A summary of the endemic beetle genera of the West Indies (Insecta: Coleoptera); bioindicators of the evolutionary richness of this Neotropical archipelago

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A summary of the endemic beetle genera of the West Indies (Insecta: Coleoptera); bioindicators of the evolutionary richness of this Neotropical archipelago

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A summary of the endemic beetle genera of the West Indies (Insecta: Coleoptera); bioindicators of the evolutionary richness of this Neotropical archipelago

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Abstract. The Caribbean Islands (or the West Indies) are recognized as one of the leading global biodiversity hot spots. This is based on data on species, genus, and family diversity for vascular plants and non-marine vertebrates. This paper presents data on genus level endemicity for the most speciose (but less well publicised) group of terrestrial animals: the beetles, with 205 genera (in 25 families) now recognized as being endemic (restricted) to the West Indies. The predominant families with endemic genera are Cerambycidae (41), Chrysomelidae (28), Curculionidae (26), and Staphylinidae (25). This high level of beetle generic endemicity can be extrapolated to suggest that a total of about 700 genera of all insects could be endemic to the West Indies. This far surpasses the total of 269 endemic genera of all plants and non-marine vertebrates, and reinforces the biodiversity richness of the insect fauna of the West Indies.

Introduction

The Caribbean Islands (Figure 1) are generally recognized as one of the world’s 25 to 34 biodiversity hotspots (Myers et al. 2000, Myers 2003, Conservation International 2007). These are the earth’s biologically richest and most endangered terrestrial ecosystems. As such, the Caribbean Islands Hotspot, with an area of 229,549 km², has only 10% (22,955 km²) of its original habitat remaining. The predominant biome of the Caribbean Islands is subtropical and tropical dry broadleaf forest, although extensive areas of rainforest occur, especially on the windward sides of the higher islands (Mittermeier et al. 2004).

Their biological richness and uniqueness is measured in the total number and percentage of endemic (restricted to the islands) species of vascular plants (13,000, 50%), mammals (89, 46%), birds (607, 28%), reptiles (499, 94%), amphibians (165, 99%), and freshwater fishes (161, 40%) (Mittermeier et al. 2004). Endemism in higher level (older) taxa is evident in vascular plants (205 of 2500 genera, 1 of 186 families), mammals (15 of 57 genera, 2 of 18 families), birds (35 of 205 genera, 2 of 56 families), reptiles (8 of 46 genera, 0 of 19 families), amphibians (1 of 7 genera, 0 of 4 families), and freshwater fishes (5 of 67 genera, 0 of 39 families) (Mittermeier et al. 2004). These total 269 endemic genera, and this figure places the Caribbean Islands second, after Madagascar and the Indian Ocean islands, in a ranking of 34 of the
worlds biodiversity hotspots in numbers of endemic genera and families of terrestrial and freshwater biota (Mittermeier et al. 2004).

However, the real biodiversity would be expected to occur in the hyperdiverse insects of each of the world’s hotspots because, of all the world’s microscopic and macroscopic lifeforms (including bacteria and viruses), some 55% of the total of all species are insects (Wilson 1992). Yet, few data are available for total insect diversity in any of the hotspots. Some exceptions for the Caribbean Islands are: tiger beetles (9 endemics of 23 species) and *Nasutitermes* termites (7 endemics of 14 species) (Mittermeier et al. 2004); lygaeid true bugs (83 endemics of 170 species, Slater 1988); butterflies (170 endemics of 301 species, Miller and Miller 2001), and crickets (nearly all endemic out of 580 species, Otte and Perez-Gelabert 2009).

The purpose of this paper is to document and discuss the genus level richness of endemic beetle genera of the Caribbean Islands.

**Methods and Materials**

**Definitions.** Because not all of the islands (Figure 1) border on the Caribbean Sea (e.g., Bahamas Islands), the alternative geographic term, the West Indies, is used hereafter as the equivalent of the Caribbean Islands. They are defined as the oceanic islands which have not had Tertiary and Pleistocene land connections to circum-Caribbean continental land masses. These include the Bahamas group (including the Bahamas group and Turks and Caicos), the Greater Antilles (Cayman Islands, Cuba, Jamaica, Hispaniola, Puerto Rico (including the Virgin Islands group, of which all except St. Croix are on the Puerto Rico marine shelf), the Lesser Antilles, and various smaller islands of the Caribbean Basin. While Conservation International (2007) includes them, we here exclude islands on or near the South American continental shelf such as Trinidad, Tobago, Aruba, Curaçao, Bonaire, and the offshore islands of Venezuela, all of which have been closer to or in direct contact with continental lands at times of low sea levels in the Pleistocene. The islands of the Greater Antilles and the Lesser Antilles island arcs are separated by the Anegada passage, which marks a distinct separation in the geological time and nature of the origins of the two groups. The Bahamas group has a still different origin and is actually composed of several larger paleo-lakes (marine banks).

For purposes of simplifying the analysis we generally consider all islands on a single marine bank to be a single island, and the satellites of each large island are grouped with their main island. However, in reality, the situation is more complicated. For instance, all the smaller islands associated with Guadeloupe are grouped with it, even though the satellite island of Marie-Galante is on its own bank. Additionally, all the Virgin Islands, except St. Croix, are on the Puerto Rico Bank and are considered here to be a single island grouped with Puerto Rico; the three Caymans (Grand Cayman, Little Cayman and Cayman Brac) are on separate marine banks, but are treated here as a single entity; and the Bahamas (and Turks and Caicos) are treated as a single entity.

Genera are accepted as they stand in the current literature. There are cases of subgenera which are considered endemic to the West Indies, but these are not considered here. Examples are the West Indian endemic subgenera *Frontelba* Park, *Cismelba* Park, and *Rameloida* Park of the Nearctic and Neotropical genus *Melba* Casey (Staphylinidae; Pselaphinae, Newton and Chandler 1989).

**Literature.** We recorded data on endemic beetle genera of the West Indies, principally in a search of Blackwelder (1944-1957) and Zoological Record from 1940 to present, when we recorded beetle species for separate studies on Cuba (Peck 2005), Hispaniola (Perez-Gelabert 2008) and other West Indian islands (e.g., Peck 2011a, 2011b). Nichols (1988) had produced a list of 187 West Indian endemic beetle genera by family but details were not provided. Subsequently, data were checked against more recent literature and catalogs as follows: Alonso-Zarazaga and Lyal (1999) for Curculionoidea, Bellamy (2008-2009) for Buprestidae, Herman (2001) for some Staphylinidae, Monné and Bezark (2011) for Cerambycidae, Newton and Chandler (1989) for Staphylinidae: Pselaphinae, Takizawa (2003) for Chrysomelidae, and Valentine (2003) for Anthribidae.

So that the literature cited section of this work does not become unwieldy, we only cite full references for generic descriptions and synonomies published since 1940. Earlier citations can be found in Blackwelder (1944-1957).
Results and Discussion

The search found 205 beetle genera considered to be endemic to the West Indies (Tables 1, 3). An additional 22 genera (Table 2) were found which were previously thought to be West Indian endemics, and are now known to also occur in continental lands. The results can only be seen to be a report of present knowledge. We cannot presume to suggest that the data are as complete as those for vascular plants and non-marine vertebrates (Mittermeier et al. 2004). As field work and entomological study continues, new discoveries will increase the number of genera of beetles recognized as being endemic, and revisionary studies of broader geographic areas will reduce supposed endemic genera by placing them into synonymy with genera with extra-West Indian distributions. Additionally, the concepts of genus level distinctness are not equivalent between vascular plants, terrestrial vertebrates, and insects such as beetles. So the numbers themselves are arguably not comparable.

