

# Two small beetle collections from Saba (Coleoptera)

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## KEY WORDS

Dutch Antilles, f.nov.sp.

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In January and February 2009 the third and fourth authors visited Saba to sample the invertebrate fauna of tank bromeliads. They also collected a small number of beetles during visits to the island in October 2008 and October 2009. The second author paid a visit to Saba in December 2019 and January 2020 to study red-billed tropicbirds. During this stay he also collected several beetles and other invertebrates. The two small beetle collections were identified by the first author. Two specimens were identified to subfamily level, three to genus level, two provisionally and fifteen to species level. Fourteen of the taxa identified to genus or species level are new to Saba or constitute confirmations of earlier provisional records for the island, four of these are even new to the Dutch Antilles.

## Introduction

The coleopteran fauna of the (former) Dutch Antilles (the southern Leeward Antilles Aruba, Bonaire, Curaçao, and the northern Leeward Islands Saba, St. Eustatius and St. Martin; figure 1) is poorly known. The study of Antillean Coleoptera is seriously hampered by a big gap in taxonomic knowledge and a shortage of trained taxonomists for the region. This makes it frequently impossible to identify specimens to species or even genus level. Colijn *et al.* (2020) recently published a first critical review of the beetle species known from the islands. Colijn & Mekkes (2021) added various new species to the fauna of St. Eustatius.

Ivie *et al.* collected extensively on Saba and provided a family list with the number of species per family, 275 in total (Ivie *et al.* 2009). Meanwhile, new insights from their and other studies have brought the number of species present on Saba to about 300 (Ivie in litt. 2020). However, the species names themselves are as yet largely unpublished. Colijn *et al.* (2020) listed 89 taxa for Saba for which vouchers are available. Another seven were provisionally listed for the island based on photos. Soesbergen & Hakkaart (2021) recently added a 90th species. For an introduction to the island we refer to Colijn *et al.* (2020).

## Material and methods

The third and fourth author visited Saba to sample tank bromeliads (figure 2) in January and February 2009 as part of a study of the diversity and ecology of their invertebrate fauna along elevational gradients (figure 3) on Caribbean islands of different sizes. Field sites and methods are amply described in their 2014 paper in the Caribbean Naturalist (Richardson & Richardson 2014) and references therein. In short, bromeliads were collected from sites at four different elevations. The whole plants, including their retained water, were returned to the laboratory where they were dissected leaf by leaf, and the leaves and axillary organic soil washed into water. All organisms present in these washings and the remaining detritus were collected into ethanol. Both authors also collected a small number of beetles from various locations

on Saba during visits in October 2008 and October 2009. These were also stored in ethanol.

In December 2019 and January 2020 the second author studied and ringed red-billed tropicbirds *Phaethon aethereus* on Saba (Koelega *et al.* 2020). More than 35 per cent of the Caribbean population of this bird species nests on Saba (Boeken 2016). During this visit he also sampled various invertebrate groups: Coleoptera, Hymenoptera including Formicidae, Heteroptera, Araneae and Mollusca. Beetles were collected by hand and stored in ethanol.

Identification was done by the first author with a stereo microscope using different identification keys. After identification all specimens were pinned or card-mounted (figures 4-5). They are currently in possession of the first author but will eventually become part of the Coleoptera collection of the Naturalis Biodiversity Center. In this paper we follow the (sub)



1. The (former) Dutch Antilles. Aruba, Bonaire and Curaçao are part of the southern Leeward Antilles; Saba, St. Eustatius and St. Martin are part of the northern Leeward Islands.

1. De (vroegere) Nederlandse Antillen. Aruba, Bonaire en Curaçao maken deel uit van de Benedenwindse Eilanden; Saba, St. Eustatius en St. Martin van de Bovenwindse Eilanden.



2. *Tillandsia utriculata* L. (Bromeliaceae), in tropical dry forest on the Spring Bay Trail. Photo: Mike Richardson

2. *Tillandsia utriculata* L. (Bromeliaceae), in tropisch droog bos op de Spring Bay Trail.



3. Saba from sea level to the top of Mt. Scenery. Photo: Mike Richardson

3. Saba van zeeniveau tot de top van Mt. Scenery.

familial level classification of the most recent review of the beetles of the Lesser Antilles (Peck 2016) which is that of Arnett & Thomas (2001) and Arnett *et al.* (2002), modified from Lawrence & Newton (1995).

## Results

### Suborder POLYPHAGA

#### Family HISTERIDAE

##### Subfamily SAPRININAE

*Euspilotus azureus* (Sahlberg, 1823)

Near Ecolodge, Mountain Road, Windwardside, 21.xii.2019, M. Boeken, 2 ♂.

Collected from under a dead rat. New to the Dutch Antilles. A widespread species present on the mainland from Uruguay to the southern United States; in the Caribbean hitherto known from Barbados and St. Vincent to Guadeloupe (Peck 2016).

