Identification key of the ants of Aruba, Bonaire and Curação worker caste

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It is intended that this key will be updated regularly.

The ants mentioned in this key are the result of the identification of samples collected between 1930 and 1970 by HJ MacGillavry, P Wagenaar Hummelinck and RH Cobben (all in the collection of Naturalis Biodiversity Center, Leiden, Netherland), by the author in 2020 on Aruba, by JK Wetterer in 2004, 2005, 2007, 2008 and 2011, a biological expedition organized by the Dutch National Biodiversity Centre Naturalis and Stichting Nationale Parken (STINAPA) on Bonaire, supplemented with a few literature references.

All identifications (except data from literature) are done by the author, except a part of the collection of JK Wetterer.

More species can be expected on all of these three islands.

In processing the material I have received a lot of support from Frederique Bakker (Naturalis) for which my thanks.

This research would not have been possible without the extensive information on www.antweb.org and www.antwiki.org.

All (parts of) images are from antweb.org.

Finally, thanks to Jadranka Njegovan for the drawings with terms used in the key.

Additions and comments are very welcome.

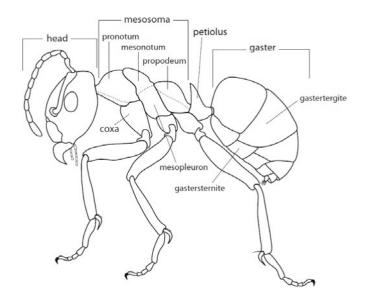
How reliable is this key?

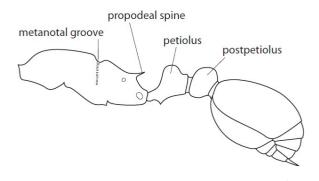
Compared to for example Europe, relatively little research has been done on ants in the Caribbean, especially where taxonomy is concerned. Some examples. Color is a poorly usable attribute that we don't like to use, but in some keys color is the only discriminating item. In a recent *Dorymyrmex* key the shape of the top of the propodeum is seriously overestimated, while it is a variable characteristic, but in the key it is a leading item. In the key about neotropical thief ants (*Solenopsis*) the drawings are sometimes different from the photos of the type specimens on AntWeb. So I regularly had to deal with characteristics for which I had no better ones available.

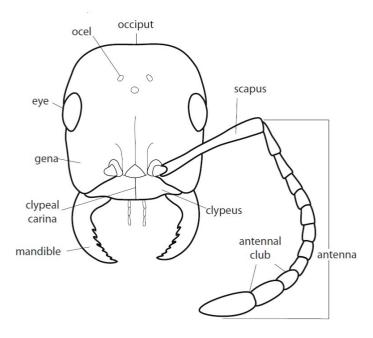
A species list of ants of Aruba and Curacao is available:

 $\frac{https://www.nlmieren.nl/websitepages/SPECIES\%20LIST\%20ARUBA.html}{https://www.nlmieren.nl/websitepages/SPECIES\%20LIST\%20CURACAO.html}$

The species list of the Bonaire ants is in preparation.







CW = maximum head wide

CL = head lenght

EYL = maximum eye length

EYW= maximum eye wide

REL = EYL/CL

SL = length of scapus

TLI = Length of thorax (Weber's

length) x 100/CL

1a	Mandibles slender, elongated, without teeth.	Leptogenys pubiceps
1b	Other combination of characteristics.	→ 2
2a	Between gaster and mesosoma two clearly separated nodules (petiolus and postpetiolus).	→ 3
2b	Between gaster and mesosoma one nodule (petiolus); or node is invisible.	→ 23
3a	Relatively long, slender ants, with conspicuous large eyes. Ocelli present.	Pseudomyrmex → 100
3b	Other combination of characteristics.	→ 4
4a	Postpetiolus attached to dorsalsurface of first gastertergite. Gaster in dorsal view heart- shaped.	Crematogaster → 110
4b	Postpetiolus attached to frontal side of gaster.	→ 5
5a	Dorsum of mesosoma strongly flattened. In frontal view: headlooks like a shield.	Cephalotus pellans
5b	Head not shield-like and mesosoma not flattened.	→ 6