Endemism by Family Group

Twenty five beetle families have one or more genera endemic to the West Indies. In descending order, the families with 10 or more endemic genera, and their most represented subfamilies, are: Cerambycidae, 41 (21 Cerambycinae, 17 Lamiinae); Chrysomelidae, 28 (18 Galerucinae); Curculionidae, 26 (9 Entiminae, 7 Molytinae); some Staphylinidae, 25 (16 Pselaphinae); Tenebrionidae, 18 (7 Tenebrioninae); Coccinellidae, 11 (6 Sticholotidinae); Scarabaeidae, 11 (9 Dynastinae). The generally larger families have more endemic genera, as might be expected. However, the rank diversity and dominant subfamilies and tribes are often different from that of the continental Neotropical fauna, although there is no quantitative listing for this except for Blackwelder (1944-1957). As a null hypothesis we can assume the rank order would be similar to that in Marske and Ivie (2003) for the beetle family rankings for the United States and Canada, and this is not supported.
The oceanic character of the West Indies is marked by a relatively low proportion of higher taxa of the continental beetle fauna, but there is an extraordinary diversity within those phyletic groups which are present. This disharmonious abundance distribution reflects the uneven abilities or opportunities of the higher taxa at crossing oceanic water gaps and colonizing islands. Similarly, we know of no family or subfamily of beetles which is endemic to the West Indies. The only apparently endemic tribe is Cheguevariini (genus Cheguevaria, Lampyridae, of Hispaniola and Puerto Rico, see Kazantsev 2006, Kazantsev and Perez-Gelabert 2008).

**Endemism by Island Groupings**

**Single island endemics.** Many endemic genera occur only on one island and are grouped as single island endemics. The most notable are: Cuba, 31; Hispaniola, 30; Jamaica, 21; Puerto Rico island group (combined with the Virgin Islands), 18; Guadeloupe island group, 9. This sequence parallels the decreasing size of the islands. Since the Greater Antilles are about 10 times the land area of the Lesser Antilles and have more topographic diversity, it is not surprising that the majority occurs in the Greater Antilles. In the Lesser Antilles, Guadeloupe is the largest island, and has been the most thoroughly studied. There are insufficient data to suggest whether endemicity is more frequent in lower elevation and climatically seasonal habitats, or in higher elevation and more climatically uniform habitats. Islands with lower numbers of endemic genera are: St. Vincent, 2; Cayman Islands group, 1; Martinique, 1; and St. Lucia, 1. The Greater Antilles alone thus contain a total of 100 beetle genera endemic to a single island or island group. This is somewhat lower than the 118 genera of plants endemic to a single island of the Greater Antilles out of a total of 205 genera of endemic plants in this island group (Mittermeier et al. 2004).

**Bahamas Island group endemics.** Five genera occur only on one or more islands of the Bahamas and are grouped as Bahamas endemics. While the islands are many and of large total area, they are all low and were mostly or entirely submerged at times of higher sea levels during Pleistocene interglacials, so the presence of endemic genera is surprising.

**Lesser Antilles island group endemics.** Ten genera occur only on more than one island in just the Lesser Antilles and are grouped as Lesser Antilles endemics. These have originated on one island of the group and dispersed to one or more other islands of the group.

**Greater Antilles island group endemics.** Fifty six genera occur on more than one island in just the Greater Antilles (and sometimes the Bahamas) and are grouped as Greater Antilles endemics. These have originated on one island of the group and dispersed to one or more other islands of the group.

**West Indies endemics.** Twenty four of the endemic genera occur on at least one island in both the Greater and Lesser Antilles and are grouped as West Indies endemics. These are genera which have differentiated somewhere, presumably on one of the larger islands of their island group, and have had time and the dispersal ability to colonize other (presumably smaller) islands. Darlington (1957) generalized that dispersal and colonization proceeds from larger to small land masses. These examples are not known to have colonized circum-Caribbean continental lands, possibly because they cannot establish themselves in the face of the competition of the greater diversity of continental taxa which more completely fill the available niches. The corollary is that the non-endemic genera of the West Indies have moved from the circum-Caribbean mainland to one or more of the islands.

**Correlates of Generic Endemism**

The obvious likely explanations for the patterns of generic endemicity are island area and its accompanying topographic complexity, and island age. The Greater Antilles are larger, more complex, and generally older than the Lesser Antilles (see below). But the Lesser Antilles present a larger number of smaller geographic units for geographic isolation, speciation, and genus level differentiation. The numbers are not yet explored by a regression analysis, in contrast to what has been done for analyses of insects and beetles of the Galapagos and Hawaiian Islands (Peck 2001, 2006, Peck et al. 1999).

**Ages and origins.** The West Indies are composed of three major and separate geological units of different ages and origins. Generalizations are derived from Donnelly (1988), Graham (2003), Maury et al. (1990), and Pindell and Barrett (1990) which can be consulted for details. The first, and largest in
area, are the older regions of the Caribbean Tectonic Plate; which is composed of the islands of the Greater Antilles (especially Cuba, Hispaniola, Jamaica, and Puerto Rico and its attached Virgin Islands group). Some of these may have land areas dating from the late Mesozoic or early Tertiary, but most land area was available for terrestrial colonization only from the mid Tertiary. The second group is the composite and slightly raised limestone platforms of the Bahamas, Barbados, Turks and Caicos, and Cayman Island groups. These have a Tertiary age and origin and have changed extensively in area during times of Pleistocene interglacial high sea levels. The third group are the tops of volcanos at the eastern leading edge of the Caribbean Plate, and comprise the chain of the smaller islands of the Lesser Antilles: which is composed of an outer and older island arc of the Limestone Caribbees which are sunken and then upraised volcanos capped with emergent limestones; and an inner and younger island arc of more recently active volcanos of the Volcanic Caribbees. These are mostly of mid- to late Tertiary age and most have existed as land for colonization only from the Pliocene through to the present. The different island areas, and times of origin, and time available for initial terrestrial colonization are undoubtedly important for allowing differentiation of colonists to genus level.

Areas. The areas of the islands vary greatly and they have been dynamic through time. Their areas at low elevation have also changed with eustatic sea level changes in the Pleistocene, as sea level rose and fell several times, and was perhaps as much as 170-200 m lower at various intervals. At the height of the last glacial maximum, from 26,500 to 19,000 years ago, there was a sea level depression of 130 m (Clark et al. 2009).

Elevations. The islands vary in elevation, which can be taken as a proxy for habitat diversity. Hispaniola has the greatest elevation difference, from its formerly glaciated summit at over 3000 m to a depression with a saline lake at -40 m. But even so, the effect of area on diversity seems to be somewhat dominant over elevation, as suggested by the greater diversity of Cuba. For instance, Cuba has the highest species diversity of any West Indian island (Woods 1989) because of its largest size, oldest geological history, and geological isolation, and has the highest degree of endemism of insects (Vales et al. 1992, Genaro and Tejuca 2001). The caveat of these assertions is that Hispaniolan insects have not been collected and studied as well as those of Cuba (see Perez-Gelabert 2008).

