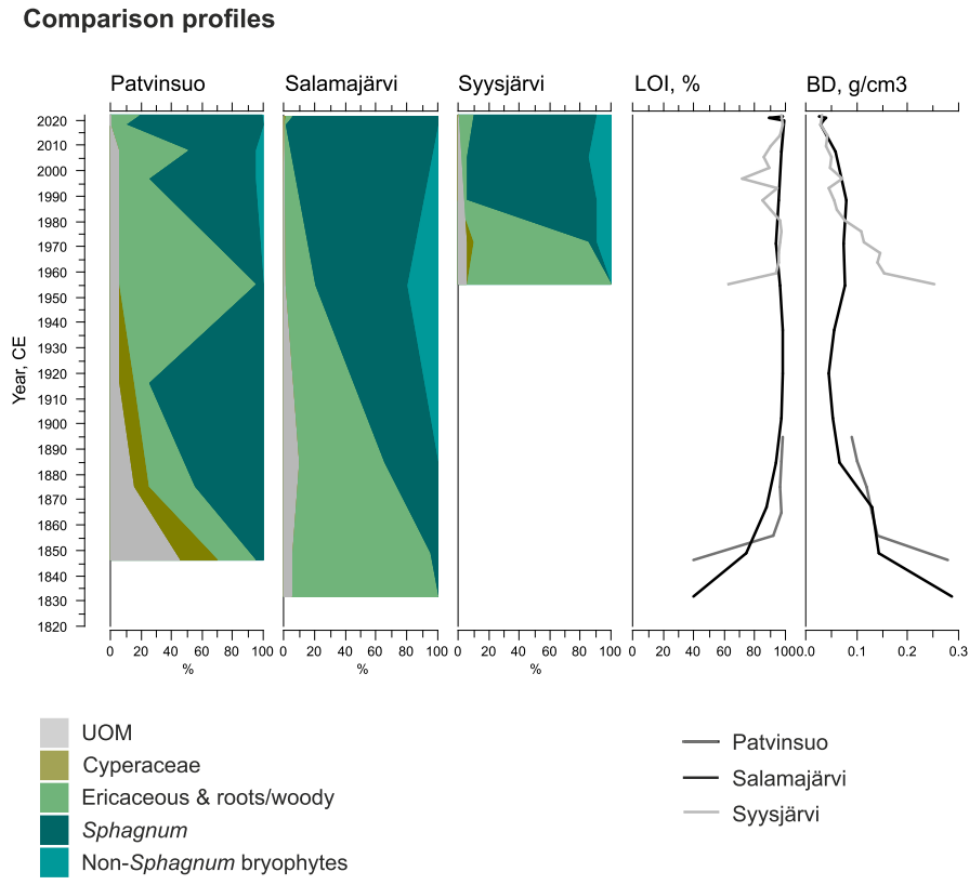
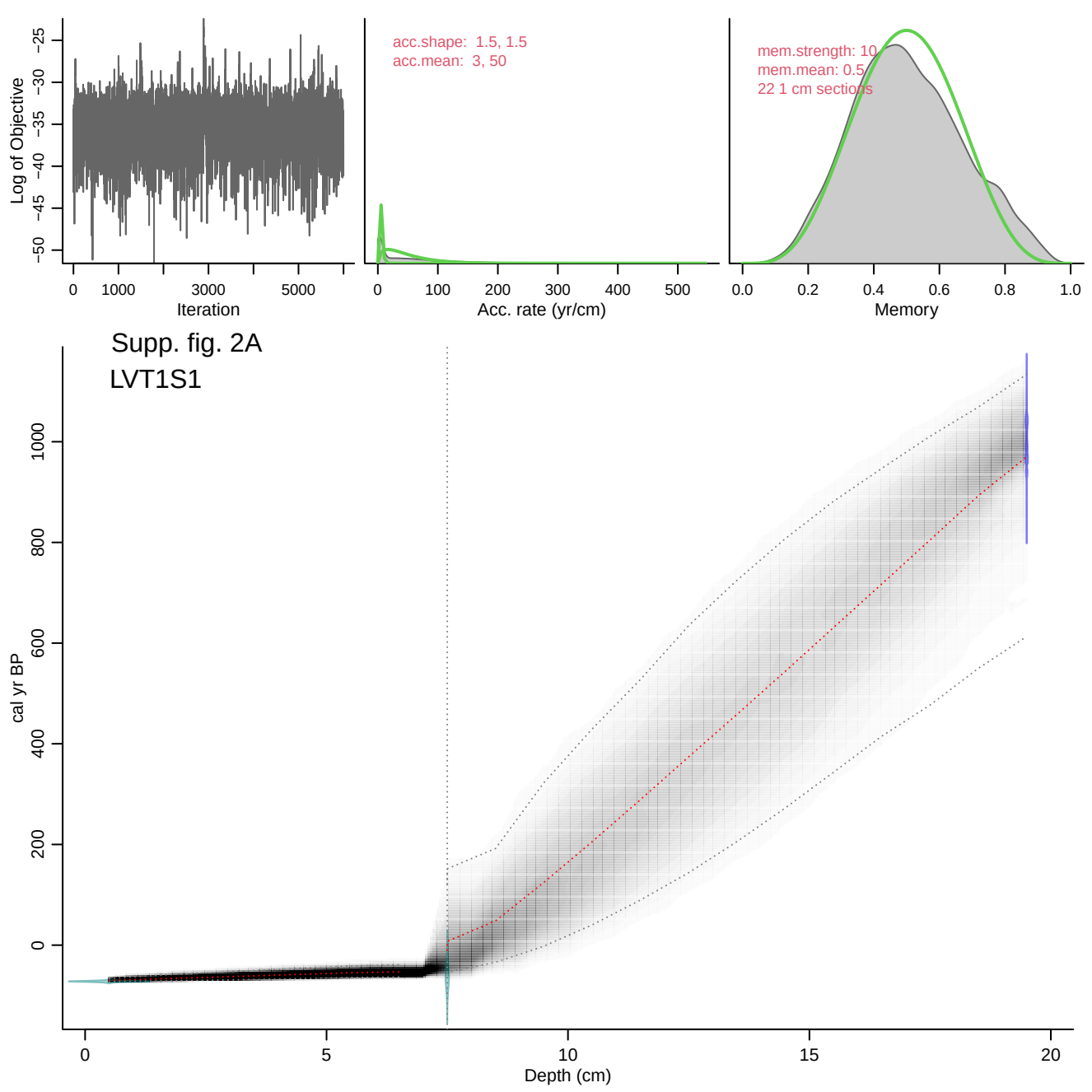
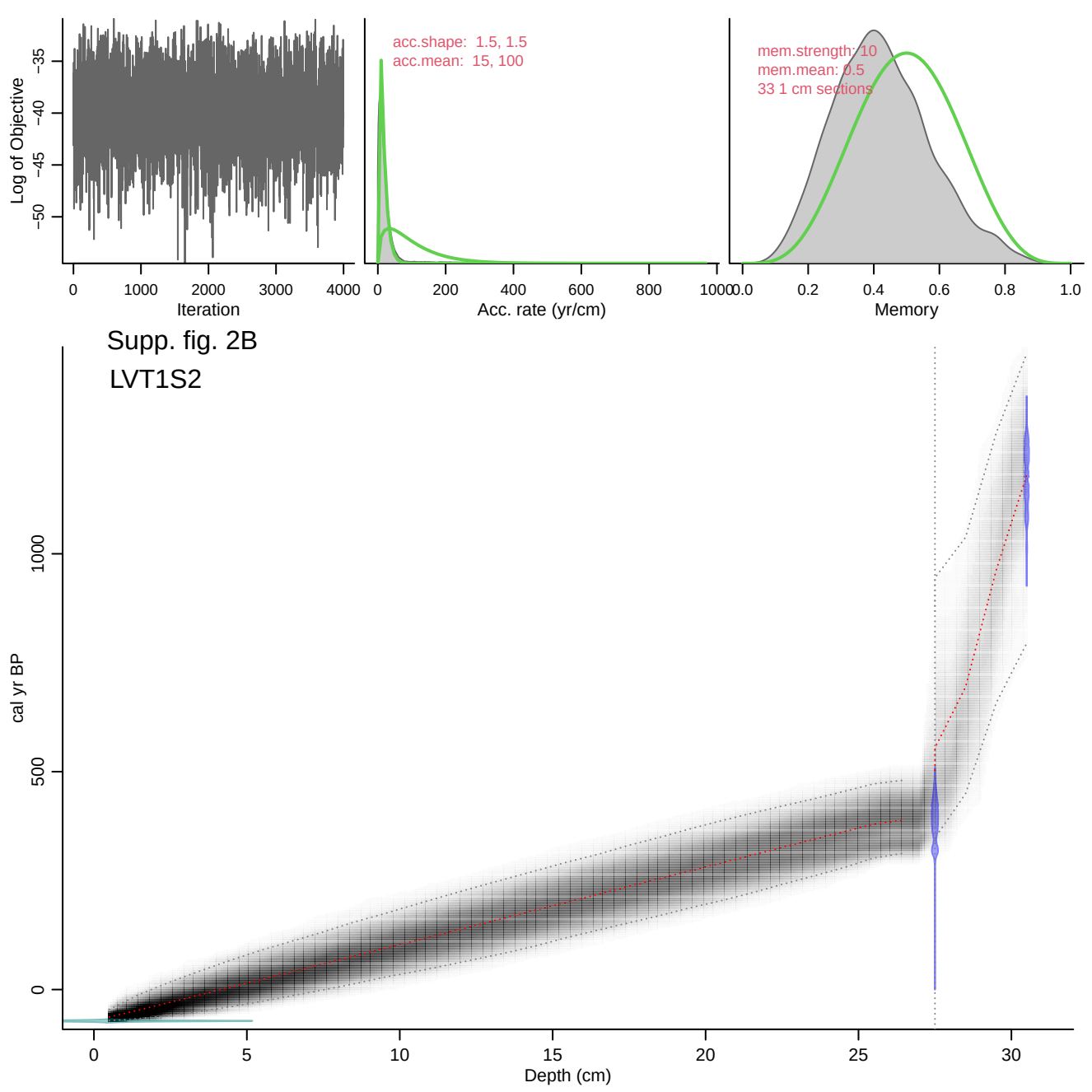
