

Identification key of the ant species of

SABA AND St EUSTATIUS

worker caste

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It is intended that this key will be updated regularly.

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The ants mentioned in this key are the result of the identification of samples collected between 1937 and 1963 by P. Wagenaar Hummelinck and R.H. Cobben (all in the collection of Naturalis Biodiversity Center, Leiden, Netherland), by the author on Saba in 2018 and in 2015 on St Eustatius by an expedition of Naturalis.

All identifications (except data from literature) are done by the author.

More species can be expected on these islands.

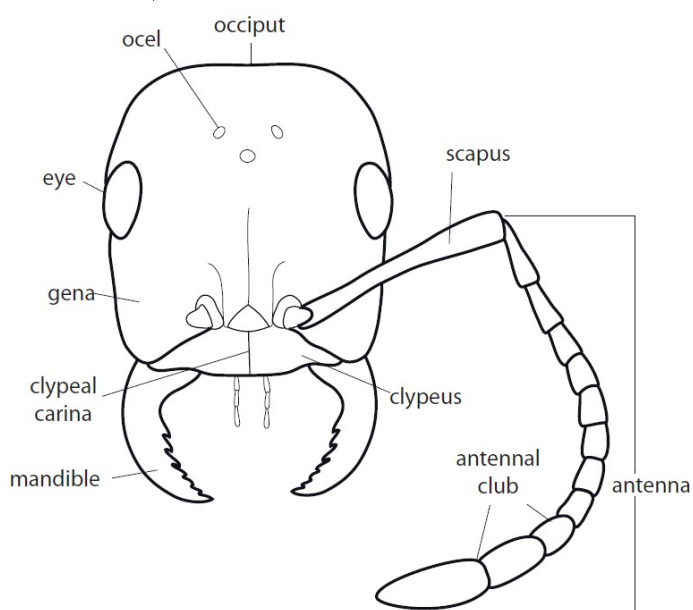
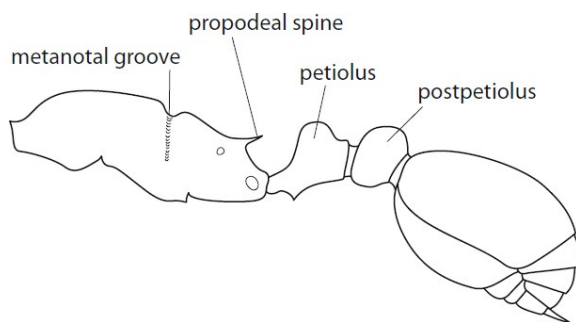
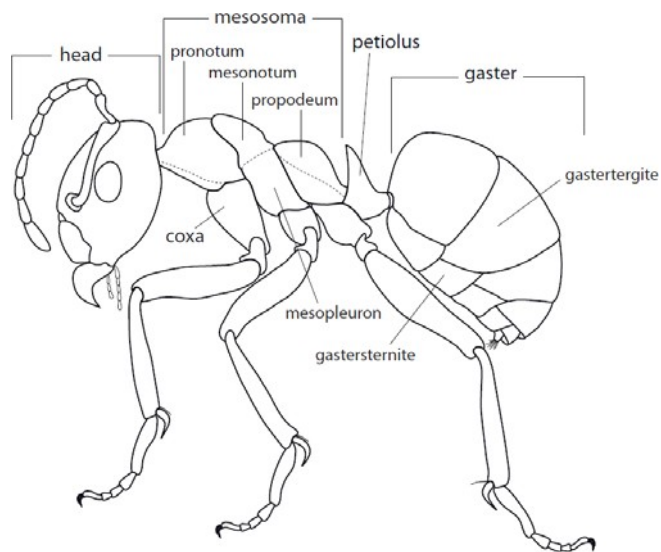
In processing the material I have received a lot of support from Frederique Bakker (Naturalis) for which my thanks.

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., except the images of *Brachymyrmex* car01 and carss02, they are made by Lisa Tonino. The drawings of some *Solenopsis* species are after Pacheco & Mackay (2013). Finally, thanks to Jadranka Njegovan for the drawings with terms used in the key.





