

The geographic distribution, habitat elevation, and chronological dispersal of *Virgotyphlops braminus* (Daudin, 1803) around the world (Squamata: Typhlopidae)

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INTRODUCTION

The exotic, cosmopolitan, unisexual, invasive, subterranean, globetrotting, flowerpot snake, recently transferred to a monotypic genus by WALLACH (2020c), *Virgotyphlops braminus* (DAUDIN, 1803), is continuously expanding its range around the world, primarily with the assistance of commercial horticulture (WALLACH, 2009). It is considered the most successful alien genus and the most successful herp species (BOMFORD et al., 2009), the most frequently introduced parthenogenetic reptile (MAHONEY et al., 2015), and the smallest and most widespread vertebrate in the world (GRACE & GRACE, 2015). It may have originally dispersed from its center in Sri Lanka or southern India via rafting to islands of the Indian Ocean and countries such as Indonesia and the Philippines, but in the 20th and 21st century it has mainly increased its geographical distribution through human agency, in soil and root masses of commercial and ornamental plants, timber and lumber, and even ballast of ships.

WALLACH (2009) provided a synopsis of the species and its distribution was updated by several later papers (WALLACH, 2020a-b). The survey by KRAUS (2009) determined that *V. braminus* was found in 59 countries, recently updated by LEETS-RODRÍGUEZ et al. (2019) to 84, but that number now stands at 122 if isolated island territories and dependencies are also included (i.e., Hawaii as separate from continental USA).

MATERIALS AND METHODS

Material gathered for this project came from four sources. Domestic and foreign museum collections formed the primary source of locality and date data. Museum acronyms follow those listed in WALLACH et al. (2014). Both published and unpublished literature formed the secondary source of specimen data. The third source of information came from the following internet or online databases: ALA (Atlas of Living Australia), ARCTOS (Collaborative Collection Management Solution), ASI (African Snakebite Institute), BBP (Bhutan Biodiversity Portal), BISON (USGS Biodiversity Information Serving our Nation), BSD-SPEGB (Balearic Snakes Database-Servei de Protecció d'Espècies del Govern Balear), CA Atlas (Amphibian and Reptile Atlas of Peninsular California), CSVColl (Consortium of Small Vertebrate Collections), DAYO (Invasive Alien Reptiles in the Philippines), EDDmapS (Invasive Species Mapping Program), EOL (Encyclopedia of Life), GBIF (Global Biodiversity Information Facility), GIASIP (Global Invasive Alien Species Information Partnership), GRIIS (Global Register of Introduced and Invasive Species), HERP (Herpetological Education & Research Project), HerpMapper (Organization to compile worldwide herp observations), IBP (India Biodiversity Portal), iDigiBio (NSF's Advancing Digitization of Biodiversity Collections Program), iGISD (Global Invasive Species Database), iNaturalist (California

Academy of Sciences & National Geographic Society), INPN (Inventaire National du Patrimoine Naturel), iSpot (Open University, Share Nature), ITIS (Integrated Taxonomic Information System), IUCN (International Union for Conservation of Nature), MyBIS (Malaysia Biodiversity Information System), NatureServe Explorer, NBII (National Biological Information Infrastructure), NLBIF (Netherlands Biodiversity Information Facility), OZCAM (Online Zoological Collections of Australian Museums), Project Noah (Wildlife Photography Project), RAA (Reptile Atlas of Africa), RDB (The Reptile Database), ROI (Reptiles of India), and VertNet [+ HerpNet] (NSF's Biodiversity Project). The fourth source of data came from various social media networks, including Facebook, Flickr, Instagram, Tumblr, Reddit, Imagur, and Revolvu.

Minimum and maximum elevations were derived from museum vouchers, literature reports, and localities recognized by Google Earth Pro (7.3.2.5776). Two types of dates were included in the project: the first year that *Virgotyphlops braminus* was observed or reported to occur in a country or on an island (followed by the earliest voucher specimen or observation date that I could trace) and the year of publication of the first reliable record (either specimen or photograph), followed by that reference citation.

Data in the Appendix is arranged alphabetically by geographic region, country

(upper case, followed by elevational range), and major administrative division (small caps). The data for each country is enclosed in parentheses with the first order locality enclosed in curly brackets, the next order locality in square brackets, and the last order locality in parentheses. When localities are known by more than one name or spelling they are separated by a "/" and when a locality lies between two places it is signified by the use of "bet." and the "&" sign. Islands are denoted by italics and a question mark signifies lack of a specific locality.

Unlike the situation with identification of most Scolecophidia (blindsnakes, wormsnakes, and threadsnakes), social media is a valuable resource in the particular case of *Virgotyphlops braminus* because it exhibits several diagnostic characters that can easily be observed in a decent photograph. These include three unique features: 1) the superior nasal suture (SNS) contacting the rostral on dorsum of snout, 2) the inferior nasal suture contacting the preocular, and 3) the distinct gland line of the SNS directly joining that of the posterior rostral such that the anterior rostral gland line is separated from both of the former. Additionally, 4) it is extremely small in size (length 43–203 mm with $x = 130$ mm; diameter 1.5–4 mm with $x = 2$ –3 mm; weight 0.1–1.4 gm with $x = 0.7$ gm), 5) dark in coloration dorsally but with a lighter snout and venter, and a white chin, cloacal region, and tail tip, and 6) has a moderate length/width ratio (35–55) (WALLACH, 2009).