Evolutionary Dynamics

Fossils. Fossils can be an excellent source of information on evolutionary change. The only source of fossil information for the West Indies is the amber inclusion fossils from the Dominican Republic. There has been much discussion about the age of the Dominican amber. Dating studies have been based on associated foraminifera, coccoliths, and various chemical analyses. Each of these approaches carries a large degree of uncertainty due to various factors. Overall, they suggest that there is a range of ages for amber from different mines, with the oldest possibly being up to 45 ma (million years) (see Poinar 2010b). In contrast to these arguments, studies based on biostratigraphic and paleogeographic data have proposed that all Dominican amberiferous deposits were formed in a single sedimentary basin during the lower to middle Miocene (15-20 million ma) (Iturralde-Vinent and MacPhee 1996). This estimate was later further constrained to 16 ma (Iturralde-Vinent 2001).

Sanderson and Farr (1960) produced the first scientific publication calling attention to the fossiliferous character of the Dominican amber. The taxonomic study of insect fossils of this amber started with the description of the bee Proplebeia dominicana Wille and Chandler (1964). But the study of beetles in Dominican amber is even more recent. The scydmaenid Neuraphes fossilis Franz (1983) was the first fossil beetle to be described. Despite the late onset of these studies, only 16 years later, the first taxonomic catalog of the Dominican amber biota (Perez-Gelabert 1999) already recorded a total of 87 fossil beetles. A summary of the extant and fossil arthropod fauna of Hispaniola by Perez-Gelabert (2008) listed 160 records of fossil beetles identified to genus or species level. According to a more recent count (Perez-Gelabert 2011), a total of 184 fossil species in 90 genera and 29 families of beetles have been described from the Dominican amber. Most families are known from few species (16 families with only one species). The families with most species are Curculionidae (49), Tenebrionidae (28) and Staphylinidae (24). Four families with extant genera (Lucanidae, Micromalthidae, Mycetophagidae and Scaptiidae) are still only known from Hispaniola from amber fossils, although it is expected that at least some of them will be found in the extant fauna. Many more discoveries are expected, because the Dominican amber is very
abundant, beetles are very common inclusions, and only a small fraction of the specimens already in collections has been studied.

Only 20 genera of amber fossil beetles are considered extinct or have not yet been found in the extant Hispaniolan fauna (Table 4). Thus, the majority of the records are assignable to contemporary genera, of which almost all are now known from Hispaniola or other West Indian islands. This shows that the genera were in existence and present on the island of Hispaniola, and probably elsewhere, some 15-20 Ma. The genus-level evolution of the fauna has thus been extremely conservative, and with comparatively little turnover. Data are similar for the ants, in which 34 of the 37 well defined genera and subgenera of fossils are still present in the New World tropics if not on Hispaniola (Wilson 1985, 1988). However, it is clear that some lineages of both plants and animals represented in the amber are no longer present on modern Hispaniola. Among insect orders, Megaloptera and Mecoptera, found in the Dominican amber, have become extinct on the island. Climate change, possibly cooling events during the Plio-Pleistocene (25 Ma) probably played an important role in these extinctions (see Poinar 1999).

Although the general pattern of faunal relationships associates the Dominican amber fossils most closely with the neighboring continental tropics of Central and South America, there are several cases that exemplify the New World extinction of lineages, and where the closest extant relatives are found in Africa and the Australasian regions. Examples of these biogeographic disjunctions are among termites (Mastotermes electrodominicus Krishna and Grimaldi), ants (Leptomyrmex neotropicus Baroni Urbani), marine waterstriders (Halovelia electrodominica Anderson and Poinar), woodgnat flies (Valeseguya disjuncta Grimaldi), as well as in beetles (the lucanid Syndesus am bericus Woodruff) (reviewed in Woodruff 2009). The most accepted explanation for these cases of extreme biogeographic adjustment is that present forms are relics of groups that once had a much broader geographic distribution (see below).

Among fossil insects in Dominican amber there are several examples of apparent evolutionary stasis, where specimens found as inclusions appear morphologically indistinguishable from individuals of extant species. Among beetles there is the case of extant Micromalthus debilis LeConte, found in Dominican amber but now having its natural distribution restricted to North America. Extensive morphological comparisons between fossil and extant specimens (Hörnschemeyer et al. 2010) concluded that (taking into account the variability observed between these groups) both fossil and recent specimens would seem to represent the same species. Such morphological stasis would imply that some species can persist for more than just a few million years as is generally assumed.

Relict groups. Relict groups are ones with former more widespread distributions, which have experienced extinction and are now restricted to smaller and often isolated parts of the former distribution. Fossils are the usual evidence of the former wider distributions of relicts. Examples are the endemic mammal families of the hutia rodents (Capromys Desmarest, Capromyidae) and Solenodon Brandt insectivores (Solenodontidae) of Cuba and Hispaniola, as remnants of groups once on the American continents. The only likely relict reptile of the West Indies is in the family Xantusiidae (genus Cricosaura Gundlach and Peters). Few papers have commented on the possible relict status of the endemic beetle genera. Examples are Kazantsev and Perez-Gelabert (2008) for some Lampyridae, and Nichols (1988) on Antilliscaris Bänninger (Carabidae). These are not verified by fossil evidence.

Either vicariance or dispersal from Africa? There are three West Indian beetle genera whose closest relationship has been identified as being with Africa. These are Antilliscaris Bänninger of Hispaniola and Puerto Rico (Carabidae, Nichols 1988: 108), Barylaus Liebherr of Hispaniola and Puerto Rico (Carabidae, Liebherr 1986), and Anoplodrepanus Simonis of Jamaica (Scarabaeidae, Howden 1970, Simonis 1981). In the absence of fossils they cannot be confirmed to be relicts. Two alternatives exist. The first is that these represent examples of vicariant lineage separation from a time dating to or near the final separation of the South American plate from the African plate, about 80 Ma. This suggests greater age and a time when the early Caribbean plate was in a more western position and carrying the proto-Antilles. The second is that long distance dispersal events produced successful colonizations from Africa in the early Tertiary. It is of note that all examples occur in the older Greater Antilles and not the younger Lesser Antilles. Other insect groups also show an African connection but only Liebherr (1986) has offered a cladistic analysis.

What else do the endemic genera mean? Only two of the extant endemic genera (Leptonesiotes Blake (Chrysomelidae) and Parahymenorus Campbell (Tenebrionidae, Alleculidae)) of Hispaniola are known in the Hispaniolan fossil record. Do the endemics of the West Indies indicate that they are older
Endemic beetle genera of the West Indies

I. Introduction

taxa, from earlier colonization of the West Indies? This can be answered only with phylogenetic analysis, but seems likely. Are the endemics the result of more intense selective pressures promoting rapid differentiation? It may not be possible to answer this question.