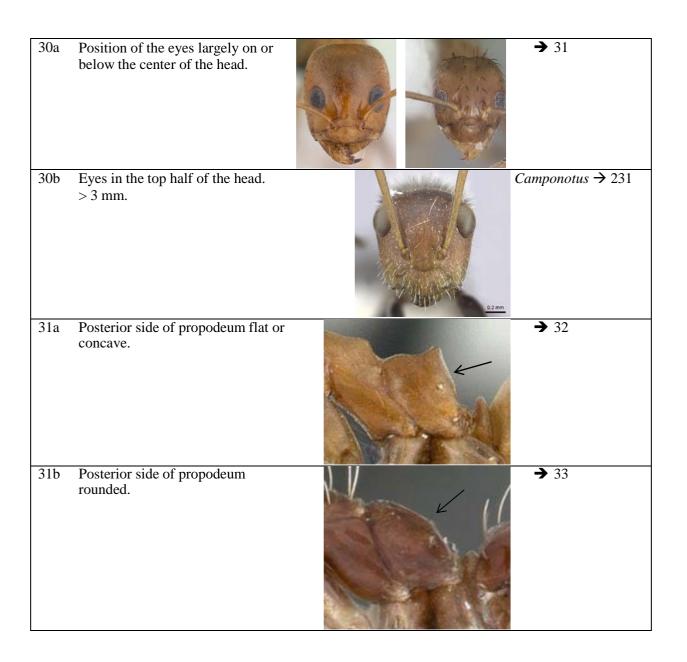
ба	Last gastertergite flat with short spines and/or teeth. Eyes very small. Scapi robust.	Neivamyrmex → 255
6b	Other combination of characteristics.	→ 7
7a	Posterior side of the propodeum rounded, without spines of teeth.	→ 8
7b	Posterior side of the propodeum with spines or teeth or at most angu	lar. → 15
8a	Antennal club 2-segmented.	→ 9
8b	Antennal club 3-segmented.	→ 12
9a	Postpetiolus in dorsal viewextraordinarily wide.	Solenopsis globularia
9b	Postpetiolus in doral view not extraordinarly broad.	→ 10
10a	Each eye consists at most 5 ommatidia. Antennal segments between scapi and club short (wider than long). < 2,5 mm.	→ 11
10b	Each eye consists at least 25 ommatidia. Antennal segments betweenscapus and club at least as long as wide. Big differences in size, > 2,5 mm.	Solenopsis 'fire ants' → 130
11a	Head with a rough surface structure.	Carebara sp. (not yet known from the ABC islands)
11b	Head smooth.	Solenopsis 'thief ants' → 140

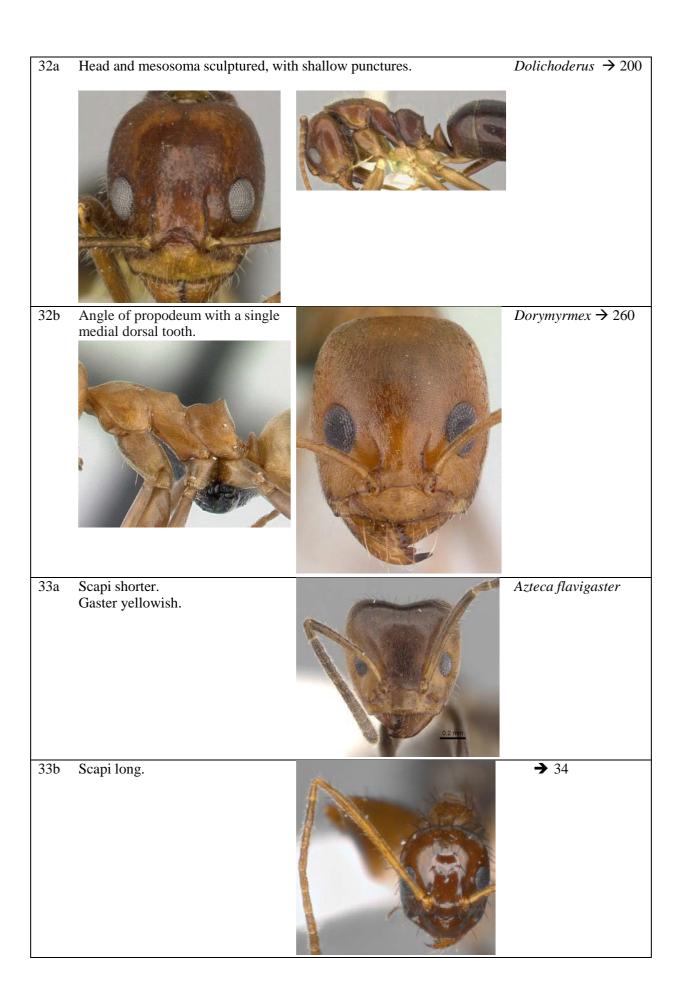
12a			
	Eyes conspicuous, distinctly with r	more than twenty ommatidia.	→ 13
12b	Eyes minute and point-like, consisting of only one or two ommatidia.		Syllophopsis subcoeca
13a	Petiolus without node, cylindrical.	0.5 mm	Xenomyrmex panamanus
13b	Petiolus with node.		→ 14
14a	In dorsal view: propodeum not cost	ulate ('striate'). Monomorph.	<i>Monomorium</i> → 150
14b	In dorsal view: propodeum		Trichomyrmex
	transversely costulate ('striate'). Polymorph.		destructor
15a	Postpetiolus (in dorsal view) subcircular, much wider than the petioles. Approximately 2 mm.		Cardiocondyla → 160
15b	Postpetiolus in doral view not extra	ordinarly wide.	→ 16
15b 16a	Postpetiolus in doral view not extractive 4- to 6-segmented antennae, 2-segmented antennal club; head without jaws triangular in shape, which means that the head above the eyes is much wider than at the mandibular joint. In frontal view the eyes are barely or not visible. Setae (partly) spatulate. Approximately 2 mm.	ordinarly wide.	→ 16 Strumigenys → 170
	4- to 6-segmented antennae, 2-segmented antennal club; head without jaws triangular in shape, which means that the head above the eyes is much wider than at the mandibular joint. In frontal view the eyes are barely or not visible. Setae (partly) spatulate.		
16a	4- to 6-segmented antennae, 2- segmented antennal club; head without jaws triangular in shape, which means that the head above the eyes is much wider than at the mandibular joint. In frontal view the eyes are barely or not visible. Setae (partly) spatulate. Approximately 2 mm. Other combination of characteristics Mesosoma with several spines and of	s. or knobs.	Strumigenys → 170
16a 16b 17a 17b	4- to 6-segmented antennae, 2-segmented antennal club; head without jaws triangular in shape, which means that the head above the eyes is much wider than at the mandibular joint. In frontal view the eyes are barely or not visible. Setae (partly) spatulate. Approximately 2 mm. Other combination of characteristic Mesosoma with several spines and only 2 spines or teeth on the backsi	s. or knobs.	 Strumigenys → 170 → 17 'fungus-growing ants' → 36 → 18
16a 16b 17a	4- to 6-segmented antennae, 2- segmented antennal club; head without jaws triangular in shape, which means that the head above the eyes is much wider than at the mandibular joint. In frontal view the eyes are barely or not visible. Setae (partly) spatulate. Approximately 2 mm. Other combination of characteristics Mesosoma with several spines and of	s. or knobs.	⇒ 17 'fungus-growing ants' ⇒ 36