#### Family STAPHYLINIDAE

##### Subfamily ALEOCHARINAE

Aleocharinae Fleming, 1821

Thais Hill, 14.x.2008, B.A & M.J. Richardson; Sandy Cruz Trail, 20.i.2009, B.A & M.J. Richardson.

Two different species collected from bromeliads. No attempt has been made to identify these specimens to a lower taxonomic level.

#### Subfamily PAEDERINAE

*Palaminus* species Erichson, 1839

Spring Bay Trail (figure 6), 14.x.2008, B.A & M.J. Richardson, ♂ + 1; Spring Bay, 27.i.2009, B.A & M.J. Richardson.

Collected from bromeliads. New genus record for the Dutch Antilles. A widespread genus with more than 300 species known from America, Africa and India, Myanmar, China (Zhejiang) and Japan to Australia, Guam and Samoa (Herman 2010); at least five species in the northern Antilles (Ivie *et al.* 2008, Peck 2016).

#### Family SCARABAEIDAE

##### Subfamily DYNASTINAE

*Tomarus cuniculus* (Fabricius, 1801)

Windwardside, 19.xii.2019, M. Boeken.

Found dead along a road. First listed for Saba by Gillet & Gillet (2015). A widespread species known from the mainland from the Atlantic coast of south America from Brazil to Colombia, Mexico and Florida (López-García & Deloya 2019); in the Caribbean from Trinidad to the Bahamas (Peck 2016). In the Dutch Antilles present on Saba, St. Eustatius and St. Martin (Colijn *et al.* 2020).

#### Family TROGOSSITIDAE

##### Subfamily TROGOSSITINAE

*Tenebroides transversicollis* (Jacquelin du Val, 1857)

Lower Hell's Gate, 24.xii.2019, M. Boeken.

Collected by hand. New to the Saba. An Antillean endemic



4. Saba-collection 2019-2020, leg. Michiel Boeken. Species from left to right and top to bottom: *Tomarus cuniculus*, *Eburia decemmaculata*, *Zophobas atratus*, *Lachnopus curvipes*, *Euspilotus azureus* (2×), *Tenebroides transversicollis*, *Coelophora inaequalis*, *Cycloneda sanguinea*, *Lachnopus curvipes*, *Disonycha spilotrachela*, *Scymnus floralis*, *Blapstinus opacus*, *Lachnopus curvipes* (3×). Photo: Marijke Kanters

4. Saba-collectie 2019-2020, leg. Michiel Boeken. Zie Engelse bijschrift voor de kevernamen van links naar rechts en boven naar beneden.



5. Saba-collection 2008-2009, leg. Barbara A. & Mike J. Richardson. Species from left to right and top to bottom: *Zophobas atratus*, *Psyllobora lineola*, *Palaminus* species, *Neoulosomus* species, *Diaprepes famelicus*, *Aleocharinae* species, *Anchonus cf interruptus*, *Ulosominus* species, *Diaprepes famelicus*, *Anchonus cf interruptus* (3×), *Chelymorpha multipunctata*, *Aleocharinae* species, *Lachnopus curvipes*, *Palaminus* species (2×), *Diastolinus leewardensis*, *Anchonus cf magister*. Photo: Marijke Kanters

5. Saba-collectie 2008-2009, leg. Barbara A. & Mike J. Richardson. Zie Engelse bijschrift voor de kevernamen van links naar rechts en boven naar beneden.

known from Guadeloupe north to Cuba (Peck 2016). First listed for the Dutch Antilles by Colijn & Mekkes (2021).

## Family COCCINELLIDAE

### Subfamily SCYMNINAE

*Scymnus floralis* Fabricius 1792

Lower Hell's Gate, 29.xii.2019, M. Boeken.

Collected by hand. An Antillean endemic known from Curaçao to Puerto Rico (Peck 2016). Introduced to Bermuda (Gordon & Hilburn 1990). In the Dutch Antilles known from Curaçao, Saba, St. Eustatius and provisionally from St. Martin (Colijn et al. 2020).

### Subfamily COCCINELLINAE

*Coelophora inaequalis* (Fabricius, 1775)

Old Booby Hill, 23.xii.2019, M. Boeken.

Collected by hand. First listed for the Dutch Antilles from St. Eustatius by Colijn & Mekkes (2021). New to Saba. Introduced as a biocontrol agent. Native to Australia. Also present in Florida and Hawaii and the Antillean islands Cuba, Hispaniola, Puerto Rico, Anguilla, St. Barthélemy, Montserrat, Guadeloupe, Martinique and St. Lucia (Peck 2016, Colijn et al. 2020).

*Cycloneda sanguinea* (Linnaeus, 1763)

Old Booby Hill, 23.xii.2019, M. Boeken.