Early modes of colonization. As noted by Nichols (1988), the endemic genera may represent the oldest element in the West Indian beetle fauna. The fauna has the hallmarks of one arriving by overwater colonization, and not vicariance (Nichols 1988). We can ask how it colonized these oceanic islands? The family with the largest number of endemic genera (Cerambycidae, 42 genera) all have woodboring larvae. The remaining families are ones which live as adults or larvae on or in wood, twigs, stems, fruits, leaves, or roots or are common under bark and in forest soil and litter. So, although aerial colonization by winged adults is likely (Peck 1994a), it is even more likely that many if not most of the early colonists arrived by rafting on floating materials or on the sea surface itself (Peck 1994b) as has been experimentally shown for the distinctly more isolated and younger Galapagos Islands.

Implications for total insect generic endemicity

Can beetle endemicity in the West Indies be an indicator of total insect generic endemicity? We know of few applicable summaries which compare genus level diversity of beetles with other insect orders. The most complete is for the United States and Canada and lists 3,145 beetle genera and 12,530 genera for all insect orders (Arnett 2000) so that beetles represent 25% of all insect genera. Marske and Ivie (2003) give a more accurate list of 3,526 beetle genera (so that 28% of the US and Canada insect genera are beetles). For less well known Cuba there are 3,059 insect genera (Genaro and Tejuca 2001) and 954 beetle genera (31.2%) (Peck 2005). For Hispaniola there are 2701 insect genera and 753 beetle genera (27.9%) (Perez-Gelabert 2008). If these similar ratios hold for the West Indies in general, this suggests that there could be from 651 to 728 (rounded here to 700) endemic genera of insects in the West Indies. Summaries of the other large insect orders in the West Indies would be useful to test this generalization. This number of 700 far outstrips the 205 endemic genera of West Indian vascular plants, and exceeds the summation of 269 endemic genera of all plants and all groups of non-marine vertebrates combined, and helps to document the extraordinary total biotic diversity of the West Indies. The West Indies have certainly been an active theatre in the origin of genus-level insect diversity. It is evident to us that more survey and conservation attention should be directed to its beetles and other insect groups, perhaps by way of the practical approach of conserving habitats for plants and vertebrates.

While we realize that the public at large does not appreciate or value insect diversity, it is a fact that a healthy functioning of ecosystems, containing a diversity of plants and vertebrates, does truly depend on the diversity and abundance of their insects. This is because of the ecosystem roles that insects play in being food sources, pollinators, decomposers, predators, and habitat-stabilizing parasitoids. It really is true that the insects and other invertebrates are the little things that run the world (Wilson 1987).

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Table 1. Alphabetical listing of beetle genera now considered endemic to the oceanic islands of the West Indies, with their higher classification.

2. *Aedmon* Clark 1860: 129. Chrysomelidae; Galerucinae; Alticini.
   = *Hadropoda* Suffrian 1868: 174.
3. *Agathispa* Weise 1905: 64. Chrysomelidae; Hispinae; Chalepini.
7. *Allothenemus* Bright and Torres 2006: 400. Curculionidae; Scolytinae; Cryphalini.
   = *Tinoteramocerus* Kleine 1927: 444.
25. *Bythinogaster* Schaufuss 1887: 111. Staphylinidae; Pselaphinae; Brachyglutini.
28. *Callopisma* Motschulsky 1853: 42. Lampyridae; Lampyrinae; Photinini.
32. *Cephalalges* Schönherr 1840: 467. Curculionidae; Hyperinae; Cephrurini.
34. *Cheguevaria* Kazantsev 2006: 370. Lampyridae; incertae sedis; Cheguevariini.
35. *Cladis* Mulsant 1850: 1033. Coccinellidae; Scymninae; Chilocorini.
36. *Cometochus* Villiers 1880: 89. Cerambycidae; Lamiinae; Acanthocinini.
38. *Cryptozoon* Schaufuss 1882: 47. Tenebrionidae; Hypophloeinae; Gnathidini.
47. *Ctenophorus* Mulsant and Rey 1859: 177. Tenebrionidae; Tenebrioninae; Pedinini.
49. *Cubaeola* Lameere 1912: 164. Cerambycidae; Prioninae; Calipogonini.
52. *Cyptoxenus* Valentine 1982: 197. Anthribidae; Choraginae; Araecerini.
59. *Dicoelotrachelus* Blake 1941: 171. Chrysomelidae; Galerucinae; Galerucini.
60. *Doleropus* Buchanan 1947: 46. Curculionidae; Entiminae; Geonemini.
64. *Ectmesopus* Blake 1940: 108. Chrysomelidae; Galerucinae; Luperini.
66. *Elytrogona* Chevrolat 1837: 394. Chrysomelidae; Cassidinae; Stolaini.
70. *Ephimerus* Schönherr 1843: 43. Curculionidae; Baridinae; Peridinetini.
71. *Epytus* Dejean 1836: 428. Erotylidae; Erotylinae; Tritomini.
75. *Compsonomus* Jekel 1875: 138. Curculionidae; Entiminae; Geonemini.
77. *Exochognathus* Blake 1946: 114. Chrysomelidae; Eumolpinae; Eumolpini.
79. *Fisherostylus* Gilmour 1963: 60. Cerambycidae; Lamiinae; Acanthocinini.
80. *Forteoleptura* Villiers 1979a: 25. Cerambycidae; Lepturinae; Lepturini.
82. *Geodimmockius* Chapin 1930: 489. Coccinellidae; Scymninae; Coccidulini.
83. *Gnypetosoma* Cameron 1922: 127. Staphylinidae; Aleocharinae; Mimecitonini.
86. *Gourbeyrella* Lane 1959: 13. Cerambycidae; Cerambycinae; Tillomorphini.
88. *Guajira* Bierig 1938: 146. Staphylinidae; Aleocharinae; Myrmedonini.
89. *Haasellia* Park in Park et al. 1976: 32. Staphylinidae; Pselaphinae; Euplectini.
90. *Hanfordia* Parkinson 1960: 10. Staphylinidae; Pselaphinae; Euplectini.
95. *Hispanioryctes* Howden and Endrödi in Howden 1978: 388. Scarabaeidae; Dynastinae; Oryctini.
96. *Hispanisella* Park in Park et al. 1976: 32. Staphylinidae; Pselaphinae; Euplectini.
100. *Hormathus* Gahan 1890: 33. Cerambycidae; Cerambycinae; Ibidionini.
   = *Trinoplon* Zayas 1975: 115.
101. *Hormotrophus* Schönherr 1843: 43. Curculionidae; Entiminae; Phyllobiini.
103. *Ischionoplus* Zayas 1975: 115. Chrysomelidae; Galerucinae; Alticini.
104. *Ixanchonus* Voisin 1992: 400. Curculionidae; Molytinae; Anchonini.
105. *Jamphotus* Barber 1941: 4. Lampyridae; Lampyrinae; Photinini.
112. *Leptolycus* Leng and Mutchler 1922: 430. Lycidae; Lycinae; Leptolycini.
115. *Leucocera* Stål 1858: 477. Chrysomelidae; Chrysomelinae; Chrysomelini.
116. *Licnostrategus* Prell 1933: 68. Scarabaeidae; Dynastinae; Oryctini.
120. *Loxostethus* Triplehorn 1962: 504. Tenebrionidae; Tenebrioninae; Diaperini.
132. *Nanilla* Fleutiaux and Sallé 1890: 46. Cerambycidae; Cerambycinae; Mesosini.
143. *Nyctiplanctus* Blake 1963: 15. Chrysomelidae; Galerucinae; Metacyclini.
151. Omoteina Chevrolat 1837: 398. Chrysomelidae; Cassidinae; Dorynotini.
155. Paradacrys Howden 1970: 40. Curculionidae; Entiminae; Tanymecini.
158. Paratrikona Spaeth 1923: 65. Chrysomelidae; Cassidinae; Dorynotini.
159. Paululusus Howden 1970: 32. Curculionidae; Entiminae; Tanymecini.
161. Phaenotheriopsis Wolfrum 1931: 70. Anthribidae; Anthribinae; Piesocorynini.
163. Planophileurus Chapin 1932: 207. Scarabaeidae; Dynastinae; Phileurini.
164. Platylus Mulsant and Rey 1859: 134. Tenebrionidae; Tenebrioninae; Pedinini.
166. Presbyolampis Buck 1947: 75. Lampyridae; Photurinae; Photurini.
169. Pseudothamiaraea Cameron 1922: 363. Staphylinidae; Aleocharinae; Myrmedonini.
171. Psorolyma Sicard 1922: 358. Coccinellidae; Scymninae; Coccidulini.
172. Punctacula Campbell 1971: 112. Tenebrionidae; Alleculinae; Alleculini.
175. Ramelbida Park 1942: 112. Staphylinidae; Pselaphinae; Euplectini.
176. Riehla Hustache 1936: 213. Curculionidae; Cryptorhynchinae; Cryptorhynchini.
177. Robopus Leng and Mutchler 1922: 436. Lampyridae; Photininae; Photinini.
178. Sandersonella Park in Park et al. 1976: 38. Staphylinidae; Pselaphinae; Euplectini.
179. Sciocyrtinus Fisher 1934: 207. Cerambycidae; Lamiaeae; Cystinini.
180. Sellio Mulsant and Rey 1859: 169. Tenebrionidae; Tenebrioninae; Bedinini.
182. Silidiscodon Leng and Muchler 1922: 483. Cantharidae; Silinae; Silini.
185. Stenolinus Bierig 1937: 273. Staphylinidae; Pselaphinae; Euplectini.
187. Styloleptus Schaufuss 1882: 46. Carabidae; Trechinae; Anillini.
188. Suniophacis Blackwelder 1943: 345. Staphylinidae; Paederinae; Paederini.
189. Suniosaurus Bierig 1938: 139. Staphylinidae; Hypophloeinae; Gnathidiini.
190. Thesectus Park 1960: 8. Staphylinidae; Pselaphinae; Euplectini.
191. Thonalmus Burgeois 1909: 720. Chrysomelidae; Cassidinae; Stolaini.
193. Styloleptus Schaufuss 1882: 46. Carabidae; Trechinae; Anillini.
194. Suniophacis Blackwelder 1943: 345. Staphylinidae; Paederinae; Paederini.
196. Thonalmus Burgeois 1833: 376. Lycidae; Lycinae; Thonalmini.
198. Trientoma Solier 1835: 256. Tenebrionidae; Tentyriinae; Trientomini.
199. Trimiosella Raffray 1898: 236. Staphylinidae; Pselaphinae; Euplectini.
Table 2. Alphabetical list of genera previously published as being endemic to the West Indies but now also known to occur elsewhere.

