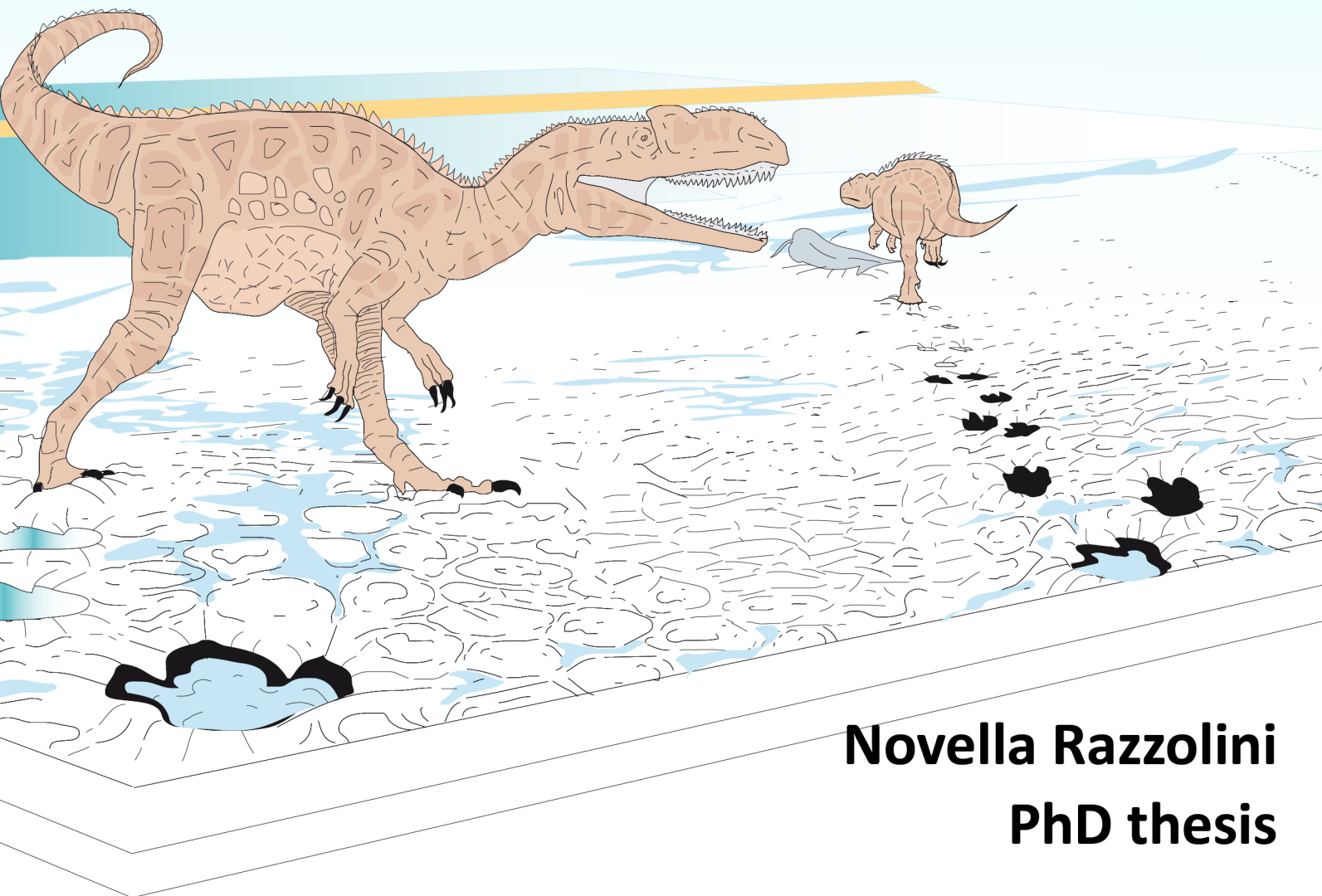


# Morphological variation and ichnotaxonomy of dinosaur tracks

Linking footprint shapes to substrate and  
trackmaker's anatomy and locomotion



**Novella Razzolini**  
**PhD thesis**



# ANNEX

## Supplementary Information for Chapter 6



## Supporting information captions

### S1. Measurement Tables. It includes:

(A) measurement made on the collected material. (B) field data. (C) average calculated from the field data and (D) standard deviation of the filed data.

### S2. CRO500-T43. Outline drawing of the trackway (scale 1:50).

### S3. BEB500. Outline drawings of trackways from BEB500 (scale 1:50).

(A) BEB500-TR1. (B) BEB500-TR2. (C) BEB500-TR3. (D) BEB500-TR4; (E) BEB500-TR5. (F) BEB500-TR8.

### S4. BEB500-TR7.

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of BEB500-TR7-L2. Scale bar 20 cm. (C) Interpretative outline drawing of BEB500-TR7-L2. (D) False-colour depth map of BEB500-TR7-L2. Depth measured in mm; (E) Photo of BEB500-TR7-R2. Scale 20 cm. (F) interpretative outline drawing of BEB500-TR7-R2. (G) False-colour depth map of BEB500-TR7-R2. Depth measured in mm. (H) False-colour depth map of BEB500-TR7-R5 obtained from laserscanner. Depth measured in mm. (I) Photo of BEB500-TR7-R7. Scale 20 cm. (J) interpretative outline drawing of BEB500-TR7-R7. (K) False-colour depth map of BEB500-TR7-R7. Depth measured in mm. (L) Photo of BEB500-TR7-L10. Scale 20 cm. (M) Interpretative outline drawing of BEB500-TR7-L10. (N) False-colour depth map of BEB500-TR7-L10. Depth measured in mm. (L) Photo of BEB500-TR7-R10. Scale 20 cm. (P) Interpretative outline drawing of BEB500-TR7-R10. (Q) False-colour depth map of BEB500-TR7-R10. Depth measured in mm. (R) Photo of BEB500-TR7-L11. Scale 20 cm. (S) Interpretative outline drawing of BEB500-TR7-L11. (T) False-colour depth map of BEB500-TR7-L11. Depth measured in mm;

### S5. CPP500. Outline drawing of trackway (scale 1:50).

### S6. SCR1000-T18.

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of SCR1000-T18-R1. Scale bar 20 cm. (C) Interpretative outline drawing of SCR1000-T18-R1. (D) False-colour depth map of SCR1000-T18-R1. Depth measured in mm;

### S7. SCR1000-T23.

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of SCR1000-T23-R1. Scale bar 30 cm. (C) Interpretative outline drawing of SCR1000-T23-R1. (D) false-colour depth map of SCR1000-T23-R1. Depth measured in mm; (E) Photo of SCR1000-T23-L2. Scale 30 cm. (F) interpretative outline drawing of SCR1000-T23-L2. (G) False-colour depth map of SCR1000-T23-L1. Depth measured in mm. (H) Photo of SCR1000-T23-R2. Scale 30 cm. (I) Interpretative outline drawing of SCR1000-T23-R2. (K) False-colour depth map of SCR1000-T23-R2. Depth measured in mm;

### S7. Trackways from levels SCR1000 and TCH1000.

Outline drawings of trackways from SCR1000 (A-B) and TCH1000 (C-D) (scale 1:50). (A) SCR1000-T23. (B) SCR1000-T24. (C) TCH1000-TR1. (D) TCH1000-TR2.

### S9. Trackways from levels BSY1000, BSY1005, BSY1010, and BSY 1040. Outline drawings at 1:50 scale of trackways from different levels of BSY.

(A) BSY1005-T1. (B) BSY1010-T1. (C) BSY1015-T1. (D) BSY1040-T7.

### S10. Trackways from levels BSY1020, and BSY1025. Outline drawings of trackways from different levels of BSY (scale 1:50).

(A) BSY1020-T1. (B) BSY1025-T3.

**S11. Trackways from level BSY1025.** Outline drawings of trackways from BSY1025 (scale 1:50).

(A) BSY1025-T1. (B) BSY1025-T2.

**S12. Trackways from level BSY1035.** Outline drawings of trackways from BSY1035 (scale 1:50).

(A) BSY1035-T1. (B) BSY1035-T7.

**S13 Trackways from level BSY1025.** Outline drawings of trackways from BSY1035 (scale 1:50).

(A) BSY1035-T2. (B) BSY1035-T5. (C) BSY1035-T3. (D) BSY1035-T4;(E) BSY1035-T8.

**S14.BSY1035-T6-L2 (paratype).**

(A) Outline drawing (scale 1:50) (B) Photo. Scale 30 cm. (C) Interpretative outline drawing. (D) False-colour depth map. Depth measured in mm.

**S15.BSY1040-T1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of BSY1040-T1-R1 (paratype). Scale bar 20 cm. (C) Interpretative outline drawing of BSY1040-T1-R1. (D) False-colour depth map of BSY1040-T1-R1. Depth measured in mm;(E) Photo of BSY1040-T1-L2. Scale bar 20 cm. (F) Interpretative outline drawing of BSY1040-T1-L2. (G) False-colour depth map of BSY1040-T1-L2. Depth measured in mm. (H) Photo of BSY1040-T1-R2. Scale bar 20 cm. (I) Interpretative outline drawing of BSY1040-T1-R2. (J) False-colour depth map of BSY1040-T1-R2. Depth measured in mm. (K) Photo of BSY1040-T1-L3. Scale bar 20 cm. (L) Interpretative outline drawing of BSY1040-T1-L3. (M) False-colour depth map of BSY1040-T1-L3. Depth measured in mm.

