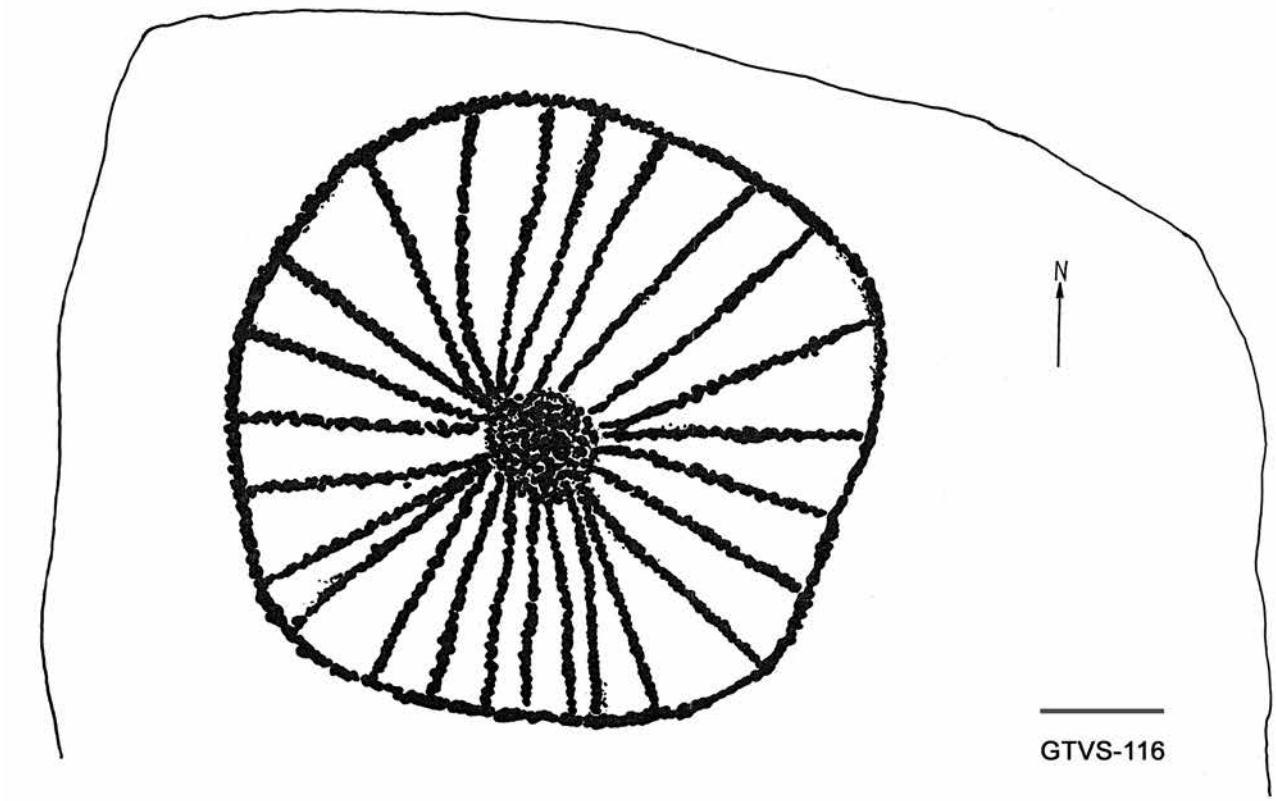


Figure 3.88

GTVS-124+125