1. *Acrepidopterum* Fisher 1926: 6. Cerambycidae; Lamiinae; Apomecyini. Formerly thought to be endemic to Cuba, Hispaniola, and Jamaica; and now known from Honduras (Monné and Bezark 2011: 249).
2. *Antilleptostylus* Gilmour 1963: 73. Cerambycidae; Lamiinae; Acanthocinini; formerly thought to be endemic to Jamaica and Puerto Rico; and now considered a synonym of *Styloleptus* Dillon 1965 (Monné and Bezark 2011: 221) which is widespread in the New World.
3. *Balega* Reitter 1883: 43. Staphylinidae; Pselaphinae; Jubinini; formerly thought to be endemic to Hispaniola, Jamaica, Virgin Islands (St. Thomas); now known to have a species in Mexico (Newton and Chandler 1989: 31).
4. *Biblomimus* Raffray 1903: 545. Staphylinidae; Pselaphinae; Euplectini; formerly thought to be endemic to Guadeloupe, Grenada, and St. Vincent; now known from a species in Honduras (Newton and Chandler 1989: 21).
5. *Caecophloeus* Dajoz 1972: 278. Tenebrionidae; Hypophloeinae; Gnathidiini; formerly thought to be endemic to Jamaica, but since discovered in Mexico and Panama (Dajoz 1975: 117).
6. *Caribbeana* Gilmour 1963: 97. Cerambycidae; Lamiinae; Acanthocinini; formerly thought to be endemic to the West Indies. Synonymized into *Styloleptus* Dillon 1956, which is widespread in the New World (Monné and Bezark 2011: 221).
7. *Chalcosicya* Blake 1930: 215. Chrysomelidae; Eumolpinae; Adoxini; formerly thought to be endemic to Cuba, Hispaniola, Jamaica, Bahamas (Andros, Eleuthera), Puerto Rico, Virgin Islands (St. Croix), Guadeloupe, but it has since been reported from Mexico (Flowers 1996: 30).
8. *Cubispa* Barber 1946: 19. Chrysomelidae; Eumolpinae; Cubispini; formerly thought to be endemic to Cuba, but it has since been reported from Guatemala (Staines 2000: 58).
9. *Curiosa* Micheli 1983: 261. Cerambycidae; Cerambycinae; Curiini; formerly thought to be endemic to Hispaniola, but since synonymized with *Plectomerus* Haldeman 1847 (Nearns and Branham 2008), which contains species in Mexico and Central America (Monné and Bezark 2011: 149).
10. *Enbrachys* Fisher 1935: 51. Buprestidae; Agrilinae; Agrilini; formerly thought to be endemic to Cuba and Hispaniola, but is now also known from Costa Rica (Gordon 1994: 236).
11. *Mimestoloides* Breuning 1980: 70. Cerambycidae; Lamiinae; Rhodopinini; formerly thought to be endemic to Guadeloupe and Martinique, but is now also known from Mexico (Monné and Bezark 2011: 273).
12. *Neaptera* Gordon 1991: 309. Coccinellidae; Sticholotidinae; Sticholotidini; formerly thought to be endemic to Guadeloupe, Puerto Rico, and the Virgin Islands, but is now also known from Costa Rica (Gordon 1994: 236).
13. *Nesaecrepida* Blake 1964: 21 Chrysomelidae; Galerucinae; Alticini; formerly thought to be endemic to Cuba, Jamaica, Puerto Rico, but is now known to include species from mainland North America (Riley et al. 2001).
14. *Neseuterpia* Villiers 1980: 88. Cerambycidae; Lamiinae; Acanthocinini; formerly thought to be endemic to Dominica and Guadeloupe, but is now also known from Ecuador (Monné and Bezark 2011: 213).
15. *Paha* Dajoz 1984: 155. Colydiidae; Colydiinae; Synchitini; formerly thought to be endemic to Guadeloupe, but the genus is now known to also occur in the eastern USA (OK-NY-FL) and Cuba (Stephan 1989: 31).
16. *Parinesa* Gordon 1991: 315. Coccinellidae; Sticholotidinae; Sticholotidini; formerly thought to be endemic to Hispaniola. This genus is diverse in South America in the mainland Neotropics but this is not yet published (N. Vandenberg and H. Escalona, pers. comm., 2011).
17. *Pentomacrus* White 1855: 297. Cerambycidae; Cerambycinae; Curiini; formerly thought to be endemic to many islands in the West Indies, but is now synonymized with *Plectomerus* Haldeman 1847 (Nearns and Branham 2008), which contains one species in Mexico and Central America (Monné and Bezark 2011: 148).

