



Supplement

The following supplementary materials are available for this article: Han, J.-H., Z.-H. Wang, Z.-H. Zhang. 2022. Moss biomonitors for heavy metal pollution in soils of Manganese Carbonate Mine across ecological succession stages. *Taiwania* 67(1): 83-92. Doi: [10.6165/tai.2022.67.83](https://doi.org/10.6165/tai.2022.67.83)

Table S1. Vegetation in the different successional stages on the tailing piles.

Succession stage	Principal plant groups	Dominant species
bare rock	Few mosses	<i>Bryum argenteum</i>
moss field	Mosses	<i>Bryum uliginosum</i>
herb field	Asteraceae, Poaceae	<i>Setaria viridis</i>
shrubland	Asteraceae, Posaceae, Oxalidaceae, Coriariaceae, Geraniaceae	<i>Rosa multiflora</i>
woodland	Moraceae, Salicaceae, Gramineae, Posaceae, Asteraceae, Coriariaceae	<i>Broussonetia papyrifera</i>

Table S2. Moss taxa recorded at the Tongluojing manganese mine.

Family	Species	Family	Species	
1. Bryaceae	(1) <i>Bryum argenteum</i>	3. Funariaceae	(32) <i>Bellibarbula obtusiuspis</i>	
	(2) <i>B. blindii</i>		(33) <i>Gymnostomum aeruginosum</i>	
	(3) <i>B. bornholmense</i>		(34) <i>G. subrigidulum</i>	
	(4) <i>B. algovicum</i>		(35) <i>Streblotrichum convolutum</i>	
	(5) <i>B. kashmirensis</i>		(36) <i>Weissia microstoma</i>	
	(6) <i>B. uliginosum</i>		(37) <i>W. exserta</i>	
	(7) <i>B. pseudotriquetrum</i>		(38) <i>W. planifolia</i>	
	(8) <i>B. caespitium</i>		(39) <i>Physcomitrium coorgense</i>	
	(9) <i>B. radiculosum</i>		(40) <i>P. sphaericum</i>	
	(10) <i>B. pallescens</i>		(41) <i>P. repandum</i>	
	(11) <i>B. yuennanense</i>		(42) <i>P. sinensis-sphaericum</i>	
	(12) <i>B. arcticum</i>		(43) <i>P. eurystomum</i>	
	(13) <i>B. salakense</i>		(44) <i>P. courtoisii</i>	
	(14) <i>B. lonchocaulon</i>		(45) <i>Funaria hygrometrica</i>	
	(15) <i>Plagiobryum demissum</i>		(46) <i>F. attenuata</i>	
	(16) <i>Anomobryum gemmigerum</i>		(47) <i>F. japonica</i>	
	(17) <i>Brachymenium exile</i>		4. Ditrichaceae	(48) <i>Ditrichum difficile</i>
	(18) <i>Pohlia gedeania</i>			(49) <i>D. pallidum</i>
2. Pottiaceae	(19) <i>Rhamphidium crassicostatum</i>	5. Brachytheciaceae	(50) <i>D. flexicaule</i>	
	(20) <i>Trichostomum crispulum</i>		(51) <i>Ceratodon purpureus</i>	
	(21) <i>T. barbuloideis</i>		(52) <i>Pleurodium subulatum</i>	
	(22) <i>T. brachydontium</i>		(53) <i>Trichodon muricatus</i>	
	(23) <i>Brachylaena ditrichoides</i>		(54) <i>Brachythecium populeum</i>	
	(24) <i>B. constricta</i>		(55) <i>B. helminthocladum</i>	
	(25) <i>B. capillare</i>		(56) <i>Rhynchostegium inclinatum</i>	
	(26) <i>B. nigrescens</i>		(57) <i>Homalothecium laevisetum</i>	
	(27) <i>B. fallax</i>		6. Dicranaceae	(58) <i>Dicranella coarctata</i>
	(28) <i>B. unguiculata</i>			(59) <i>D. japonicum</i>
	(29) <i>B. subcontorta</i>		7. Archidiaceae	(60) <i>Oncophorus crispifolius</i>
	(30) <i>Gyroweisia brevicaulis</i>			(61) <i>Archidium ochioense</i>
(31) <i>G. yunnanensis</i>				
Total		7 Families	61 Species	