Additions and comments are very welcome.





A paper about the ants of Saba and St Eustatius is in preparation.
















CW = maximum head wide
 CL = head length
 EYL = maximum eye length
 EYW = maximum eye wide
 PPW = wide op postpetiolus
 REL = EYL/CL
 SL = length of scapus
 TLI = Length of thorax (Weber's
 length) x 100/CL

1a	Between gaster and mesosoma two clearly separated nodules (petiolus and postpetiolus).	→ 2
1b	Between gaster and mesosoma one nodule (petiolus); or node is invisible, or petioles broadly attached the gaster.	→ 16
2a	Postpetiolus attached to dorsalsurface of first gastertergite. Gaster in dorsal view heart- shaped.	 <i>Crematogaster</i> (genus still unknown on the islands)
2b	Postpetiolus attached to frontal side of gaster.	→ 3
3a	Posterior side of the propodeum rounded, without spines or teeth.	→ 4
3b	Posterior side of the propodeum with spines or teeth or at most angular.	→ 9
4a	Antennal club 2-segmented.	→ 5
4b	Antennal club 3-segmented.	→ 8
5a	Postpetiolus in dorsal viewextraordinarily wide.	 <i>Solenopsis globularia</i> complex → 100
5b	Postpetiolus in dorsal view not extraordinarily broad.	→ 6
6a	Each eye consists at most 10 ommatidia. Antennal segments between scapi and club short (wider than long). < 2,5 mm.	→ 7
6b	Each eye consists at least 25 ommatidia. Antennal segments between scapus and club at least as long as wide. Big differences in size, > 2,5 mm.	<i>Solenopsis</i> 'fire ants' → 110
7a	Head with a rough surface structure. Dense reticulation on the sides of the thorax and petiole. < 2 mm.	 <i>Carebara reticulata</i>
7b	Head smooth.	<i>Solenopsis</i> 'thief ants' → 120
8a	In dorsal view: propodeum not costulate ('striate'). Monomorph.	<i>Monomorium</i> → 130
8b	In dorsal view: propodeum transversely costulate ('striate'). Polymorph.	 <i>Trichomyrmex destructor</i>

9a	Postpetiolus (in dorsal view) subcircular, much wider than the petioles. Approximately 2 mm.		<i>Cardiocondyla</i> → 160
9b	Postpetiolus in dorsal view not extraordinarily wide.		→ 10
10a	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.		<i>Strumigenys</i> → 170
10b	Other combination of characteristics.		→ 11
11a	Mesosoma with several spines and or knobs.		'fungus-growing ants' → 29
11b	Only 2 spines or teeth on the backside of the propodeum.		→ 12
12a	Antennal club 2-segmented. Propodeal spines long. Clear antennal scrobes. Approximately 2 mm.		<i>Wasmannia auropunctata</i>
12b	Antennal club 3-segmented.		→ 13
13a	Postpetiolus, in dorsal view, subtriangular, with a large impression at posterior margin, forming two distinct lobes, heart-shaped and dorsoventrally flattened.		→ 29
13b	Postpetiolus, in dorsal view, not subtriangular, without impression, not heart-shaped.		→ 14

14a	Eyes small, < 15 ommatidia.		<i>Rogeria</i> → 140
14b	Eyes well developed (> 15 ommatidia).		→ 15
15a	Propodeum notably depressed below level of promesonotum (= pronotum + mesonotum). Workercaste strongly dimorphic.		<i>Pheidole</i> → 170
15b	Propodeum not depressed. Between the mandibles and the antennal sockets a rising ridge. Monomorphic.		<i>Tetramorium</i> → 180
16a	Mandibles long and straight; petiolus with 1 or 2 teeth or spines.		→ 17
16b	Mandibles not long and straight.		→ 18