**S16. BSY1040-T8.** Outline drawing of the trackway (scale 1:50).

**S17. BSY1040-T9.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of BSY1040-T9-R3. Scale bar 30 cm. (C) Interpretative outline drawing of BSY1040-T9-R3. (D) False-colour depth map of BSY1040-T9-R3. Depth measured in mm.

**S18. TCH1000-TR1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1000-TR1-R2. Scale bar 30 cm. (C) Interpretative outline drawing of TCH1000-TR1-R2. (D) False-colour depth map of TCH1000-TR1-R2. Depth measured in mm;(E) Photo of TCH1000-TR1-L3. Scale bar 30 cm. (F) Interpretative outline drawing of TCH1000-TR1-L3. (G) False-colour depth map of TCH1000-TR1-L3. Depth measured in mm. (H) Photo of TCH1000-TR1-R3. Scale bar 30 cm. (I) Interpretative outline drawing of TCH1000-TR1-R3. (J) False-colour depth map of TCH1000-TR1-R3. Depth measured in mm.

**S19. TCH1000-TR2.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1000-TR1-R9. Scale bar 30 cm. (C) Interpretative outline drawing of TCH1000-TR1-R9. (D) False-colour depth map of TCH1000-TR1-R9. Depth measured in mm;(E) Photo of TCH1000-TR1-L10. Scale bar 30 cm. (F) Interpretative outline drawing of TCH1000-TR1-L10. (G) False-colour depth map of TCH1000-TR1-L10. Depth measured in mm. (H) Photo of TCH1000-TR1-R10. Scale bar 30 cm. (I) Interpretative outline drawing of TCH1000-TR1-R10. (J) False-colour depth map of TCH1000-TR1-R10. Depth measured in mm. (K) Photo of TCH1000-TR1-L12. Scale bar 30 cm. (L) Interpretative outline drawing of TCH1000-TR1-L12. (M) False-colour depth map of TCH1000-TR1-L12. Depth measured in mm. (N) Photo of TCH1000-TR1-R12. Scale 30 cm. (O) interpretative outline drawing of TCH1000-TR1-R12. (P) False-colour depth map of TCH1000-

TR1-R12. Depth measured in mm. (Q) Photo of TCH1000-TR1-L13. Scale bar 30 cm. (R) Interpretative outline drawing of TCH1000-TR1-L13. (S) False-colour depth map of TCH1000-TR1-L13. Depth measured in mm.

**S20. TCH1015-T1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1015-T1-L2. Scale bar 30 cm. (C) Interpretative outline drawing of TCH1015-T1-L2. (D) False-colour depth map of TCH1015-T1-L2. Depth measured in mm; (E) Photo of TCH1015-T1-R3. Scale 20 cm. (F) Interpretative outline drawing of TCH1015-T1-R3. (G) False-colour depth map of TCH1015-T1-R3. Depth measured in mm.

**S21. TCH1020-T1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1020-T1-R2. Scale bar 30 cm. (C) Interpretative outline drawing of TCH1020-T1-R2. (D) False-colour depth map of TCH1020-T1-R2. Depth measured in mm.

**S22. TCH1020-T2.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1020-T2-L1. Scale bar 18 cm (10 cm for the black/white scale bar). (C) Interpretative outline drawing of TCH1020-T2-L1. (D) False-colour depth map of TCH1020-T2-L1. Depth measured in mm; (E) Photo of TCH1020-T2-R1. Scale bar 20 cm. (F) Interpretative outline drawing of TCH1020-T2-R1. (G) False-colour depth map of TCH1020-T2-R1. Depth measured in mm. (H) Photo of TCH1020-T2-R2. Scale bar 18 cm (10 cm for the black/white scale bar). (I) Interpretative outline drawing of TCH1020-T2-R2. (J) False-colour depth map of TCH1020-T2-R2. Depth measured in mm.

**S23. TCH1020-T3. Outline drawing of the trackway (scale 1:50).**

**S24. TCH1025-T1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1025-T1-L4. Scale bar 20 cm. (C) Interpretative outline drawing of TCH1025-T2-L1. (D) False-colour depth map of TCH1025-T1-L4. Depth measured in mm.

**S25. TCH1025-T2.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1025-T2-L1 (paratype). Scale bar 20 cm. (C) Interpretative outline drawing of TCH1025-T2-L1. (D) False-colour depth map of TCH1025-T2-L1 Depth measured in mm.

**S26. TCH1030-T1.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1030-T1-R4. Scale bar 20 cm. (C) Interpretative outline drawing of TCH1030-T1-R4. (D) False-colour depth map of TCH1030-T1-R4. Depth measured in mm.

**S27. TCH1030-T2.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1030-T2-R2 (paratype). Scale bar 30 cm. (C) interpretative outline drawing of TCH1030-T2-R2. (D) False-colour depth map of TCH1030-T2-R2. Depth measured in mm; (E) Photo of TCH1030-T2-L3 (paratype). Scale bar 30 cm. (F) Interpretative outline drawing of TCH1030-T2-L3. (G) False-colour depth map of TCH1030-T2-L3. Depth measured in mm. (H) Photo of TCH1030-T2-R3. Scale bar 30 cm. (I) Interpretative outline drawing of TCH1030-T2-R3. (J) False-colour depth map of TCH1030-T2-R3. Depth measured in mm.

**S28. Trackways from level TCH1030.**

(A) Outline drawing of TCH1030-T3 (scale 1:50). (B) Photo of TCH1030-T3-L1. Scale bar 30 cm. (C) Interpretative outline drawing of TCH1030-T3-L1. (D) False-colour depth map of TCH1030-T3-L1. Depth measured in mm;(E) Outline drawing of TCH1030-T3 (scale 1:50).


**S29. TCH1020-T3. Outline drawing of trackway (scale 1:50).**

**S30 TCH1030-T6.**

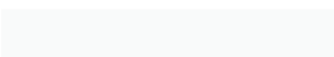
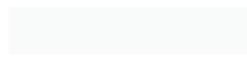
(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1030-T6-L2 (holotype). Scale bar 30 cm. (C) Interpretative outline drawing of TCH1030-T6-L2. (D) False-colour depth map of TCH1030-T6-L2. Depth measured in mm.

**S31 TCH1030-T7.**

(A) Outline drawing of the trackway (scale 1:50). (B) Photo of TCH1030-T7-L2 (paratype). Scale bar 30 cm. (C) interpretative outline drawing of TCH1030-T7-L2. (D) False-colour depth map of TCH1030-T7-L2. Depth measured in mm.



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**Supporting Information**  
supporting information captions.doc



Track no.	Slab no. (original)	Cast no. (copy)	Holo-type Para-type Ref. sp.	Interpretation	Overall track								da	Digit II				Digit III				Digit IV				CIV							
					Length & Width				AT		te/ PW	PL/ PW		PL	PL	PL	PL	PII	PII	PII	PII	PIII	PIII	PIII	PIII	PIV	PIV	PIV	PIV	PIV	PIV	PIV	PIV
					PL	PW	PW	PL	te	PW	PII	PII		PII	PII	PIII	PIII	PIII	PIII	PIII	PIII	PIII	PIII	PIII	PIV	PIV	PIV	PIV	PIV	PIV	PIV	PIV	PIV
Trackway																																	
BEB500-TR7																																	
BEB500-TR7-4.2																																	
BEB500-TR7-R2																																	
BEB500-TR7-R7																																	
BEB500-TR7-L10																																	
BEB500-TR7-R10																																	
BEB500-TR7-L11																																	
Mean values																																	
Trackway SCR1000-T18																																	
SCR008-R1																																	
Trackway SCR1000-T23																																	
SCR1000-T23-R1																																	
SCR1000-T23-L2																																	
SCR1000-T23-R2																																	
Mean values																																	
Trackway BSY1035-T6																																	
BSY1035-T6-L2																																	
BSY008-330																																	
Trackway BSY1040-T1																																	
BSY1040-T1-R1																																	
BSY1040-T1-L2																																	
BSY1040-T1-R2																																	
BSY1040-T1-L3																																	
BSY1040-T1-R3																																	
Mean values																																	
Trackway BSY1040-T9																																	
BSY1040-T9-R3																																	
BSY008-334																																	
Trackway TCH1000-TR1																																	
TCH1000-TR1-L2																																	
TCH1000-TR1-L3																																	
TCH1000-TR1-R3																																	
Mean values																																	
Trackway TCH1000-TR2																																	
TCH1000-TR2-R9																																	
TCH1000-TR2-L10																																	
TCH1000-TR2-R10																																	
TCH1000-TR2-L12																																	
TCH1000-TR2-R12																																	
Mean values																																	