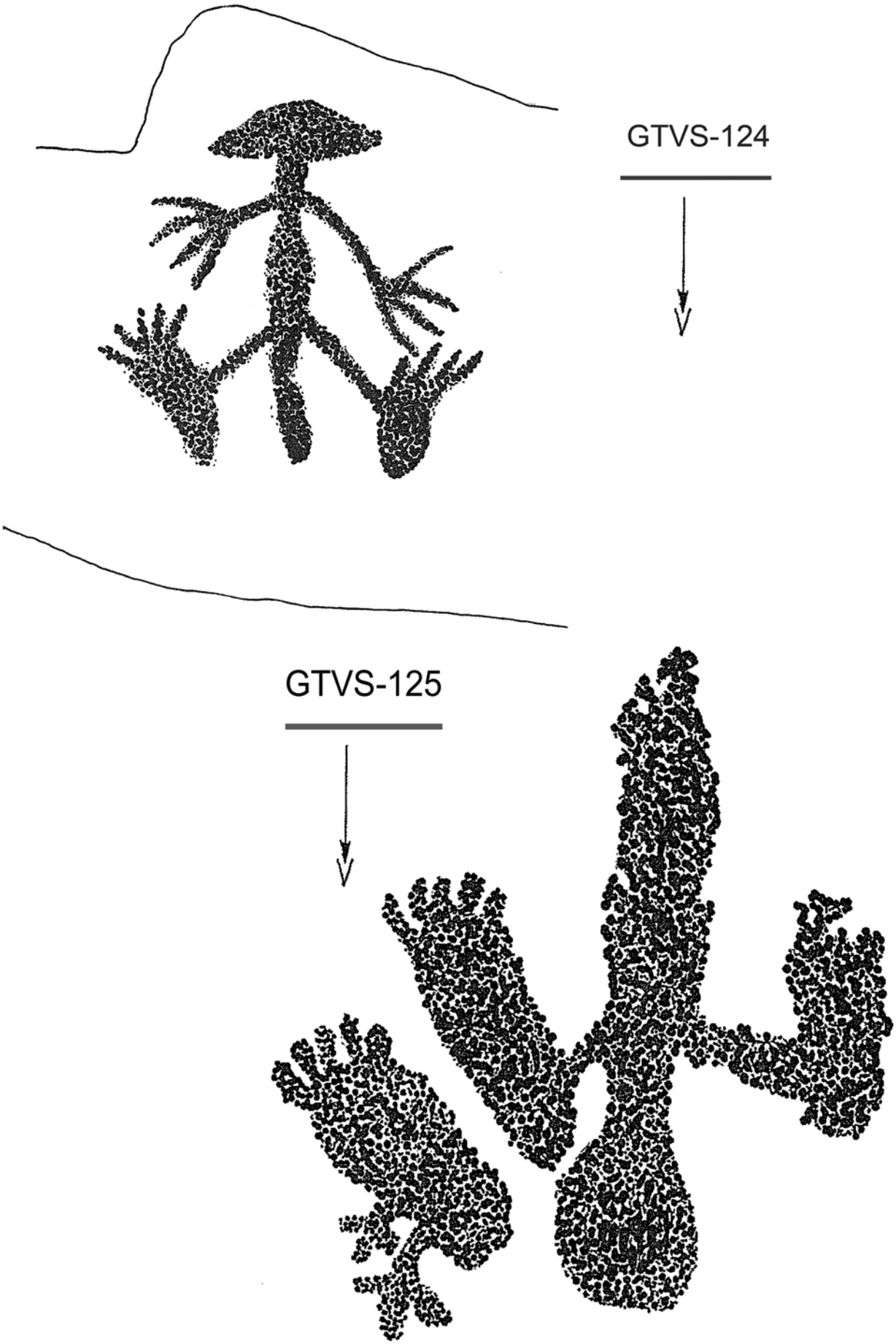


Figure 3.89

GTVS-126 +127

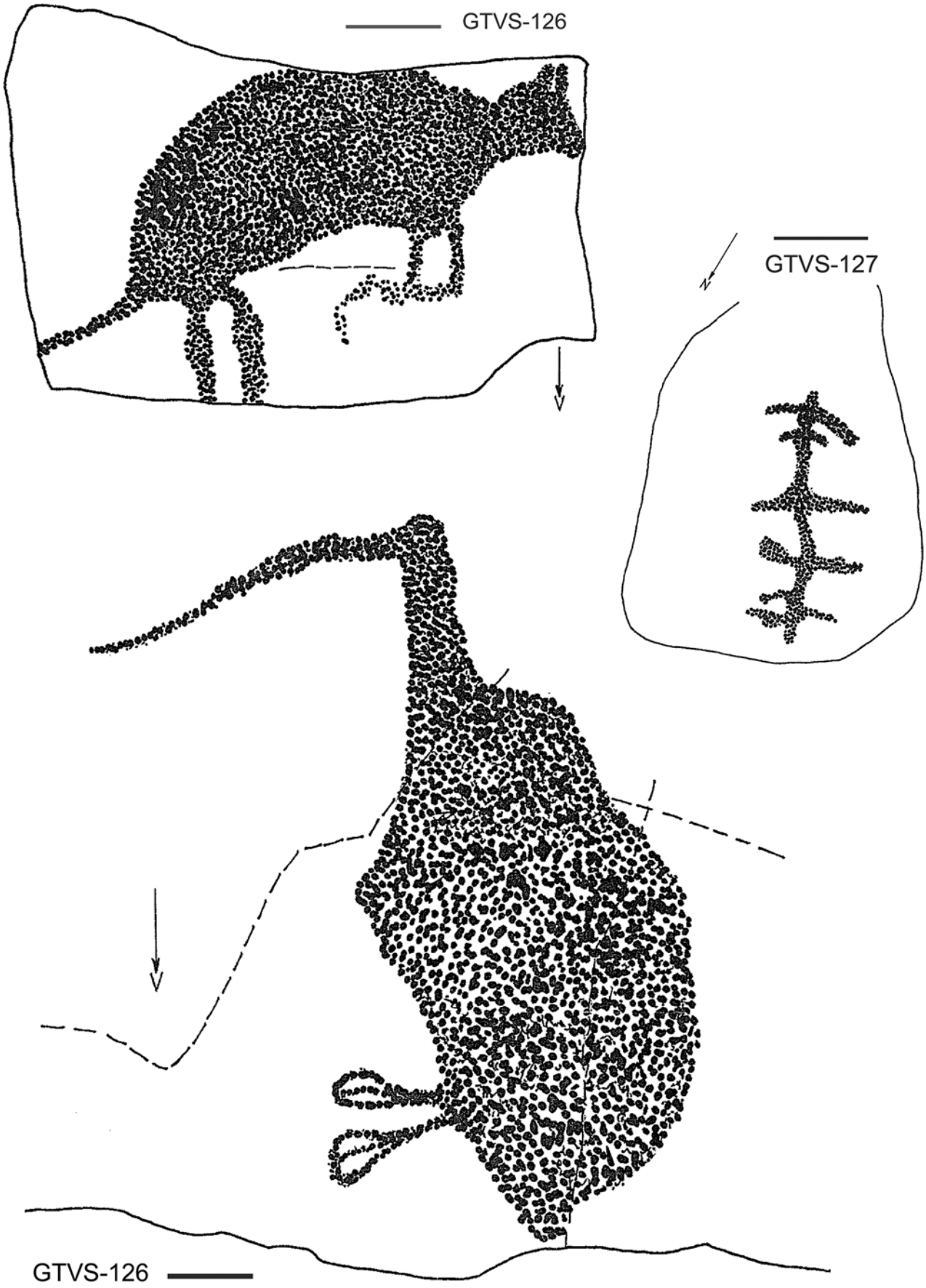


