

Costa Rica

Carapichea, *Eumachia*, *Geophila*, *Notopleura* and *Rudgea* (Rubiaceae: Palicoureeae) of Costa Rica

Andreas Berger

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Photos: Andreas Berger [andi.berger@univie.ac.at], except where indicated in Table 1. Produced by Andreas Berger with the assistance of Valéria Sampaio, Field Museum.



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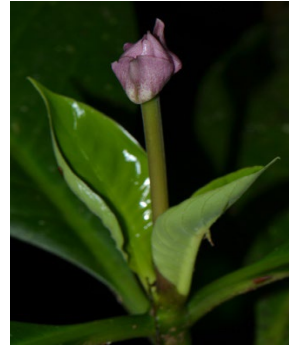
1 *Carapichea affinis*



2 *Carapichea affinis*



3 *Carapichea affinis*



4 *Carapichea affinis*



5 *Carapichea affinis*
pin flower morph



6 *Carapichea affinis*



7 *Carapichea affinis*



8 *Carapichea ipecacuanha*



9 *Carapichea ipecacuanha*



10 *Carapichea ipecacuanha*
thrum flower morph



11 *Carapichea ipecacuanha*



12 *Eumachia haematocarpa*



13 *Eumachia haematocarpa*



14 *Eumachia haematocarpa*



15 *Eumachia haematocarpa*



16 *Eumachia haematocarpa*



17 *Eumachia kappleri*



18 *Eumachia kappleri*
pin flower morph



19 *Eumachia kappleri*



20 *Eumachia microdon*

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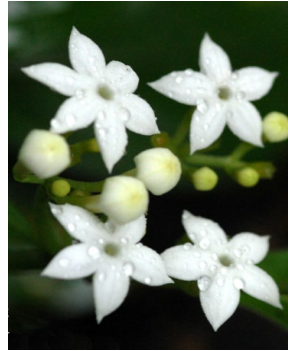
21 *Eumachia microdon*



22 *Eumachia microdon*



23 *Eumachia microdon*



24 *Eumachia microdon*



25 *Eumachia microdon*



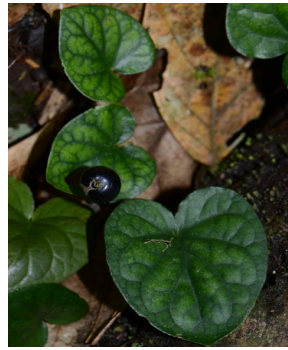
26 *Geophila cordifolia*



27 *Geophila cordifolia*



28 *Geophila cordifolia*



29 *Geophila macropoda*



30 *Geophila macropoda*



31 *Geophila macropoda*



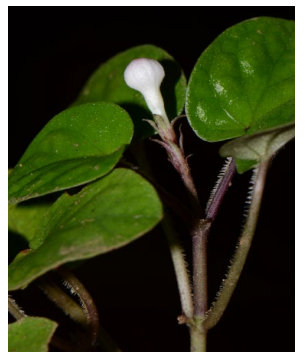
32 *Geophila macropoda*



33 *Geophila repens*



34 *Geophila repens*



35 *Geophila repens*



36 *Geophila repens*



37 *Geophila repens*



38 *Notopleura aggregata*



39 *Notopleura aggregata*



40 *Notopleura aggregata*


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41 *Notopleura amicittiae*



42 *Notopleura amicittiae*



43 *Notopleura amicittiae*
thrum flower morph



44 *Notopleura amicittiae*
pin flower morph



45 *Notopleura amicittiae*



46 *Notopleura anomothyrsa*



47 *Notopleura anomothyrsa*



48 *Notopleura anomothyrsa*



49 *Notopleura anomothyrsa*
pin flower morph



50 *Notopleura anomothyrsa*



51 *Notopleura camponutans*



52 *Notopleura camponutans*



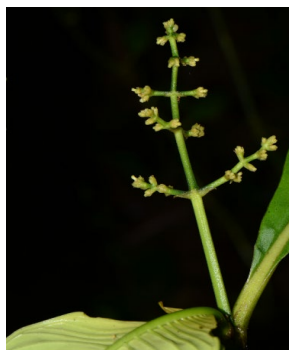
53 *Notopleura capacifolia*



54 *Notopleura capacifolia*



55 *Notopleura capacifolia*



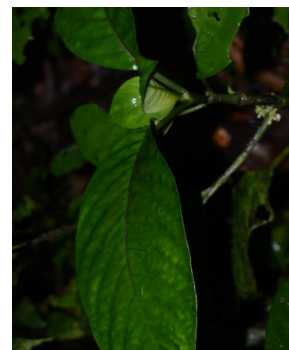
56 *Notopleura capacifolia*



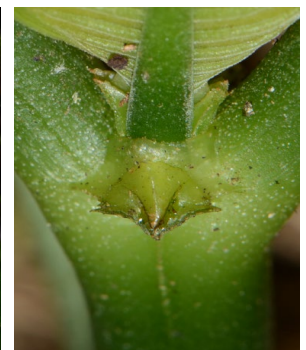
57 *Notopleura capacifolia*
pin flower morph