17a	Petiolus with a tooth on each lateral corner. Approximately 4 mm.		<i>Anochetes mayri</i>
17b	Petiolus has one prominent vertical spine. > 9 mm.		<i>Odontomachus ruginodis</i>
18a	Eyes tiny. Petiolus broadly attached to gaster. Anterior margin of clypeus denticulate. < 2mm.	 	<i>Prionopelta antillana</i>
18b	Petiolus clear separated from gaster.		→ 19
19a	Mandibles slender, elongated without teeth.		<i>Leptogenys pubiceps</i>
19b	Mandibles 'normal', with teeth.		→ 20
20a	In dorsal view is petiolus not visible. Tip of gaster (apex) without a circular opening. Mesosoma without erected setae.		<i>Tapinoma melanocephalum</i>
20b	In dorsal view is petiolus visible.		→ 26

21a	The gaster has a slight but distinct impression between the first and second gaster segments.		→ 22
21b	Gaster without impressions.		→ 23
22a	Very small eyes, close to the jaws. 2-3 mm.		<i>Hypoponera</i> → 220
22a	Developed eyes, in the middle or upper part of the head. Head, mesosoma and gaster with pits (foveae), without striae; without erect setae. > 3 mm.		<i>Platythyrea punctata</i>
23a	Small ants with 9-segmented antenna. In dorsal view is the petiolus not visible. 1.5-2.5 mm.		<i>Brachymyrmex</i> → 200
23b	11- to 12-segmented antenna. > 2.5 mm.		→ 24
24a	Position of the eyes largely on or below the center of the head.		→ 25
24b	Eyes in the top half of the head. > 3 mm.		<i>Camponotus</i> → 210
25a	Posterior side of propodeum flat or concave.		→ 26

25b Posterior side of propodeum rounded.



→ 27

26a Head and mesosoma sculptured, with shallow punctures.

Dolichoderus
(genus unknown on these islands)



26b Angle of propodeum with a single medial dorsal tooth.








Dorymyrmex (genus unknown on these islands)

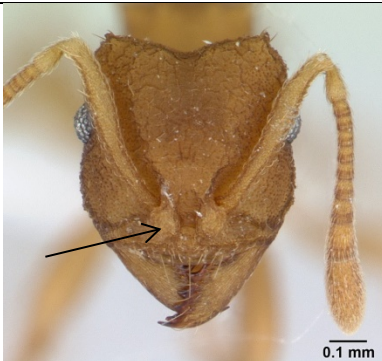



27a Scapi shorter.

Azteca delpini





<p>27b Scapi long.</p>		<p>→ 28</p>
<p>28a Scapi extra long, without erected pubescence.</p> 		<p><i>Paratrechina longicornis</i></p>
<p>28b Scapi long with erected pubescence.</p> 		<p><i>Nylanderia</i> → 220</p>
<p>29a Mesosoma with knobs, without spines or teeth.</p>		<p><i>Cyphomyrmex</i> → 180</p>
<p>29b Mesosoma with teeth and spines.</p>		<p>→ 30</p>

30a	Frontal lobes small.		<i>Mycocepurus smithii</i>
30b	Frontal lobes big.		<i>Mycetomoellerius jamaicensis</i>

100 *Solenopsis globularia* species complex






100a	Concolorous darkbrown – brownblack.	<i>S. desecheoensis</i>
100b	Yellowish.	<i>S. globularia</i>


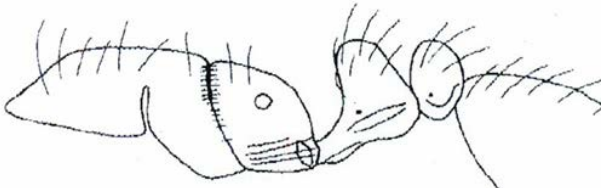

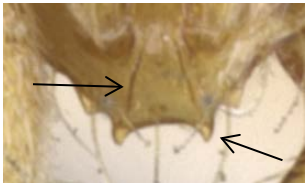



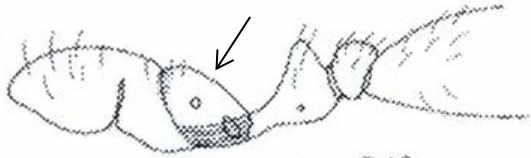


110 *Solenopsis* (fire ants)

110a	Major worker: clypeus, in full-face view, lacking median tooth.		<i>S. geminata</i>
110b	Major worker: clypeus, in full-face view, with conspicuous median tooth.		<i>S. invicta</i>

120 *Solenopsis* (thief ants)

drawings from: Pacheco, J.A. & Mackay, W.P. 2013. The systematics and biology of the New World thief ants of the genus *Solenopsis* (Hymenoptera: Formicidae). Edwin Mellen Press, Lewiston, New York. 501 pp.