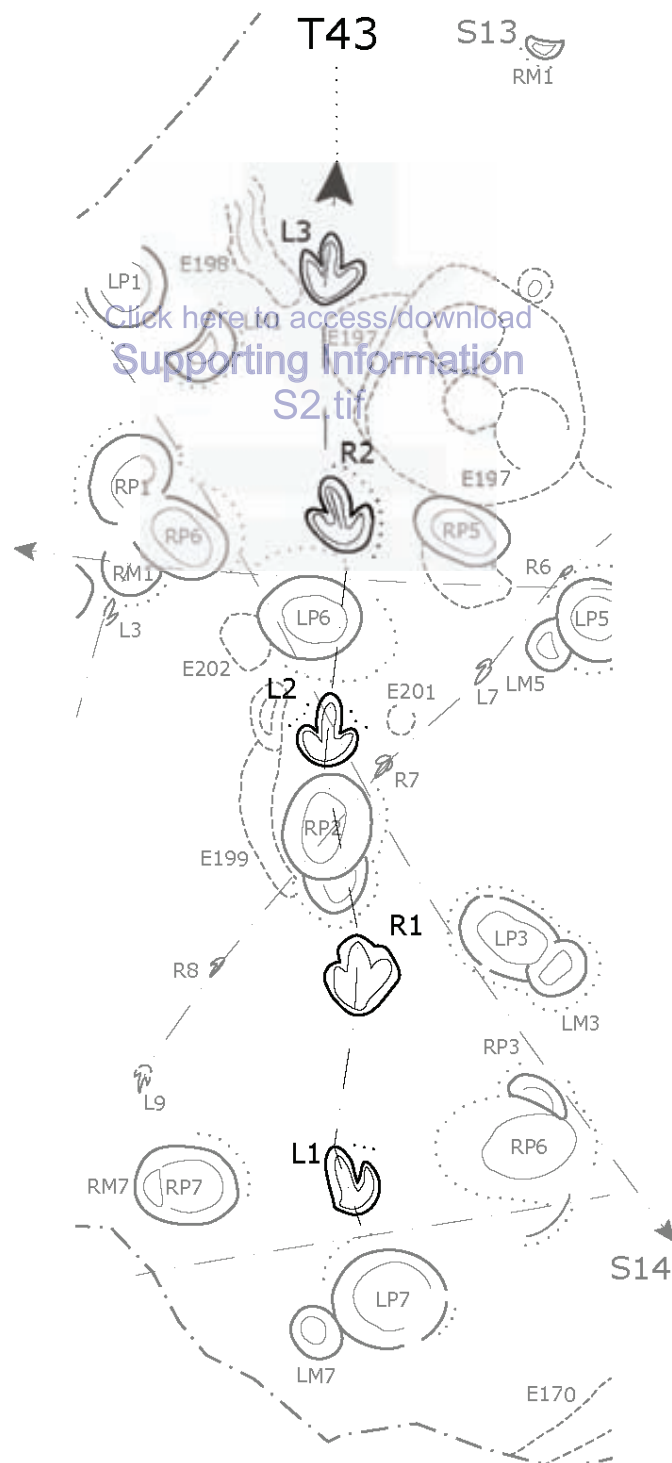



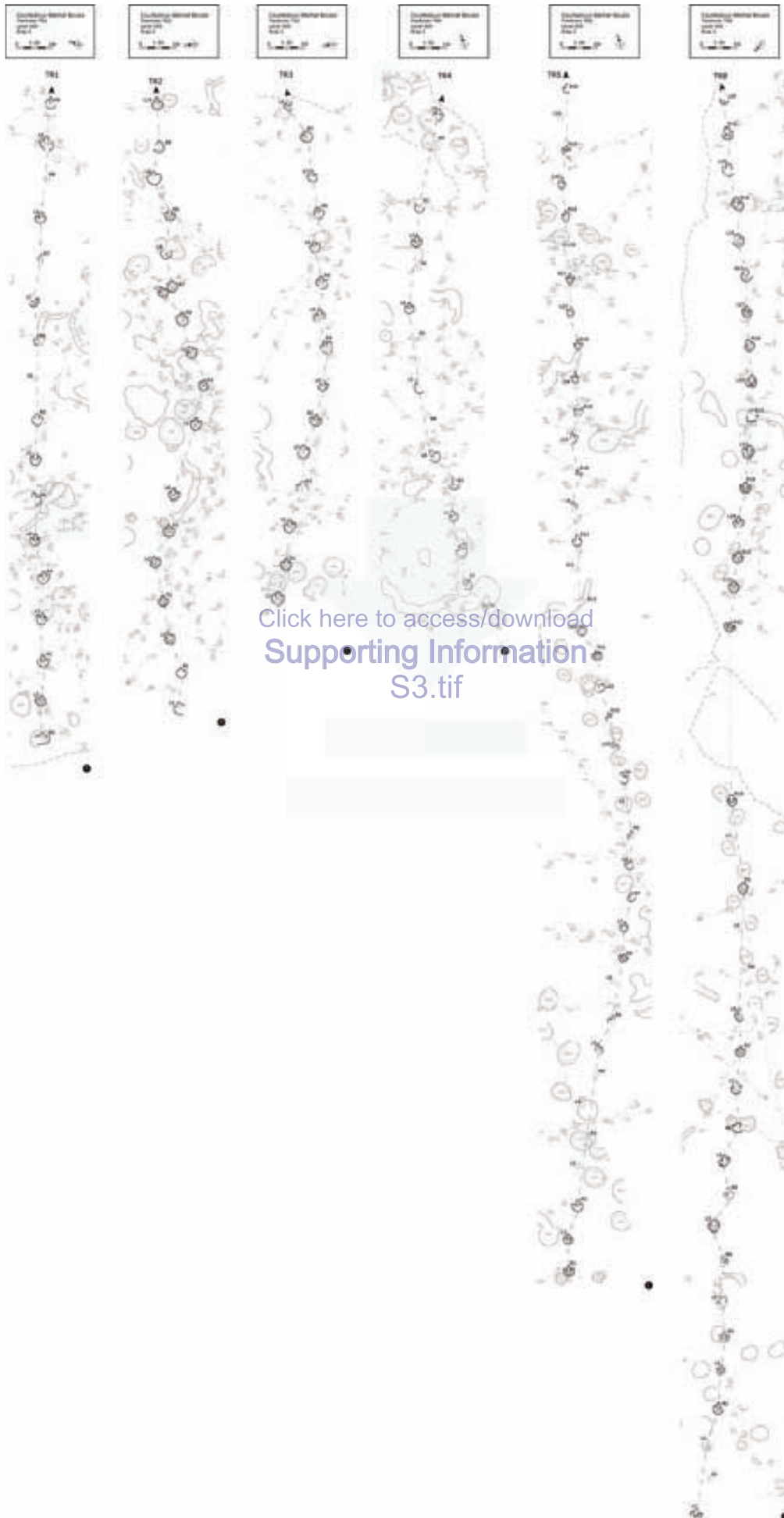




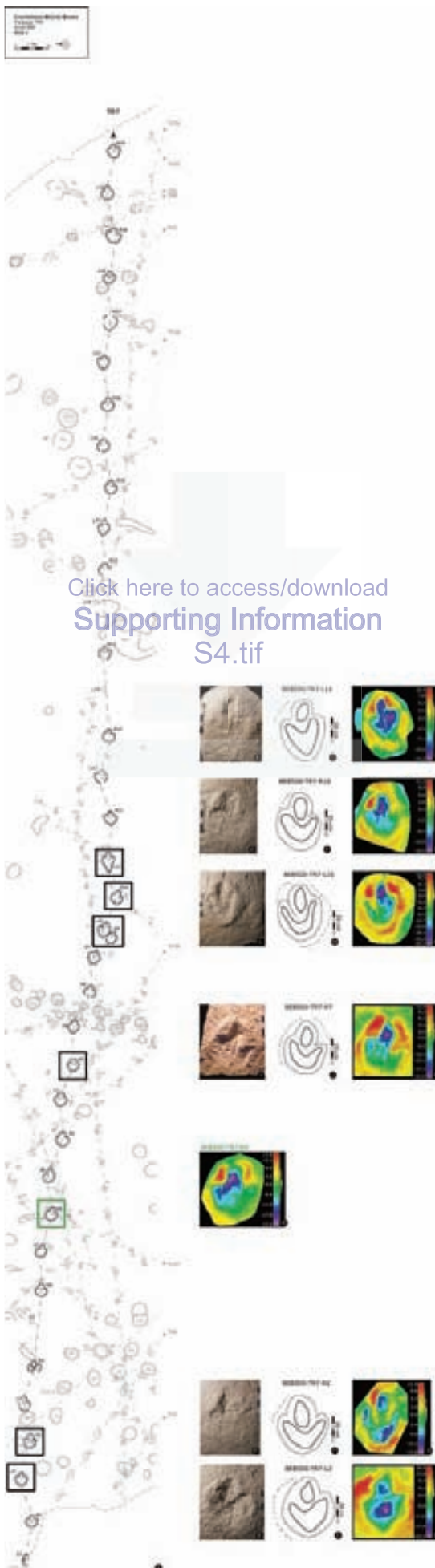
Chevenez-Combe Ronde  
Trackway T43  
Level 500  
Area 2

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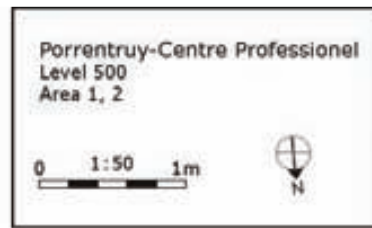