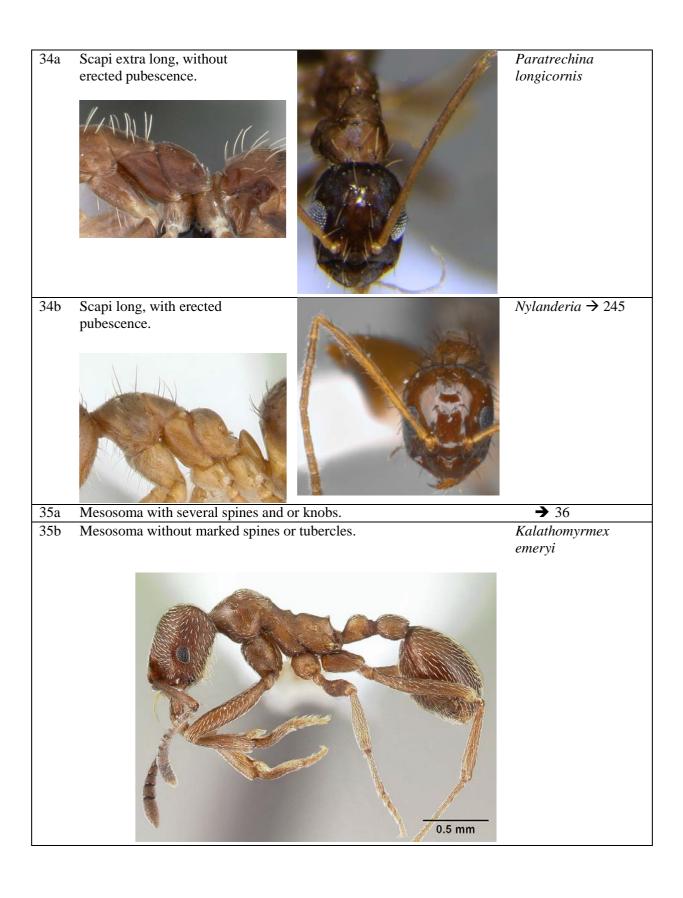
19a	Propodeal spines long. Clear antennal scrobes. Approximately 2mm.		Wasmannia auropunctata
19b	Propodeal spines short. Eyes verysmall.	A COM	Carebara sp. (not yet known from the ABC islands)
20a	Postpetiolus, in dorsal view, subtriangular, with a large impression at posterior margin, forming two distinct lobes, heart-shaped and dorsoventrally flattened.		→ 35
20b	Postpetiolus, in dorsal view, not subtriangular, without impression, not heart-shaped.		→ 21
21a	Eyes small, < 15 ommatidia.	0.2 mm	Rogeria curvipubens
21b	Eyes well developed (> 15 ommatic	lia).	→ 22

22a	Propodeum notably depressed below level of promesonotum (= pronotum + mesonotum). Workercaste strongly dimorphic.		Pheidole → 180
22b	Propodeum not depressed. Between the mandibles and theantennal sockets a rising ridge. Monomorphic.	1 mm	Tetramorium → 250
23a	Mandibles long and straight; petiolus with 1 or 2 teeth or spines.	0.5 mm	→ 24
23b	Mandibles not long and straight.		→ 25
24a	Petiolus with a tooth on each latera	al corner. Approximately 4 mm.	Anochetes (not yet known from the ABC islands)
24b	Petiolus has one prominent vertical spine. > 9 mm.	2 mm	Odontomachus → 280

