

**Appendix**

Data set including fifty characters used to infer the phylogeny of the Formicini. Potential synapomorphic characters are followed by autapomorphies for the genera. The character states given in the data matrix correspond with the assumed ground plan for the genera. *Melophorus* is included as outgroup.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45				
<i>Melophorus</i>	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5				
<i>Alloformica</i>	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	1	1	1	1	1	0	1	1	1	1	0	0	0	1	0	0	1	1	0	1	1	1	1	0	0	1	1	0	1	1	0	1	0	1
<i>Bajcaridris</i>	0	0	1	0	1	0	1	2	0	1	0	0	1	0	0	1	1	0	0	1	1	0	1	1	1	1	0	0	0	0	0	1	0	1	1	0	0	1	0	0	1	0	0	1	0	1	1	1	
<i>Cataglyphis</i>	1	1	0	0	0	0	1	1	1	2	1	0	0	1	1	0	0	0	1	1	0	1	1	1	1	1	0	0	0	1	0	1	0	1	1	0	0	1	1	0	0	1	0	1	1	0	1	1	
<i>Formica</i>	1	1	1	0	1	1	1	0	1	0	0	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	0	1	1	0	1	1	1	1	0	0	1	1	0	1	1	1	0	1	1	0	1	
<i>Polyergus</i>	1	0	1	1	2	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	0	0	1	1	0	0
<i>Proformica</i>	1	1	1	0	0	1	0	1	1	1	2	1	0	1	0	0	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1	0	0	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	
<i>Rossomyrmex</i>	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Shared characters (potential synapomorphies)***WORKER and FEMALE**

- 1 Size polymorphic worker and reproductive castes (0); monomorphic (1).
- 2 Worker caste monomorphic (0); polymorphic (1).
- 3 First maxillary palp segment in cross-section flattened (Fig. 29) (0); round (1).
- 4 Frontal carina distinct and crest-shaped (Fig. 11) (0); bulge-like (Fig. 13) (1).
- 5 Fourth mandibular denticle, from apex to base, smaller than third (Fig. 8) (0); larger than third (Fig. 3) (1); no denticles at all (Fig. 7) (2).
- 6 Mandible with five denticles (Fig. 8) (0); six to nine denticles (Fig. 6) (1); no denticles at all (Fig. 7) (2).
- 7 Maxillar stipes with long J-shaped hairs of the same length as the stipes (Fig. 29) (0); short hairs (1).
- 8 Propodeal spiracle small and ellipsoid (Fig. 18) (0); elongate and parallel-sided (Fig. 21) (1).
- 9 First gastral segment, in lateral view and relative to the propodeum, low (0); high (1).

**MALE**

- 10 Subgenital plate apically spade-shaped (Fig. 38) (0); trilobed (Fig. 35) (1); pointed (Fig. 37) (2).
- 11 Subgenital plate cranially extended (Fig. 38) (0); not extended (Fig. 35) (1).
- 12 Subgenital plate with cranial extension pointed (Fig. 38) (0); truncated (Fig. 37) (1); not present (Fig. 35) (2).
- 13 Squamula and stipes laterally fused (0); at least cranially separated by a membranous area (1).
- 14 Sagitta with ergot and dorsal end of serrate face widely separated (Fig. 46) (0); confluent (Fig. 52) (1).
- 15 Stipes with median appendage (Fig. 40) (0); without (1).
- 16 Wings with pubescence on the dorsal and ventral face (0); not present or at most very short and cone-shaped (1).
- 17 Front wings with hind margin with erect hairs protruding over the margins (0); no fringe of hairs present (1).
- 18 Wings relative to alitrunk short, WI <150 (0); long, WI >180 (1).
- 19 Front wing with the frontal margin up to the pterostigma straight (0); curved (1).
- 20 Head in full frontal view compressed (Fig. 31) (0); depressed (Fig. 26) (1).

*Autapomorphies***WORKER and FEMALE**

- 21 Small ants, AL <1.4 mm (0); larger AL >2 mm (1).
- 22 Body surface roughly sculptured (Fig. 10) (0); smooth (Fig. 16) to finely chagrinated (Fig. 11) (1).
- 23 Maxillary palp formula 6,4 (0); lower (1).
- 24 Maxillary palp segments long and filiform (0); stout (1) (Fig. 14).
- 25 Mandible falcate (Fig. 7) (0); with a distinct basal, masticatory and outer face (Fig. 6) (1).
- 26 Psammophore formed by long J-shaped hairs on the mandible, the stipes of maxilla and the gula present (0); absent (1).
- 27 Clypeus with apical face convex (Fig. 12) (0); straight (Fig. 13) (1).
- 28 Eyes domed (Fig. 10) (0); flat (Fig. 13) (1).
- 29 Long scape, SI >120 (0); shorter scape, SI <120 (1).
- 30 Scape with erect pilosity (Fig. 10) (0); without (1).
- 31 First funicular segment longer than the two subsequent (0); shorter (1).
- 32 Head in full frontal view with occiput emarginate (Fig. 16) (0); straight (13) to convex (Fig. 10) (1).
- 33 Metapleural gland orifice distinct (Fig. 18) (0); small (Fig. 19) (1).