Figure 3.90

GTVSO-1+3+4

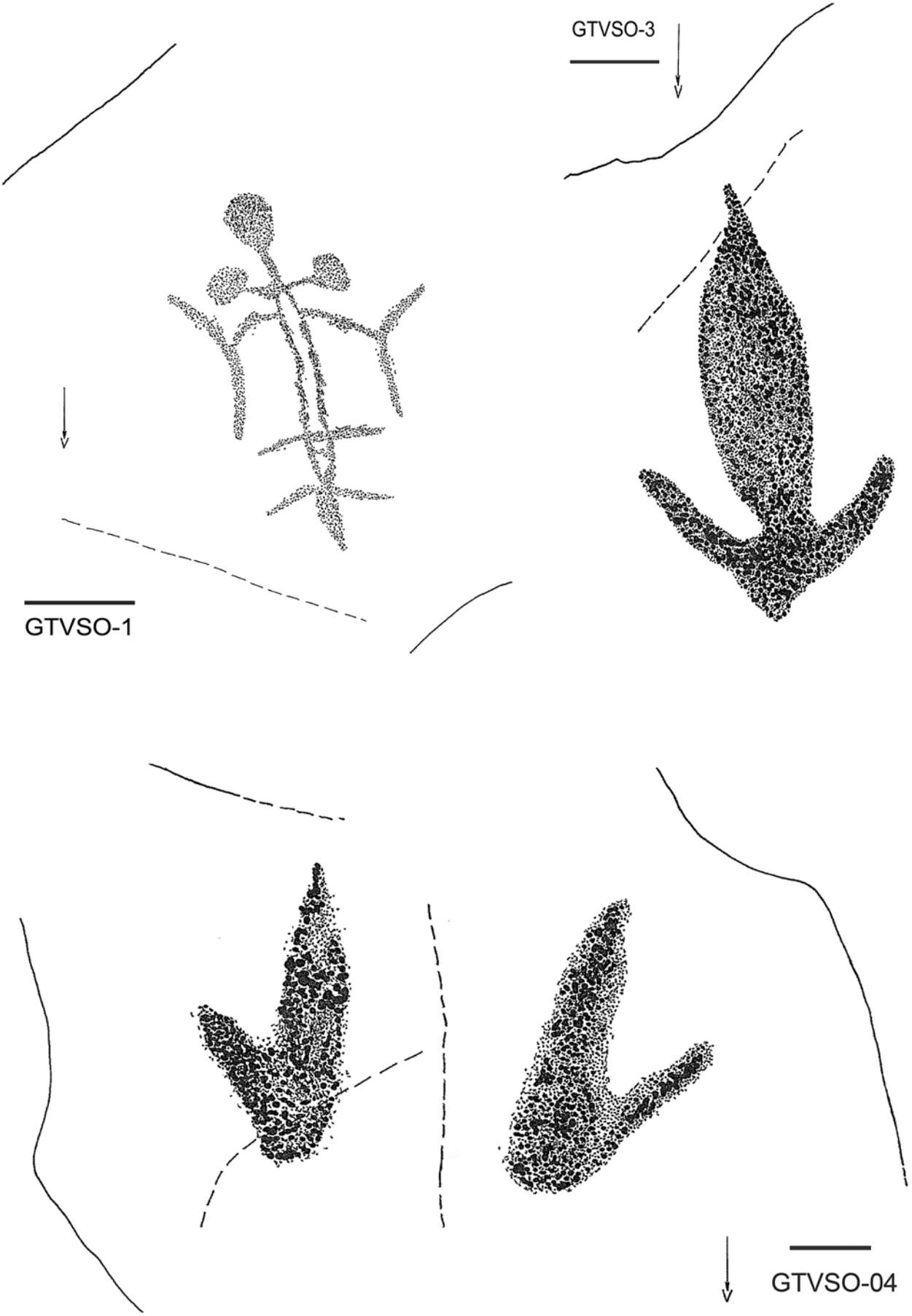