Dorsal view of dead specimen from Cuba.

Photo: Luis F. de Armas





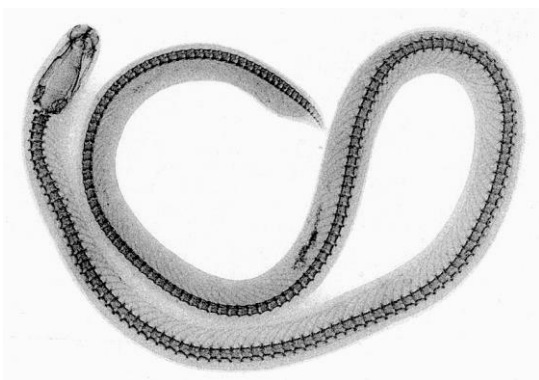
Dorsal view of living specimen from Sri Lanka.

Photo: Mendis Wickramasinghe



Specimen from Florida, USA, catalogued as UF 191326.

Photo: Noah Mueller



Radiograph of dorsal view of specimen from Hawaii, USA.

Photo: Van Wallach

RESULTS AND DISCUSSION

Table 1 presents data on those countries reporting *Virgotyphlops braminus*, including recent additions (WALLACH, 2008, 2020a), arranged in chronological order from earliest appearance to most recent sighting. Data in columns include country name, whether *V. braminus* is considered a native or introduced species, the number of inhabited islands, minimum and maximum elevation of known localities (in meters), the number of inhabited first level administrative units (states, provinces, etc.), the first observation or voucher collection for the species, and the date and citation of the first documentation of *V. braminus*.

Concerning the nativity of *Virgotyphlops braminus*, it is extremely difficult, if not impossible, to determine its actual origin, mainly because of its parthenogenetic nature. It does not have to radiate naturally under its own power of locomotion, which is quite limited in other scolecophidians. *Virgotyphlops braminus* can be carried to any location on the planet with human assistance. However, looking at its nearest relatives does provide a clue. At least morphologically (because only two other similar species have molecular data available – *Indotyphlops pammeces* and *I. albiceps* – and they are sister taxa in every phylogenetic analysis), *V. braminus* is related to the *I. pammeces* species group (*I. lankaensis*, *I. malcolmi*, *I. pammeces*, *I. tenebrarum*, *I. veddae*, and *I. violaceus*), all of which inhabit Sri Lanka except *I. pammeces*, which occurs in southern India. They are characterized by 20 scale rows throughout, the SNS contacting rostral on dorsum of snout, a T-III supralabial imbrication pattern, distinct gland lines on the snout, a single postocular (except *I. pammeces*, which has 1 or 2), and the INS contacting either SL 2 (*I. pammeces*, *I. tenebrarum*, *I. veddae*) or the preocular as in *V. braminus* (*I. lankaensis*, *I. malcolmi*, *I. violaceus*). The most logical place of origin for *V. braminus* is therefore southeastern India or Sri Lanka. It would appear to have a natural range across southern Asia from Pakistan to China, thence southwards throughout Southeast Asia to the Malay Peninsula. Anything beyond that is pure speculation. Did it raft naturally to Singapore, Macao, Hong