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S3.tif







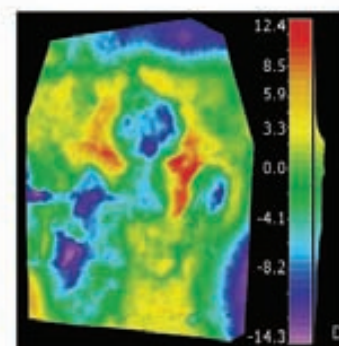
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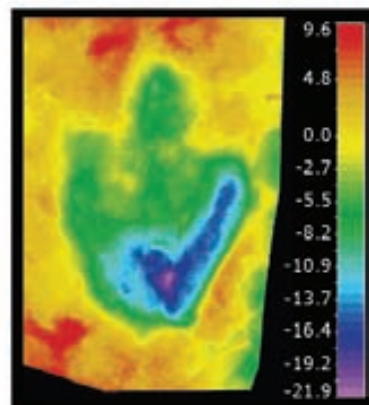
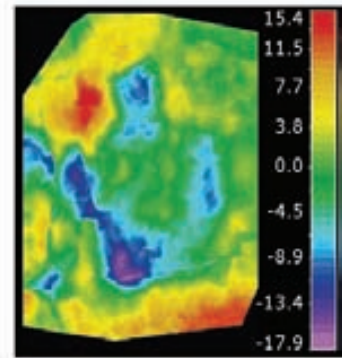
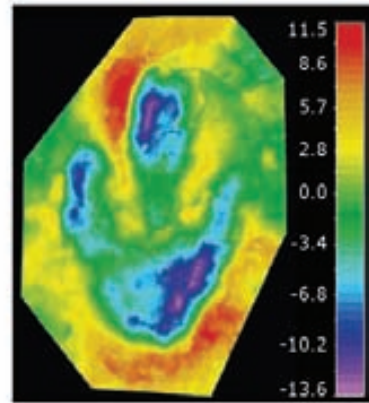
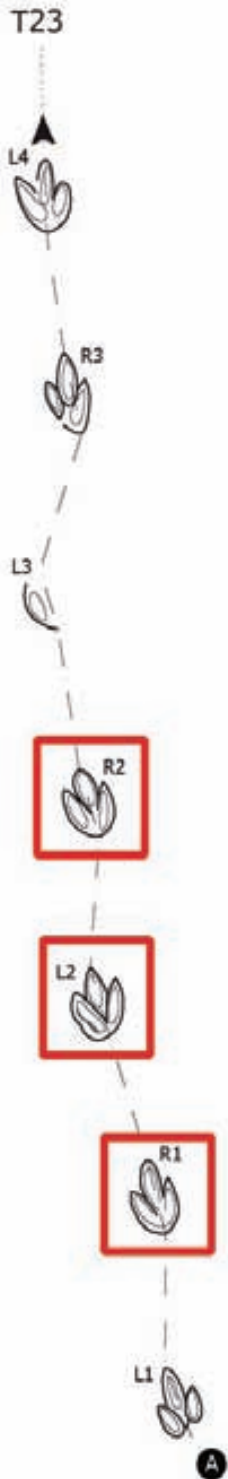
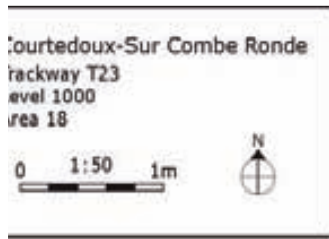


S6



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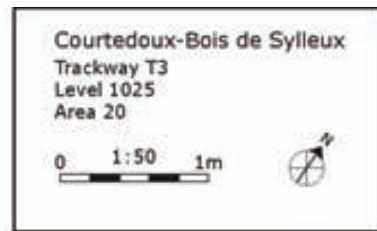
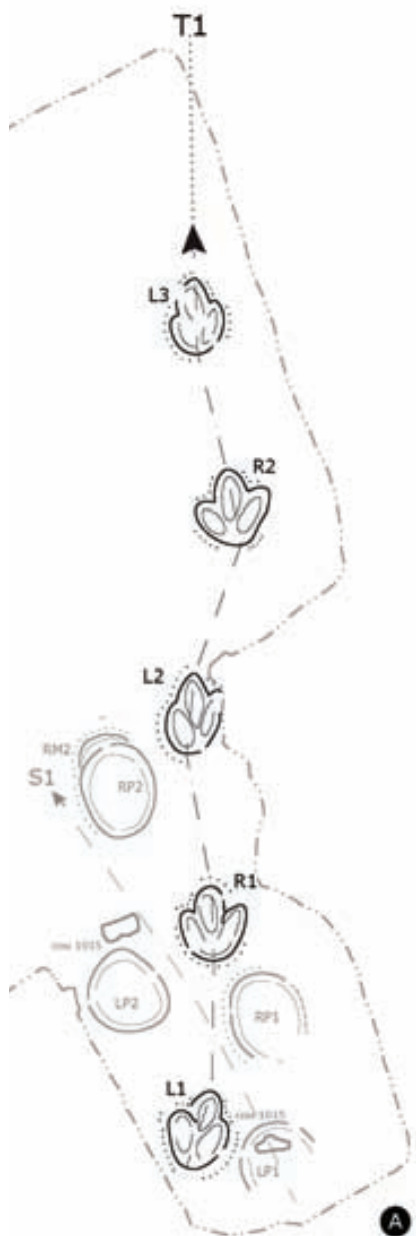
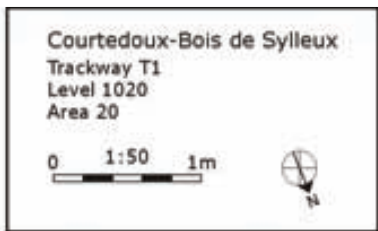
S8





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S10



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Supporting Information  
S10.tif

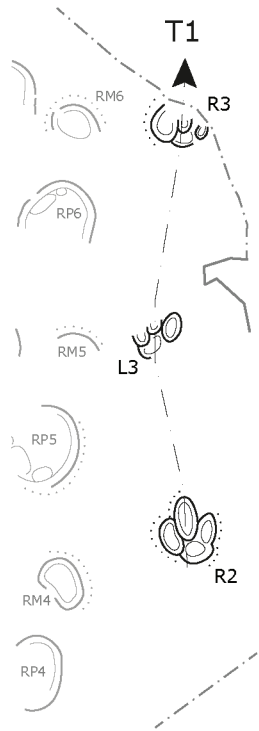



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S12

Courtedoux-Bois de Sylleux  
Trackway T1  
Level 1035  
Area 20

0 1:50 1m

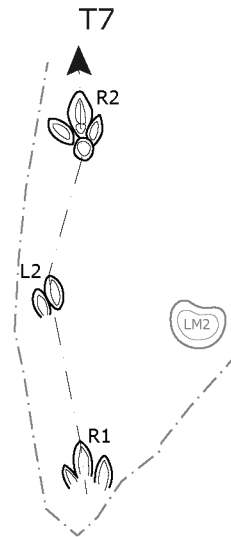



A

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S12.tif

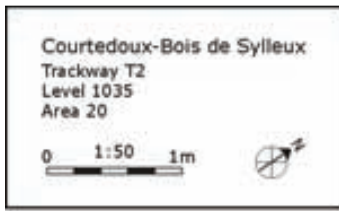
Courtedoux-Bois de Sylleux  
Trackway T7  
Level 1035  
Area 20

0 1:50 1m

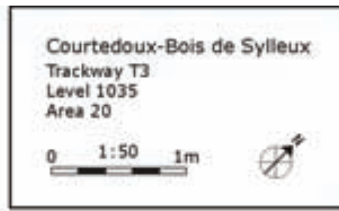


B

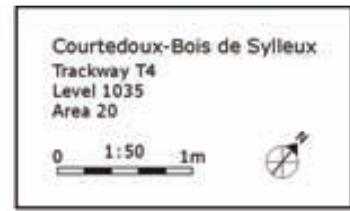




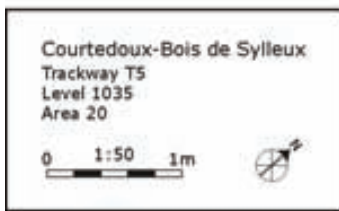
A



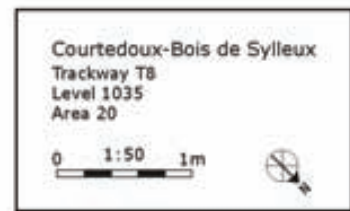
C



D



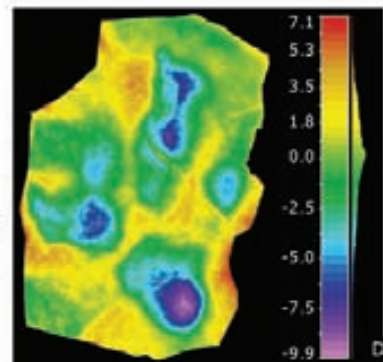
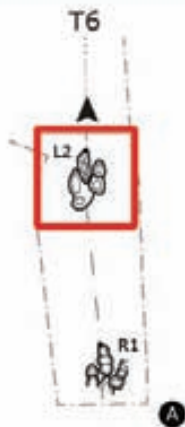
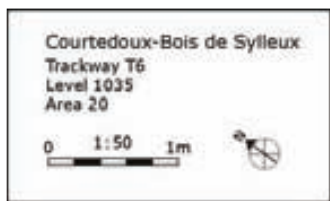
B