	In dorsal view is petiolus not visible. Tip of gaster (apex) without a circular opening. Mesosoma without erected setae.	02 mm	Tapinoma melanocephalum
25b	In dorsal view is petiolus visible.		→ 26
26a	The gaster has a slight but distinct		→ 27
	impression between the first and second gaster segments.		
26b	Gaster without impressions.	/ / /	→ 29
27a	Very small eyes, close to the jaws. 2-3 mm.		Hypoponera → 270
		O all	
27b	Developed eyes, in the middle or u	pper part of the head. > 3 mm.	→ 28
27b 28a	Developed eyes, in the middle or u Head, mesosoma and gaster with pits (foveae), without striae; without erect setae. < 1 cm.	pper part of the head. > 3 mm.	→ 28 Platythyrea punctata
28a 28b	Head, mesosoma and gaster with pits (foveae), without striae; without erect setae. < 1 cm. Other combination of characteristics. > 1 cm.		Platythyrea punctata Ectatomma ruidum
28a	Head, mesosoma and gaster with pits (foveae), without striae; without erect setae. < 1 cm. Other combination of characteristics. > 1 cm.	pper part of the head. > 3 mm. na. In dorsal view is the petiolus not	Platythyrea punctata





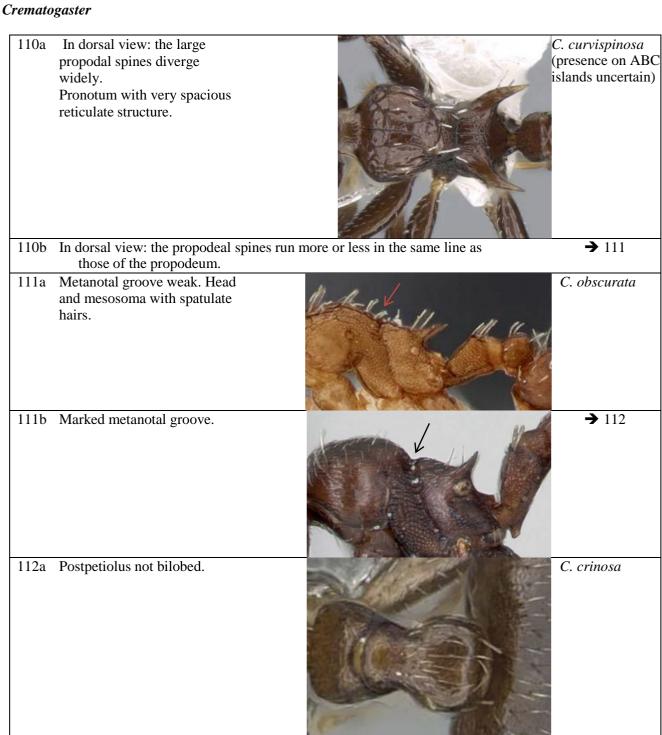


36a	Gaster without spines, teeth or tubercles.	→ 37
36b	Gaster with spines or tubercles. Antennal scrobe indistinct.	→ 38
37a	Mesosoma with tubercles. Erect setae absent. Monomorphic. < 3.5 mm.	Cyphomyrmex minutus
37b	Mesosoma with prominent spines. Poly/dimorphic.	Atta cephalotus
38a	Mesosomal spines short.	Paratrachymyrmex bugnioni
38b	Mesosomal spines longer; the middle spines of the three pairs on the mesosoma are of the same length as the front spines, with the base of the middle spines much thicker than that of the front spines.	Acromyrmex santschii

Pseudomyrmex

100a	Head and mesosoma concolorou	s. Head elongated.	→ 101
100ь	Head and mesosomabicolored. Head more or less round.	1 mm	P. termitarius
101a	Head extremely small. Dull. Mesosoma nearly without setae.	0.2 mm	P. tenuissimus
101b	Head wider. (image: P. curacaensis)		→ 102
102a	Mesosoma with setae. Petiolus about as high as long.		→ 103
102b	Mesosoma (nearly) without setae. Petiolus longer than high. Clear dark spots or band on the first gastertergite. Very shiny.	0.2 mm	P. simplex

103a	Mesosoma covered with relatively long setae. > 4mm.	P. curacaensis
103b	Mesosomawith short setae. Darkly pigmented. < 4 mm.	P. caecilae



112b Postpetiolus bilobed.



C. distans

Solenopsis (fire ants)

130a Major worker: clypeus, in full-face view, lacking median tooth.



S. geminata

130b Major worker: clypeus, in full-face view, with conspicuous median tooth.