Figure 3.91

GTVSO-2

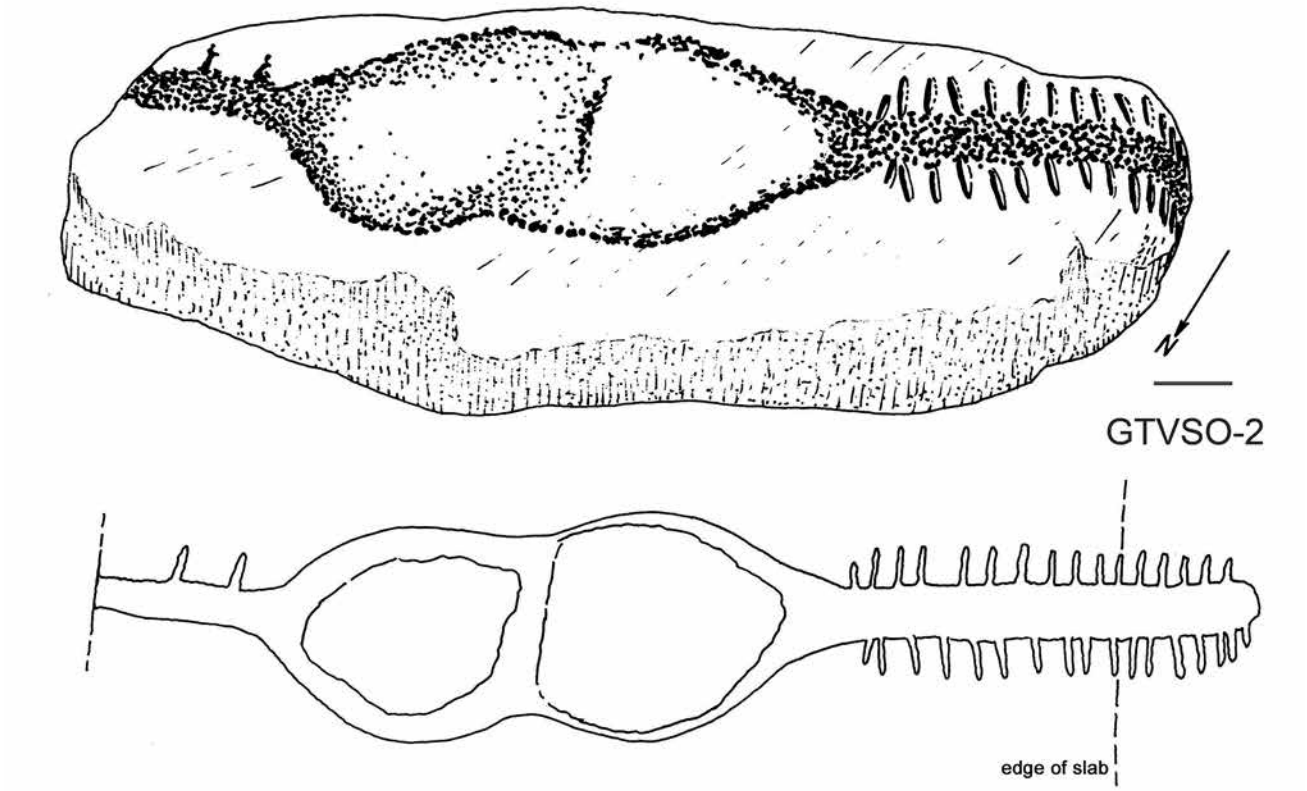


Figure 3.92