Table 1. Continued

Entity	N/I	Is.	Min.	Max.	A.D.	T.A.D.	%	F.O.	E.V.	F.D.	F.R.C.
Fiji	I	4	7	150	3	15	0,20	1983	Clunie	2003	Morrison, 2003: 94–95
Egypt	I		1	76	9	225	0,33	1984	M. Saleh, 1984	1996	Baha el Din, 1996: 130
Senegal	I		35	35	1	14	0,07	1989	ORSTOM S-162	1990	Trape, 1990: 40
Loyalty Islands	I	1	45	45	1	3	0,33	1990	CAS	1990	Bauer & Vindum, 1990: 35
Chagos Archipelago	I	1	0	15	1	6	0,17	1992	?	2005	NAVFAC, 2005: 4.31
Scattered Islands	I	1	0	7	1	5	0,20	1994	Météo France agent	1998	Probst, 1998: 17
Belize	I	1	2	252	3	6	0,50	1994	photograph	1999	Platt <i>et al.</i> , 1999: 7
Anguilla	I	1	6	7	1	1	1,00	1996	CM 145826–27	1997	Censky & Hodge, 1997: 210
Central African Republic	I		381	381	1	14	0,07	1996	MNHN 1996.6760	1997	Chirio & Ineich, 1997: 52
French Antilles	I	5	0	66	4	4	1,00	1997	MNHN 2000.6391	2002	Breuil, 2002: 277
Canary Islands	I	5	10	888	2	7	0,29	1998	M.A. Peña, November 2004	2006	López-Jurado <i>et al.</i> , 2006: 19
Midway Island	I	1	15	15	1	1	1,00	1998	BPBM 13734–35	2008	Wallach, 2008: 80
Dutch Windward Antilles	I	2	6	60	1	1	1,00	1990–99	Dutch Carib. Nature Alliance	2005	Powell <i>et al.</i> , 2005: 135
Barbados	I	1	8	65	6	11	0,55	1995–99	photograph	2009	Fields & Horrocks, 2009: 99
El Salvador	I		620	930	2	14	0,14	2001	MUHNES 1157–59	2001	Dueñas <i>et al.</i> , 2001: 94
Cayman Islands	I	1	7	7	1	5	0,20	2002	BWMC 7035–36	2003	Echternacht & Burton, 2003: 265
Equatorial Guinea	I	1	23	23	1	7	0,14	2002	CAS 226131–33	2003	Jesus <i>et al.</i> , 2003: 22
Palestine	I		0	30	1	3	0,33	2002	DBIUG	2006	Yassin <i>et al.</i> , 2006: 34
Dutch Leeward Antilles	I	2	1	25	2	3	0,67	2003	F. Franken, pers. comm.	2006	Buurt, 2006: 313
Gabon	I		6	44	2	9	0,22	2004	IRSNB 16780, 16784	2004	Pauwels <i>et al.</i> , 2004: 138–139
Mauritania	I		5	5	1	12	0,08	2006	IRD 181–82 MAU	2006	Trape & Ba, 2006: 363
Libya	I		589	589	1	22	0,05	2006	SNHM 40292–93	2008	Joger <i>et al.</i> , 2008: 13
Nauru	I	1	5	36	3	8	0,38	2007	MCZ 185647	2008	Buden, 2008: 503
Kiribati	I	2	4	12	1	3	0,33	2007	AMS 174496	2010	Craven & Shea, 2010: 518
Honduras	I	1	3	1090	6	18	0,33	2008	USNM 562754	2009	Vesely & Köhler, 2009: 116
Western Samoa	I	1	52	679	1	11	0,09	2009	AMS 171936–37	2009	Bonin & Shea, 2009: 74–75
St. Kitts & Nevis Islands	I	1	20	22	2	14	0,14	2009	7 August 2009	2010	Orchard, 2010: 1
Turks & Caicos Islands	I	3	5	8	3	6	0,50	2009	APSU 19022	2010	Reynolds & Niemiller, 2010: 120
Cape Verde Islands	I	1	441	575	1	22	0,05	2009	UF 157346–47	2011	Hecht-Kardasz & Nickerson, 2011: 395–396
St. Vincent & Grenadine Isl.	I	2	?	?	1	3	0,33	2009	Fr. Mark de Silva	2012	Henderson & Breuil, 2012: 158–159
Balearic Islands	I	1	8	112	1	1	1,00	2010	BSD-SPEGB	2013	Mateo, 2013: 7
Grenada	I	1	25	25	1	15	0,07	2010–11	MPM	2018	Henderson & Powell, 2018: 386
Timor-Leste	I	1	5	1495	6	13	0,46	2011	USNM 573683	2011	Kaiser <i>et al.</i> , 2011: 68
Spain	I		48	470	3	17	0,18	2011	?	2013	Mateo, 2013: 7
Bahama Islands	I	2	5	7	1	32	0,03	2012	A. Davis, pers. comm.	2012	Buckner <i>et al.</i> , 2012: 107
Portugal	I	1	63	312	1	11	0,09	2012	July 2012	2013	Jesus <i>et al.</i> , 2013: 107
Wallis & Futuna Islands	I	2	?	?	1	3	0,33	2013	October 2013	2016	Ineich, 2016: 380
Burundi	I		890	890	1	18	0,06	2013	ZFMK 96318	2020	Wallach, 2020: 78
Puerto Rico	I	1	8	85	3	78	0,03	2013	21 July 2013	2020	Wallach, 2020: 78
U.S. Virgin Islands	I	2	8	37	2	3	0,67	2013	16 May 2013	2020	Wallach, 2020: 78
Cuba	I	1	11	73	3	16	0,19	2014	MNHNCU 5071–73	2014	Díaz & Cádiz, 2014: 140–141
French Polynesia	I	1	5	1190	1	1	1,00	2014	MNHN 2015.0057	2017	Ineich <i>et al.</i> , 2017: 1–7
Qatar	I		?	?	1	7	0,14	2015	21 March 2015	2020	Wallach, 2020a
Nicaragua	I		57	470	3	15	0,20	2017	MHUL 187–91	2019	Leets-Rodríguez <i>et al.</i> , 2019: 1–10
Italy	I	2	35	67	2	20	0,10	2017	Summer, 2017	2019	Paolino <i>et al.</i> , 2019: 321–323
Montserrat	I	1	20	20	1	6	0,17	2017	NYSM 6453	2019	Snyder <i>et al.</i> , 2019: 1
Costa Rica	I		12	242	2	7	0,29	2018	4 December 2018	2020	Wallach, 2020a: 78
Panama	I		21	258	3	10	0,33	2018	29 October 2018	2020	Wallach, 2020a: 78
Morocco	I		305	305	1	13	0,08	2019	27 April 2019	2020	Wallach, 2020a: 78
Zambia	I		1257	1313	2	10	0,20	2020	22 February 2020	2020	Wallach, 2020a: 78
Malta	I	1	4	4	1	6	0,17	2020	CBRG-UM	2020	Vella <i>et al.</i> , 2020: 122
Colombia	I		5	1221	2	32	0,06	2020	J. Arango, 30.ix.2020	2020	Wallach, 2020a: 79
Tonga	I	1	11	11	1	5	0,20	2020	1 September 2020		Fisher & Moverley, MS
Dominican Republic	I	1	25	25	1	10	0,10	2021	iNaturalist, 18.iii.2021		jang_correa

Kong, Taiwan, Japan (Ryukyus), the Philippines, and Indonesia or was it carried by human agency? Similarly, what is its origin for Madagascar and the islands of the Indian Ocean? We can be certain, at least, that it has been introduced in the Pacific Ocean islands and the New World, but in the questionable Old World regions *Virgotyphlops braminus* could just as easily been rafted on its own as well as have been transported by humans.

