

Table S2. Matrix of the characters (1/4). 0–2, character state; “+”, polymorphic state; “-”, inapplicable data; “?”, missing data.

	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2			
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
<i>Glareis pardoalcaldei</i>	1	0	1	1	0	0	1	1	1	1	0	0	1	1	1	1	0	1	1	0	1	-	0	1	0	0
<i>Phoberus luridus</i>	0	0	1	1	0	1	1	0	1	1	0	0	1	1	0	0	1	1	0	1	1	-	0	1	0	0
<i>Phoberus montanus</i>	0	0	1	1	0	1	1	0	1	1	1	0	1	1	0	0	1	1	0	1	1	-	0	1	0	0
<i>Trox (T.) variolatus</i>	0	0	1	1	0	1	1	0	1	0	0	0	1	1	0	1	0	1	0	1	1	-	0	0	0	0
<i>Trox (T.) plicatus</i>	0	0	1	1	0	1	1	0	1	0	0	0	1	1	0	1	0	1	0	1	1	-	0	0	0	0
<i>Omorgus (A.) gemmatus</i>	1	1	0	1	1	0	1	0	1	0	0	1	1	0	0	0	1	1	1	0	1	-	1	0	0	0
<i>Omorgus (A.) squalidus</i>	1	1	0	1	1	0	1	0	1	0	0	1	1	0	0	0	1	1	1	0	1	-	1	0	0	0
<i>Omorgus (H.) batesi</i>	1	1	0	1	2	1	1	0	0	1	1	0	1	0	0	0	1	1	1	1	1	-	0	0	0	0
<i>Omorgus (O.) fuliginosus</i>	1	1	0	1	1	0	1	0	1	1	1	1	1	0	0	0	1	1	1	0	1	-	1	0	0	0
<i>Omorgus (O.) suberosus</i>	1	1	0	1	1	0	1	0	1	1	1	1	1	0	0	0	1	1	1	0	1	-	1	0	0	0
<i>Polynoncus aeger</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus argentinus</i>	1	1	1	0	0	0	1	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus aricensis</i>	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus bifurcatus</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus brasiliensis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus brevicollis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus bullatus</i>	1	1	1	0	0	0	0	1	0	1	1	1	1	0	0	0	1	1	1	0	0	0	1	0	1	2
<i>Polynoncus burmeisteri</i>	1	1	1	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0
<i>Polynoncus chilensis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus crypticus</i>	1	1	1	0	0	0	1	1	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus diffluens</i>	1	1	1	0	0	0	1	1	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus ecuadorensis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus erugatus</i>	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	1	0	1	2
<i>Polynoncus furcillifer</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus galapagoensis</i>	1	1	1	0	0	0	1	?	1	?	?	?	?	?	0	0	?	?	1	0	0	0	1	0	0	1
<i>Polynoncus gemmifer</i>	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0
<i>Polynoncus gemmiferus</i>	1	1	1	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	1	0	0	1	1	0	0	0
<i>Polynoncus gemmingeri</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus gibberosus</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus gordonii</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus hemisphaericus</i>	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	2
<i>Polynoncus juglans</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus longitarsis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus mirabilis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus neuquen</i>	1	1	1	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus pampeanus</i>	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	1	2
<i>Polynoncus parafurcatus</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus patagonicus</i>	1	1	1	0	0	0	0	1	0	1	1	1	1	0	0	0	1	1	1	0	0	1	0	0	1	2
<i>Polynoncus patriciae</i>	1	1	1	0	0	0	0	1	1	0	1	1	1	0	0	0	1	1	1	0	0	0	0	0	1	2
<i>Polynoncus pedestris</i>	1	1	1	0	0	0	1	1	1	0	1	1	1	0	0	0	1	1	1	0	0	1	0	0	0	0
<i>Polynoncus peruanus</i>	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus pilularius</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus pittinoides</i>	1	1	1	0	0	0	1	0	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0
<i>Polynoncus pseudogemmifer</i>	1	1	1	0	0	0	1	0	1	0	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0
<i>Polynoncus sallei</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0	0
<i>Polynoncus seymourensis</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0
<i>Polynoncus tenebrosus</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	1
<i>Polynoncus vazdemelloi</i>	1	1	1	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0

[Continuation] Table S1. Matrix of the characters (2/4). 0–2, character state; “+”, polymorphic state; “-”, inapplicable data; “?”, missing data.