Collected by hand. A very widespread species present on the mainland from Argentina and Chile north to the southern United

States; in the Caribbean from Bonaire north to the Bahamas (Peck 2016, Vandenberg 2002). This record represents a confirmation of an earlier provisional record for Saba, elsewhere in the Dutch Antilles known from Bonaire, Curaçao, St. Eustatius and provisionally from St. Martin (Colijn et al. 2020).

*Psyllobora lineola* Fabricius, 1792

Spring Bay, 27.i.2009, B.A. & M.J. Richardson.

Collected from bromeliad. An Antillean endemic known from Martinique to Puerto Rico (Peck 2016). In the Dutch Antilles only known from Saba (Colijn et al. 2020).

## Family TENEBRIONIDAE

### Subfamily OPATRINAE

*Blapstinus opacus* Mulsant & Rey, 1859

Foot of Old Booby Hill, 25.xii.2019, M. Boeken.

Collected by hand. New to Saba, elsewhere known in the Dutch Antilles from St. Eustatius and St. Martin (Colijn et al. 2020). An Antillean endemic present from Dominica to Puerto Rico (Ivie & Hart 2016). The latter authors note that this species is probably a composite of several species.

*Diastolinus leewardensis* Hart & Ivie, 2016

St. Johns, 14.x.2008, ♂, B.A. & M.J. Richardson.

Collected from bromeliad. Endemic to the northern Lesser Antilles where it occurs from Montserrat to Barbuda and Saba (Hart & Ivie 2016). In the Dutch Antilles known from Saba and St. Eustatius (Colijn et al. 2020).



6. View from Spring Bay Trail. Photo: Mike Richardson  
6. Uitzicht vanaf Spring Bay Trail.

#### Subfamily TENEBRIONIDAE

*Zophobas atratus* (Fabricius, 1775)

Spring Bay, 27.i.2009, B.A & M.J. Richardson; Old Booby Hill, 2.i.2020, M. Boeken.

Collected from a bromeliad and by hand. A widespread species known from the southern United States, Mexico, Central America and parts of South America; in the Caribbean from Aruba to Cuba and the Virgin Islands (Peck 2016, Tschinkel 1984). Present on all Dutch Antilles (Colijn et al. 2020).

#### Family CERAMBYCIDAE

##### Subfamily CERAMBYCINAE

*Eburia decemmaculata* (Fabricius, 1775)

Lower Hell's Gate, 8.i.2020, M. Boeken.

Collected by hand. Confirmation of an earlier provisional record for Saba, elsewhere in the Dutch Antilles known from St. Eustatius and St. Martin (Colijn et al. 2020). An Antillean endemic present from Barbados to Puerto Rico (Peck 2016).

#### Family CHRYSOMELIDAE

##### SUBFAMILY CASSIDINAE

*Chelymorpha multipunctata* (Olivier, 1791)

Near Ecologie, Windwardside, 12.x.2009, B.A & M.J. Richardson.

Collected by hand. Confirmation of an earlier provisional record for Saba, elsewhere in the Dutch Antilles provisionally listed for St. Martin by Colijn et al. (2020). A widespread species present on the mainland in parts of South - and Central America and Florida, in the Antilles from Grenada north to Hispaniola (Peck 2016). Most authors list this species as *Chelymorpha cribraria* (Fabricius, 1775) but see Sekerka & Barclay (2014).

#### SUBFAMILY GALERUCINAE

*Disonycha spilotrachela* Blake, 1928

Old Booby Hill, 30.xii.2019, M. Boeken.

Collected by hand. The first voucher for the Dutch Antilles was reported from St. Eustatius by Colijn & Mekkes (2021). This Saba record represents the confirmation of an earlier provisional record for Saba, elsewhere in the Dutch Antilles provisionally listed for St. Martin (Colijn et al. 2020). Endemic to the Antilles. Elsewhere known from Cuba, Haiti and Puerto Rico (Blake 1955) and provisionally from Nevis (Colijn et al. 2020).

#### Family CURCULIONIDAE

##### Subfamily CRYPTORHYNCHINAE

*Neulosomus* species O'Brien & Wibmer, 1982

Spring Bay, 28.i.2009, B.A & M.J. Richardson.

Collected from a bromeliad. New genus record for the Dutch Antilles (Colijn et al. 2020). Elsewhere in the Lesser Antilles this genus is hitherto found on St. Barthélemy, Guadeloupe and Dominica (Colijn et al. 2020, Peck 2016).

*Ulosominus* species Champion, 1905

Sandy Cruz Trail, 22.i.2009, B.A & M.J. Richardson.

Collected from a bromeliad. New genus record for the Dutch Antilles (Colijn et al. 2020). Elsewhere in the Lesser Antilles this genus is found on Montserrat, Guadeloupe, Dominica and St. Vincent (Ivie et al. 2008, Peck 2016).