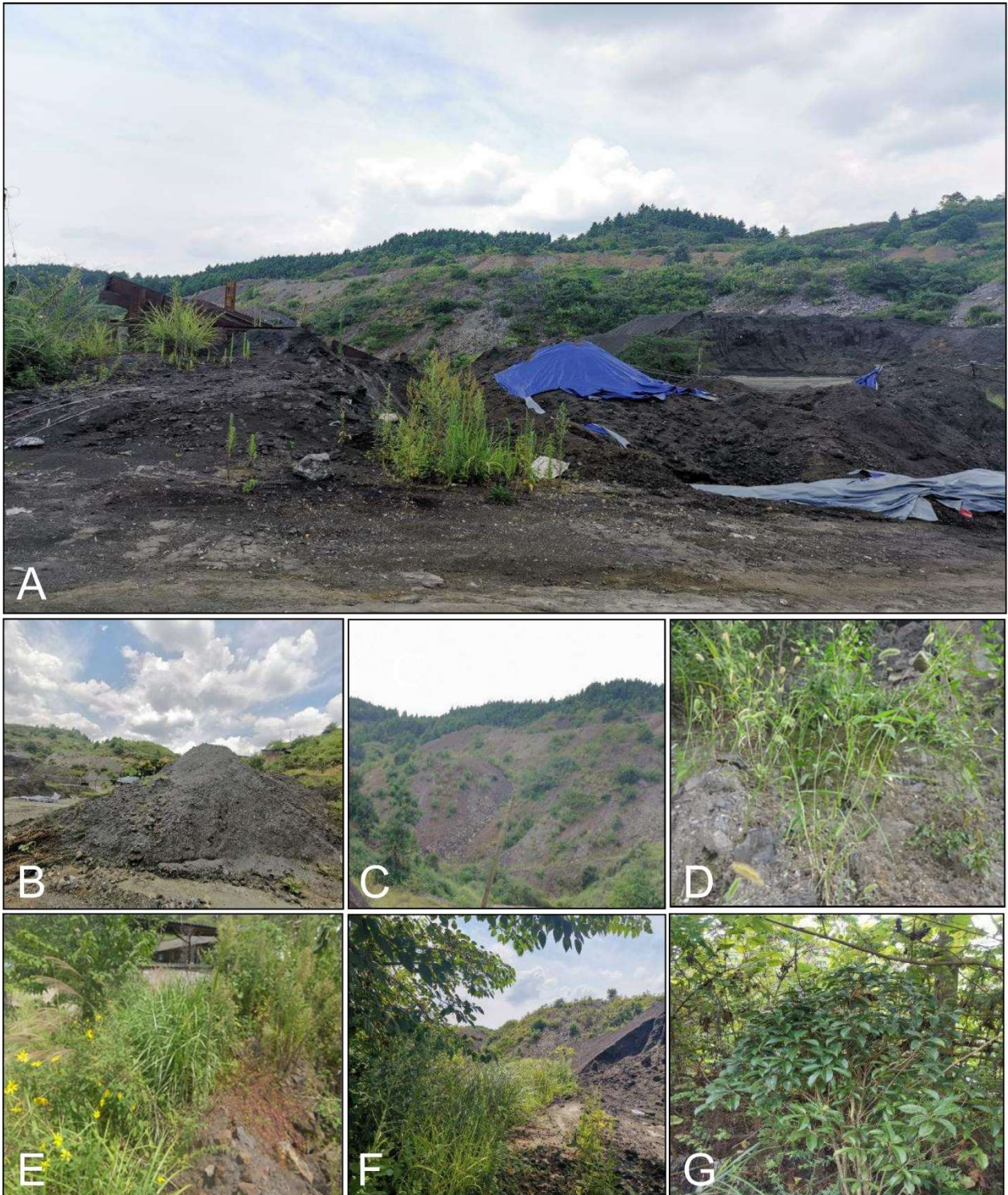


Fig. S1. Photographs of habitats at various stages of succession. **A** : overall view of the tailings dump and surrounding area; **B**: bare rock; **C**: moss field; **D**: herb field; **E**: shrubland; **F** and **G**: woodland.