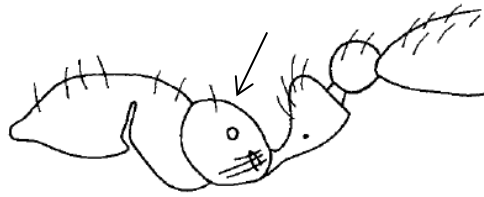
120a	Gaster dark, head and mesosoma yellow. Metanotal groove clear. Without extra lateral teeth on clypeus. Confusion with <i>S. azteca</i> is possible.		<i>S. basalis</i>
120b	More or less monochromatic.	➔ 121	
121a	1-3 ommatidia/eye. In lateral view: petiolus wide.		<i>S. pygmaea</i>
121b	Else.	➔ 122	
122a	Propodeum, petioles and postpetiolus with a reticular structure.	➔ 123	
122b	Propodeum, petioles and postpetiolus without a reticular structure.	➔ 124	
123a	More elaborate reticular structure.		<i>S. brevicornis</i>
123b	Restricted reticular structure.		<i>S. terricola</i> (unknown on these islands)
124a	Scapi short: SL/CL < 60. In lateral view: petiolus wide. Clypeal carina running more parallel. Without extra lateral teeth. Petiolus in lateral view thick.		<i>S. azteca</i>

124b	Scapi longer. SL/CL > 60. With more or less clear extra lateral teeth. Clypeal carina more V shaped.		➔ 125
125a	Brown. In lateral view: petiolus wider.	   	<i>S. castor</i>
125b	Yellowish. In lateral view: petiolus smaller. Left: <i>pollux</i> , right: <i>corticalis</i> .	 	➔ 126
126a	Propodeum flatter. Head smaller: CI88-134. Clypeal tooth longer.	  	<i>S. pollux</i>

126b

Propodeum rounder.
Head wider: CI 78-92.
Clypeal tooth shorter.

S. corticalis/zeteki



130 *Monomorium*

130a Bicolor: head and gaster dark, mesosoma much lighter in color.

M. floricola



130b More or less monochromatic.

→ 131

131a Black. Shiny.

M. ebeninum



131b Yellowish. Mat.





M. pharaonis
(unknown on these islands)






140 *Rogeria*


104a	Mesosoma without erected setae. Lateral side of mesosoma without rugae.	<i>R. foreli</i>
104b	Mesosoma with (sub-)erected setae. Lateral side of mesosoma with rugae.	<i>R. curvipubens</i>

160 *Cardiocondyla*

160a	Scapi reach the occiput.		<i>C. venustula</i>
160b	Scapi shorter.		→ 161
161a	Metanotal groove clear. Propodeal spines slender and longer. In anterodorsolateral view the postpetiolar sternite with prominent anterolateral corners. (image of <i>C. obscurior</i>)		→ 162
161b	Metanotal groove shallow. Propodeal spines short. Postpetiolar sternite without prominent anterolateral corners.		→ 163
162a	Head longer: CL/CW 1.17-1.28. EYL 0.246		<i>C. emeryi</i>

162b	Head shorter: CL/CW 1.06-1.17. EYL < 0,24		<i>C. obscurior</i> (unknown on these islands)
163a	Postpetiolus wider: $PPW/[(CL+CW):2] = 0.25-0.29$. Smaller: $(CL+CW):2 = 0,418$ mm		<i>C. minutior</i>
163b	Postpetiolus smaller: $PPW/[(CL+CW):2] = 0.434-0.539$. Taller: $(CL+CW):2 = 0,516$ mm.		<i>C. mauritanica</i>

170 *Strumigenys*

170a	Mandibles relatively short.	➔ 171
170b	Mandibles elongated.	➔ 172
171a	4-segmented antenna.	 <i>S. emmae</i>
171b	6-segmented antenna.	➔ 172
172a	Mandibles short.	➔ 173
172b	Mandibles long and slender.	➔ 174

173a

Head wider. Mandibles shorter.