##### Subfamily ENTIMINAE

*Diaprepes famelicus* (Olivier, 1791)

Spring Bay, 31.i.2009, B.A & M.J. Richardson; Lower Mt. Scenery, 5-ii-2009, B.A & M.J. Richardson.

Collected from bromeliads. New species for Saba. First listed for the Dutch Antilles from St. Eustatius by Colijn et al. (2020). Endemic to the Antilles where it is present from Barbados to Cuba (Peck 2016).

*Lachnopus curvipes* (Fabricius, 1787)

Flat Point, 23.x.2009, B.A & M.J. Richardson; Old Booby Hill, 23.xii.2019, M. Boeken; Tent, 28.xii.2019, M. Boeken; Old Booby Hill, 8.i.2020, M. Boeken, ♂ + 2 ♀.

Collected from a Croton plant at Flat Point and by hand. First listed for Saba by Gillett et al. (2014). Not yet known from other islands in the Dutch Antilles but possibly also on St. Eustatius (Colijn et al. 2020). An Antillean endemic present from Grenada to the Dominican Republic (Girón et al. 2018).

##### Subfamily MOLYTINAE

*Anchonus* cf *interruptus* Fåhræus, 1843

Sandy Cruz Trail, 22.i.2009, B.A & M.J. Richardson; top of Mt. Scenery (figure 7, 8), 3.ii.2009, B.A & M.J. Richardson; Lower Mt. Scenery, 5.ii.2009, B.A & M.J. Richardson; Lower Mt. Scenery, 6.ii.2009, B.A & M.J. Richardson.



7. A few of the mountain mahogany *Freziera undulata* that survived the 1998 and 1999 hurricanes, and thickets of young *Freziera* and *Cecropia* pioneers at the top of Mt. Scenery in 2008. Photo: Mike Richardson

7. Enkele bergmahonieboom *Freziera undulata* die de orkanen van 1998 en 1999 overleefden, met ondergroei van jonge *Freziera* en pionierbomen van het genus *Cecropia* op de top van Mt. Scenery in 2008.



8. Mountain mahogany *Freziera undulata* overgrown with epiphytes on Mt. Scenery in 2010. Photo: Michiel Boeken

8. Bergmahonie *Freziera undulata* begroeid met epifyten op Mt. Scenery in 2010.

Collected from bromeliads. In the absence of a modern revision of the Antillean *Anchonus* species these specimens are here provisionally assigned to this species. An Antillean endemic elsewhere known from Dominica, Guadeloupe and possibly Montserrat (Ivie et al. 2008, Peck 2016).

*Anchonus cf magister* Faust, 1893

St. Johns, 14.x.2008, B.A & M.J. Richardson.

Collected from a bromeliad. In the absence of a modern revision of the Antillean *Anchonus* species and with only the original description available, this specimen is provisionally assigned to this species. First provisionally listed for the Dutch Antilles from St. Eustatius by Colijn et al. (2020). Hitherto the only certain occurrence is the type locality Antigua.

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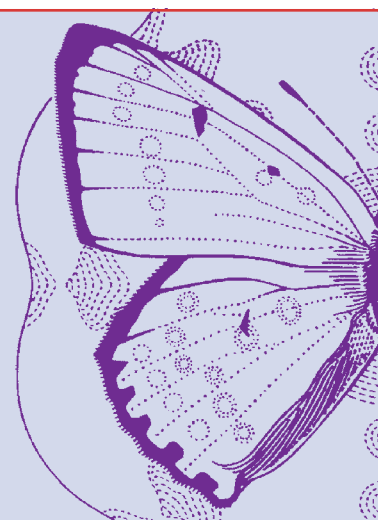
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## Samenvatting

### Twee kleine kevercollecties van Saba (Coleoptera)

In januari en februari 2009 bezochten de derde en vierde auteur Saba om de ongewervelde fauna van bromelia's te bemonsteren. Tevens werd een klein aantal kevers verzameld tijdens bezoeken aan het eiland in oktober 2008 en oktober 2009. De tweede auteur bracht een bezoek aan Saba in december 2019 en januari 2020 om roodsnavelkeverkringvogels te bestuderen. Tijdens dit verblijf verzamelde hij ook diverse kevers en andere ongewervelden. De kevers uit de twee kleine collecties werden gedetermineerd door de eerste auteur. Twee exemplaren werden gedetermineerd tot subfamilieniveau, drie tot genusniveau, twee voorlopig en vijftien tot soortniveau. Veertien van de taxa die tot genus- of soortniveau werden gedetermineerd, zijn nieuw voor Saba of vormen bevestigingen van eerdere onzekere records voor het eiland, vier daarvan zijn zelfs nieuw voor de Nederlandse Antillen.



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