	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	5			
	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1		
<i>Glareis pardoalcaldei</i>	0	0	1	-	0	1	0	0	0	0	0	0	0	1	1	0	0	-	1	-	1	-	1	1	-	0	1	
<i>Phoberus luridus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	
<i>Phoberus montanus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	
<i>Trox (T.) variolatus</i>	0	0	1	-	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	-	0	1	0	0	1	0	1	
<i>Trox (T.) plicatus</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	1	0	1	
<i>Omorgus (A.) gemmatus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	
<i>Omorgus (A.) squalidus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	
<i>Omorgus (H.) batesi</i>	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	-	1	-	1	1	0	0	1		
<i>Omorgus (O.) fuliginosus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	
<i>Omorgus (O.) suberosus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	
<i>Polynoncus aeger</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	
<i>Polynoncus argentinus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
<i>Polynoncus aricensis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	
<i>Polynoncus bifurcatus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	
<i>Polynoncus brasiliensis</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	
<i>Polynoncus brevicollis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
<i>Polynoncus bullatus</i>	1	1	1	-	1	-	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	1	
<i>Polynoncus burmeisteri</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Polynoncus chilensis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
<i>Polynoncus crypticus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	
<i>Polynoncus diffluens</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	-	0	1	0	0	1	
<i>Polynoncus ecuadorensis</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	-	0	0	1	0	0	
<i>Polynoncus erugatus</i>	0	1	1	-	1	-	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	
<i>Polynoncus furcillifer</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	0	
<i>Polynoncus galapagoensis</i>	0	0	?	?	0	1	0	?	?	?	?	?	?	?	?	?	?	?	?	0	1	0	0	0	0	1	0	0
<i>Polynoncus gemmifer</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Polynoncus gemmiferus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
<i>Polynoncus gemmingeri</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	
<i>Polynoncus gibberosus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
<i>Polynoncus gordonii</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	
<i>Polynoncus hemisphaericus</i>	0	1	1	-	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	
<i>Polynoncus juglans</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	
<i>Polynoncus longitarsis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	
<i>Polynoncus mirabilis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
<i>Polynoncus neuquen</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1
<i>Polynoncus pampeanus</i>	0	1	1	-	1	-	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	
<i>Polynoncus parafurcatus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	
<i>Polynoncus patagonicus</i>	1	1	1	-	1	-	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	1	
<i>Polynoncus patriciae</i>	1	1	1	-	1	-	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	1	
<i>Polynoncus pedestris</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	-	0	0	1	0	0	
<i>Polynoncus peruanus</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	
<i>Polynoncus pilularius</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
<i>Polynoncus pittinoi</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
<i>Polynoncus pseudogemmifer</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
<i>Polynoncus sallei</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	
<i>Polynoncus seymourensis</i>	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	
<i>Polynoncus tenebrosus</i>	0	0	0	2	1	1	0	1	0	1	0	1	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	
<i>Polynoncus vazdemelloi</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	0	

[Continuation] Table S1. Matrix of the characters (3/4). 0–2, character state; “+”, polymorphic state; “-”, inapplicable data; “?”, missing data.