GTVSO-5+6

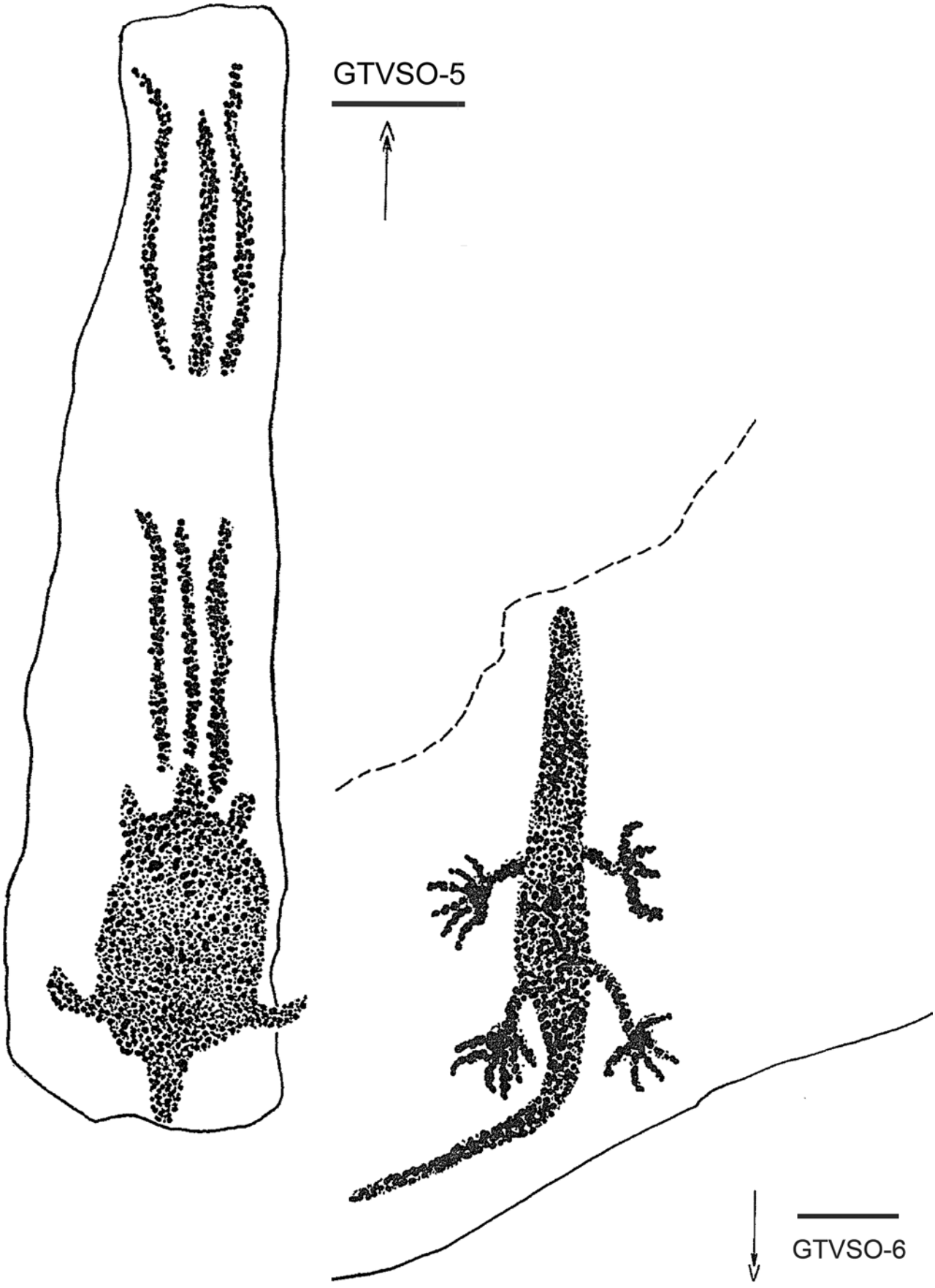


Figure 3.93

GTVSO-7