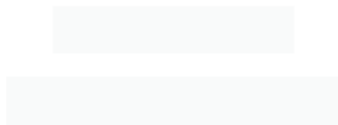
E

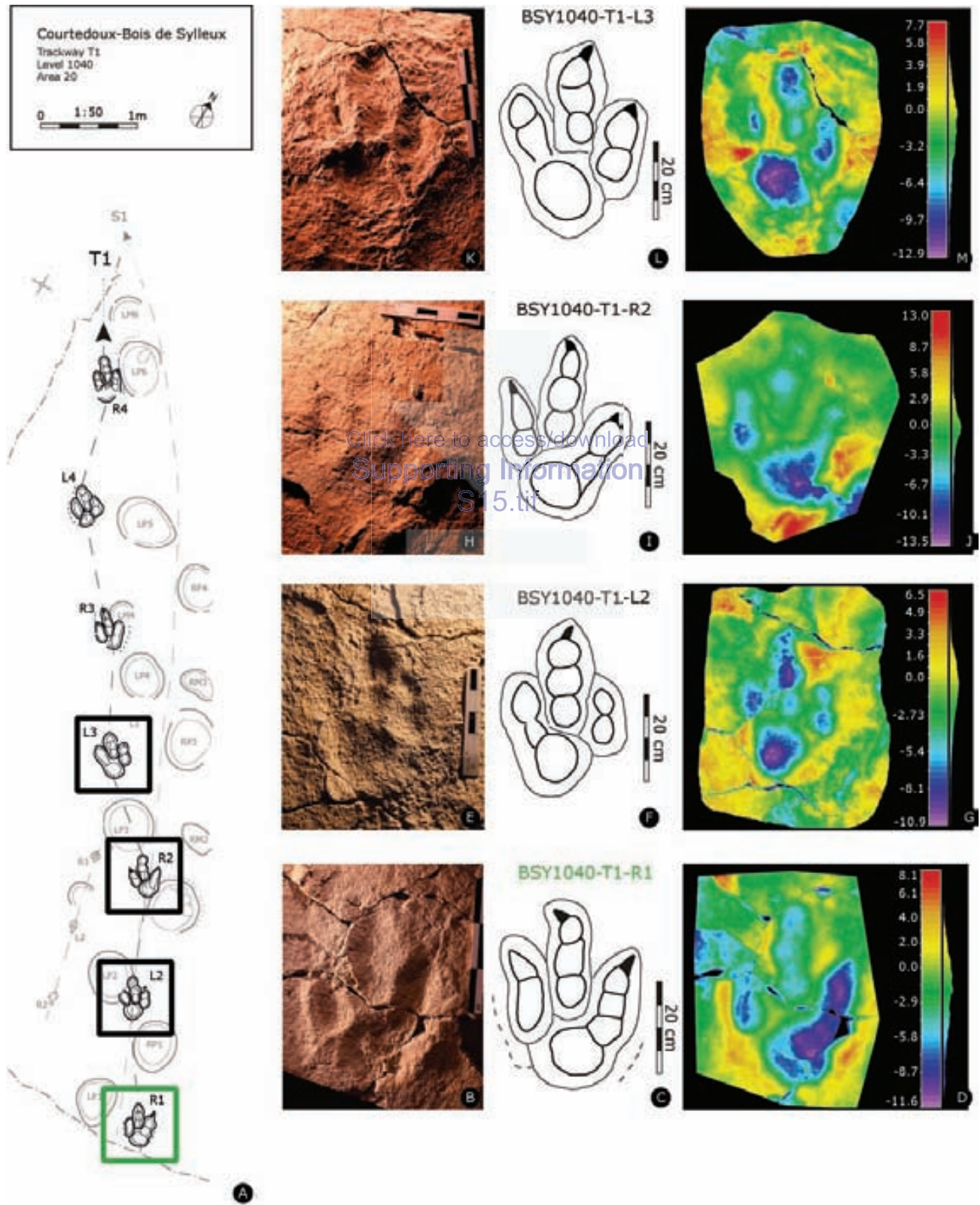
[Click here to access/download Supporting Information S13.tif](#)

S14



[Click here to access/download Supporting Information S14.tif](#)

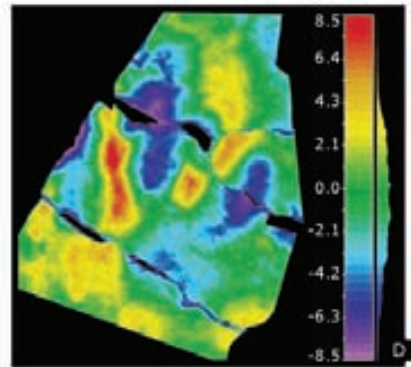
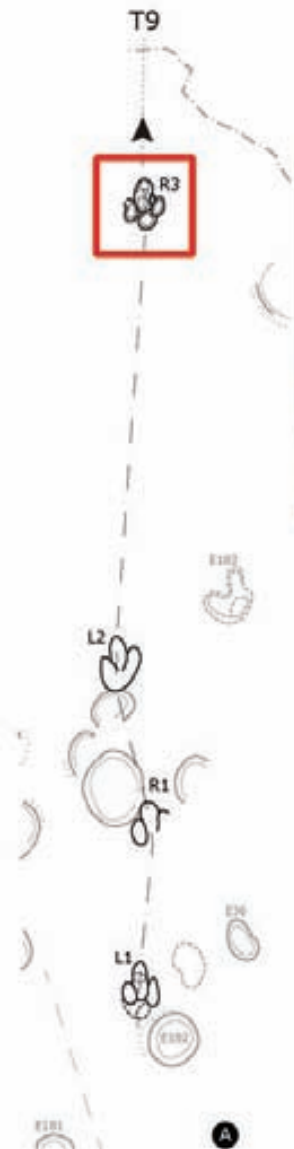
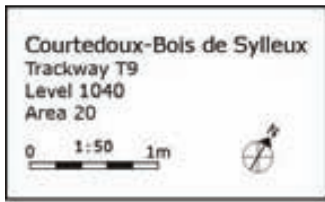




S16




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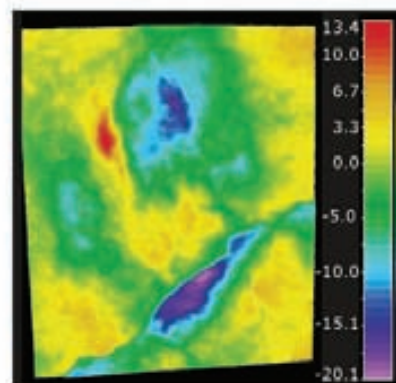
[Click here to access/download Supporting Information S17.tif](#)