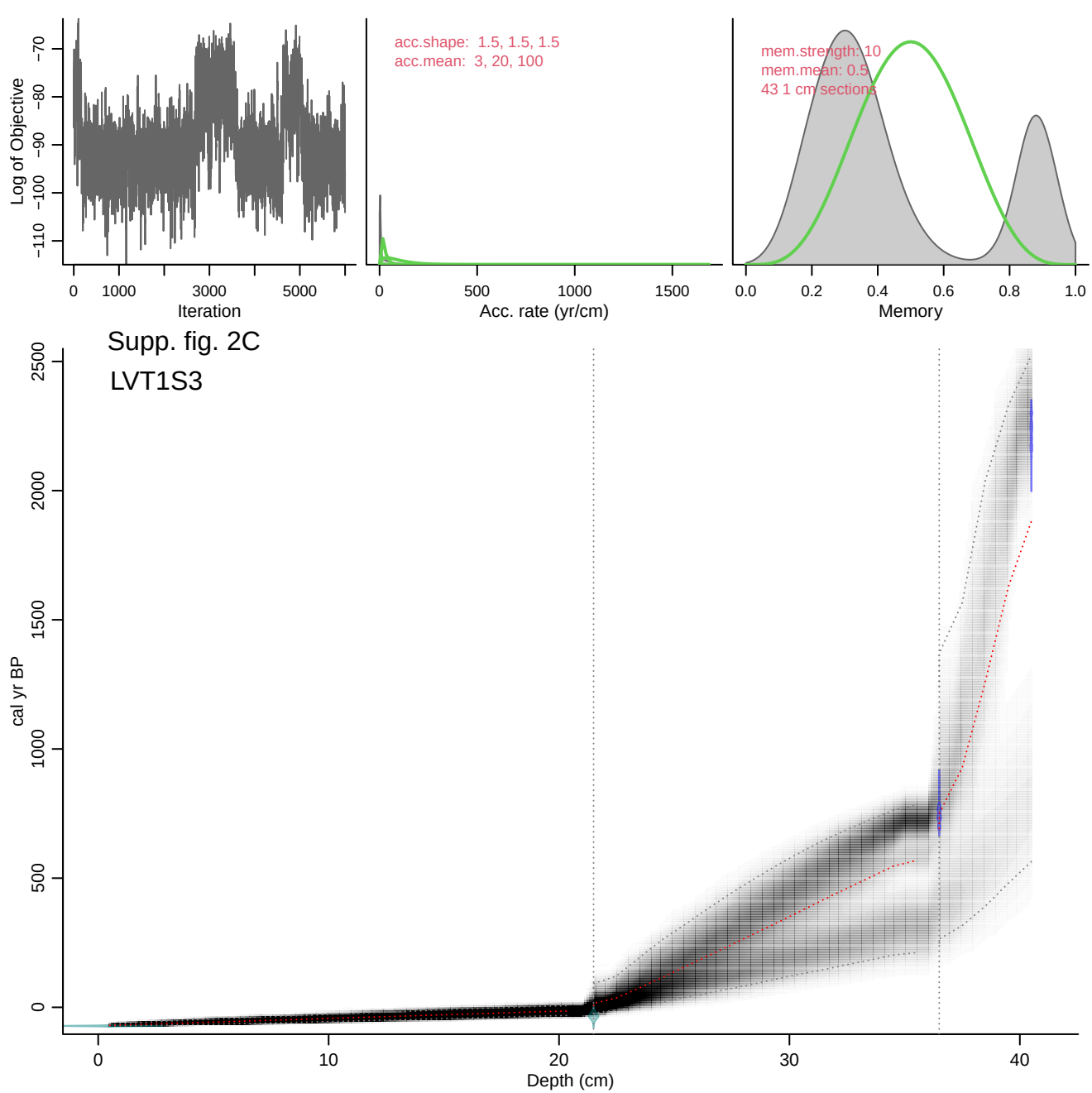
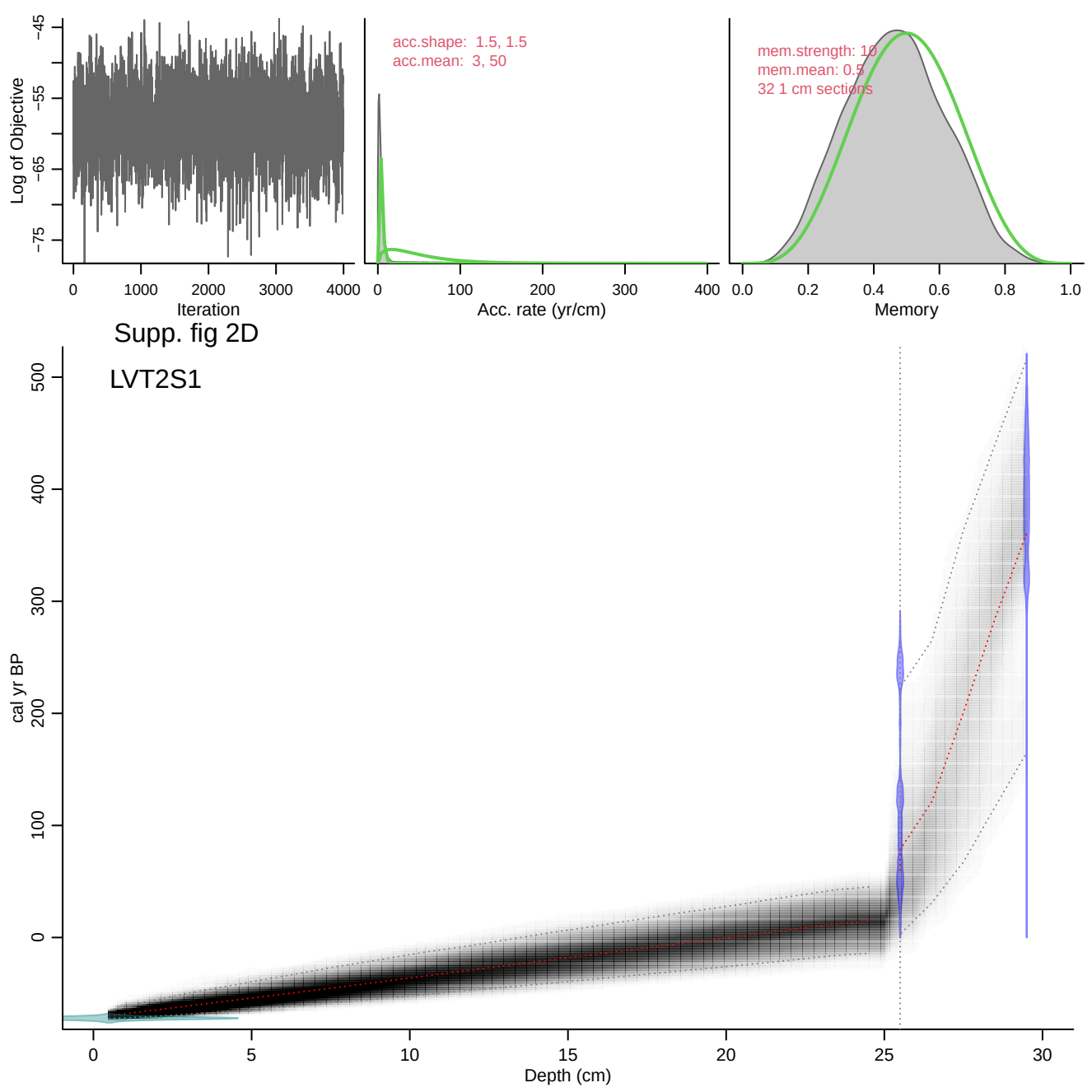