18. *Pseudofoistiger* Reiter 1884: 167. Staphylinidae; Pselaphinae; Fustigerini; formerly thought to be endemic to Cuba, and St. Thomas; now placed into synonymy with *Fustiger*, which has species widespread in the Old and New World (Newton and Chandler 1989: 64).

19. *Quadrelba* Park 1952: 140 (proposed by Park 1942: 120 but no type species designated). Staphylinidae; Pselaphinae; Euplectini; formerly thought to be endemic to Puerto Rico and the Virgin Islands (St. Thomas); now reported from the mainland Neotropics (Newton and Chandler 1989: 26).

20. *Scopobium* Blackwelder 1939: 97. Staphylinidae; Paederinae; Paederini; formerly thought to be endemic to Grenada, St. Lucia, and St. Vincent but a species is now known from Mexico (Navarrete et al. 2002: 277).


22. *Tinotoma* Cameron 1922: 386. Staphylinidae; Aleocharinae; Myrmedonini; formerly thought to be endemic to Grenada; but synonymized into the widespread genus *Microlia* Casey (Hanley 2003: 125).

**Table 3.** Endemic beetle genera of the West Indies listed in descending taxonomic level from family to genus, with the islands from which they are known and the island-group level of endemism of the genus.

1. Anthribidae; Anthribinae; Piesocorynini. *Phaenotheriopsis* Wolfrum 1931: 70. **Distribution.** Bahamas, Cuba, Hispaniola, Puerto Rico, Virgin Islands; Greater Antilles endemic.


5. Brentidae; Brentinae; Arrhenodini. *Belopherus* Schönherr 1833: 334. **Distribution.** Cuba; Hispaniola, Jamaica, Puerto Rico; Greater Antilles endemic.


8. Buprestidae; Buprestinae; Buprestini. *Peronaemis* Waterhouse 1887: 178. **Distribution.** Cuba, Hispaniola, Jamaica, Puerto Rico; Greater Antilles endemic.


10. Cantharidae; Silini; Silini. *Silidiscodon* Leng and Mutchler 1922: 483. **Distribution.** Hispaniola; single island endemic.


13. Carabidae; Scaritinae; Scaritini. *Antilluscaris* Bänninger 1949: 136. **Distribution.** Hispaniola, Puerto Rico; Greater Antilles endemic.


15. Carabidae; Trechinae; Anillini. *Stylus* Schaufuss 1882: 46. **Distribution.** St. Thomas; St. Lucia; West Indies endemic.

17. Cerambycidae; Cerambycinae; Elaphidiini. *Nesanoplium* Chemsak 1966: 214. **Distribution.** Bahamas, Hispaniola, Jamaica, St. Barthélemy, Guadeloupe, St. Lucia; West Indies endemic.

18. Cerambycidae; Cerambycinae; Elaphidiini. *Nesiosphaerion* Martins and Napp 1982: 62. **Distribution.** Cayman Islands, Hispaniola, Jamaica; Greater Antilles endemic.


27. Cerambycidae; Cerambycinae; Hesperophanini. *Nesiosphaerion* Martins and Napp 1982: 62. **Distribution.** Cayman Islands, Hispaniola, Jamaica; Greater Antilles endemic.

28. Cerambycidae; Cerambycinae; Hesperophanini. *Pseudothonalmus* Guerrero in Lingafelter and Micheli 2004: 43. **Distribution.** Cuba, Jamaica, Puerto Rico; Greater Antilles endemic.

29. Cerambycidae; Cerambycinae; Hesperophanini. *Trichrous* Chevrolat 1858: 210. **Distribution.** Bahamas, Cuba, Hispaniola, Jamaica; Greater Antilles endemic.


33. Cerambycidae; Cerambycinae; Hesperophanini. *Cerambyx* Gmelin in Zayas 1975: 115. **Distribution.** Cuba, Hispaniola; Greater Antilles endemic.

34. Cerambycidae; Cerambycinae; Hesperophanini. *Arawakia* Villiers 1981: 105. **Distribution.** Guadeloupe, Martinique; single island endemic.

35. Cerambycidae; Cerambycinae; Hesperophanini. *Calliclytus* Fisher 1932: 66. **Distribution.** Cuba; single island endemic; Greater Antilles endemic.


40. Cerambycidae; Cerambycinae; Hesperophanini. *Fisherostylus* Gilmour 1963: 60. **Distribution.** Bahamas, Cuba; Greater Antilles endemic.

41. Cerambycidae; Lamiinae; Acanthocinini. *Fisherostylus* Gilmour 1963: 60. **Distribution.** Bahamas, Cuba; Greater Antilles endemic.

42. Cerambycidae; Lamiinae; Acanthocinini. *Pygmaleptostylus* Gilmour 1963: 74. **Distribution.** Cuba; single island endemic.

43. Cerambycidae; Lamiinae; Acanthocinini. *Styloleptoides* Chalumeau 1983: 230. **Distribution.** Virgin Islands, Guadeloupe, Grenada, Mustique; West Indies endemic.
44. Cerambycidae; Lamiinae; Caliini. *Mesestola* Breuning 1980: 70. **Distribution.** St. Lucia, Guadeloupe; Lesser Antilles endemic.


46. Cerambycidae; Lamiinae; Decarthini. *Decarthria* Hope 1834: 16. **Distribution.** Grenada, Puerto Rico, St. Vincent; West Indies endemic.

47. Cerambycidae; Lamiinae; Cyrtinini. *Sciocyrtinus* Fisher 1934: 207. **Distribution.** Jamaica; single island endemic.

48. Cerambycidae; Lamiinae; Hemilophini. *Calocosmus* Chevrolat 1862: 250. **Distribution.** Bahamas, Cuba, Hispaniola, Jamaica; Greater Antilles endemic.

49. Cerambycidae; Lamiinae; Mesosini. *Liosynaphaeta* Fisher 1926: 1. **Distribution.** Cuba; single island endemic.


52. Cerambycidae; Lamiinae; Parmenini. *Nanilla* Fleutiaux and Sallé 1890: 46. **Distribution.** Cuba, Guadeloupe; West Indies endemic.

53. Cerambycidae; Lepturinae; Lepturini. *Fortuneleptura* Villiers 1979a: 25. **Distribution.** Martinique; single island endemic.


55. Ceratocanthidae (=Acanthoceridae); Ceratocanthinae. *Nesopalla* Paulian and Howden 1982: 78. **Distribution.** Puerto Rico, Virgin Islands (on the Puerto Rico platform) as a part of Puerto Rico; single island endemic.