Virgotyphlops braminus is known to occur on at least 560 islands worldwide. The number of countries with at least 10 islands on which *V. braminus* is known are Japan (93), Philippine

Islands (63), Indonesia (58), USA (33), Hong Kong (24), Seychelle Islands (22), West Malaysia (16), South Solomon Islands (14), Mascarene Islands (13), Palau (13), Andaman & Nicobar Islands (11), Mariana Islands (10), and Micronesia (10).

A gauge to determine how widespread *Virgotyphlops braminus* is within a country is to compare the number of primary administrative divisions (PAD) from which it is recorded. On a worldwide basis, *V. braminus* inhabits 35% (652 out of 1866) of the PAD of the countries from which it is known to occur. Those countries including more than 10 PAD

are Thailand (56), Vietnam (40), Indonesia (34), Mexico (31), India (33), Taiwan (24), Seychelles (22), Philippines (21), USA (17), China (14), Papua New Guinea (14), Guam (12), Myanmar (11), and Cambodia (11). There are more than 30 countries for which *V. braminus* is known from all primary administrative regions.

Even though the elevations at which *Virgotyphlops braminus* are found are artificial outside of its natural range, it is still interesting to note at what elevations it can survive. The highest recorded elevation is in Hawaii, USA (3049 m), followed by India (2907 m), Nepal

If one looks at individual decades, a comparison can be made between the number of first observations of *V. braminus* and the number of published first reports for the species (see Figure 1). Both the observation and publication of new country records have increased dramatically over the past 50 years.

Several comments seem necessary regarding data in Table 1. *Virgotyphlops braminus* is present on both Wallis and Futuna Islands (I. Ineich, pers. comm.). The New Zealand record is considered an establishment as it is based on a customs

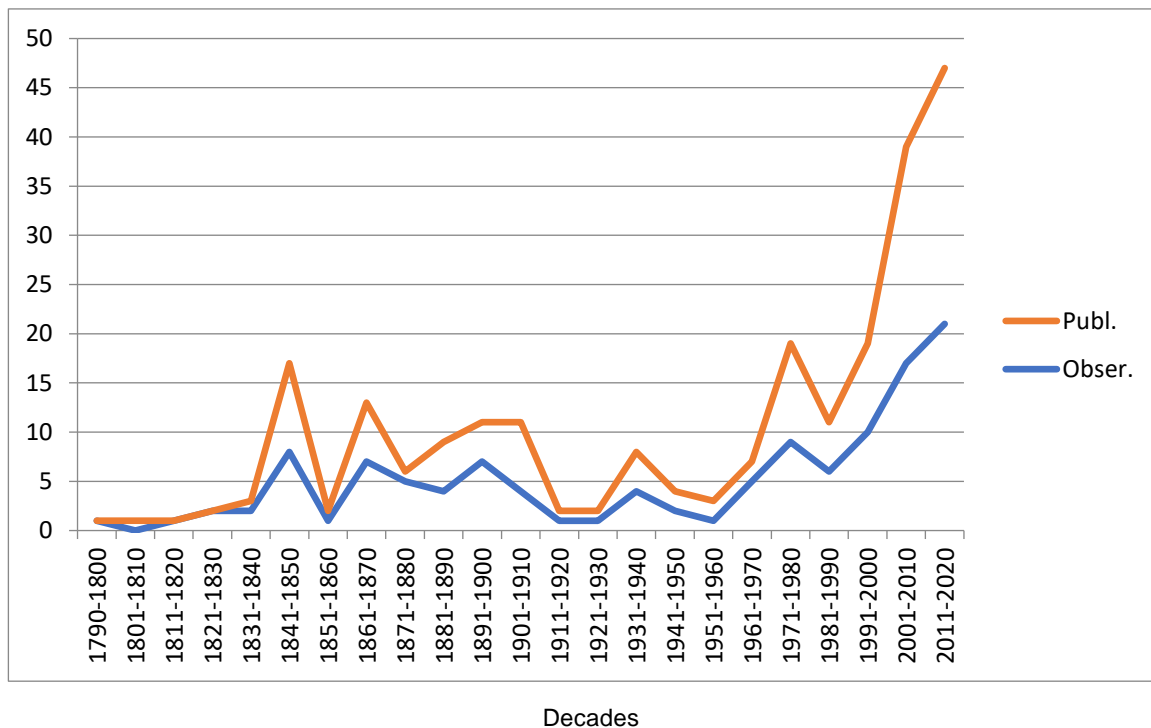


Figure 1. Number of first observations (blue) and first published reports (red) of *Virgotyphlops braminus* for new countries by decade.