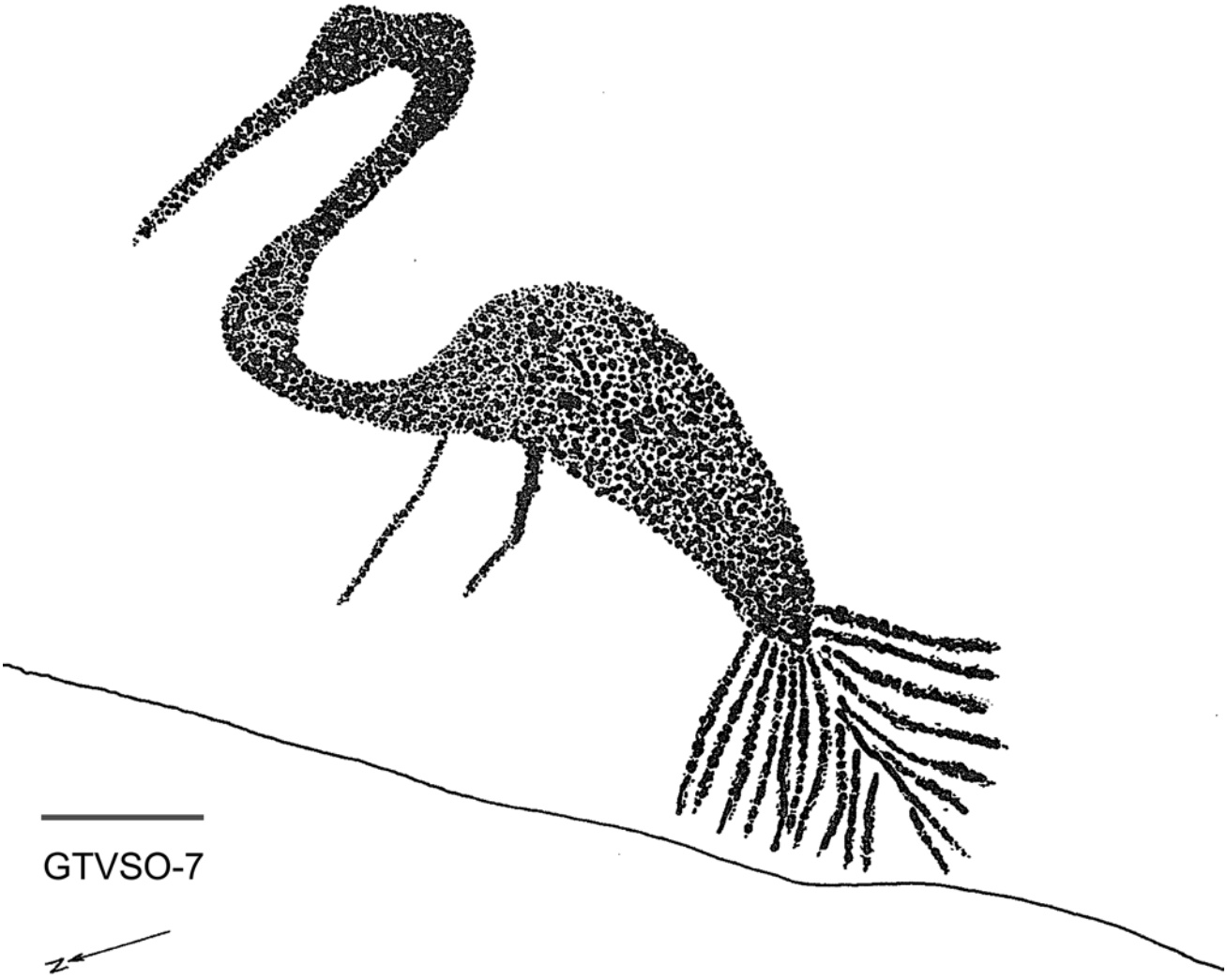
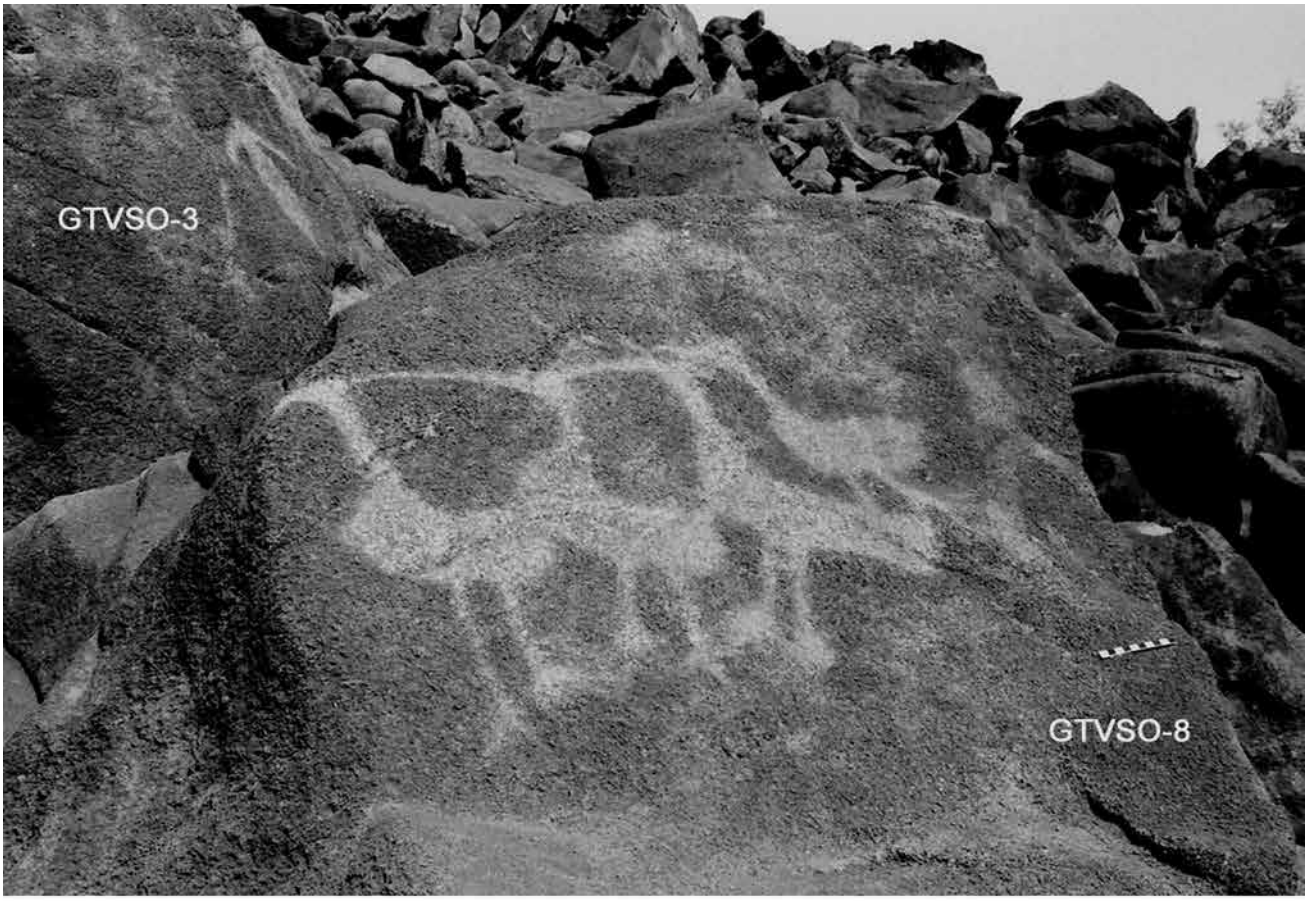