S. invicta

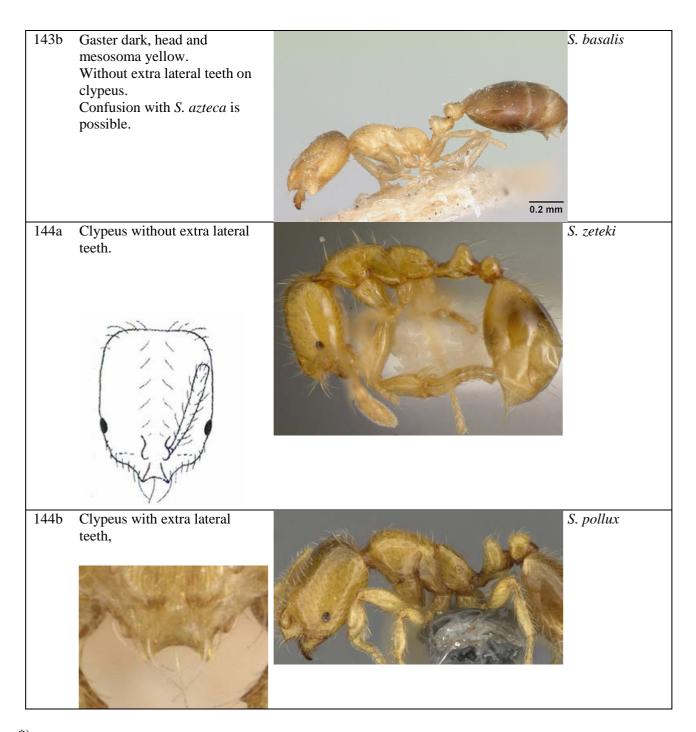
Solenopsis (thief ants)

140a Petiolus in lateral view with a wide, rounded top (image of *S. azteca*)



→ 141

140b	Petiolus in lateral view with a narrow top (image of <i>S. zeteki</i>)		→ 143
141a	Clypeal carina diverge anteriorly. Eyes consists of 1 (-2) ommatidia. Head elongated. Head and mesosoma covered with short (sub-)erect setae.		S. subterranea
141b	Clypeal carina are running more or less parallel. Eyes with > 2 ommatidia. (images of <i>S. azteca</i>)		→ 142
142a	Mesopleuron and petioli smooth and glossy. SL/CL < 60.	0.5mm	S. azteca
142b	Mesopleuron and petioli rough, with structure.	0.5mm	S. brevicornis
143a	Gaster at most a little darker as n		→ 144



According to various authors, *S. corticalis* and *S. zeteki* workers are indistinguishable from each other. According to Pachaeco & Mackay, the gynes of *S. zeteki* have significantly larger eyes than those of *S. corticalis*. The measured eyes of a dozen ABC-islands gynes were all so large that they must be regarded as *S. zeteki*. This would imply that it is likely that the species occurring here is *S. zeteki*.

Monomorium

150a	Head and gaster dark, mesosoma much lighter in color.		M. floricola
150b	Head and mesosoma yellowish.		→ 151
151a	Mesosoma without setae; small part of the anterior side of the 1st gastertergite is contrasting lighter than rest of the dark gaster. (To be confused with <i>Trichomyrmex</i> , 14b)		M. sahlbergi
151b	Mesosoma with > 2 setae. Gaster at most brownish darkened apically.		M. pharaonis
Cardio	condyla		
160a	Metanotal groove clear. Propodeal spines slender and longer. In anterodorsolateral view the postpetiolar sternite with prominent anterolateral corners. (image of <i>C. obscurior</i>)		→ 161
160b	Metanotal groove shallow. Propodeal spines short. Postpetiolar sternite without prominent anterolateral corners.		C. mauritanica
161a	Head longer: CL/CW 1.17-1.28. EYL 0.246	0.1 mm	C. emeryi

161b Head shorter: CL/CW 1.06-1.17. EYL < 0,24



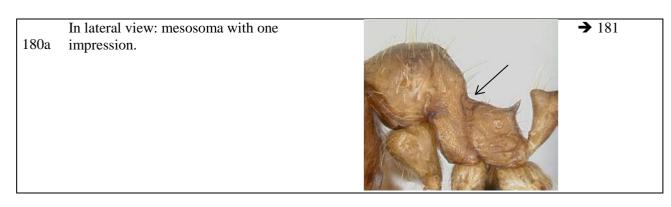
C. obscurior (not yet known from the ABC islands)

Strumigenys

170a	Mandibles relatively short.	→ 171
170b	Mandibles elongated.	→ 172
171a	4-segmented antenna.	S. emmae
171b	6-segmented antenna.	S. membranifera
172a	Postpetiolus with ventral spongiform lobe. (image: S. louisianae)	→ 173

172b In lateral view, petiolus and S.eggersi postpetiolus lacking ventral spongiform lobe. Mesonotum with a pair of erect hairs. > 8 ommatidia/eye. **→** 174 173a Preapical tooth nearly separated from apicodorsal tooth. Preapical tooth separated from 173b S. schmalzi apicodorsal tooth by about the length of the preapical tooth. 174a > 6 ommatidia/eye. S. lousianae Hairs on leading edge of scape curved-spatulate. Jaws thicker. 174b 4 ommatidia/eye. Small species: CW S. sylvestrii 0.33-0.37mm. Jaws slender.