(2805 m), Saudi Arabia (2637 m), Mexico (2620 m), Papua New Guinea (2588 m), Bhutan (2427 m), China (2165 m), Indonesia (2090 m), Sri Lanka (1897 m), Cambodia (1800 m), Afghanistan (1680 m), Pakistan (1660 m), South Africa (1656 m), Kenya (1631 m), Madagascar (1560 m), Guatemala (1535 m), Timor-Leste (1495 m), Myanmar (1472 m), Philippine Islands (1465 m), West Malaysia (1424 m), Zambia (1313 m), Laos (1305 m), Colombia (1221 m), Tanzania (1199 m), French Polynesia (1190 m), Honduras (1090 m), and Thailand (1077 m). Of the top 13 elevations, nine occur in countries assumed to form part of the natural range of the species.

official capture in imported cargo from Singapore, and the two records from the Chagos Archipelago (Diego Garcia) and the Scattered Isles (Europa) also represent isolated records that probably did not result in a colony as later expeditions failed to find any new individuals. Because museums are closed due to Covid-19, it is impossible to clarify the identification and date of the following two cases. One record requiring confirmation is that of *V. braminus* from Australia in 1868 (SMNS 2466), which is likely either a misidentification or mixture of specimens from Sri Lanka. The material consists of three specimens collected in Queensland (1868) and Port Denison, W.A.

(1872) attributed to J. Dallachy and sent to the Stuttgart Museum by F. von Müller. The earliest record for Congo-Brazzaville (PRC) is another uncertainty. ZASSI-BOULOU et al. (2020) recently claimed their specimens were the first record for PRC, mentioning that TRAPE & ROUX-ESTÈVE (1995) listed it as part of the fauna as probably having been introduced along the coast. The first voucher specimen (MNHN 1900.441) is from Haute Sangha and has a catalogue number dating 1900 but the MNHN online database lists the collection date as



Third locality specimen from Cheshire, Massachusetts, 2008.

Photo: Tom Tynning

1909. However, the first appearance of *V. braminus* is surely between 1900 and 1909 in the PRC.

Appendix 1 lists all the known localities for *Virgotyphlops braminus* divided into 11 geographic regions (South Asia, Indian Ocean, Southeast Asia, East Asia, East Indies, Pacific Ocean, Africa, Europe, Caribbean, Latin America, and North America) and containing 652 primary administrative divisions and 562 islands.

In conclusion, *Virgotyphlops braminus* is quite successful in dispersing throughout the world without our knowledge, secreted mostly in the soil and roots of commercial plants, having just started to become established in South America. There are unconfirmed photos on iNaturalist from both Mulungu do Morro, Bahia, Brazil and Chone, Manabi, Ecuador that may be authentic records. Previously known as *Indotyphlops braminus*, this species was recently transferred to a new genus (*Virgotyphlops*) to reflect, among other things, its unique parthenogenetic nature (WALLACH, 2020c).

ACKNOWLEDGMENTS

I wish to thank the following people who provided data and/or photographs of *Virgotyphlops braminus* for this study: P. Bedrossian, M. Berroneau, S. Black, J. Boediman, H. in den Bosch, W. Burner, M. Cabrera-Venezuela, J. A. Campbell, J. Carro, G. Chartier, L. Coleman, M. Cota, M. J. Cox,

D. Daniels, S. De Greef, D. Dickey, G. Doria, A. Durso, B. Farkas, A. Fenner, E. Galoyan, N. Gilmore, A. Gonzalez-Monge, F. Gries, J. Hallermann, O. Hawlitschek, F. Iglesias, I. Ineich, M. Iturriaga-Monsisbay, I. Jacobs, T. Joergensen, L. Kemp, D. Kizirian, K. Krysko, J. Lake, J. Lee, J. Lescure, J. Lin, V. Lovic, S. Magrath, K. Maguire, E. Malcohn, J. Marais, J. Mays, J. McNees, S. Miller, J.B. Murphy, K. Orchard, G. Pandelis, J. Paredes, H. Patel, O. S. G. Pauwels, E. Pelling, T. Ping, P. Precey, P. Randall, R. N. Reed, A. Resetar, P. Rezin, S. Roberts, R. Rocha, G. H. Rodda, M. Salimian, S. Schenkel, A. Schmitz, B. Shacham, G. Shea, C. Shukla, S. Spawls, K. Tamar, F. Tillack, N. Tirard, A. Vassilieva, J. Warden, Y. Werner, M. Wickramasinghe, M. Witmer, U. Wüst, J. Wyman, E. Yam, M. Yokoyama, and A. Zimny.

A debt of gratitude is extended, as always, to the curators and collection managers of the following institutions: AMNH (New York), AMS (Sydney), ANSP (Philadelphia), BYU (Provo), CAS (San Francisco), CZACC (Havana), FLMNH/UF (Gainesville), FMNH (Chicago), HUU (Jerusalem), IRSNB (Brussels), KU (Lawrence), MAGNT (Darwin), MCZ (Cambridge), MFN/ZMB (Berlin), MHNG (Geneva), MNHN (Paris), MSNG (Genova), NHM/BMNH (London), NMB (Basel), NMNH/USNM (Washington), NMW (Wien), NRM (Stockholm), RMNH.RENA & ZMA.RENA (Leiden), SAM (Adelaide), SMF (Frankfurt am Main), SMNS (Stuttgart), UIMNH (Urbana), UTACV (Arlington), WAM (Perth), ZFMK (Bonn),

ZISP (St. Petersburg), ZMH (Hamburg), ZMMU (Uppsala), ZMUC (København), and ZSM (München).

existence of *V. braminus* are provided in order to trace its global dispersal. A list of all known localities is presented under each country and primary administrative division.