58 *Notopleura capacifolia*



59 *Notopleura capitata*



60 *Notopleura capitata*

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61 *Notopleura capitata*
pin flower morph



62 *Notopleura capitata*
thrum flower morph



63 *Notopleura costaricensis*



64 *Notopleura costaricensis*



65 *Notopleura costaricensis*



66 *Notopleura costaricensis*
pin flower morph



67 *Notopleura costaricensis*
pin flower morph



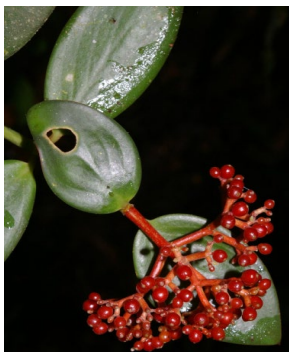
68 *Notopleura costaricensis*



69 *Notopleura epiphytica*



70 *Notopleura epiphytica*
pin flower morph



71 *Notopleura epiphytica*



72 *Notopleura hondurensis*



73 *Notopleura hondurensis*



74 *Notopleura hondurensis*



75 *Notopleura latistipula*



76 *Notopleura latistipula*



77 *Notopleura latistipula*



78 *Notopleura longipedunculoides*



79 *Notopleura longipedunculoides*



80 *Notopleura maxonii*

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81 *Notopleura maxonii*



82 *Notopleura maxonii*



83 *Notopleura maxonii*



84 *Notopleura montana*



85 *Notopleura montana*



86 *Notopleura nepokroeffiae*



87 *Notopleura nepokroeffiae*



88 *Notopleura nepokroeffiae*



89 *Notopleura nepokroeffiae*



90 *Notopleura nepokroeffiae*
pin flower morph



91 *Notopleura nepokroeffiae*



92 *Notopleura panamensis*



93 *Notopleura panamensis*



94 *Notopleura panamensis*



95 *Notopleura panamensis*
pin flower morph



96 *Notopleura panamensis*
thrum flower morph



97 *Notopleura parasitica*



98 *Notopleura parasitica*



99 *Notopleura parasitica*



100 *Notopleura parasitica*

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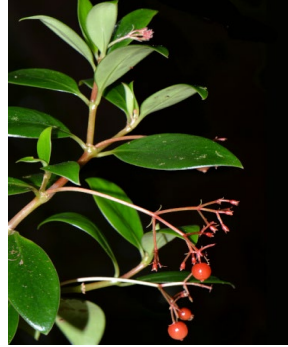
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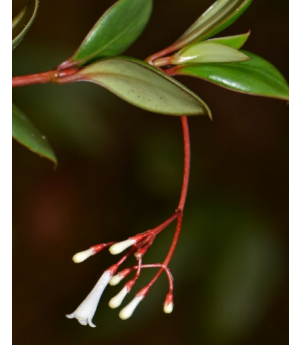
101 *Notopleura peperomiae*