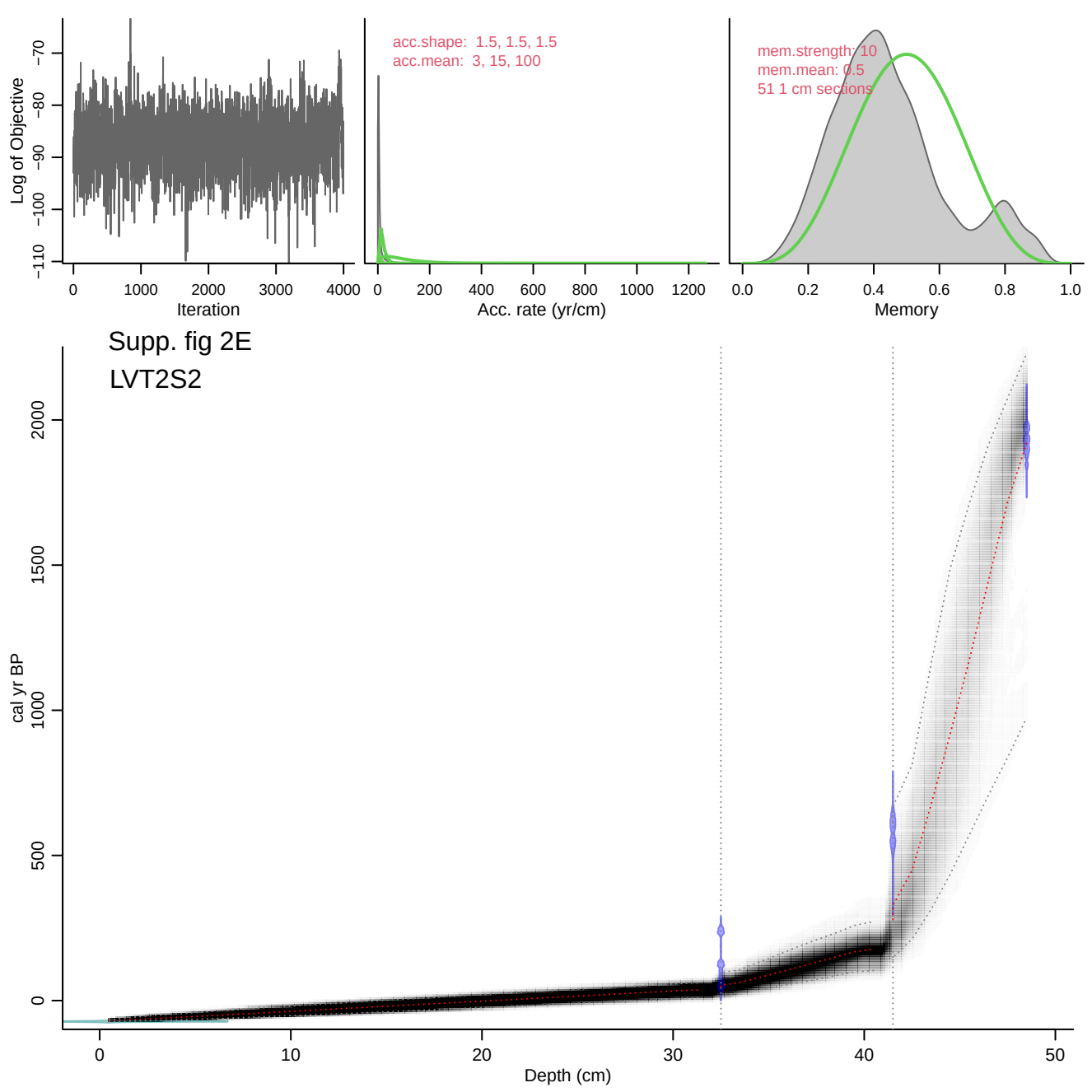
Supplementary figure 1. Fossil plant records (left) including undetected organic matter (UOM) and loss of ignition (LOI) and bulk density (BD) for supplementary profiles. Proportion of vegetation type and LOI in percentages (%), unit for bulk density is g/cm^3.