Pheidole

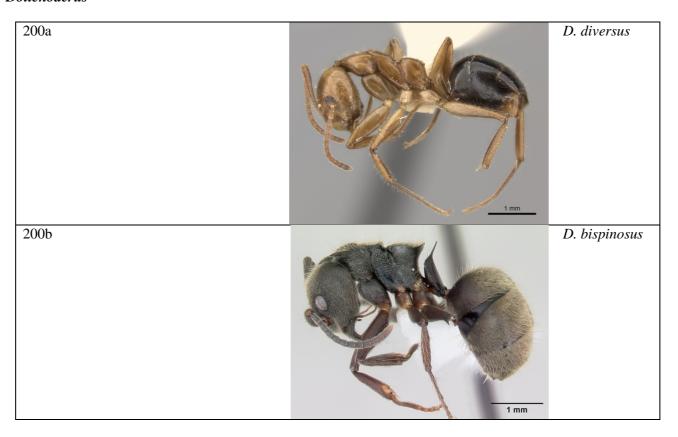


180b	In lateral view: mesosoma with two impressions.	→ 183
181a	Major worker. Carinae on frontal sideof head do not reach the occipital border.	→ 182
181b	Minor worker. Head and pronotum smooth, postpetiolus ventraly bulging. CW > 0.45 mm.	P. megacephala
182a	Relatively large species, CW >1,2 mm.	P. megacephalo
182b	Small species, CW < 0,9 mm.	P. arhuaca

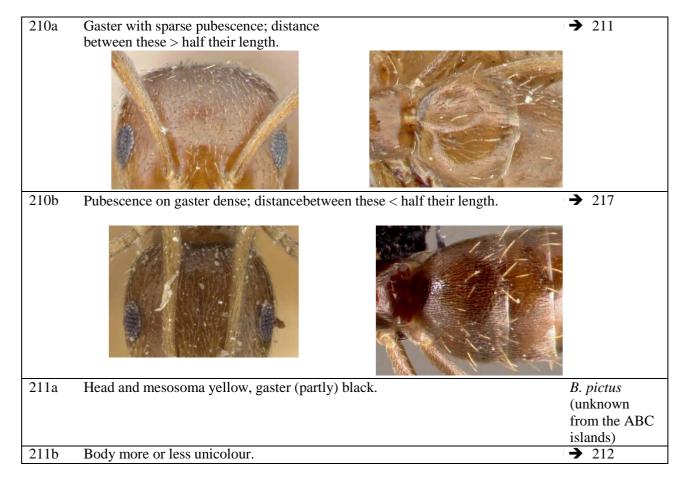
183a	Major worker.	→ 184
183b	Minor worker.	→ 190
184a	Mesosoma without setae or with some short appressed setae.	P. radoszkowskii
184b	Mesosoma with setae.	→ 185
185a	Scapi exceeds occipital corner, or nearly.	→ 186
185b	Scapi much shorter.	→ 188
186a	Scapi just don't reach the occiput.	P. susannae (unknown from the ABC islands)
186b	Scapi exceeds occipital corner.	→ 187
187a	Dent in occiput shallow. Head in full face view mainly smooth.	P. longiscapa
187b	Dent in occiput deeper. Head in full face view with carinulae.	P. kukrana (unknown from the ABC islands)
188a	V-shaped dent in occiput.	P. fallax
188b	Wave-shaped dent in occiput.	→ 189

189a	In dorsal view: postpetiolus <1,6 wider than petiolus, rounded.	P. jelski (unknown from the ABC islands)
189b	In dorsal view: postpetiolus >2 wider than postpetiolus, elliptical.	P. indica
190a	Head in frontal view foveolate,like mesosoma and petiole. Mesosoma without setae (very small workers with a few, shorterected setae).	P. radoszkowskii
190b	Head in frontal view smooth.	→ 191
191a	Nuchal collar not (or hardly) extended (image of <i>P. indica</i>).	P. indica/fallax
191b	With nuchal collar. (image of <i>P. susannae</i>)	P. longiscapa/ P. jelski/ P. susannae/ P. kukrana

Dolichoderus



Brachymyrmex



212a	Mesosoma with 1 pair of setae on the pronotum. Yellowish. 8- 9 ommatidia along the maximal eye diameter. Metanotal groove clear. CL < 0.4 mm.	B. minutus
212b	Mesosoma with 2 pairs of setae, note that setae can break easily, thus reducing utility of this character in some specimens.	213
213a	Metanotal groove deep. Mesonotum bulging dorsally above the pronotum in lateral view.	214
213b	Metanotal groove shallow or invisible. Mesonotum not bulging dorsally.	215
214a	Metathoracic spiracul low, not protruding dorsally.	B. musculus (unknown from the ABC islands)
214b	Metanotal groove wider thanthe diameter of the metathoracic spiracles (Notethat the mesosomal setae are absent in this specimen).	B. degener (unknown from the ABC islands)
215a	Scapi surpassing the posterior cephalic margin by a length shorter than the maximal diameter of the eye.	→ 216
215b	Scapi surpassing the posterior margin of the head by a length exceeding the maximum diameter of the eye. Metanotal groove clear (not deep). Yellowish.	B. aphidicola (unknown from the ABC islands)
216a	Brownish. At least one central ocellus is present.	B. patagonicus