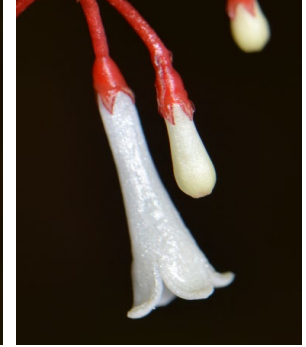
102 *Notopleura peperomiae*



103 *Notopleura peperomiae*



104 *Notopleura peperomiae*



105 *Notopleura peperomiae*



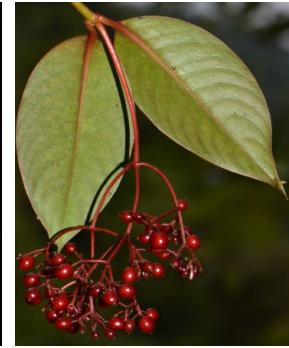
106 *Notopleura pithecobia*



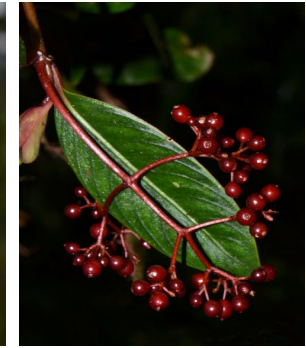
107 *Notopleura pithecobia*



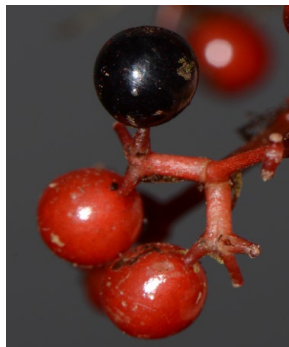
108 *Notopleura pithecobia*



109 *Notopleura pithecobia*



110 *Notopleura pithecobia*



111 *Notopleura pithecobia*



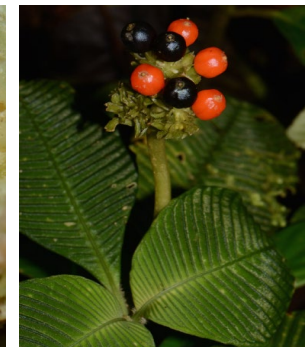
112 *Notopleura polyphlebia*



113 *Notopleura polyphlebia*



114 *Notopleura polyphlebia*



115 *Notopleura polyphlebia*



116 *Notopleura recondita*



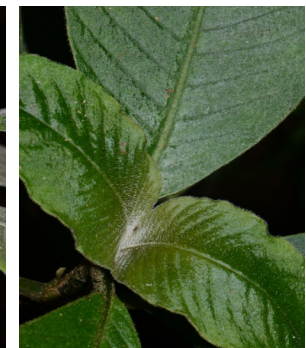
117 *Notopleura recondita*



118 *Notopleura recondita*



119 *Notopleura siggersiana*



120 *Notopleura siggersiana*

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121 *Notopleura siggersiana*



122 *Notopleura siggersiana*
pin flower morph



123 *Notopleura siggersiana*



124 *Notopleura siggersiana*



125 *Notopleura siggersiana*



126 *Notopleura tolimensis*



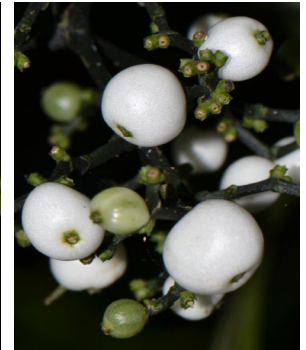
127 *Notopleura tolimensis*



128 *Notopleura tolimensis*
thrum flower morph



129 *Notopleura tolimensis*
pin flower morph



130 *Notopleura tolimensis*



131 *Notopleura tolimensis*



132 *Notopleura tonduzii*



133 *Notopleura tonduzii*



134 *Notopleura tonduzii*



135 *Notopleura tonduzii*



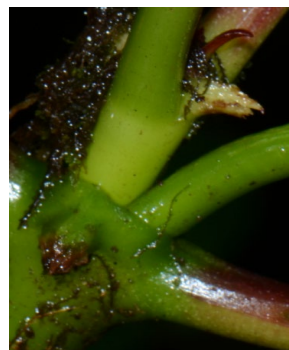
136 *Notopleura tonduzii*
thrum flower morph