Courtedoux-Tchâfouè  
Trackway TR1  
Level 1000  
Area 12

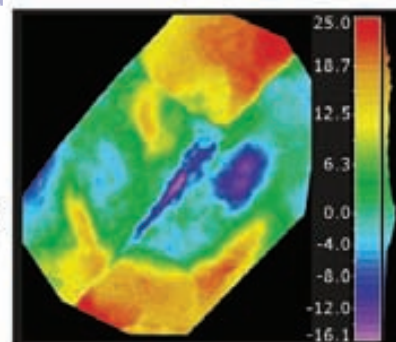
0 1:50 1m



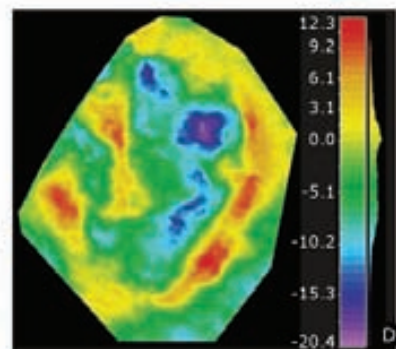
TCH1000-TR1-R3



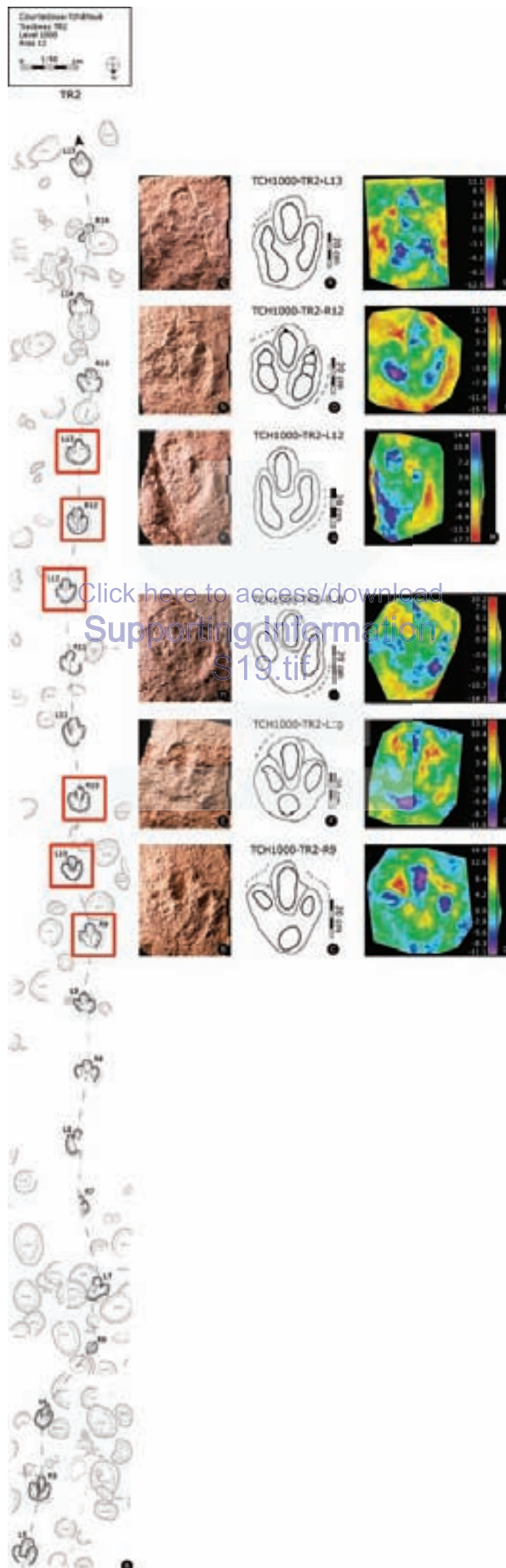
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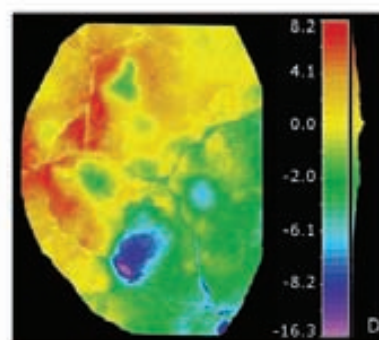
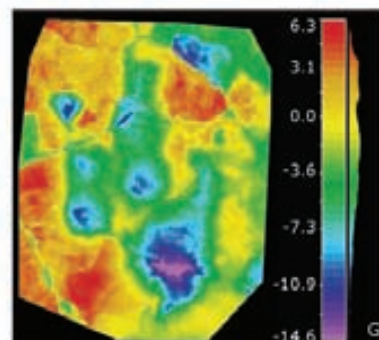
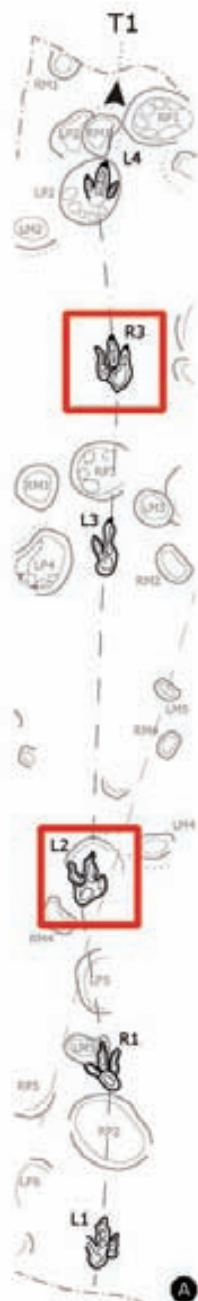
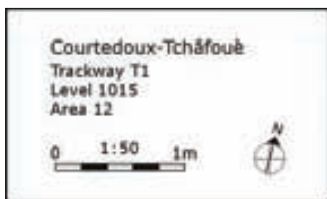


TCH1000-TR1-R2



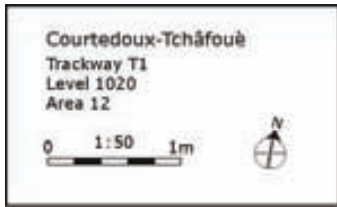
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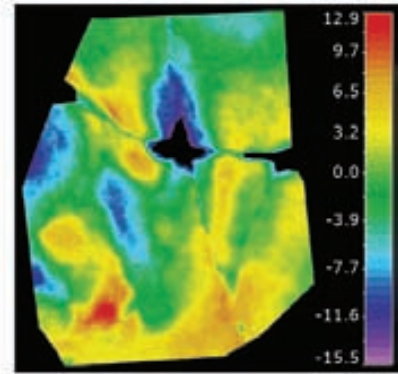


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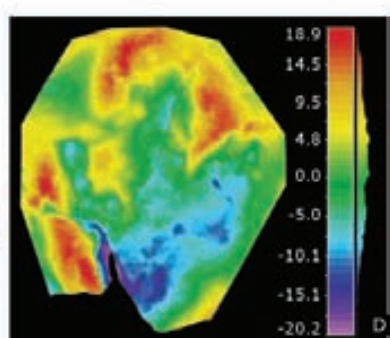
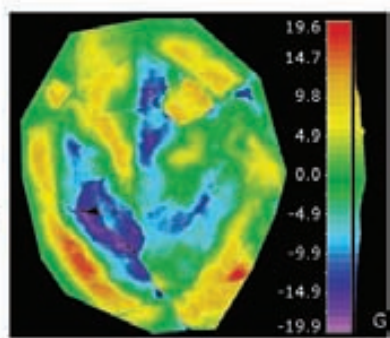
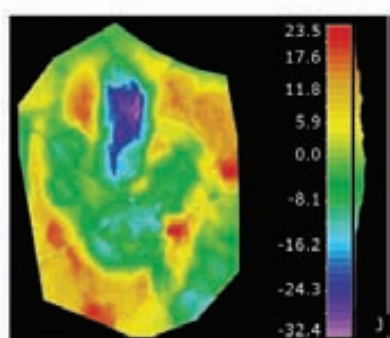
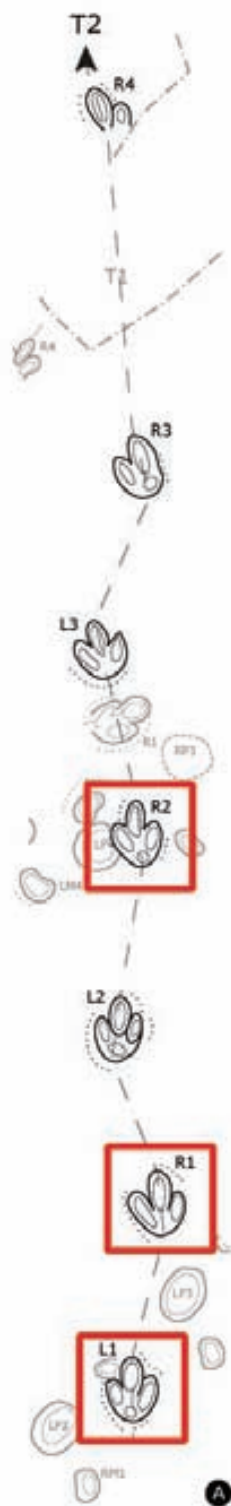




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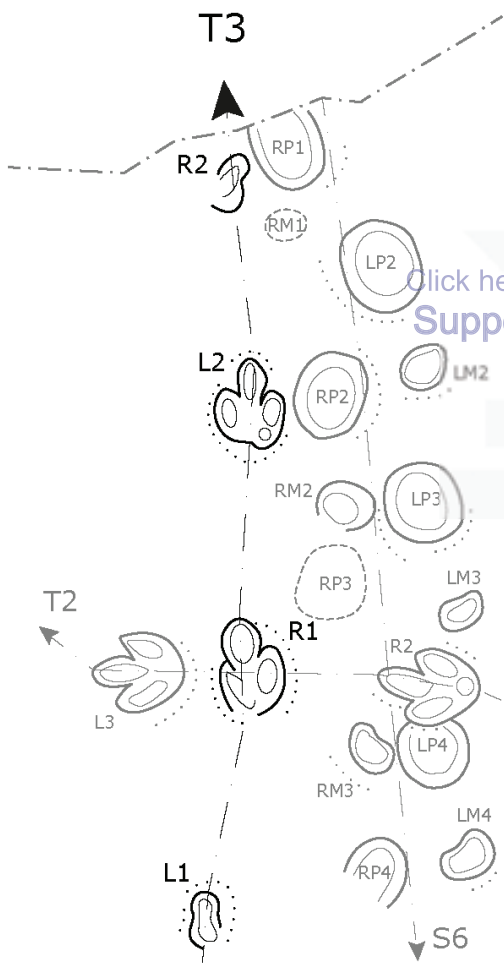