SUMMARY

The geographic distribution of the parthenogenetic invasive *Virgotyphlops braminus* is tabulated for all countries and island territories around the world, including known minimum and maximum elevation ranges. An estimate of nativity vs. introduction is presented for each country in addition to the number of primary level administrative areas and the number of inhabited islands. The date(s) of first observation of the species, the earliest known voucher specimen, and the first date and publication that documents the

SAMENVATTING

De verspreiding van de parthenogenetische soort *Virgotyphlops braminus* wordt opgesomd voor alle landen in de wereld met daarbij de minimale en maximale hoogten waar de vorm is aangetroffen. De regio van waaruit de slang kwam en van waaruit die geïntroduceerd werd, is eveneens aangegeven, voor zover bekend. Daarnaast wordt gemeld wanneer deze voor het eerst aldaar is gevonden en of er museummateriaal van bestaat. Dit geeft een idee hoe de soort wereldwijd verspreid raakte.

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Appendix 1. Geographic distribution of global localities. Hierarchy: (first order locality), {second order locality}, [third order locality], (fourth order locality). Abbreviations: A.F.B. = Air Force Base, bet. = between two localities, B.G. = Botanical Garden, B.R. = Biosphere Reserve, B.S. = Bird Sanctuary, B.Stn. = Biodiversity Station, C.A. = Conservation Area, C.P. = Conservation Park, Ctr. = Center, Cyn. = Canyon, Ed. = Education, E.S. = Elementary School, Ex.S. = Experimental Station, Exp. = Experimental, F.R. = Forest Reserve, H.S. = High School, Hwy. = Highway, Int. = International, M.C.L.B. = Marine Corps Logistics Base, M.R. = Military Reserve, M.S. = Middle School, Mt. = Mountain, Mus. = Museum, N.A. = Natural Area, N.A.S. = Naval Air Station, Natl. = National, N.B.C.A. = National Biodiversity Conservation Area, N.C. = Nature Center, N.F. = National Forest, N.P. = National Park, Na.P. = Nature Park, N.H.P. = National Historic Park, N.H.S. = National Historic Site, N.N.R. = National Nature Reserve, N.P.A. = Natural Protected Area, N.R. = Nature Reserve, N.W.R. = National Wildlife Refuge, Pky. = Parkway, R.F. = Reserve Forest, R.S. = Research Station, S.F. = State Forest, S.P. = State Park, Stn. = Station, T.R. = Tiger Reserve, Univ. = University, W.M.A. = Wildlife Management Area, W.S. = Wildlife Sanctuary, Wet.S. = Wetlands Sanctuary, Zool. = Zoological.

Appendix 1.

Region 1 – SOUTH ASIA

1. AFGHANISTAN [1200–1680 m] (KANDAHAR, HELMAND or NIMRUZ {1896 Boundary Commission [extreme south]}, NURISTAN {Dara-i-Pech}),
2. BAHRAIN [0–100 m] (SOUTHERN {*Bahrain* [Awali, Mohammed Jaffari]}, MUHARRAQ {*Muharraq* [Muharraq, Dair]}),
3. BANGLADESH [3–453 m] (CHITTAGONG {Ashuganj, Bandarban Hill, Baraiyadhala N.P., Chittagong [Chittagong Univ.], *Hatiya/Hatia*, Kaptai N.P., Sangu-Matamuhuri F.R.}, DHAKA {Dhaka/Dacca, Savar Upazila [Fajilatunnessa Student's Hall]}, KHULNA {Jessore, Kushtia, Rajshahi, Sundarbans}, MYMENSINGH {Bangladesh Agricultural Univ., Mymensingh}, RAJSHAHI {Bogura/Bogra waterfalls, Pabna}, RANGPUR {Cooch Behar, Rangpur}, SYLHET {Lawachara N.P., Satchari N.P., Sreemangal Upazila, Sylhet}),
4. BHUTAN [150–2427 m] (CHUKHA {Phuntsholing}, PUNAKHA {Bhutan Royal Univ.}, SAMDRUP JONGKHAR {? Langchhenphu}, SAMTSE {Samtse/Samchi}, THIMPHU {Yangchenphug}, ZHEMGANG {Royal Manas N.P. [Forest Ranger office]}),
5. INDIA [0–2907/3500 m] (ANDHRA PRADESH {Araku Valley, Dummugudem/Dumagadium, Eluru/Ellore, Godavari Valley, Guntur [Eddenmotu, Fringimotu], Karimnagar, Macherla, Madhavadhara, Madhavram, Manthani, Miao-Changlang, Nagarjuna Hill, Nagarjunasagar, Nagarjunasagar Srisailem T.R. [Sundipenta], Nalgonda, Nallamala Hills, Nandikonda, Nandikond Valley, Pullareddygudem, Sabbavaram, Siddampalle, Simhachalam Hills, Vizag/Vizagapatnam/Vishakapatnam, Yelleswharam, Zoological Survey of India [Arunachal Pradesh Residential Campus]}, ARUNACHAL PRADESH {Bhairabkunda, Dafla Hills, Eaglenest W.S., East Kameng, Eastern Ghats, Nagarjuna Srisailem T.R., Pakke, Tawang Forest}, ASSAM {Adabari, Barpeta, Bazarghat, Chabua, Dafla Hills, Darrang/Durrang, Dehing Patkai N.P., Dhupdhara, Diburgarh, Durrung Tea Estate, Gauhati, Golaghat, Goalpara, Guwahati [Indian Institute of Technology, Jalukbari], Kahitema forest, Kakoi RF, Kalamati, Karimganj Makunda Christian Hospital, Kaziranga N.P., Manas N.P., Manas River, Margerita, Siliguri, Sivasagar, Uttor Chagolmar}, BIHAR {Andhana, Balmiki Nagar, Chhapra, Darbhanga, Govardhan/Gobardhan, Khierpur, Koderma/Kodarma, Munger/Monghyr, Muzzaffarpur, Pashchim Champaran, Patna, Purnea, Pusa, Rajmahal, Ranchi, Saran, Seripur, Sirsia/Sirsiah, Siwan, Tamganj, Tinsukia, Valmiki T.R., West Champaran}, CHANDIGARH {Chandigarh [Mattaur], Mohali, Sukhna W.S.}, CHHATTISGARH {Bastar, Bhilai Nagar, Bisrampur, Deobhog, Durg, Jangal Sontara/Jangalore, Jashpur, Kanger Valley N.P. [bet. Ambogan & Puspal], Kumhari, Nakka Tal, Nehru Nagar, Shankar Nagar, Tikrapara}, GOA {Adarsh Nagar, Bhagwan