S. membranifera
(unknown on the islands)

173b

Head smaller. Mandibles longer.



S. margaritae

174a

Postpetiolus surrounded by spongy mass.
(image: *S. louisianae*)



→ 175

174b

In lateral view, petiolus and postpetiolus lacking ventral spongiform lobe. Mesonotum with a pair of erect hairs.



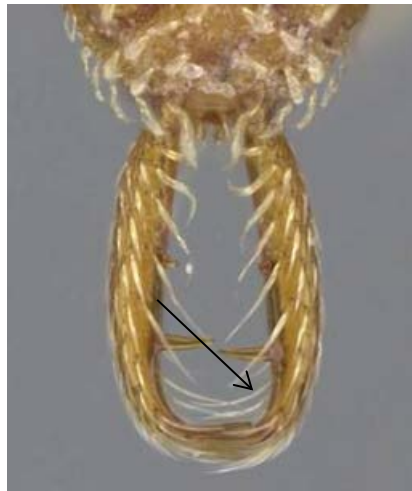
S. eggersi

175a Preapical tooth nearly separated from apicodorsal tooth.








S. rogeri


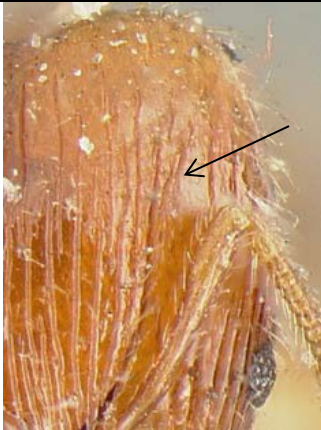



175b Preapical tooth separated from apicodorsal tooth by about the length of the preapical tooth.







S. skia






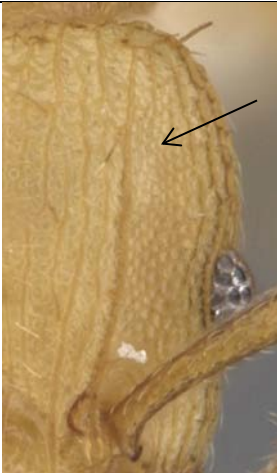
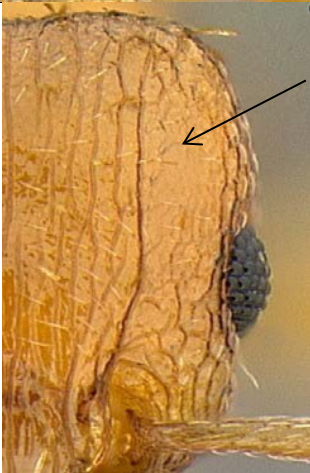
170 *Pheidole*

170a	In lateral view: mesosoma with 1 impression.		➔ 171
170b	In lateral view: mesosoma with 2 impressions.		➔ 175
171a	Major worker.		➔ 172
171b	Minor worker.		➔ 174
172a	Relatively large species, CW > 1,2 mm. Carinae on frontal side of head do not reach the occipital border.		<i>P. megacephala</i>
172b	Small species, CW < 0,9 mm. Carinae on frontal side of the head comes up to the occipital border.		➔ 173