216b Yellowish. B. australis Three inconspicuousocelli. 217a Scapi do not surpassing (just reach) the posterior margin of thehead. B. flavidulus Yellowish. 217b Scapi surpassing the posterior margin of the head. **→** 218 Mesonotum bulging dorsally 218a B. heeri above the pronotum in lateral (unknown from view. the ABC Dull. islands) (Light-)brownish. **→** 219 218b Mesonotum not bulging; shiny. Metanotal groove shallow. 219a Yellowish. On average 7-9 ommatidia along the maximal eye B. termitophilus diameter. 219b Darkly pigmented. **→** 220 220a On average 8-10 ommatidia along the maximal eye B. obscurior diameter. Pubescence less dense. CL < 0,5 mm. 220b B. cordemoyi On average > 10 ommatidia along the maximal eyediameter. (unknown from Pubescence denser. CL > 0.5 mm. the ABC islands)

Camponotus

221	XV:.1	302	C L:
231a	With propodeal spines or teeth. Left: minorworker,	Miles	C. bispinosus
	right: majorworker.		l l
	right. majorworker.		
231b	Without propodeal spines of teeth.		→ 232
232a	Extreme medial convergence in		C. blandus
2324	the dense, appressed pubescence		C. Stantanis
	on the gastral tergites.		
2221	With and make and		222
232b 233a	Without pubescence in a convergen	ce pattern.	→ 233
233a	Strongly notched mesosomal lateral profile.		C. sexguttatus
	Variable pale spots on gaster.		
	Dark pigmented.		
		1 mm	
233b	Other characteristics.		→ 234
234a	Clypeus carinate with		→ 235
	pronounced anterior lobe.		
		White Laboratory of the	
234b	Clypeus not carinate without prono	unced anterior lobe.	→ 236
235a	Scapi with erected pubescence.		C. atriceps
	Never completely black.		
		0.2 mm	
Ī			

Scapi without suberected pubescence.

Head, mesosoma and gaster black.



C. compositor

Posterior side of gastertergites mainly with a minimal yellow ridge.

Head and gaster darker than mesosoma.



C. simillimus

Higher proportion of yehow pigmentation on gaster tergites. Gaster in lateral view with transverse yellow bands on each tergite. Less setae on wholebody.

C. coloratus





237a Few setae on mesosoma.

Majorworker: top of scapus greatly widened.

Major-worker: Lateral edges of the clypeus are parallel to slightly divergent.

Minor-worker: KL/KB > 1,20;

SL/KL > 1.00.



C. curviscapus

237b Many setae on mesosoma. Major worker: top of scapus not widened.

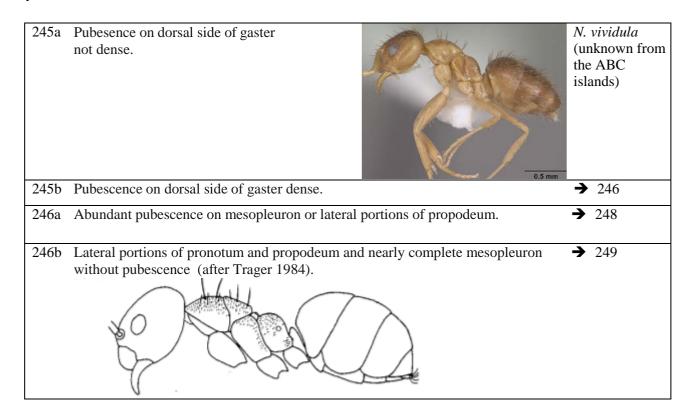
→ 238

238a Pubescence on scapi appressed.

→ 239

238b	Pubescence on scapi decumbent to subdecumbent. Mesosoma darker as head and gaster.		C. pittieri
239a	Gaster pubescence very dense. In lateral view propodeum gradually curved. Posterior half of head mainly black to dark brown. Mesosoma and gaster brown to black.	0.5 mm	C. zoc
239b	Pubescence on second gastertergiet about the same length as the distance between that hairs. Mesosoma and gaster mainly black.	1 m	C. lindigi

