SUPPLEMENTARY INFORMATION

Spatially-resolved localization and chemical speciation of nickel and zinc in Noccaea tymphaea and Bornmuellera emarginata

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Supplementary Figure 1. Elemental μXRF maps of fresh *Noccaea tymphaea* whole mature leaf. The maps measure 6.24 × 8.2 mm (312 × 410 pixels). The elemental image was acquired in 20-µm step size with 15 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
Supplementary Figure 2. Elemental μXRF maps of fresh Noccaea tymphaea leaf hand cut section. The maps measure 4.45 × 0.91 mm (890 × 181 pixels). The elemental image was acquired in 5-μm step size with 12 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
Supplementary Figure 3. Elemental μXRF maps of *Leptoplax emarginata* intact silique. The maps measure 7.04 × 9.96 mm (352 × 498 pixels). The elemental image was acquired in 20-μm step size with 10 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
Supplementary Figure 4. Elemental µXRF maps of *Leptoplax emarginata* intact silique. The maps measure 10.66 × 7.32 mm (533 × 366 pixels). The elemental image was acquired in 20-µm step size with 10 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
Supplementary Figure 5. Elemental µXRF maps of Noccaea tymphaea intact whole seed. The maps measure $1.84 \times 1.27$ mm (1148 × 795 pixels). The elemental image was acquired in 1.6-µm step size with 20 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
Supplementary Figure 6. Elemental μXRF maps of *Noccaea tymphaea* intact silique. The maps measure 5.82 × 10.68 mm (291 × 534 pixels). The elemental image was acquired in 20-µm step size with 10 ms dwell per pixel, 11.0 keV, incident beam, showing K, Ca, Ni and Zn maps.
**Supplementary Figure 7.** Single-slice tomography µXRF maps of *Noccaea tymphaea* intact whole seed showing Compton, Fe, Ni and Zn maps. The virtual slices have a pixel size of 2 µm.
Supplementary Figure 8. Multi-slice tomography µXRF maps of *Noccaea tymphaea* intact whole seed showing Ni maps. The virtual slices have a pixel size of 2 µm.
Supplementary Figure 9. Multi-slice tomography µXRF maps of *Noccaea tymphaea* intact whole seed showing Zn maps. The virtual slices have a pixel size of 2 μm.