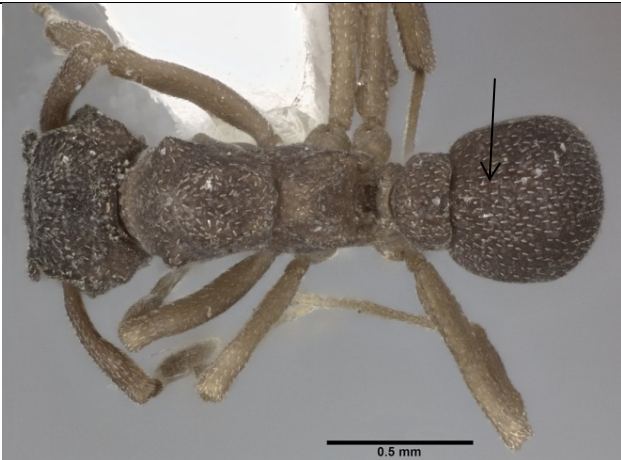

173a	With (weak) antennal scrobe.			<i>P. exigua</i>
173b	Without antennal scrobe.			<i>P. sculptior</i>
174a	Head and pronotum smooth, postpetiolus ventrally bulging. CW > 0.45 mm.			<i>P. megacephala</i>
174b	Head and pronotum foveolate. Postpetiolus not ventrally bulging. CW < 0.45 mm.			<i>P. exigua/sculptior</i>
175a	Major worker.		➔	176
175b	Minor worker.		➔	177

176a Scapi long, just didn't reach the occiput.		<i>P. susannae</i>
176b Scapi shorter.		<i>P. indica</i> (unknown on these islands)
177a Nuchal collar not (or hardly) extended.		<i>P. indica</i>
177b With nuchal collar.		<i>P. susannae</i>


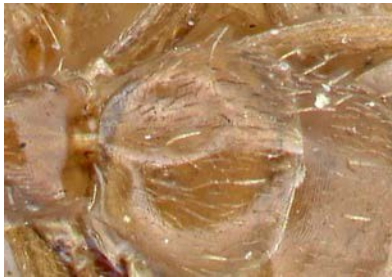





180 *Tetramorium*



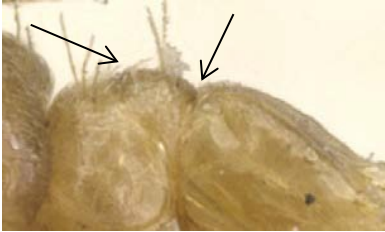




180a	Without very dense (and long) setosity.	➔ 181	
180b	Very dense setosity.		<i>T. lanuginosum</i> (unknown on these islands)
181a	Head and mesosoma yellows-reddishbrown pigmented.		➔ 182
181b	Uniform midbrown - black, CW 0.64-0.71, mandibles almost smooth.		<i>T. lucayanum</i>
181a	Propodeal spines short, tooth-shaped; CW < 0.60.		➔ 182
181b	Propodeal spines long en pointed. CW > 0.60		<i>T. bicarinatum</i>
Top part of the antennal scrobes has the same structure as the rest of the scrobe.			Top part of the antennal scrobes has a different structure than the bottom part of the scrobe.
182a	<i>T. simillimum</i>		182b <i>T. caldarium</i> (unknown on these islands)

190 *Cyphomyrmex*








190a	Median basal groove of first gastral tergum short and usually indistinct. CW < 0.56 mm.		<i>C. minutus</i>
190b	Basal groove of first gastral tergum distinct and more than twice as long as wide. CW > 0.62 mm.		<i>C. rimosus</i>

200 *Brachymyrmex*

200a	Gaster with sparse pubescence; distance between these > half their length.	→201	
			
200b	Pubescence on gaster dense; distance between these < half their length.	→204	
			
201a	Mesosoma with 1 pair of setae on the pronotum. Yellowish. 8- 9 ommatidia along the maxillae diameter. Metanotal groove clear. CL < 0.4 mm.		<i>B. minutus</i>
201b	Mesosoma with 2 pairs of setae; note that setae can break easily, thus reducing utility of this character in some specimens.	→ 202	
202a	Scapi surpassing the posterior cephalic margin by a length shorter than the maximal diameter of the eye.	→ 203	
202b	Scapi surpassing the posterior margin of the head by a length exceeding the maximum diameter of the eye. Metanotal groove clear (not deep). Yellowish.		<i>B. aphidicola</i> (unknown on these islands)
203a	Brownish. At least one central ocellus is present (note that the mesosomal setae are absent in <i>this</i> illustrated specimen).		<i>B. patagonicus</i>