	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7
	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8
<i>Glareis pardoalcaldei</i>	-	0	1	-	-	1	1	1	0	0	1	1	1	-	-	-	-	0	-	-	-	1	0	1	0	1	
<i>Phoberus luridus</i>	-	0	0	1	1	0	1	1	1	1	0	0	0	1	1	0	0	0	0	1	0	1	0	1	0	1	
<i>Phoberus montanus</i>	-	0	0	1	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0	1	0	1	1	1	0	1	
<i>Trox (T.) variolatus</i>	-	1	0	0	1	1	1	1	1	1	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	1	
<i>Trox (T.) plicatus</i>	-	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	1	1	0	1		
<i>Omorgus (A.) gemmatus</i>	-	0	0	1	1	1	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1	0	1		
<i>Omorgus (A.) squalidus</i>	-	1	0	0	1	1	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	1	0	0	1		
<i>Omorgus (H.) batesi</i>	-	1	1	-	1	1	1	0	0	0	1	1	1	-	-	-	1	0	-	-	-	1	1	0	0	1	
<i>Omorgus (O.) fuliginosus</i>	0	1	0	0	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	1	
<i>Omorgus (O.) suberosus</i>	0	1	0	0	1	1	1	0	0	1	0	1	0	0	1	0	0	1	1	0	1	1	0	0	1		
<i>Polynoncus aeger</i>	-	1	1	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	1	1	1	1	
<i>Polynoncus argentinus</i>	1	1	0	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	1	0	1	0	0
<i>Polynoncus aricensis</i>	-	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	0	0	1	0	1	1	0	0	
<i>Polynoncus bifurcatus</i>	0	1	0	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1
<i>Polynoncus brasiliensis</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	1	1
<i>Polynoncus brevicollis</i>	-	1	1	0	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	1	1	1	0	0
<i>Polynoncus bullatus</i>	-	0	0	0	1	1	0	1	0	1	1	0	0	0	1	1	0	0	1	0	1	0	0	1	1	0	1
<i>Polynoncus burmeisteri</i>	1	1	0	1	1	1	1	0	0	0	1	1	0	0	1	1	1	0	0	0	1	1	1	0	1	0	0
<i>Polynoncus chilensis</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1
<i>Polynoncus crypticus</i>	1	1	0	0	1	1	1	0	0	0	1	1	1	1	1	0	0	0	0	1	1	0	1	1	0	0	1
<i>Polynoncus diffluens</i>	-	1	1	-	-	1	1	0	0	0	1	1	1	1	1	0	-	1	0	1	1	0	1	1	0	0	1
<i>Polynoncus ecuadorensis</i>	1	1	0	1	1	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0
<i>Polynoncus erugatus</i>	-	1	0	0	1	1	0	1	0	1	1	0	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0
<i>Polynoncus furcillifer</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	1
<i>Polynoncus galapagoensis</i>	0	1	0	0	0	?	?	1	0	0	1	1	0	1	0	0	0	0	0	0	1	0	1	?	?	0	?
<i>Polynoncus gemmifer</i>	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	1	0	1	0	0
<i>Polynoncus gemmiferus</i>	-	1	0	1	1	0	1	0	0	0	1	1	0	1	1	1	0	1	0	0	1	1	1	0	1	0	0
<i>Polynoncus gemmingeri</i>	0	1	0	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1
<i>Polynoncus gibberosus</i>	-	1	1	0	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	1	1	1	0	0
<i>Polynoncus gordonii</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	1
<i>Polynoncus hemisphaericus</i>	-	0	0	1	1	0	0	1	0	0	1	0	0	0	1	1	0	0	1	0	1	0	0	0	1	0	0
<i>Polynoncus juglans</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	1
<i>Polynoncus longitarsis</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1
<i>Polynoncus mirabilis</i>	1	1	0	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1
<i>Polynoncus neuquen</i>	-	0	0	1	1	0	0	0	0	0	1	1	0	1	1	1	1	1	0	0	1	0	1	0	1	0	0
<i>Polynoncus pampeanus</i>	-	1	0	1	1	1	0	1	0	1	1	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0
<i>Polynoncus parafurcatus</i>	0	1	0	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1
<i>Polynoncus patagonicus</i>	-	1	0	1	0	1	0	1	0	1	1	0	0	0	1	1	0	0	0	0	1	0	0	1	1	0	1
<i>Polynoncus patriciae</i>	-	1	0	1	1	1	0	1	0	1	1	0	0	0	1	1	0	0	0	0	1	0	0	1	1	0	1
<i>Polynoncus pedestris</i>	1	1	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0
<i>Polynoncus peruanus</i>	-	1	1	-	1	1	1	0	0	1	1	0	0	1	1	1	0	1	0	0	1	0	1	0	1	0	0
<i>Polynoncus pilularius</i>	0	1	0	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1
<i>Polynoncus pittinoi</i>	-	1	0	1	1	0	1	0	0	0	1	1	0	0	1	1	1	1	0	0	1	0	1	0	1	0	0
<i>Polynoncus pseudogemmifer</i>	-	1	0	1	1	1	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	1	0	1	0	0
<i>Polynoncus sallei</i>	0	1	0	1	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	1	0	0
<i>Polynoncus seymourensis</i>	0	1	0	0	1	1	1	1	0	0	1	1	0	0	+	0	0	0	0	0	1	0	1	1	1	0	1
<i>Polynoncus tenebrosus</i>	1	1	0	1	1	1	1	1	0	0	1	1	0	1	1	0	0	0	0	0	1	0	1	1	1	0	0
<i>Polynoncus vazdemelloi</i>	0	1	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	1	0	0	1

[Continuation] Table S1. Matrix of the characters (4/4). 0–2, character state; “+”, polymorphic state; “-”, inapplicable data; “?”, missing data.