Figure 3.94

GTVSO-8



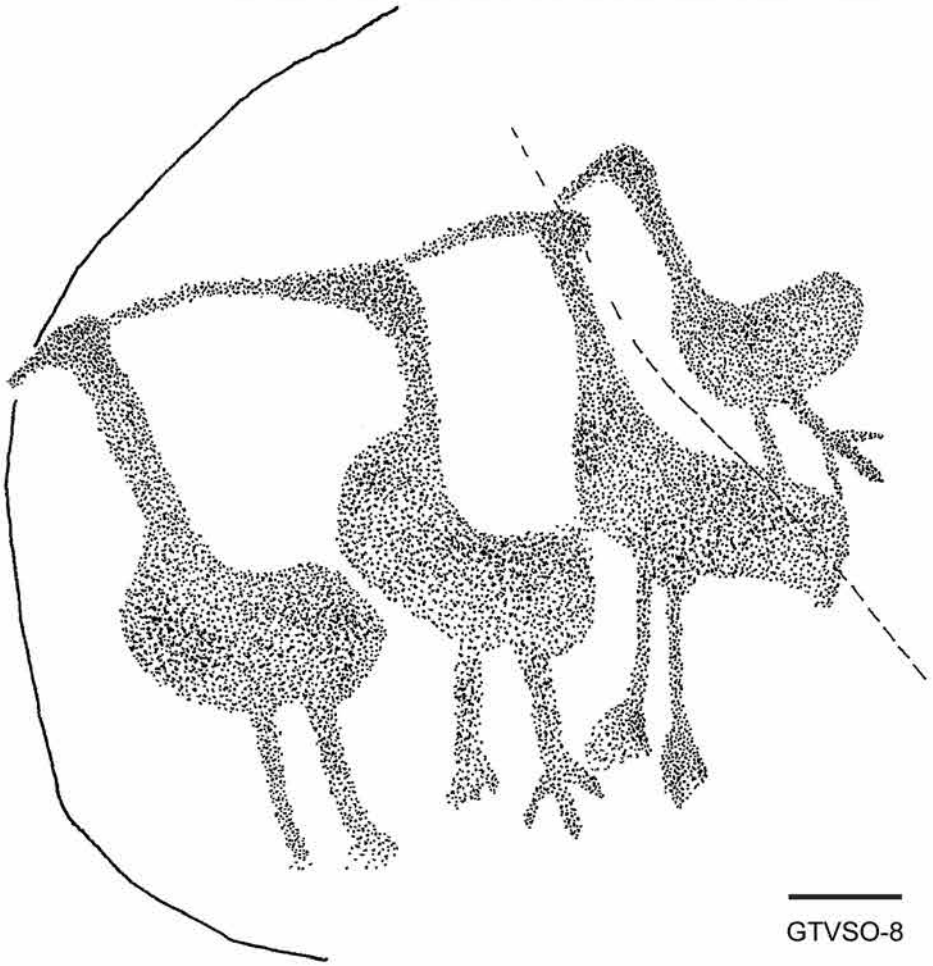


Figure 3.95

Fig. 3.1 192
Fig. 3.2 192
Fig. 3.3 193
Fig. 3.4 194
Fig. 3.5 195
Fig. 3.6 196
Fig. 3.7 197
Fig. 3.8 198
Fig. 3.9 199
Fig. 3.10 199
Fig. 3.11 200
Fig. 3.12 201
Fig. 3.13 203
Fig. 3.14 204
Fig. 3.15 205
Fig. 3.16 205
Fig. 3.17 206
Fig. 3.18 207
Fig. 3.19 208
Fig. 3.20 209
Fig. 3.21 210
Fig. 3.22 210
Fig. 3.23 211
Fig. 3.24 211
Fig. 3.25 212
Fig. 3.26 212
Fig. 3.27 212
Fig. 3.28 213
Fig. 3.29 213
Fig. 3.30 213
Fig. 3.31 214
Fig. 3.32 217
Fig. 3.33 218
Fig. 3.34 219
Fig. 3.35 220
Fig. 3.36 221
Fig. 3.37 222
Fig. 3.38 223
Fig. 3.39 224
Fig. 3.40 225
Fig. 3.41 226
Fig. 3.42 227
Fig. 3.43 228
Fig. 3.44 229
Fig. 3.45 231
Fig. 3.46 232
Fig. 3.47 233
Fig. 3.48 234
Fig. 3.49 235
Fig. 3.50 236
Fig. 3.51 237
Fig. 3.52 238
Fig. 3.53 239
Fig. 3.54 240
Fig. 3.55 241
Fig. 3.56 242
Fig. 3.57 243
Fig. 3.58 244
Fig. 3.59 245
Fig. 3.60 246
Fig. 3.61 247
Fig. 3.62 248
Fig. 3.63 249
Fig. 3.64 250
Fig. 3.65 251
Fig. 3.66 252
Fig. 3.67 253
Fig. 3.68 254
Fig. 3.69 255
Fig. 3.70 256
Fig. 3.71 257
Fig. 3.72 258
Fig. 3.73 259
Fig. 3.74 260
Fig. 3.75 261
Fig. 3.76 262
Fig. 3.77 263
Fig. 3.78 264
Fig. 3.79 265
Fig. 3.80 266