S22



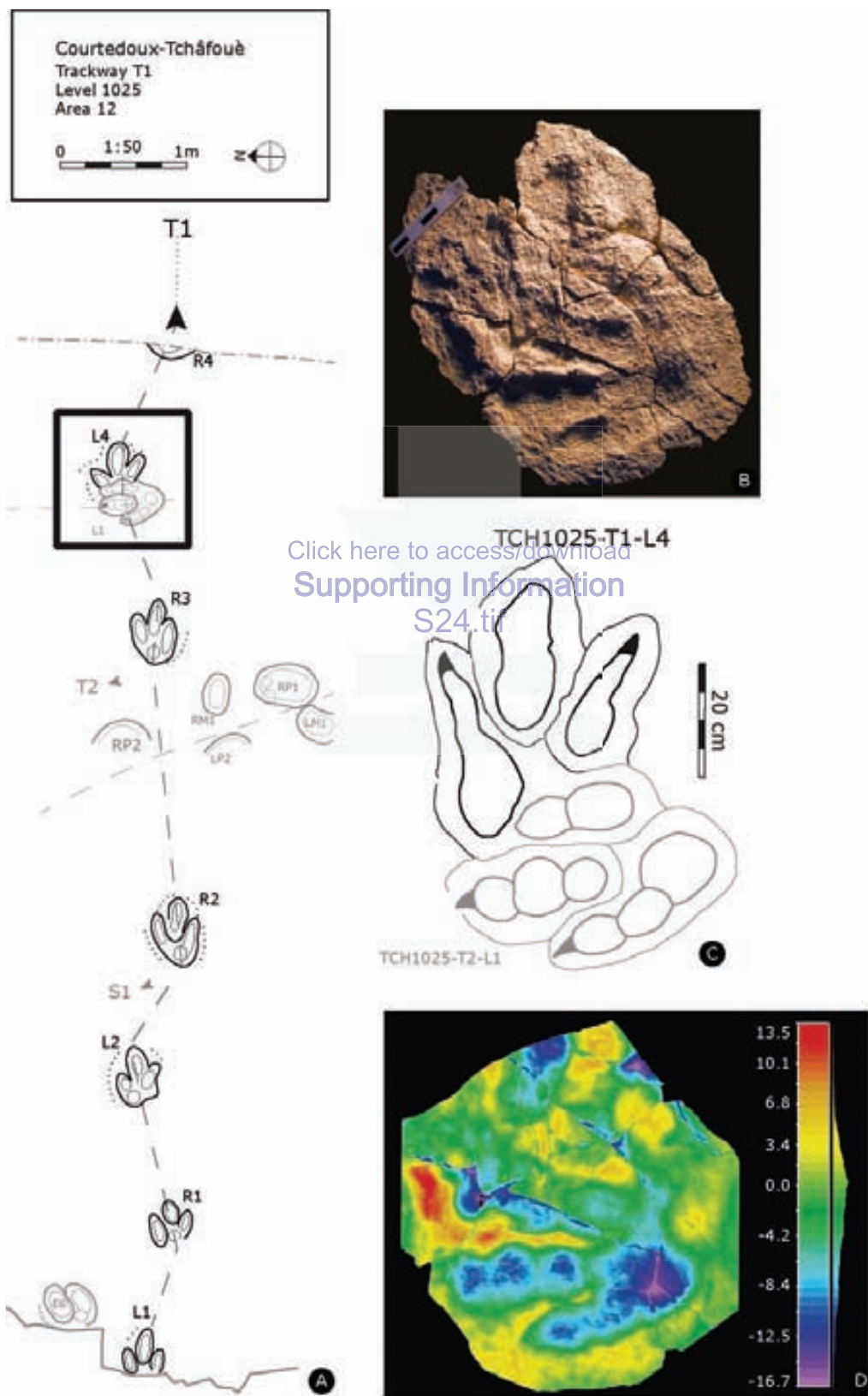
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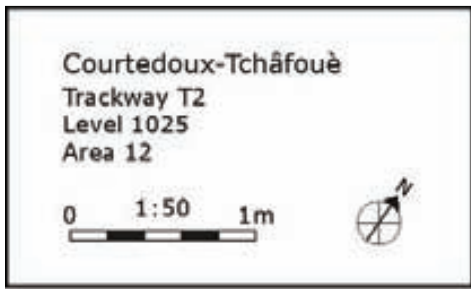
Courtedoux-Tchâfouè  
Trackway T3  
Level 1020  
Area 12

0 1:50 1m

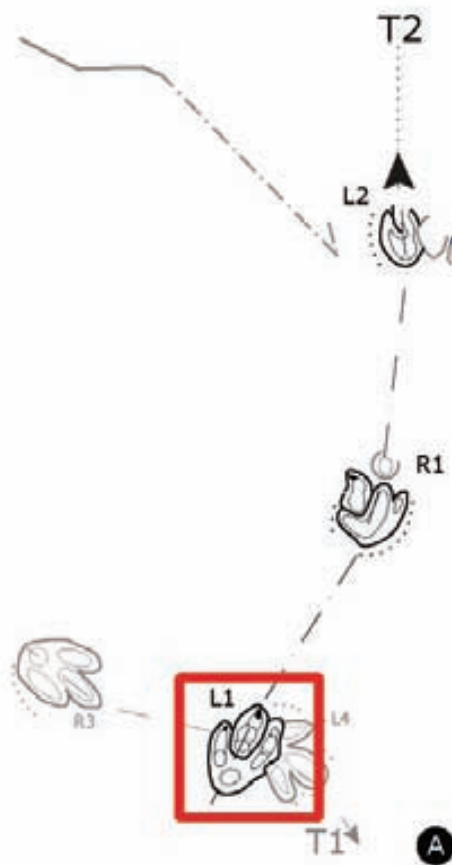


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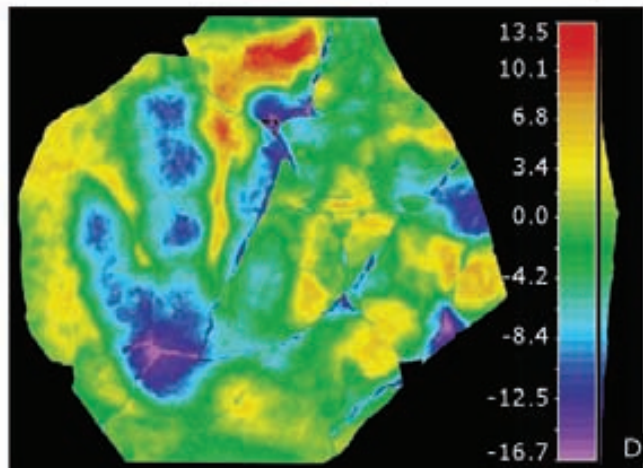
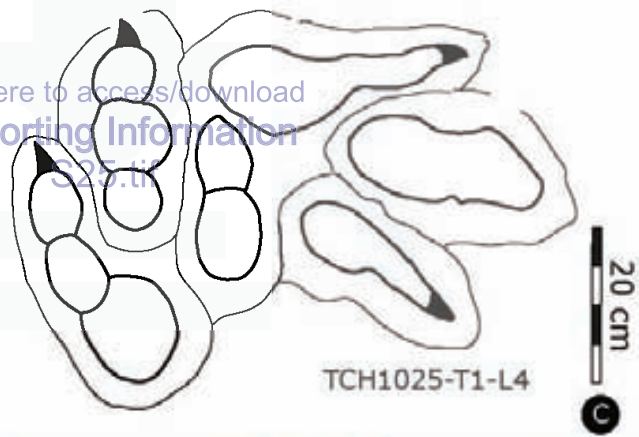