	7	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	9
	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7
<i>Glareis pardoalcaldei</i>	1	1	0	1	1	-	-	-	-	-	-	0	1	0	1	1	1	1	?
<i>Phoberus luridus</i>	0	1	0	0	1	-	-	-	-	-	-	0	0	0	1	1	1	0	0
<i>Phoberus montanus</i>	0	1	0	0	1	-	-	-	-	-	-	0	0	0	1	1	1	1	0
<i>Trox (T.) variolatus</i>	0	1	0	0	1	-	-	-	-	-	-	2	1	0	1	1	1	1	0
<i>Trox (T.) plicatus</i>	0	1	0	0	1	-	-	-	-	-	-	0	1	0	1	1	1	1	0
<i>Omorgus (A.) gemmatus</i>	0	1	0	0	1	-	-	-	-	-	-	1	1	0	1	1	1	1	1
<i>Omorgus (A.) squalidus</i>	0	1	0	0	1	-	-	-	-	-	-	1	1	0	0	1	1	1	1
<i>Omorgus (H.) batesi</i>	0	1	0	0	1	-	-	-	-	-	-	2	1	1	1	1	1	1	1
<i>Omorgus (O.) fuliginosus</i>	1	1	0	0	1	-	-	-	-	-	-	2	1	1	1	1	1	1	1
<i>Omorgus (O.) suberosus</i>	1	1	0	0	1	-	-	-	-	-	-	1	1	1	1	1	1	1	1
<i>Polynoncus aeger</i>	0	1	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus argentinus</i>	0	1	0	1	0	1	0	0	1	0	1	1	1	1	0	0	1	1	1
<i>Polynoncus aricensis</i>	0	1	0	0	0	1	0	1	1	0	0	2	1	1	0	1	0	1	1
<i>Polynoncus bifurcatus</i>	1	0	0	0	0	0	0	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus brasiliensis</i>	1	0	0	0	0	1	1	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus brevicollis</i>	0	1	0	0	0	1	0	1	1	0	0	2	1	1	0	1	0	1	1
<i>Polynoncus bullatus</i>	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus burmeisteri</i>	0	1	0	1	0	1	0	1	1	0	1	2	1	1	0	0	0	0	1
<i>Polynoncus chilensis</i>	1	1	0	0	0	1	0	1	1	0	0	1	1	1	0	1	0	1	1
<i>Polynoncus crypticus</i>	0	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus diffluens</i>	0	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0	1	1
<i>Polynoncus ecuadorensis</i>	0	1	0	0	0	1	0	0	1	1	1	2	1	1	0	0	1	0	1
<i>Polynoncus erugatus</i>	0	1	0	1	0	1	0	1	1	0	0	2	1	1	0	0	0	1	1
<i>Polynoncus furcillifer</i>	1	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	1
<i>Polynoncus galapagoensis</i>	?	?	0	?	0	1	1	0	1	0	0	2	1	1	0	?	0	1	1
<i>Polynoncus gemmifer</i>	-	1	0	1	0	1	0	1	1	0	1	1	1	1	0	0	0	1	1
<i>Polynoncus gemmiferus</i>	0	1	0	1	0	1	0	0	1	0	0	1	1	1	0	0	1	1	1
<i>Polynoncus gemmingeri</i>	1	0	0	0	0	1	1	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus gibberosus</i>	0	1	0	0	0	1	0	1	1	0	0	2	1	1	0	1	0	1	1
<i>Polynoncus gordonii</i>	1	0	0	0	0	1	1	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus hemisphaericus</i>	0	1	0	1	0	1	0	1	1	0	1	1	1	1	0	0	0	1	1
<i>Polynoncus juglans</i>	1	0	1	0	0	1	0	1	1	0	0	2	1	1	1	0	0	1	1
<i>Polynoncus longitarsis</i>	0	1	0	0	0	1	0	0	1	0	0	1	1	1	1	0	0	1	1
<i>Polynoncus mirabilis</i>	0	1	0	0	0	1	0	0	1	0	0	1	1	1	0	1	0	1	1
<i>Polynoncus neuquen</i>	0	1	0	1	0	1	0	1	1	0	1	2	1	1	0	0	0	1	1
<i>Polynoncus pampeanus</i>	0	1	0	1	0	1	0	1	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus parafurcatus</i>	1	0	0	0	0	0	0	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus patagonicus</i>	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus patriciae</i>	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus pedestris</i>	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	1	1	1
<i>Polynoncus peruanus</i>	0	1	0	1	0	1	0	1	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus pilularius</i>	1	0	0	0	0	1	1	0	1	0	0	2	1	1	0	0	0	0	1
<i>Polynoncus pittinoi</i>	0	1	0	1	0	1	0	0	1	0	0	1	1	1	0	0	0	1	1
<i>Polynoncus pseudogemmifer</i>	0	1	0	1	0	1	0	0	1	0	1	1	1	1	0	0	1	1	1
<i>Polynoncus sallei</i>	1	1	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	1
<i>Polynoncus seymourensis</i>	1	1	0	0	0	1	1	0	1	0	0	2	1	1	0	?	0	1	1
<i>Polynoncus tenebrosus</i>	0	1	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	1
<i>Polynoncus vazdemelloi</i>	1	0	1	0	0	1	0	1	1	0	0	2	1	1	0	0	0	0	1