137 *Notopleura tonduzii*



138 *Notopleura uliginosa*



139 *Notopleura uliginosa*



140 *Notopleura uliginosa*
pin flower morph


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141 *Notopleura uliginosa*



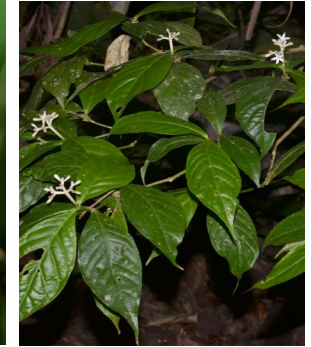
142 *Notopleura uliginosa*



143 *Rudgea amplexicaulis*



144 *Rudgea amplexicaulis*



145 *Rudgea cornifolia*



146 *Rudgea cornifolia*



147 *Rudgea cornifolia*



148 *Rudgea cornifolia*



149 *Rudgea cornifolia*
pin flower morph



150 *Rudgea cornifolia*
pin flower morph



151 *Rudgea cornifolia*



152 *Rudgea cornifolia*



153 *Rudgea laevis*



154 *Rudgea laevis*



155 *Rudgea laevis*



156 *Rudgea laevis*



157 *Rudgea laevis*



158 *Rudgea monofructus*



159 *Rudgea monofructus*



160 *Rudgea monofructus*

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161 *Rudgea monofructus*



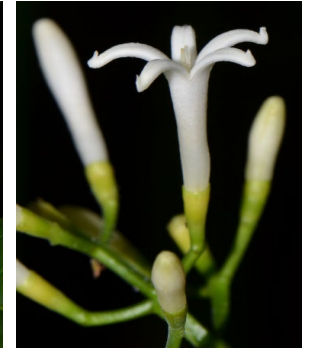
162 *Rudgea raveniana*



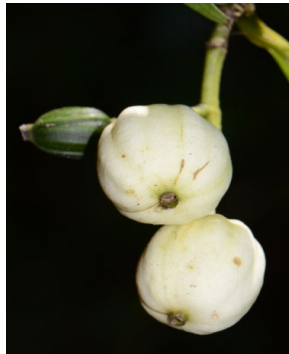
163 *Rudgea raveniana*



164 *Rudgea raveniana*



165 *Rudgea raveniana*
pin flower morph



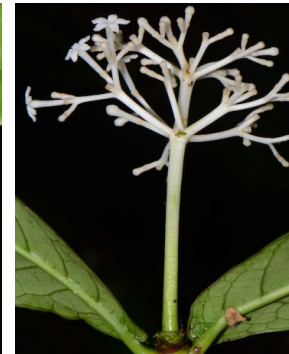
166 *Rudgea raveniana*



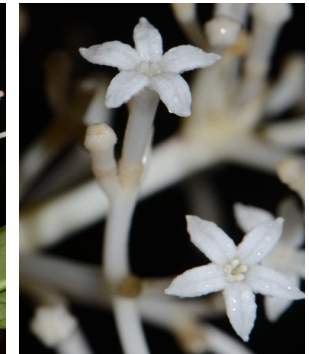
167 *Rudgea reducticalyx*



168 *Rudgea reducticalyx*



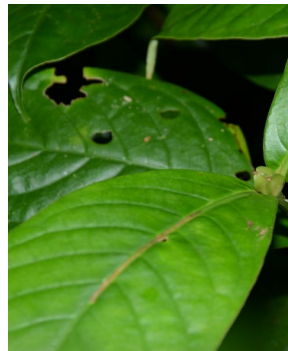
169 *Rudgea reducticalyx*



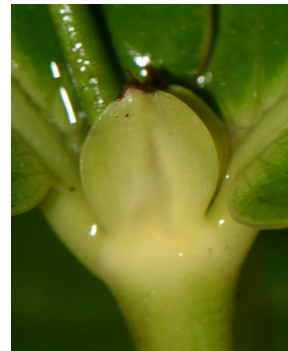
170 *Rudgea reducticalyx*
thrum flower morph