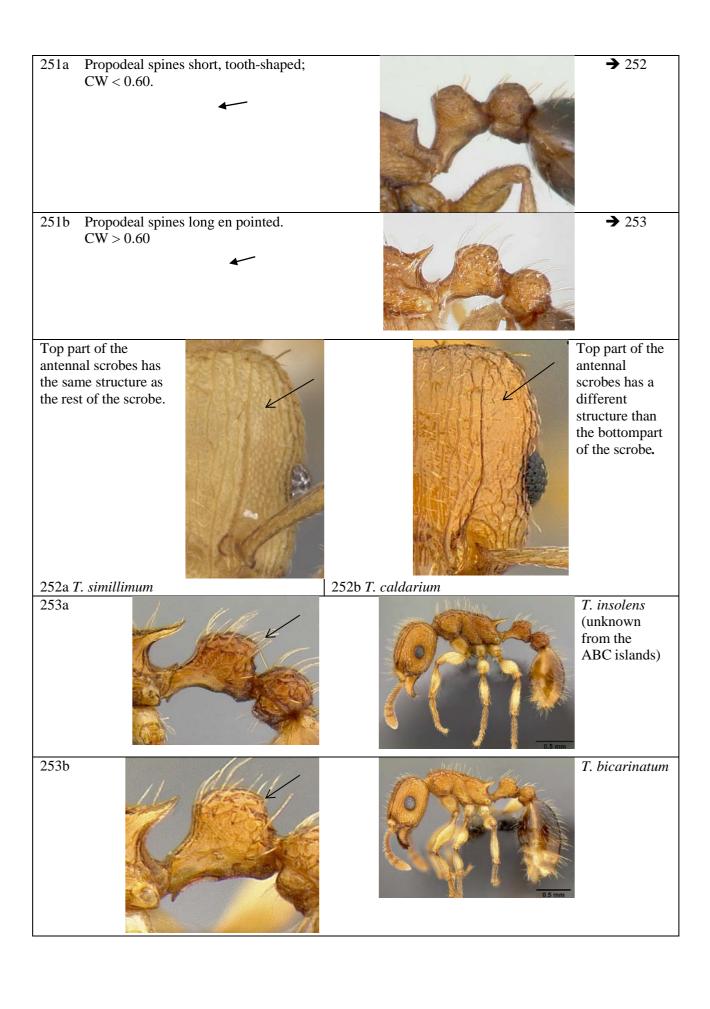
Nylanderia



247a	Body reddish-brown to yellow;REL less than 30; mesosomal macrosetae long (index of longest pronotal macrosetae / propodeum height at least 60).	0.5 mm	N. fulva/pubens
247b	Body dark brown to almost black. REL greater than 30. Mesosomal macrosetae short (index of longest pronotal macrosetae / propodeum heightless than 60).	0.5 mm	N. bourbonica
248a	Body color brown to yellow; coxae always lighter than mesosoma, becoming white if specimen is yellow.	0.5 mm	N. guatemalensis
248b	Body color brown to dark brown with meso/metacoxaecontrasting bright white to yellow with rest of body.	Q.2 mm	N. steinheili

Tetramorium





Neivamyrmex

255a Reddish.
Propodeum notably depressedbelow level of mesonotum.

N. curvinotus

N. iridescens

N. iridescens

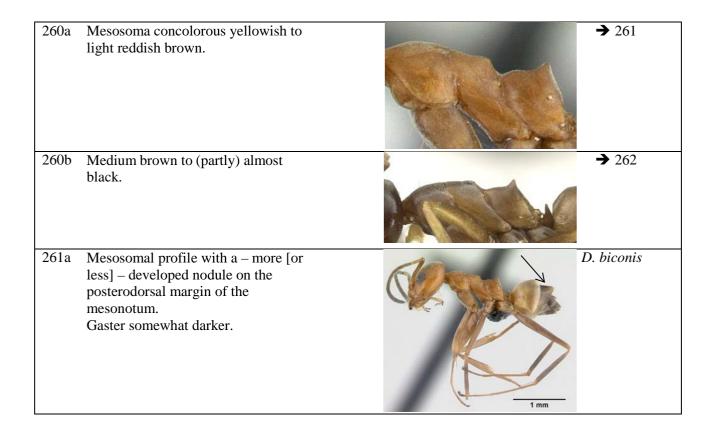
N. iridescens

N. iridescens

N. iridescens

N. iridescens

Dorymyrmex



261b Mesosomal profile with a – [more or]
less – developed nodule on the
posterodorsal margin of the
mesonotum.
Gaster completely dark.



D. bicolor

262a TLI < 117. Scapi not surpassing the posterior margin of head more than twice its maximum diameter. Posteriormargin of head strongly convex.

D. xerophilus

262b TLI > 117. Scapi surpassing the posterior margin of the head more than three times its maximum diameter. Posterior margin of head never convex.

D.insanus

Hypoponera

270a Scapi do not surpassing the posterior margin of the head. Yellow to brownish.



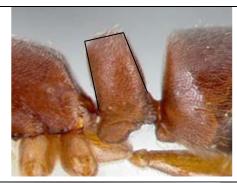
H. ergatandria

270b Scapi surpassing the posterior margin of the head.



→ 271

271b



Perfectly parallel running anterior and posterior side of the petiole.

H. opaciceps

271c



Anterior and posterior side of the petiole more tapering.

H. opacior

Odontomachus

280a Spike of the petiolus longer. The setae on the gaster mainly much longer (sometimes as much as 10x pubescence hairs). Usually very darkly pigmented.



280b Spike of the petiolus shorter. The setae on the gaster shorter (<5x the pubescence hairs). Usually reddish pigmented.



O. ruginodis

O. bauri