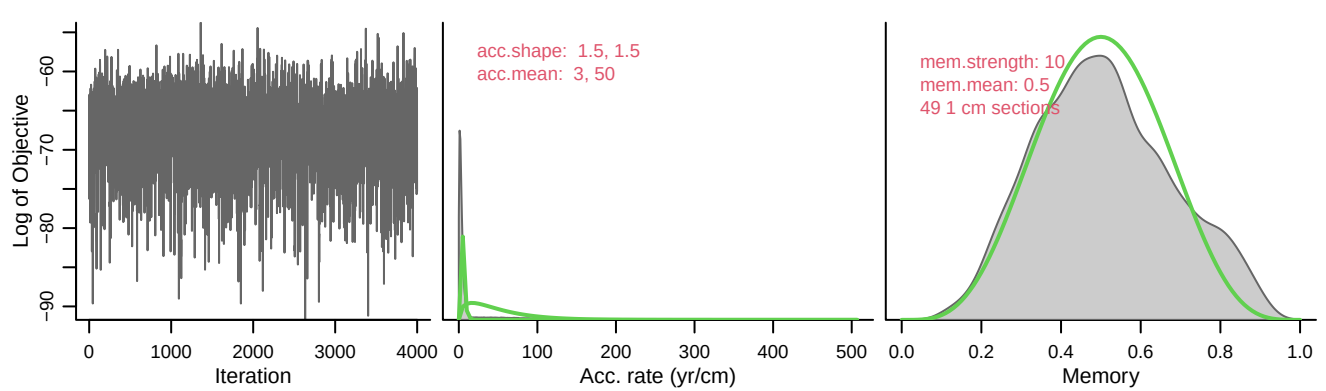

Log of Objective
−25
−30
−35
−40
−45
−50
0
1000
3000
5000
Iteration
acc.shape: 1.5, 1.5
acc.mean: 3, 50
0
100
200
300
400
500
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
22 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig. 2A
LVT1S1
cal yr BP
0
200
400
600
800
1000
0
5
10
15
20
Depth (cm)


Log of Objective
−35
−40
−45
−50
0
1000
2000
3000
4000
Iteration
acc.shape: 1.5, 1.5
acc.mean: 15, 100
0
200
400
600
800
1000
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
33 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig. 2B
LVT1S2
cal yr BP
0
500
1000
0
5
10
15
20
25
30
Depth (cm)


Log of Objective
−70
−80
−90
−100
−110
0
1000
3000
5000
Iteration
acc.shape: 1.5, 1.5, 1.5
acc.mean: 3, 20, 100
0
500
1000
1500
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
43 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig. 2C
LVT1S3
cal yr BP
2500
2000
1500
1000
500
0
0
10
20
30
40
Depth (cm)