Mahavir W.S., Canacona, Chandor/Chandrapura, Chicalim, Karaswada, Mapusa, Nature's Nest, Valpoi, Valus River}, GUJARAT + DAMAN & DIU {Anmedabad, Badarpura, Bharuch/Bharoch/Broach, Bhavnagar [Victoria Park], Blackbuck N.P., Dangs, Deesa, *Diu*, Gandhinagar, Gimar, Gir Forest, Halol, Hingolghadh N.S., Jambughoda W.S., Jamnagar, Jassore W.S., Junagadh/Junagarh, Kaliyabid, Kutch, Mahagujarat, Moti Chirai, Piplod, Purna W.S., Rajpipla, Ratanmahal W.S., Saldi, Shoolpaneshwar W.S., Surat, Vadodora/Vadodra, Vagra, Valsad, Vansda N.P., Vijarkhe, Waghai, Western Ghats}, HARYANA {Ambala/Amballa, Chandni Chowk, Kansali, Khol, Koohni, Moth/Morh, Paddal}, HIMACHAL PRADESH {Chamba [Bargah Police Ground], Dhaula Kuan, Guga, Shimla [India Ministry of Urban Development offices], Simbalbara W.S., Simour, Solan [Saproon]}, JAMMU & KASHMIR {Jammu [Janipur, Lakadmandi, Nardani Bajwan, Nawabad], Udhampur}, JHARKHAND {Bhatin, Chota Nagpur, Dhalbhumgarh/Dhalbhum, Giridih/Girideh, Jadugora/Jaduguda, Narwapahar}, KARNATAKA {Agara Park, Agumbe, Agumbe Forest, Agumbe Plateau, Balekoppa/Bilukoppa, Ballari/Bellary, Bangalore [urban Bangalore, Herohalli], Bengaluru [Agara Park, Kaikondrahalli], Belgaum, Bhadra W.S., Biligiri Ranganathaswamy Temple W.S., B.R. Hills, Bukkasagara, Chamrajanagar, Chikmagalur Hills [Balekola Estate], Dodda Sampige Mara Temple, Doraisami Park, Gopasandra, Jakkuru Layout, Kaiga, Kambipura, Karkala, Karwar, Kasavanahalli, Kodagu/Coorg, Kolar, Kudremukh N.P., Mangalore, Mathesware kare, Mysuru/Mysore, Nandanavana Layout, Nandi Hill, Pecoock Kere Nagerhole, Ramasamy pond, Sebinakare, Shankaraghatta [Kuvempu Univ.], Shivamogga/Shimoga, Sompura, Somwarpet, Thammanyakanahalli, Thirumala, Tumkur, Tumkur Amanikere, Udupi, Western Ghats}, KERALA {Anamalai Hills, Ashtamudi Lake, bet. Paraihattam & Valiapaara, bet. Pooyamkutty & Urulanthanni, Chalode/Shonlode, Chettiakulam, Chinnar, *Cochin Willingdon*, Eraviperoor, Ernakulam, Ettumanoor, Kannur, Kottayam, Kumarakom, Malabar, Mlappara, Malappuram, Neyyar, Nilambur, Pala/Palai, Parambikulam, Parekkattukara, Ponmudi, Ramanagar, Ranni Forest, Star Nagar, Trivendrum, Wayanad/Wynad, Western Ghats}, MADHYA PRADESH {Ajaygarh, Amkhar, Baghsewania, Balaghat, Bandhavgarh N.P., Banzar River, Barkatullah Univ., Bhedaghat, Bhita, Bhopal, Damoh, Dewas, Dhamtra, Dhar, Dindori, Hoshangabad, Indore, Jabalpur, Jhabua, Kalod Kartal, Kangerghati N.P., Kanha, Kanha N.P., Kanker/Kankher, Khatiya, Khalghat, Kuno W.S., Mandla, Mandsaur, Manjitola, Mukki, Pachmarhi B.R., Panna, Pench, Raisen, Ratlam Jhabua, Saket Nagar, Satpura T.R., Sendhwa, Seoni, Shajapur, Sindhudurg, Singhori WS., Ujjain, Veerangana Durgawati W.S.}, MAHARASHTRA {Aamby Valley, Ahmadnagar/Ahmednagar, Amboli, Amalewadi, Atpadi, Aurangabad [Siddharth Garden and Zoo], Bhalaswa Lake, Bhimashankar W.S., Bor, Bombay Hills [Kurla Army camp], Borivali/Gorai, Chandrapur, Chaurakund, Daman, Deolali, Deori, Dhavalgaon, Dhond, Dodamarg, Dongarwadi, Ghatmatha, Hivatad, Humayun Tomb, Jalgaon, Jawhar, Jhabua [Teacher Colony], Junnar, Juve, Kaas Plateau [Satara], Kalyan, Karnala, Khamgaon, Khandala Ghat, Khed, Khopoli, Kolhapur [Shivaji Univ.], Kolkaz, Kondhali, Koukan, Kurduvadi, Lado Sarai, Lohgaun, Lonar W.S., Lonavla, Mahabaleshwar, Malagaon, Manikgad, Matheran/Mathuan, Maval/Mawal, Melghat T.R. [Chitamandeo], Model Colony, Mokhada, Mulshi, Mumbai/Bombay [Dadar Parsi Colony, Goregaon, Hanging Gardens/Simla Nagar, Malabar Hill, Marol Military Road], Nagpur, Nashik, Nesari, Newasa, Palghar, Panchgani, Panshet, Paraswada, Pashan Lake, Pawana, Poona/Pune [Anand Nagar, Gultekdi, Pune Univ., Raigarh/Khagol Mandal Neral Observation Site, Shivajinagar, Simhagad, Vadgaon/Vadgaon Budruk], Ratnagiri, Sangli, Sanjay Gandhi N.P. [Yeoor], Saswad, Satara, Sindhudurg, Talegaon, Tamhini, Tasgaon Varshwan Resort, Varsai, Vidarbha, Wai, Western Ghats [Kaas]}, MANIPUR {Imphal, Manipur}, MEGHALAYA {Barapani/Umiyam, Garo Hills, Jaintia Hills, Khasi Hills, Shillong/Shillum, Umran}, MIZORAM {?}, NAGALAND {Naga Hills, Yonghong}, NATIONAL CAPITOL TERRITORY/DELHI {Bhalaswa Lake, Chhawla Pul, Delhi, Dhaula Kuan, Gurjar/Girjar, New Delhi [Delhi Ridge, Humayun's Tomb, India Gate, Lodi/Lodhi Gardens, Majnu-ka-tila, Rashtrapati Bhawan Estates, US/AID compound, Wazirabad]}, ODISHA/ORISSA {Angul/Anugul, Badrama, *Barkuda*, Barkul Point, Bhubaneswar, Biswanathpur, Baudh-Khandmals, Chandaka-Dampara W.S., Chilka Lake, Cuttack,