171 *Rudgea reducticalyx*



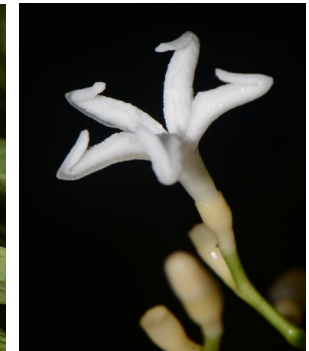
172 *Rudgea skutchii*



173 *Rudgea skutchii*



174 *Rudgea skutchii*



175 *Rudgea skutchii*



176 *Rudgea skutchii*



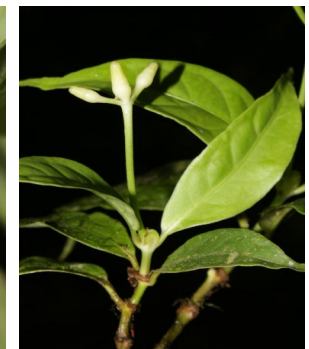
177 *Rudgea skutchii*



178 *Rudgea trifurcata*



179 *Rudgea trifurcata*



180 *Rudgea trifurcata*

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Acknowledgements

Thanks to F. Etl, C. Priemer and J. Schinnerl (all University of Vienna) for company during fieldwork in Costa Rica, and to the La Gamba Field Station, Puntarenas, Costa Rica (University of Vienna, <https://www.lagamba.at>) for logistic support. Thanks also to L. Vargas Fallas (SINAC) and to M. Muñoz García (CONAGEBIO) for their help in obtaining research permits. Further thanks go to M. Kiehn (University of Vienna) and C. M. Taylor (Missouri Botanical Garden) for taxonomic advice and numerous fruitful discussions on Rubiaceae, to L. Álvarez-Alcázar (Osa Conservation) for helpful suggestions for fieldwork, and to all people, institutions and databases for publishing photos under a Creative Commons copyright license, or for granting permission to use them: L. Álvarez-Alcázar, R. Bello Acevedo, bigsam, G. Delaitre, B. Hammel, A. Kenneth Monro, ramon_d, S. Sant, iNaturalist (<https://www.inaturalist.org>), the Flórlula Digital de la Estación Biológica La Selva (O. Vargas Ramírez, OTS; <https://sura.ots.ac.cr/florula4>), Missouri Botanical Garden (MO, J. Solomon; <https://www.tropicos.org>) and The Field Museum of Natural History (F; <https://www.fieldmuseum.org>).

Table 1. Photo credits. The aim of this guide was to cover all *Carapichea*, *Eumachia*, *Geophila*, *Notopleura* and *Rudgea* species known from Costa Rica, and the author took most of the above photos there. Photos of other species, either living or from herbarium specimens, by other photographers have been used to supplement them. The respective copyright information and original sources are given below. The photos are usually cropped and/or rotated to increase clarity and comparability.

photo no.	species	copyright holder	license	link to original photos
8–11	<i>C. ipecacuanha</i>	Orlando Vargas, OTS	used with permission	https://sura.ots.ac.cr/florula4/find_sp3.php?key_species_code=L5001666
17	<i>E. kappleri</i>	Guillaume Delaitre	CC BY-NC 4.0	https://www.inaturalist.org/photos/176061243
18	<i>E. kappleri</i>	Sébastien Sant	CC BY-NC 4.0	https://www.inaturalist.org/photos/145363013
19	<i>E. kappleri</i>	Sébastien Sant	CC BY-NC 4.0	https://www.inaturalist.org/photos/145362513
23, 24	<i>E. microdon</i>	Barry Hammel	CC BY-NC-SA 2.0	https://www.flickr.com/photos/68114448@N06/albums/72157643137315723
25	<i>E. microdon</i>	Roberto Bello Acevedo	CC BY-NC 4.0	https://www.inaturalist.org/photos/177205606
26–28	<i>G. cordifolia</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Specimen/100271090
38	<i>N. aggregata</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/100154135
39	<i>N. aggregata</i>	Alexandre Kenneth Monro	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/88760
40	<i>N. aggregata</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/100154176
51, 52	<i>N. camponutans</i>	ramon_d	CC BY-NC 4.0	https://www.inaturalist.org/observations/126820343
69	<i>N. epiphytica</i>	Field Museum of Natural History	CC BY-NC 4.0	https://collections-botany.fieldmuseum.org/catalogue/399104
70, 71	<i>N. epiphytica</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Specimen/100392192
72	<i>N. hondurensis</i>	Field Museum of Natural History	CC BY-NC 4.0	https://collections-botany.fieldmuseum.org/catalogue/311665
73, 74	<i>N. hondurensis</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/5959 , http://legacy.tropicos.org/Image/100621415
75–77	<i>N. latistipula</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/100153923
78	<i>N. longipedunculoides</i>	Field Museum of Natural History	CC BY-NC 4.0	https://collections-botany.fieldmuseum.org/catalogue/312844
79	<i>N. longipedunculoides</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/100621430
84	<i>N. montana</i>	Field Museum of Natural History	CC BY-NC 4.0	https://collections-botany.fieldmuseum.org/catalogue/312872
85	<i>N. montana</i>	Missouri Botanical Garden	CC BY-NC-SA 3.0	http://legacy.tropicos.org/Image/100153938
116–118	<i>N. recondita</i>	Barry Hammel	CC BY-NC-SA 2.0	https://www.flickr.com/photos/68114448@N06/13516276435 , https://www.flickr.com/photos/68114448@N06/13516576504 , https://www.flickr.com/photos/68114448@N06/25927963982 https://www.inaturalist.org/photos/237391570
125	<i>N. siggersiana</i>	bigsam	CC BY 4.0	
143, 144	<i>R. amplexicaulis</i>	Leonardo Álvarez-Alcázar	used with permission	
178–180	<i>R. trifurcata</i>	Leonardo Álvarez-Alcázar	used with permission	