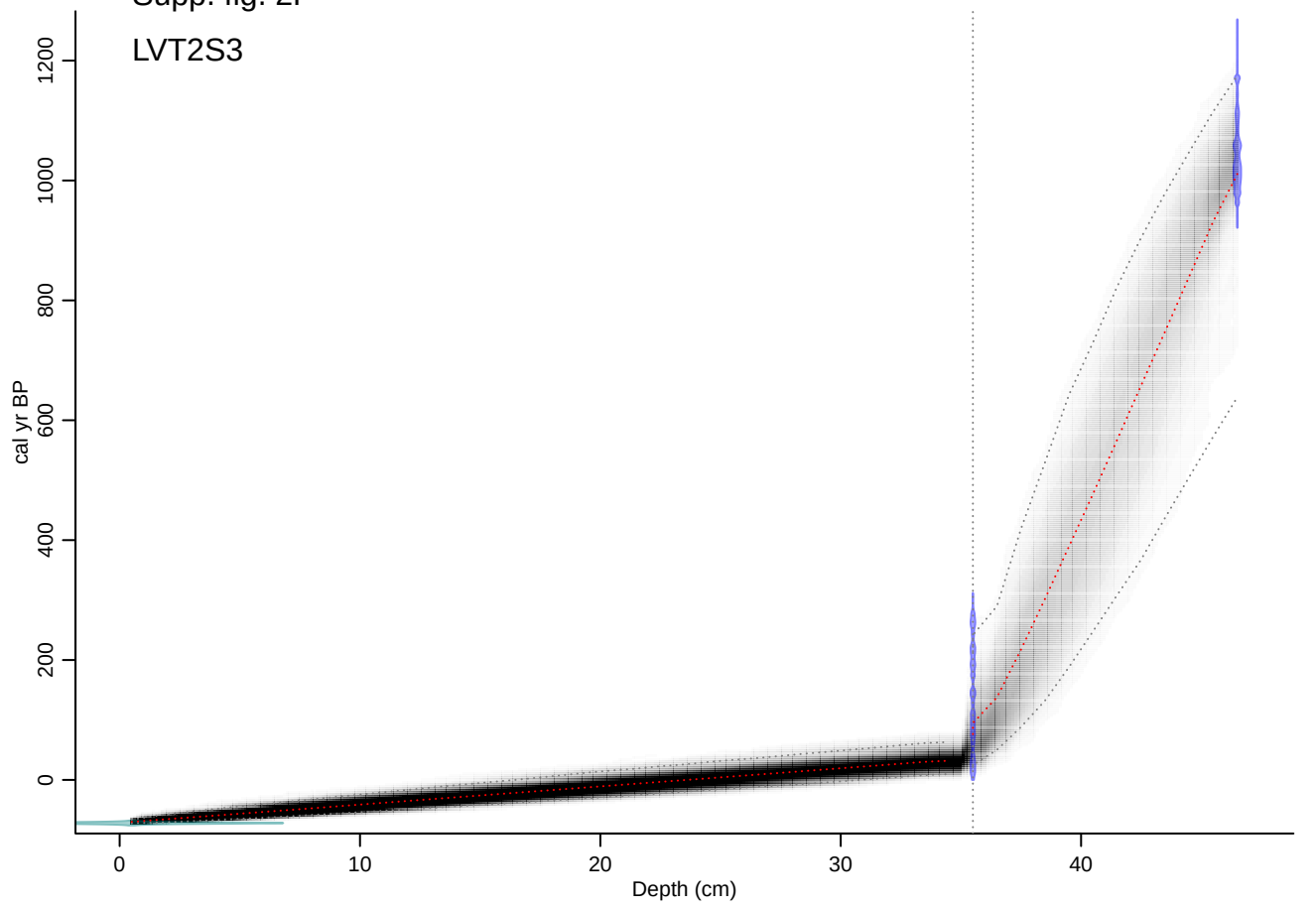

Log of Objective
−45
−55
−65
−75
0
1000
2000
3000
4000
Iteration
acc.shape: 1.5, 1.5
acc.mean: 3, 50
0
100
200
300
400
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
32 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig 2D
LVT2S1
cal yr BP
0
100
200
300
400
500
0
5
10
15
20
25
30
Depth (cm)

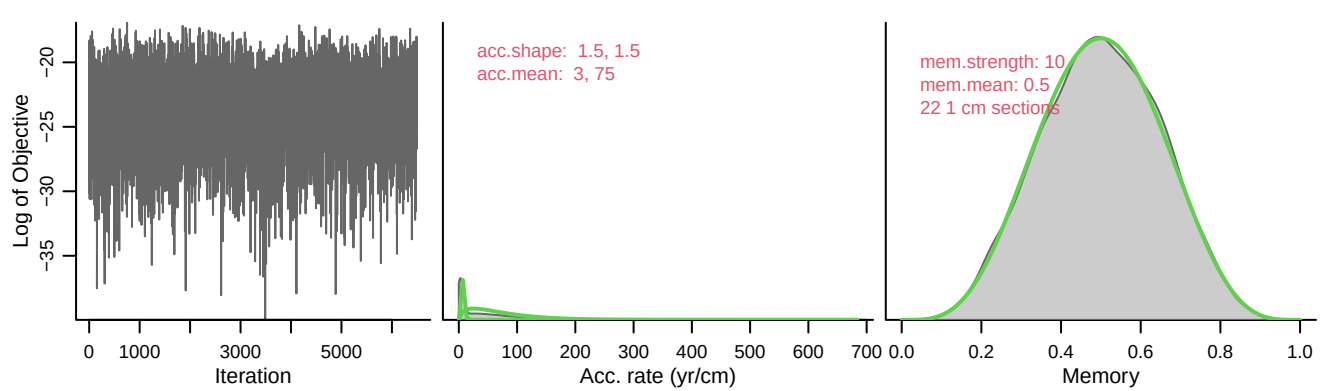

Log of Objective
−70
−80
−90
−100
−110
0
1000
2000
3000
4000
Iteration
acc.shape: 1.5, 1.5, 1.5
acc.mean: 3, 15, 100
0
200
400
600
800
1000
1200
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
51 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig 2E
LVT2S2
cal yr BP
0
500
1000
1500
2000
0
10
20
30
40
50
Depth (cm)