56. Chrysomelidae; Cassidinae; Asterizini. *Asteriza* Chevrolat 1837: 372. **Distribution.** Hispaniola; single island endemic.

57. Chrysomelidae; Cassidinae; Dorynotini. *Ocotopera* Blake 1947: 92; Konstantinov and Konstantinova 2011: 63. **Distribution.** Cuba, Hispaniola, Puerto Rico; Greater Antilles endemic.

58. Chrysomelidae; Cassidinae; Stolaini. *Elytrogona* Chevrolat 1837: 394. **Distribution.** Cuba, Hispaniola, Puerto Rico; Greater Antilles endemic.


71. Chrysomelidae; Galerucinae; Alticini. *Hemilactica* Blake 1937: 72. **Distribution.** Cuba, Hispaniola, Puerto Rico; Greater Antilles endemic.


76. Chrysomelidae; Galerucinae; Alticini. *Normaltica* Konstantinov 2002: 2. **Distribution.** Hispaniola, Puerto Rico; Greater Antilles endemic.

77. Chrysomelidae; Galerucinae; Alticini. *Pseudodisonycha* Blake 1950: 12; Konstantinov and Konstantinova 2011: 64. **Distribution.** Cuba, Hispaniola, Bahamas (Andros Island, Cat Island, Long Island), Jamaica, Puerto Rico, Virgin Islands (St. Thomas, St. Croix), Guadeloupe, Dominica; West Indies endemic.

78. Chrysomelidae; Galerucinae; Alticini. *Pseudodisonycha* Blake 1954: 248; wrongly listed to contain *Monotalla* Bechyné 1956: 588 as a synonym in Takizawa 2003: 89; and listed as a valid genus by Konstantinov and Konstantinova 2011: 64, where it was inadvertently not indicated as an endemic genus. **Distribution.** Cuba, Hispaniola, Puerto Rico; Greater Antilles endemic.

79. Chrysomelidae; Galerucinae; Alticini. *Dicoelotrachelus* Blake 1941: 171. **Distribution.** Cuba, Hispaniola; Greater Antilles endemic.

80. Chrysomelidae; Galerucinae; Alticini. *Gonaives* Clark 1958: 75. **Distribution.** Cuba; single island endemic. **Note.** Also recorded from Dominican amber.

81. Chrysomelidae; Galerucinae; Alticini. *Melanispa* Baly 1858: 30. **Distribution.** Cuba, Guadeloupe; West Indies endemic.

82. Chrysomelidae; Galerucinae; Alticini. *Spaethispa* Uhmann 1939: 333. **Distribution.** Cuba, Hispaniola, Jamaica, Puerto Rico; Greater Antilles endemic.


84. Cleridae; Epiphloeinae. *Cladis* Mulsant 1850: 1033. **Distribution.** Cuba, Hispaniola, Jamaica, Puerto Rico, St. Lucia; West Indies endemic.

85. Cleridae; Epiphloeinae. *Agathispa* Weise 1905: 64. **Distribution.** Cuba, Guadeloupe; single island endemic.


87. Coccinellidae; Scymninae; Chilocorini. *Cladis* Mulsant 1850: 1033. **Distribution.** Barbados, Cuba, Dominica, Guadeloupe, Martinique, Puerto Rico, St. Lucia; West Indies endemic.

88. Coccinellidae; Scymninae; Coccidulini. *Botynella* Weise 1891: 286. **Distribution.** Cuba; single island endemic.

89. Coccinellidae; Scymninae; Coccidulini. *Egius* Mulsant 1850: 452. **Distribution.** Cuba; single island endemic.

90. Coccinellidae; Scymninae; Coccidulini. *Geoimplomochius* Chapin 1930: 489. **Distribution.** Cuba; single island endemic.

91. Coccinellidae; Scymninae; Coccidulini. *Psorolyma* Sicard 1922: 358. **Distribution.** Hispaniola, Puerto Rico, Jamaica; Greater Antilles endemic.
92. Coccinellidae; Sticholotidinae; Sticholotidini. 

93. Coccinellidae; Sticholotidinae; Sticholotidini. 

94. Coccinellidae; Sticholotidinae; Sticholotidini. 

95. Coccinellidae; Sticholotidinae; Sticholotidini. 

96. Coccinellidae; Sticholotidinae; Sticholotidini. 

97. Coccinellidae; Sticholotidinae; Sticholotidini. 

98. Curculionidae; Baridinae; Apostasimerini. 

99. Curculionidae; Baridinae; Peridinetini. 

100. Curculionidae; Cryptorhynchinae; Cryptorhynchini. 

101. Curculionidae; Cryptorhynchinae; Cryptorhynchini. 

102. Curculionidae; Cryptorhynchinae; Cryptorhynchini. 

103. Curculionidae; Cryptorhynchinae; Cryptorhynchini. 

104. Curculionidae; Curculioninae; Pyropini. 

105. Curculionidae; Entiminae; Eugeonemini. 

106. Curculionidae; Entiminae; Geonemini. 

107. Curculionidae; Entiminae; Geonemini. 

108. Curculionidae; Entiminae; Tanymecini. 

109. Curculionidae; Entiminae; Tanymecini. 

110. Curculionidae; Hyperinae; Cephurini. 

111. Curculionidae; Hyperinae; Cephurini. 

112. Curculionidae; Molytinae; Anchonini. 

113. Curculionidae; Molytinae; Cycloterini. 

114. Curculionidae; Molytinae; Cycloterini. 

115. Curculionidae; Molytinae; Cycloterini. 

116. Curculionidae; Molytinae; Cycloterini. 

117. Curculionidae; Molytinae; Hylobiini. 

Distribution. Puerto Rico; single island endemic.
118. Curculionidae; Molytinae; Lymantini. *Decuanellus* Osella 1980: 416. **Distribution.** Cuba, Puerto Rico, Bahamas (San Salvador), Virgin Islands (St. Thomas, St. John, St. Croix), Guadeloupe; West Indies endemic.

119. Curculionidae; Molytinae; Lymantini. *Kuschelaxius* Howden, 1992:43. **Distribution.** Hispaniola, Puerto Rico; Greater Antilles endemic.

120. Curculionidae; Molytinae; Lymantini. *Pseudocaecocossonus* Osella 1977: 393. **Distribution.** Cuba; single island endemic.

121. Curculionidae; Molytinae; Lymantini. *Decuanellus* Osella 1980: 416. **Distribution.** Cuba, Puerto Rico, Bahamas (San Salvador), Virgin Islands (St. Thomas, St. John, St. Croix), Guadeloupe; West Indies endemic.

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121. Curculionidae; Molytinae; Lymantini. *Kuschelaxius* Howden, 1992:43. **Distribution.** Hispaniola, Puerto Rico; Greater Antilles endemic.

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121. Curculionidae; Molytinae; Lymantini. *Kuschelaxius* Howden, 1992:43. **Distribution.** Hispaniola, Puerto Rico; Greater Antilles endemic.