Fig. 3.81 267
Fig. 3.82 268
Fig. 3.83 269
Fig. 3.84 270
Fig. 3.85 271
Fig. 3.86 272
Fig. 3.87 273
Fig. 3.88 274
Fig. 3.89 275
Fig. 3.90 276
Fig. 3.91 277
Fig. 3.92 278
Fig. 3.93 279
Fig. 3.94 280
Fig. 3.95 281
GTVS-6..... 231, 232
GTVS-9..... 233
GTVS-10... 234–237,269
GTVS-16..... 236, 238
GTVS-17..... 238, 239
GTVS-19..... 240
GTVS-24..... 241–244
GTVS-25..... 245
GTVS-26..... 246
GTVS-28..... 246
GTVS-30..... 247
GTVS-31..... 246
GTVS-35..... 247
GTVS-41..... 248–250
GTVS-44..... 251
GTVS-45..... 249
GTVS-47..... 252–255
GTVS-48..... 255
GTVS-49..... 256
GTVS-51..... 257, 258
GTVS-52..... 259
GTVS-53..... 260
GTVS-55..... 259
GTVS-56..... 261
GTVS-57..... 262
GTVS-58..... 263
GTVS-60..... 263
GTVS-61..... 264
GTVS-65..... 265
GTVS-66..... 265, 266
GTVS-68..... 265
GTVS-69..... 267
GTVS-71..... 268
GTVS-73..... 269
GTVS-76..... 270
GTVS-81..... 271
GTVS-83..... 270
GTVS-85..... 272
GTVS-100..... 272
GTVS-101..... 272
GTVS-115..... 273
GTVS-116..... 274
GTVS-118..... 273
GTVS-124..... 275
GTVS-125..... 275
GTVS-126..... 276
GTVS-127..... 276
GTVSO-1..... 277
GTVSO-2..... 278
GTVSO-3..... 277
GTVSO-4..... 277
GTVSO-5..... 279
GTVSO-6..... 279
GTVSO-7..... 280
GTVSO-8..... 281