Supp. fig. 2F

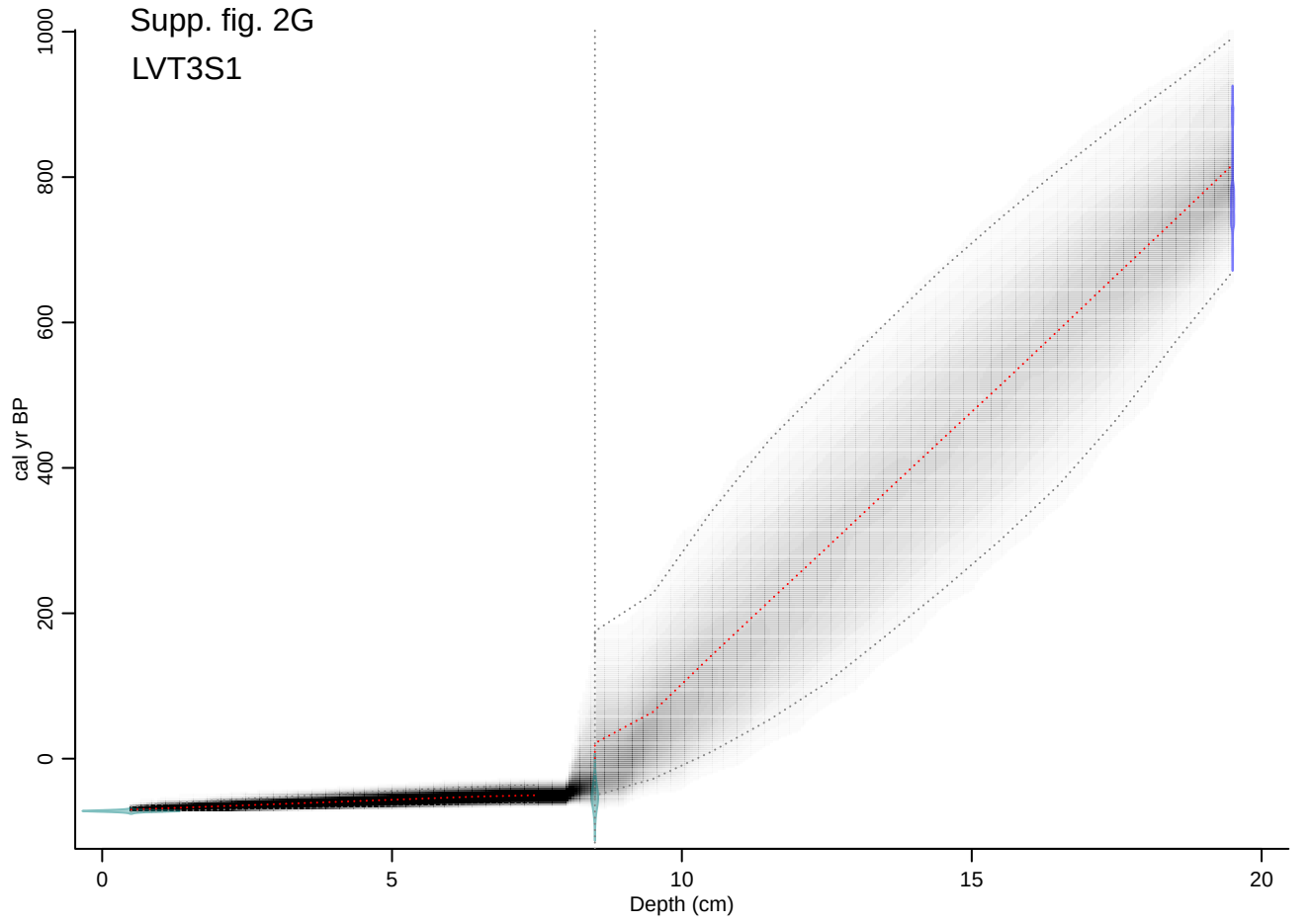
LVT2S3

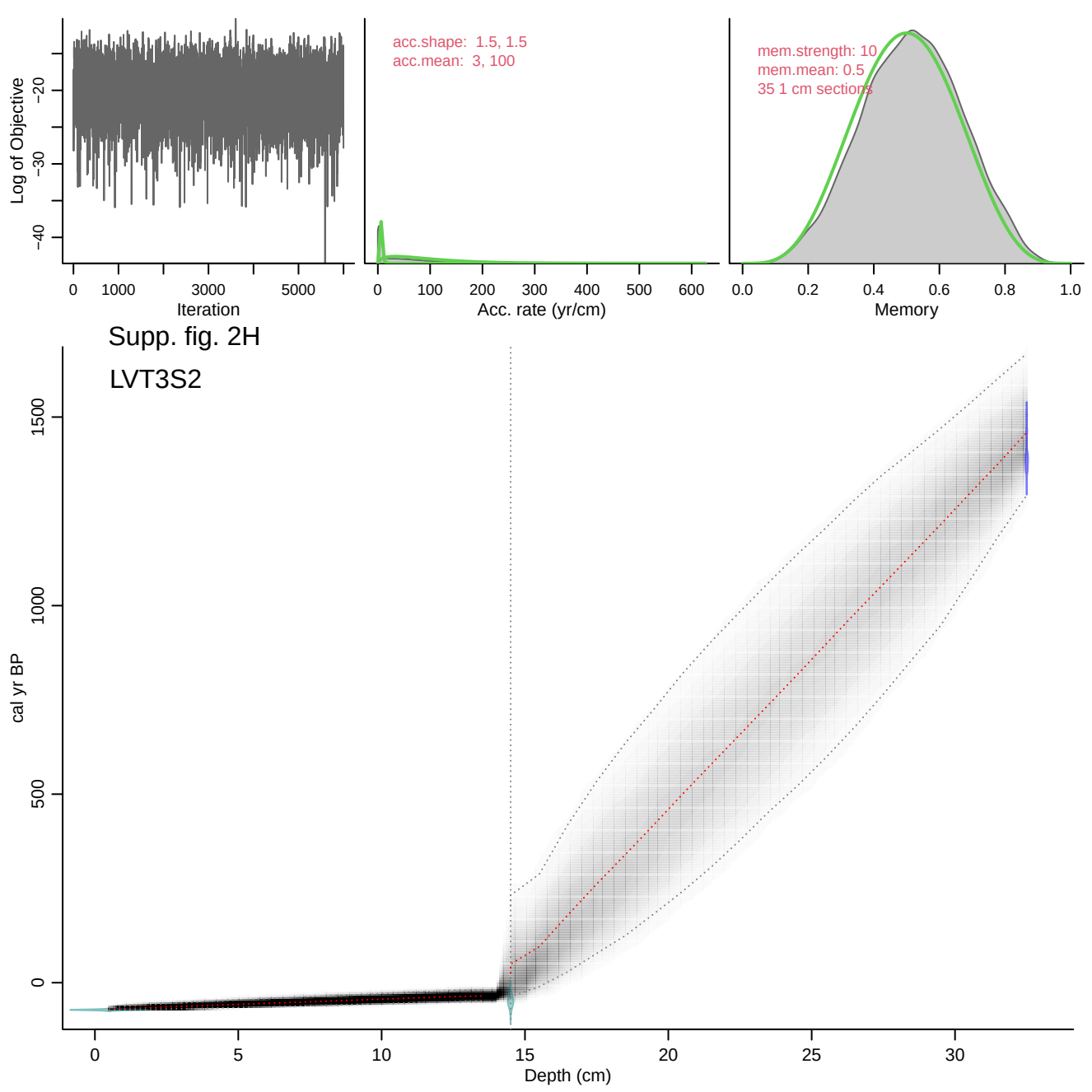


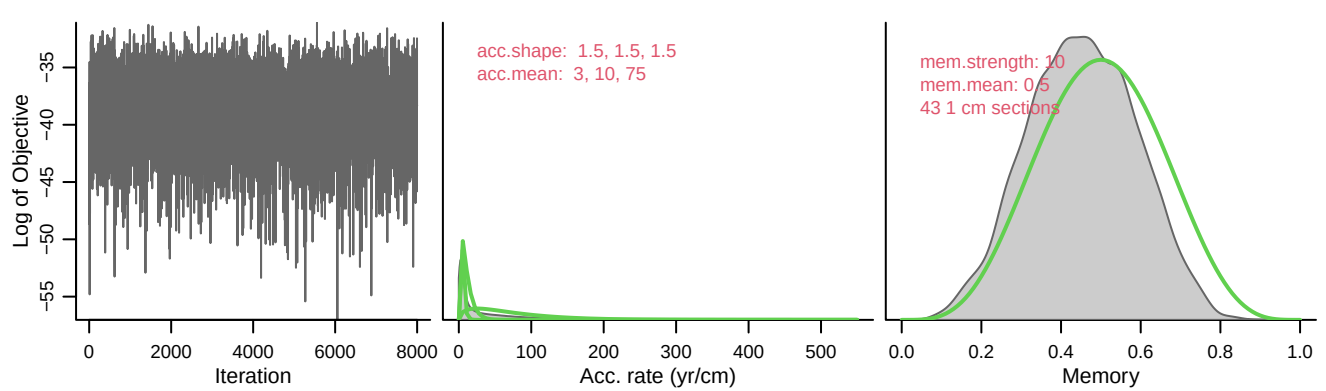


Supp. fig. 2G

LVT3S1

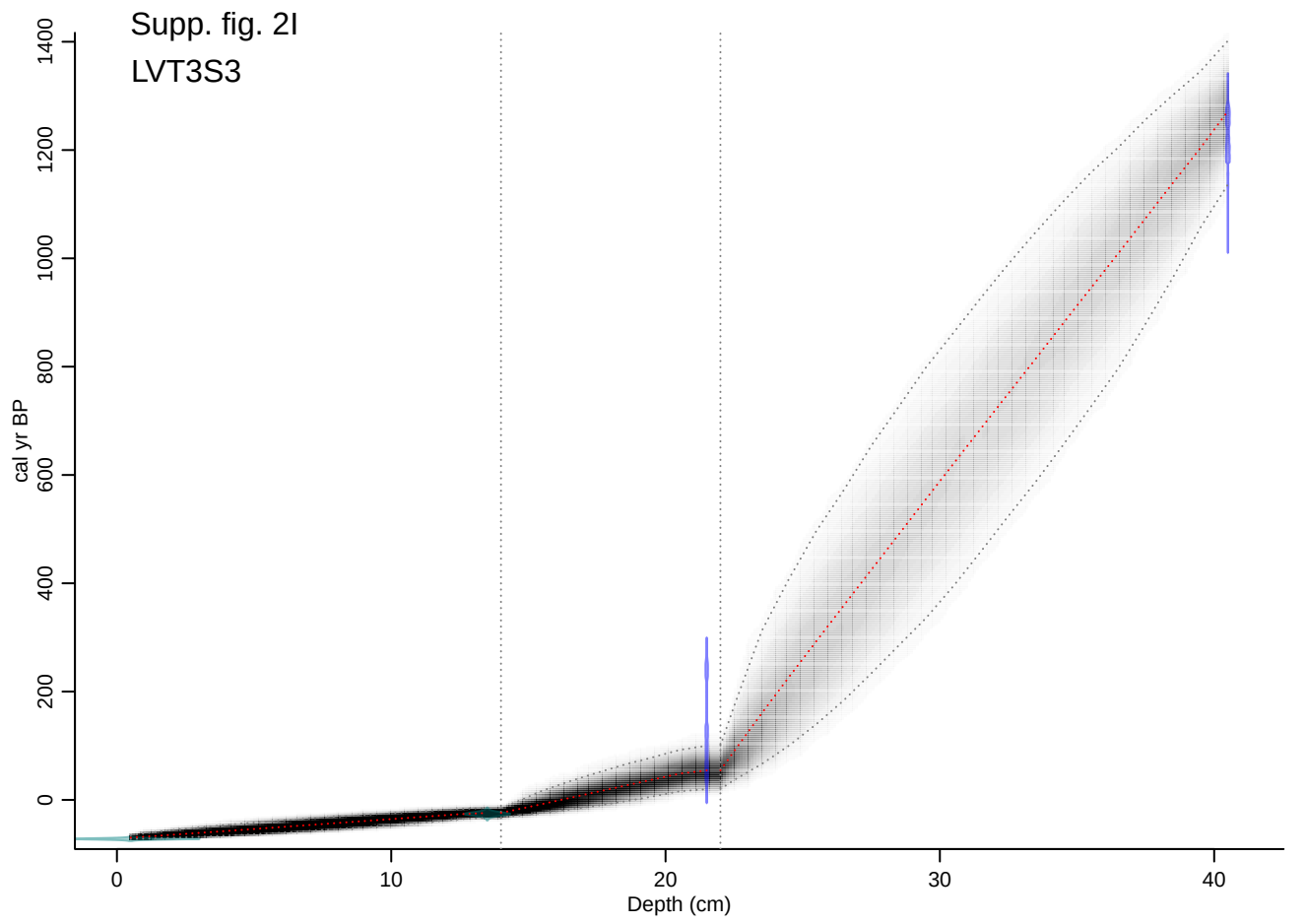


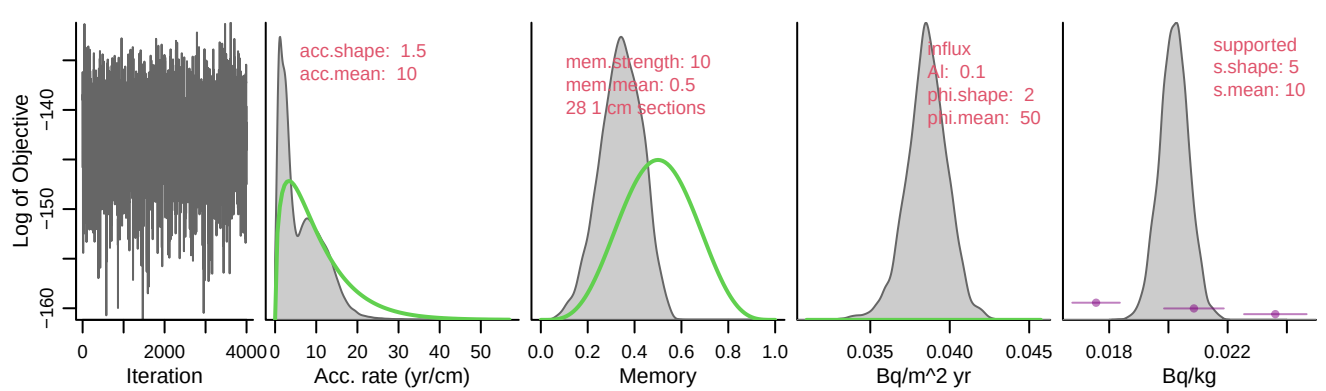

Log of Objective
−20
−30
−40
0
1000
3000
5000
Iteration
acc.shape: 1.5, 1.5
acc.mean: 3, 100
0
100
200
300
400
500
600
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
35 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
Supp. fig. 2H
LVT3S2
cal yr BP
1500
1000
500
0
0
5
10
15
20
25
30
Depth (cm)