203b	Yellowish. Three visible ocelli. Mesonotum slightly bulging.		<i>B. car01</i>
203c	Yellowish. Mesonotum not bulging. Three hardly visible ocelli.		<i>B. car02</i>
204a	Scapi do not surpassing (just reach) the posterior margin of the head. Yellowish.		<i>B. flavidulus</i> (unknown on these islands)
204b	Scapi surpassing the posterior margin of the head.		➔ 205
205a	Mesonotum bulging dorsally above the pronotum in lateral view. Mat. (Light-)brownish.		<i>B. heeri</i> (unknown on these islands)
205b	Mesonotum not bulging; shiny. Metanotal groove shallow. Darkly pigmented.		➔ 206
206a	On average 8-10 ommatidia along the maximal eye diameter. Pubescence less dense. CL < 0,5 mm.	 	<i>B. obscurior</i>
206b	On average > 10 ommatidia along the maximal eye diameter. Pubescence denser. CL > 0,5 mm.	 	<i>B. cordemoyi</i> (unknown on these islands)

210 *Camponotus*

210a	Strongly notched mesosomal lateral profile. Variable pale spots on gaster. Dark pigmented.		<i>C. sexguttatus</i>	
210b	Other characteristics.	→	211	
211a	Few setae on mesosoma. Major worker: top of scapus greatly widened.	→	212	
				
211b	Other characteristics.	→	213	
212a	Frontal side of head shiny; head minor worker more rounded.			<i>C. claviscapus</i>
212b	Frontal side of head mat; head minor worker more elongated.			<i>C. curviscapus</i> (unknown on these islands)

213a Scapi without erected pubescence.
Head nearly without setae.
Mesosoma and gaster with a few
setae.




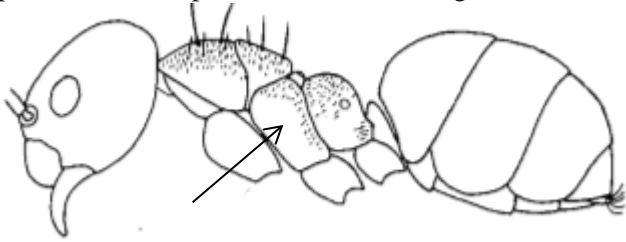




C. kaura

213b Scapi with erected pubescence.
Head, mesosoma and gaster with
many setae.







C. pittieri

220 *Nylanderia*

220a	Pubescence on dorsal side of gaster not dense.		<i>N. vividula</i> (unknown on these islands)
220b	Pubescence on dorsal side of gaster dense.		→ 221
221a	Abundant pubescence on mesopleuron or lateral portions of propodeum.		→ 223
221b	Lateral portions of pronotum and propodeum and nearly complete mesopleuron without pubescence (after Trager 1984).		→ 224
223a	Body reddish-brown to yellow; REL less than 30; mesosomal macrosetae long (index of longest pronotal macrosetae / propodeum height at least 60).		<i>N. pubens</i>
223b	Body dark brown to almost black. REL greater than 30. Mesosomal macrosetae short (index of longest pronotal macrosetae / propodeum height less than 60).		<i>N. bourbonica</i> (unknown on these islands)
224a	Body color brown to yellow; coxae always lighter than mesosoma, becoming white if specimen is yellow.		<i>N. guatemalensis</i> (unknown on these islands)
224b	Body color brown to dark brown with meso/metacoxae contrasting bright white to yellow with rest of body.		<i>N. steinheili</i>

230 *Hypoponera*

<p>230a Scapi do not surpassing the posterior margin of the head.</p>		<p><i>H. ergatandria</i></p>
<p>230b Scapi surpassing the posterior margin of the head.</p>		<p>➔ 231</p>
<p>231a Top of petioles smaller than basis.</p>		<p><i>H. opacior</i></p>
<p>231b Top of petioles as wide as basis.</p>		<p><i>H. opaciceps</i> (unknown on these islands)</p>