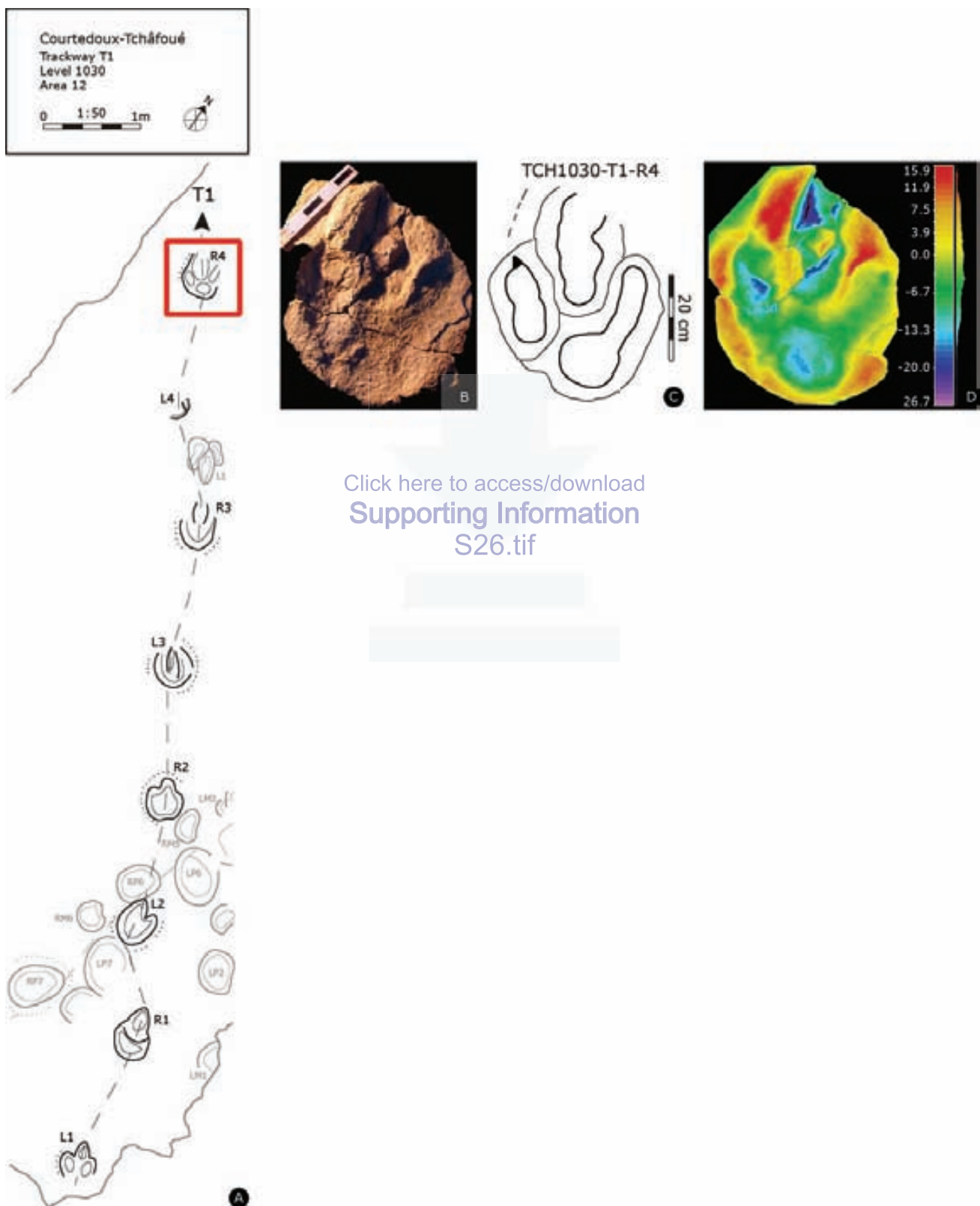


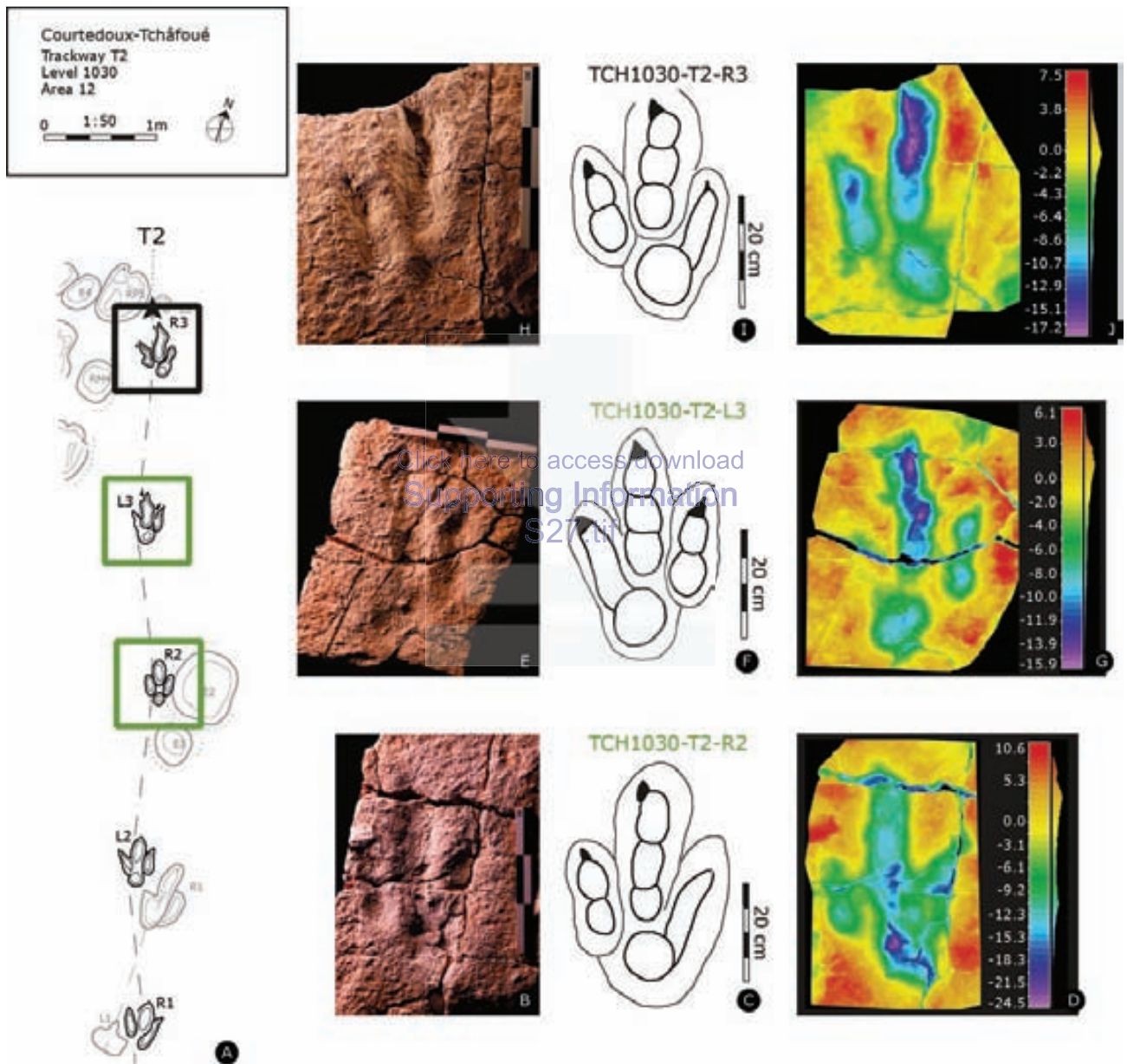
TCH1025-T2-L1

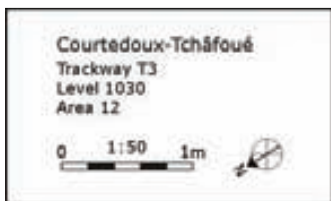


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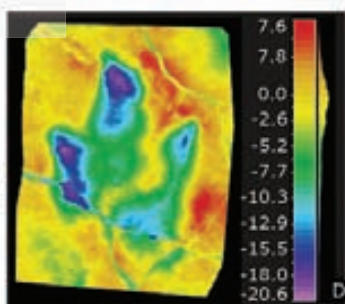




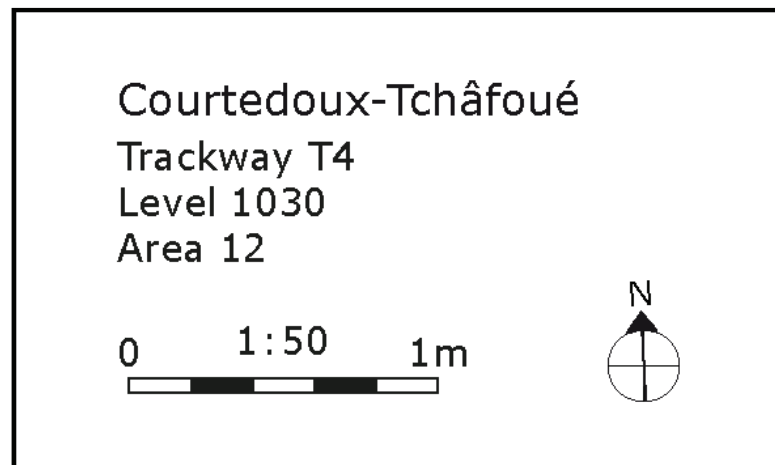




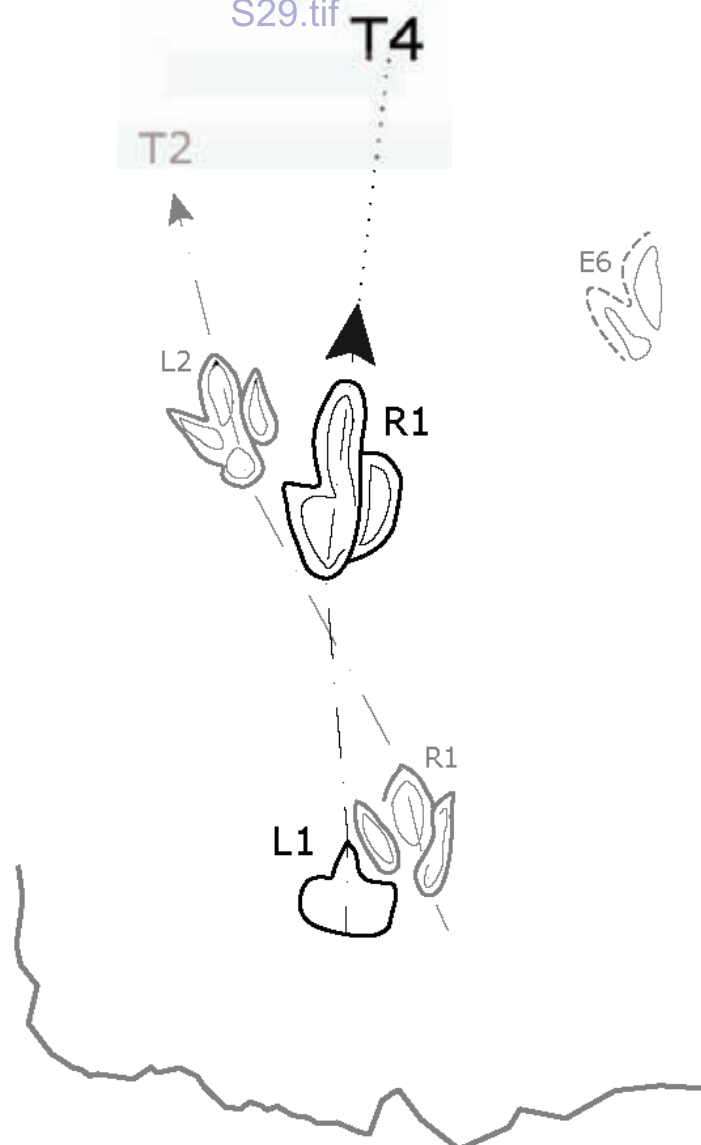
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S28.tif







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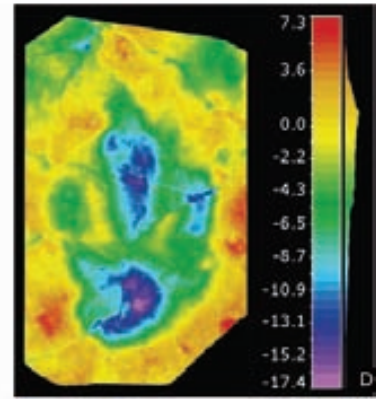

S30



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Courtedoux-Tchâfoué  
Trackway T7  
Level 1030  
Area 12

0 1:50 1m



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