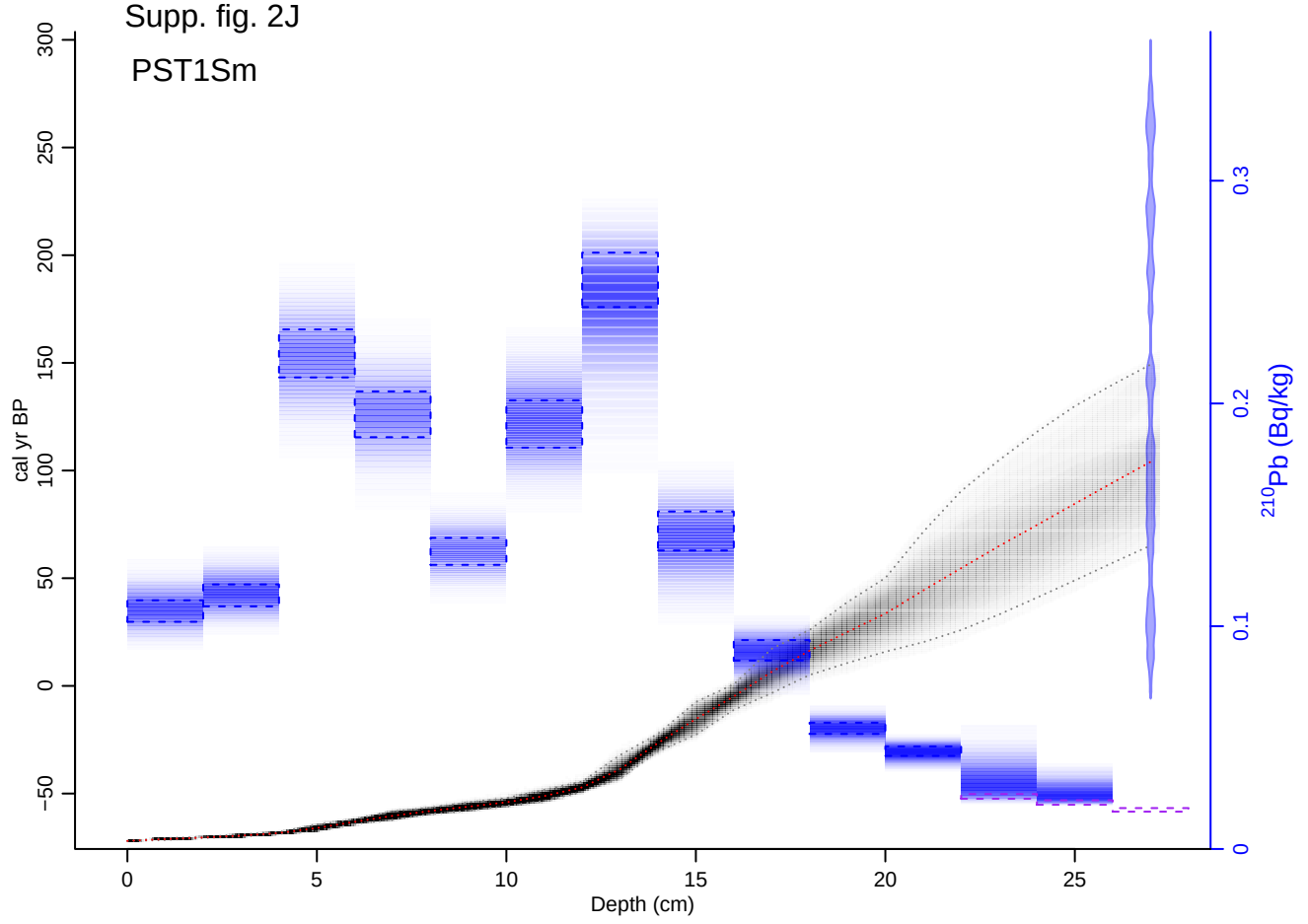
Supp. fig. 2I

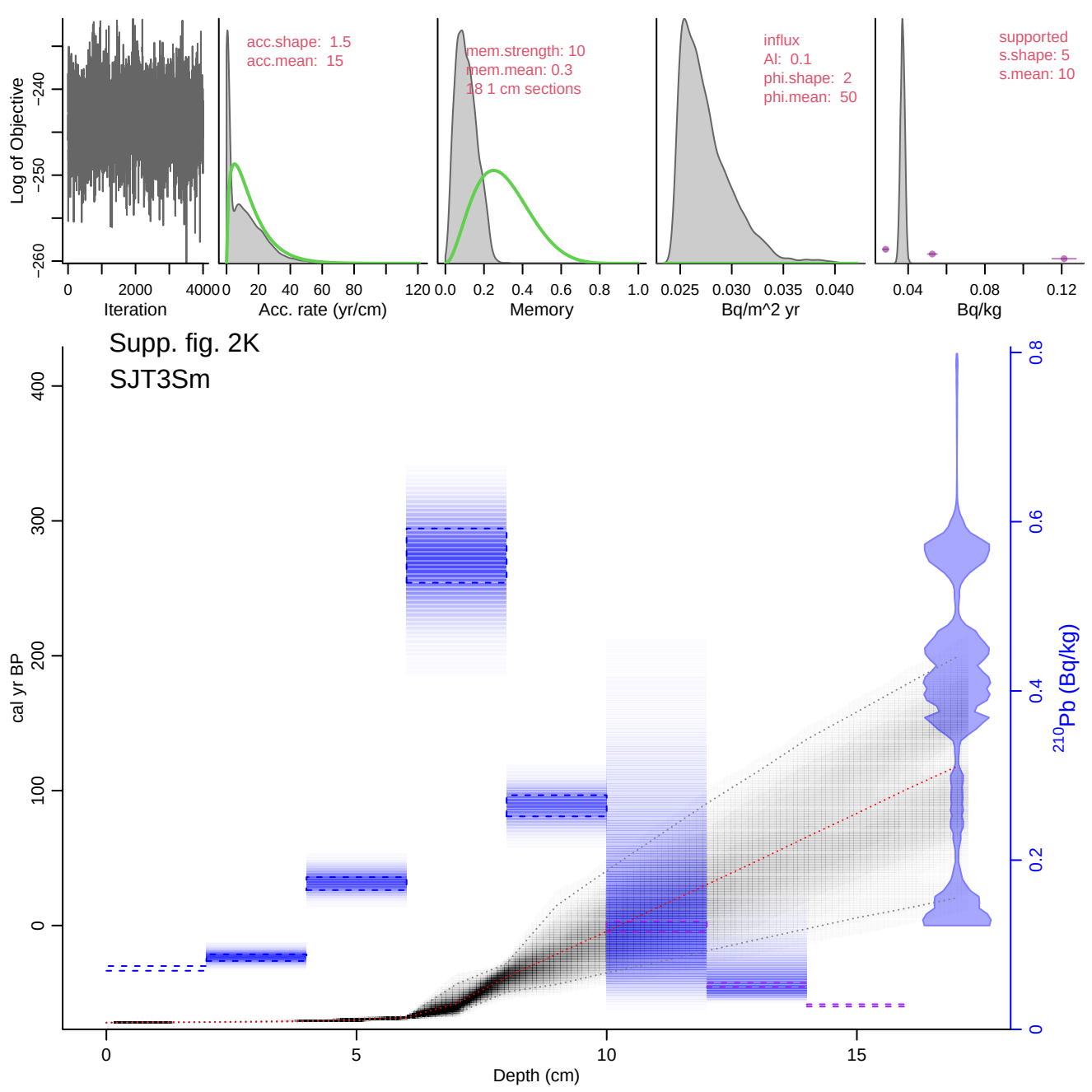
LVT3S3

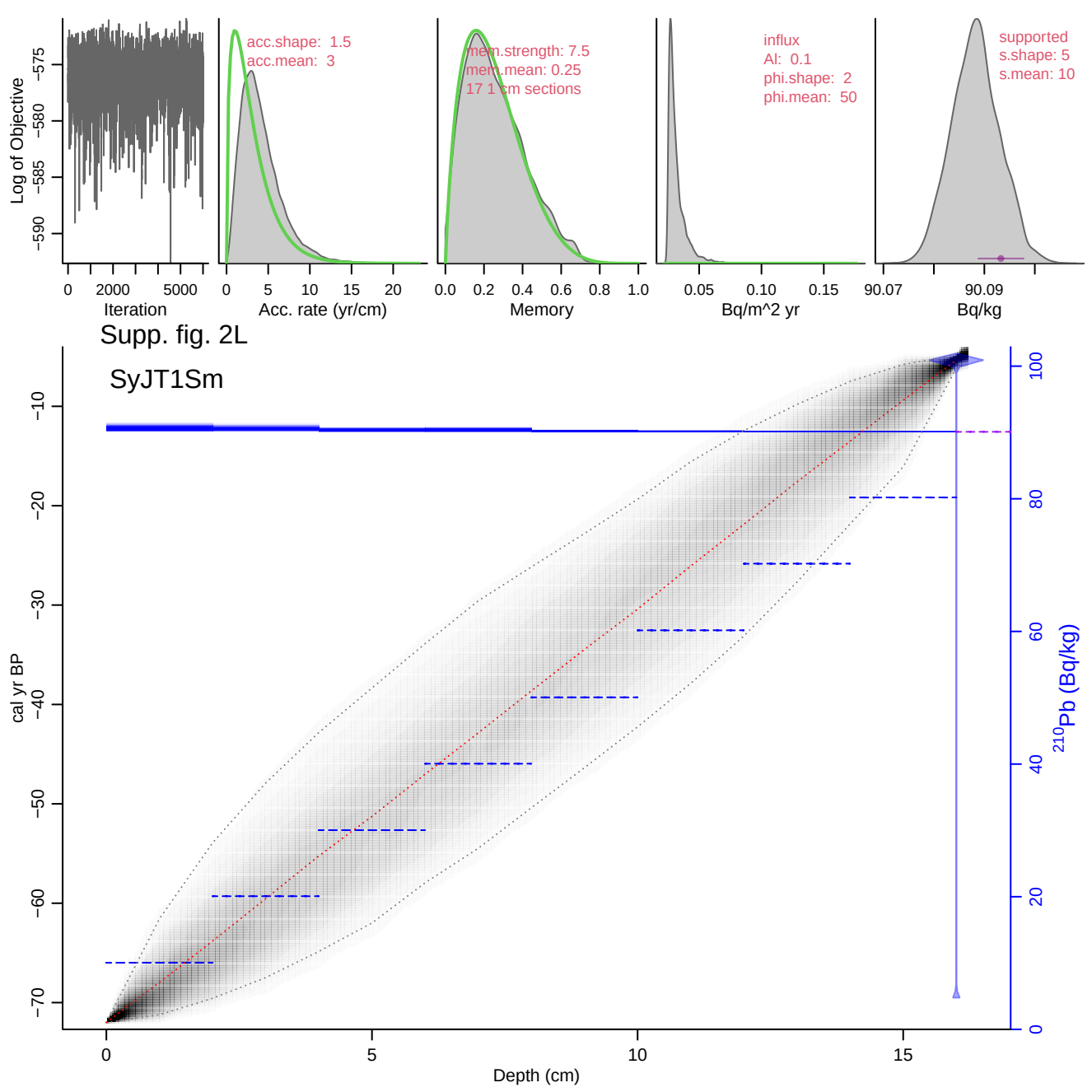


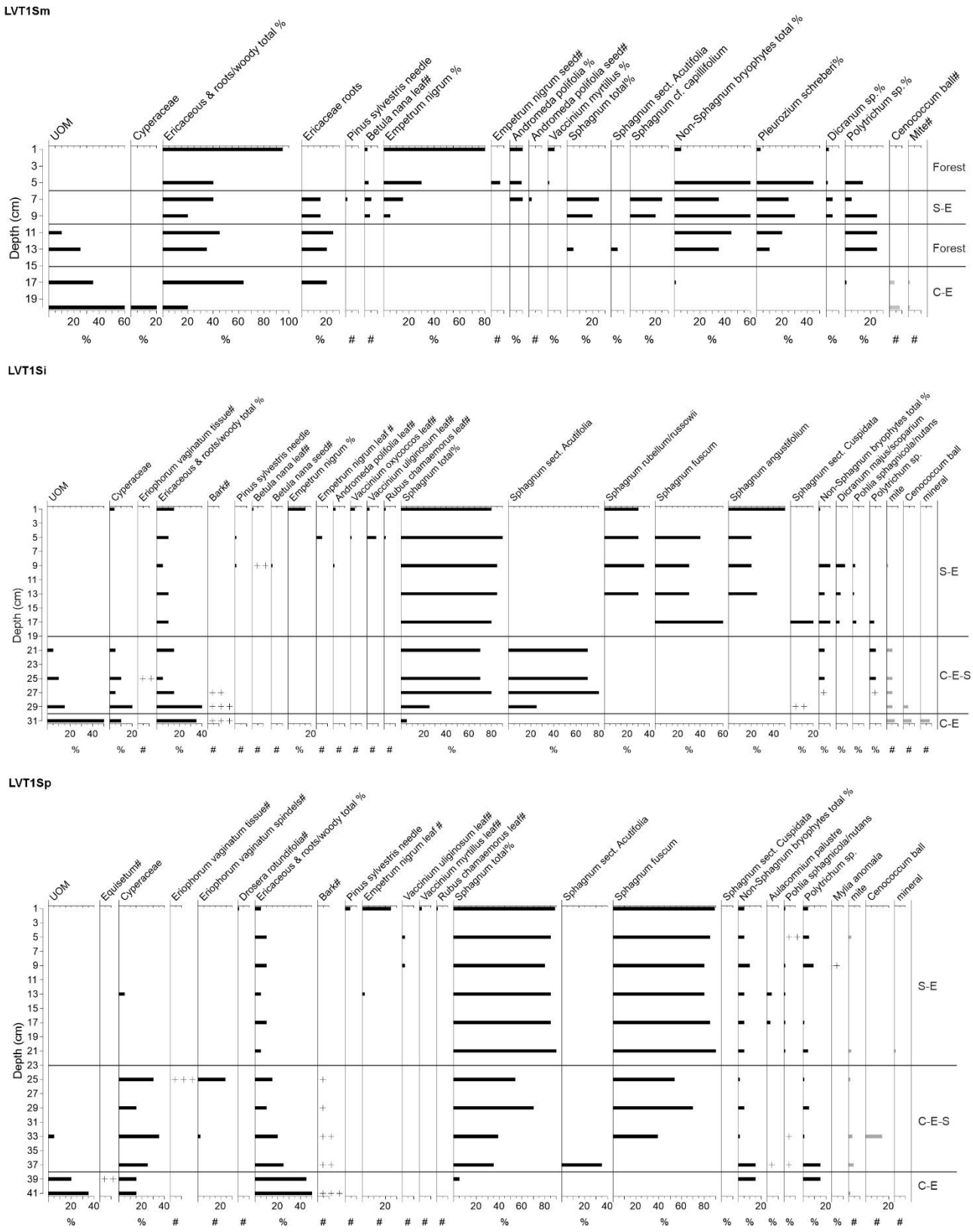

Log of Objective
−140
−150
−160
0
2000
4000
Iteration
acc.shape: 1.5
acc.mean: 10
0
10
20
30
40
50
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.5
28 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
influx
AI: 0.1
phi.shape: 2
phi.mean: 50
0.035
0.040
0.045
Bq/m^2 yr
supported
s.shape: 5
s.mean: 10
0.018
0.022
Bq/kg

Supp. fig. 2J


PST1Sm
cal yr BP
300
250
200
150
100
50
0
−50
0
5
10
15
20
25
Depth (cm)
^{210}Pb (Bq/kg)
0.3
0.2
0.1
0