120. Curculionidae; Molytinae; Lymantini. *Pseudocaecocossonus* Osella 1977: 393. **Distribution.** Cuba; single island endemic.
144. Lycidae; Lycinae; Leptolycini. *Leptolycus* Leng and Mutchler 1922: 430. **Distribution.** Puerto Rico, Hispaniola; Greater Antilles endemic.


146. Lycidae; Lycinae; Thonalmini. *Thonalmus* Burgeois 1833: 376. **Distribution.** Cuba, Hispaniola, Bahamas (New Providence, Andros, Mangrove Cay), Jamaica, Puerto Rico, Montserrat, Guadeloupe; West Indies endemic.


148. Phalacridae. *Litostilbus* Guillebeau 1894: 283. **Distribution.** St. Thomas, Virgin Islands (St. Thomas); single island group endemic; (on the Puerto Rico platform) as a part of Puerto Rico; single island endemic.


150. Scarabaeidae; Dynastinae; Dynastini. *Democrates* Burmeister 1847: 28. **Distribution.** Hispaniola, Jamaica; Greater Antilles endemic.


157. Scarabaeidae; Dynastinae; Phileurini. *Caymania* Ratcliffe and Cave 2010: 11. **Distribution.** Little Cayman, Cayman Islands; single island endemic.

158. Scarabaeidae; Dynastinae; Phileurini. *Planophileurus* Chapin 1932: 207. **Distribution.** Cuba, Bahamas (Andros Island); West Indies endemic.

159. Scarabaeidae; Scarabaenae; Oniticellini. *Anoplodrepanus* Simonis 1981: 87. **Distribution.** Jamaica; single island endemic.


161. Staphylinidae; Aleocharinae; Bolitocharini. *Thecturella* Cameron 1922: 386. **Distribution.** St. Vincent, Grenada; Lesser Antilles endemic.

162. Staphylinidae; Aleocharinae; Bolitocharini. *Xenobiota* Bierig 1938: 144. **Distribution.** Cuba; single island endemic.

163. Staphylinidae; Aleocharinae; Mimecitonini. *Gnypetosoma* Cameron 1922: 127. **Distribution.** St. Vincent; single island endemic.

164. Staphylinidae; Aleocharinae; Myrmedonini. *Guajira* Bierig 1938: 146. **Distribution.** Cuba; single island endemic.

165. Staphylinidae; Aleocharinae; Myrmedonini. *Pseudothamiarace* Cameron 1922: 363. **Distribution.** Hispaniola; single island endemic.

166. Staphylinidae; Paederinae; Paederini. *Stilosaurus* Blackwelder 1943: 345. **Distribution.** Cuba, Hispaniola, Puerto Rico; Greater Antilles endemic.

167. Staphylinidae; Paederinae; Paederini. *Suniophacis* Blackwelder 1943: 345. **Distribution.** Antigua, Cuba, Hispaniola, Jamaica; Greater Antilles endemic.

169. Staphylinidae; Pselaphinae; Brachyglutini. Bythinogaster Schaufuss 1887: 111. Distribution. Cuba, Hispaniola, Jamaica; Greater Antilles endemic.


181. Staphylinidae; Pselaphinae; Euplectini. Trimiosella Raffray 1899: 236. Distribution. St. Thomas, Virgin Islands; (on the Puerto Rico platform) as a part of Puerto Rico; single island endemic.

182. Staphylinidae; Pselaphinae; Euplectini. Trimiovillus Park 1954a: 11. Distribution. South Bimini Island, Bahamas; St. Thomas, Virgin Islands; Greater Antilles endemic.


189. Tenebrionidae; Alleculinae. Parahymenorus Campbell, 1971: 100. Distribution. Jamaica, Cayman Islands (Grand Cayman); Greater Antilles endemic. Note. Also recorded from the Dominican amber.


191. Tenebrionidae; Coelometopinae; Coelometopini. Nesocytrosoma Marcuzzi 1976: 137. Distribution. Cuba, Hispaniola, Puerto Rico; St. Thomas, St. John, Montserrat (Hopp and Ivie 2009); West Indies endemic.


195. Tenebrionidae; Tenebrioninae; Bedinini. Sellio Mulsant and Rey 1859: 169. **Distribution.** Hispaniola, Puerto Rico, Virgin Islands (St. Thomas); West Indies endemic.

196. Tenebrionidae; Tenebrioninae; Diaperini. Loxostethus Triplehorn 1962: 504. **Distribution.** Cuba, Hispaniola, Jamaica, Puerto Rico; Greater Antilles endemic.

197. Tenebrionidae; Tenebrioninae; Diaperini. Menimopsis Champion 1896: 16. **Distribution.** Jamaica, St. Vincent; West Indies endemic.

198. Tenebrionidae; Tenebrioninae; Pedinini. Cenophorus Mulsant and Rey 1859: 177. **Distribution.** Hispaniola; single island endemic.

199. Tenebrionidae; Tenebrioninae; Pedinini. Ctesicles Champion 1896: 7. **Distribution.** Grenada, Montserrat, Mustique, St. Vincent; Lesser Antilles endemic.

200. Tenebrionidae; Tenebrioninae; Pedinini. Platylus Mulsant and Rey 1859: 134. **Distribution.** St. Thomas, Virgin Islands; on the Puerto Rico platform as a part of Puerto Rico; single island endemic.


202. Tenebrionidae; Tentyriinae; Trientomini. Trientoma Solier 1835: 256. **Distribution.** Antigua, Bahamas, Barbuda, Cuba, Desirade, Guadeloupe, Hispaniola, Martinique, Puerto Rico, Les Saintes, St. Eustatius, St. Kitts; West Indies endemic.

203. Tenebrionidae; Tentyriinae; Triytminti. Trimyantron Ardoin 1977b: 388. **Distribution.** Cuba; single island endemic.

204. Trogossitidae; Nemosomatinae. Calanthosoma Reitter 1876: 10. **Distribution.** Unspecified island(s); West Indies endemic?

205. Zopheridae; Zopherinae; Monomatin. Antillomonomma Freude 1955: 687. **Distribution.** St. Thomas, Virgin Islands; (on the Puerto Rico platform) as a part of Puerto Rico; single island endemic.

**Table 4.** Alphabetical listing of apparently extinct beetle genera known from the Dominican amber (20 genera in 10 families). References for the descriptions are in Perez-Gelabert (2008) or are given in this paper.

**Brentidae**
1. Dominibrentus Poinar 2009

**Cerambycidae**
2. Kallyntrosternidius Vitali 2009
3. Paleohemilophus Martins and Galileo 1999
4. Pterolophosoma Vitali 2006

**Cleridae**
5. Arawakis Opitz 2007

**Curculionidae**
6. Corthylites Bright and Poinar 1994
7. Dryomites Bright and Poinar 1994
8. Geratozygops Davis and Engel 2006
10. Paleophthorus Bright and Poinar 1994
11. Paleosinus Bright and Poinar 1994
12. Protosinus Bright and Poinar 1994
13. Velatis Poinar and Voisin 2002

**Dermestidae**
14. Amberoderma Hava and Prokop 2004
Endomychidae
15. *Discolomopsis* Shockley 2006

Hybosoridae
17. *Tyrannosorus* Ocampo 2001

Nitidulidae

Scarabaeidae
19. *Paleotrichius* Poinar 2010

Staphylinidae