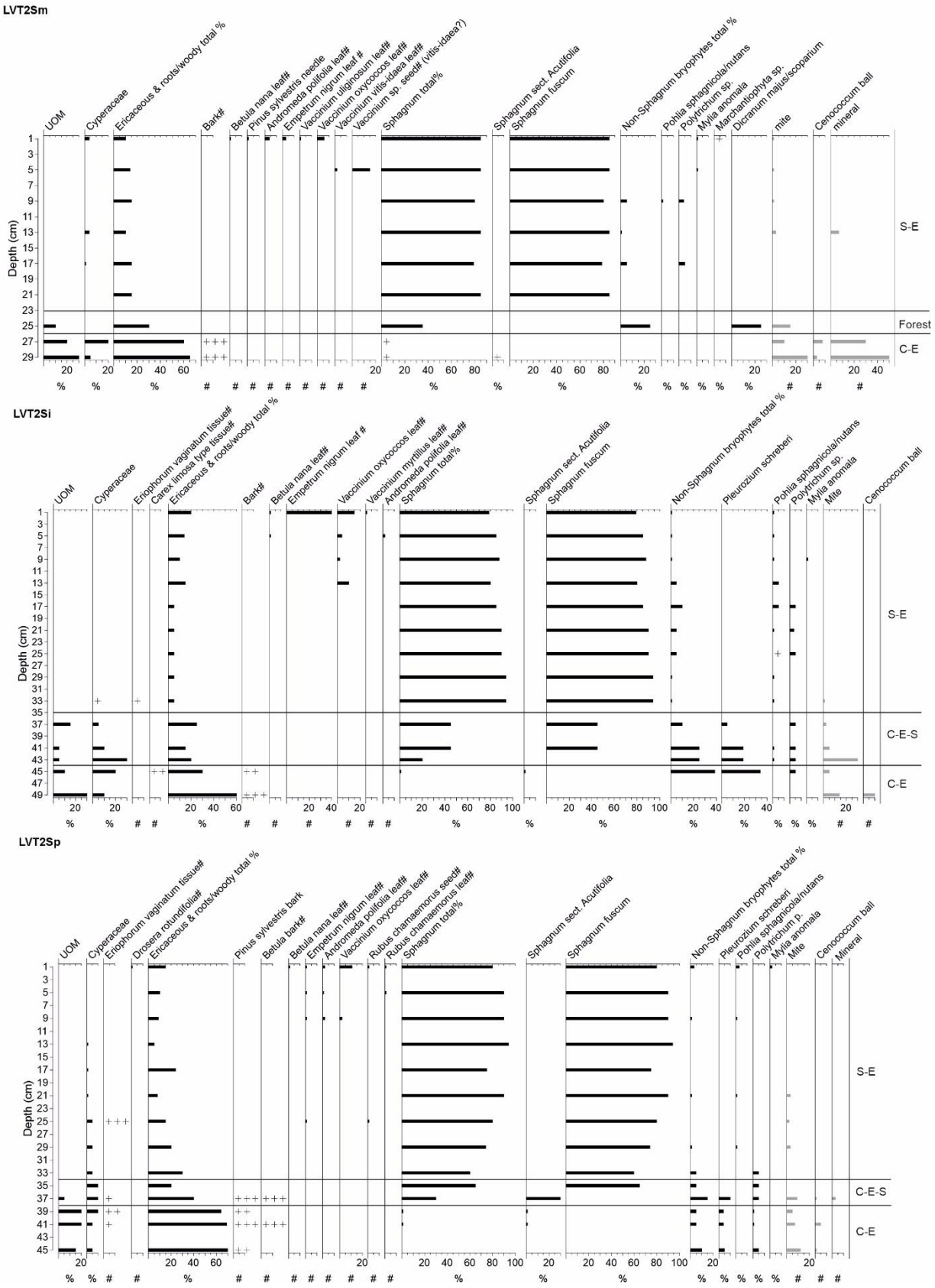

Log of Objective
−240
−250
−260
0
2000
4000
Iteration
acc.shape: 1.5
acc.mean: 15
0
20
40
60
80
120
Acc. rate (yr/cm)
mem.strength: 10
mem.mean: 0.3
18 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
influx
AI: 0.1
phi.shape: 2
phi.mean: 50
0.025
0.030
0.035
0.040
Bq/m^2 yr
supported
s.shape: 5
s.mean: 10
0.04
0.08
0.12
Bq/kg
Supp. fig. 2K
SJT3Sm
cal yr BP
400
300
200
100
0
0.8
0.6
0.4
0.2
0
210Pb (Bq/kg)
0
5
10
15
Depth (cm)


Log of Objective
−575
−580
−585
−590
0
2000
5000
Iteration
acc.shape: 1.5
acc.mean: 3
0
5
10
15
20
Acc. rate (yr/cm)
mem.strength: 7.5
mem.mean: 0.25
17 1 cm sections
0.0
0.2
0.4
0.6
0.8
1.0
Memory
influx
AI: 0.1
phi.shape: 2
phi.mean: 50
0.05
0.10
0.15
Bq/m^2 yr
supported
s.shape: 5
s.mean: 10
90.07
90.09
Bq/kg
Supp. fig. 2L
SyJT1Sm
cal yr BP
−10
−20
−30
−40
−50
−60
−70
0
5
10
15
Depth (cm)
210Pb (Bq/kg)
0
20
40
60
80
100

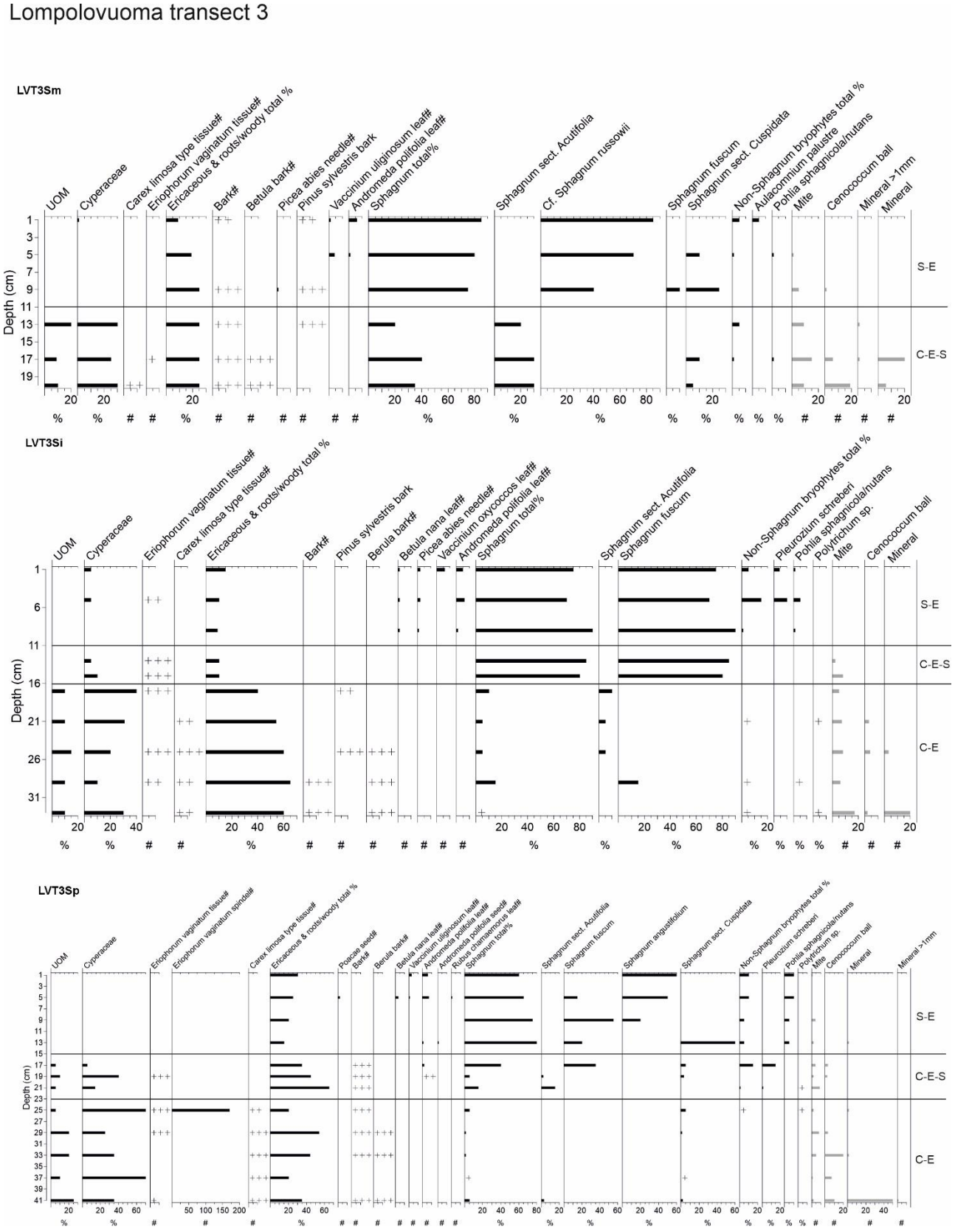


Supplementary figure 3a. Macrofossil data for peat profiles in transect 1. Unregocnized organic matter (UOM), and plant species or species groups are presented as well as remains of mites, Cenococcum, and mineral content.

Lompolovuoma transect 2



Supplementary figure 3b. Macrofossil data for peat profiles in transect 2. Unregocnized organic matter (UOM), and plant species or species groups are presented as well as remains of mites, Cenococcum, and mineral content.



Supplementary figure 3c. Macrofossil data for peat profiles in transect 3. Unregocnized organic matter (UOM), and plant species or species groups are presented as well as remains of mites, Cenococcum, and mineral content.