Dhenkanol, Dhenkikote, Eastern Ghats [Gandhamardan Hills], Ganjam, Ghatgaon, Kalahandi, Kamakshyanagar, Kendrapara, Keonjihar, Koraput, Kotodwar, Mayurbhanj, Odisha, Pottangi, Puri, Purnakot, Rambha, Sambalpur, Sankhakholi, Satapada/Satpara, Similipal B.R., Sundargarh, Tikerpara Ushakothi W.S.), PUDUCHERRY/PONDICHERRY {Kaliveli watershed, Kurumpuram forest, Osudu/Ousteri Lake, Pitchandikulam, Pondicherry [Pondicherry Univ.], Puthupet sacred grove, Success Cyn., Thondamanatham, T. Parankani R.F., Urani sacred grove}, PUNJAB {Dalhousie Hills, Dino Aulakh, Kalabagh Game Reserve, Nakodar, Shanti Nagar}, RAJASTHAN {Ajmer, Beawar, Bharatpur, Bhilwara, Bikaner, Dak bunglow, Jhoomar Bawadi, Gurjar Ghat, Jaipur, Jodhpur, Kachida, Keoladeo N.P., Kumbhalgarh W.S., Lal Maidan, Luv-Kush forest, Meja Dam, Motilal, Mt. Abu, Paota, Siatmata W.S., Sumerpur, Thandi Beri, Thar Desert, Vishnoi Ki Dhani}, SIKKIM {Jorethang/Jorthang, Silguri/Silcuri, South Sikkim, Teesta Bridge}, TAMIL NADU {Anamalai T.R., Auroville, Bilgiri Hills, Boothapandi, Cauvery Delta, Chengalpattu [Chengalpattu Medical College], Chennai/Madras, Coimbatore, Coonoor, Eastern Ghats, Erode, Kalakkad, Kalpakkam Kudankulam Nuclear Power plant, Kanchipuram/Kancheepuram [Vedanthangal B.S.], Kanganankulam, Keelakarai/Kilakkarai, Kolli Hills, Kovilambakam, Madurai [Usilampatti, Madurai Rajaji Park], Mannampandal, Marakkanam [Bharathiyar Matriculation School], Melagiri Hills, Mundanthurai T.R., Nagappattinam, Namakal/Namakal, Nilgiri Hills, North Arcot Hills, Pappanadu, Pudukkottai, Ramanathapuram/Rámanád/Ramnád, Salem [Vinayaka Mission Inst. Med. Sci.], Sivaganga, South Arcot Hills, St. Thomas Mt., Tenkasi, Tharangambadi/Tranquebar, Thirukanchi, Thirunarayur [Nachiyar Koil/Thirunarayur Nambi Temple], Thiruvannamalai, Thittai, Tinnevely Hills, Tirunelveli, Tirupur, Valparai, Vellore/Bellore, Viluppuram, Western Ghats: Meghamalai W.S., Yercaud}, TELANGANA {Achampet, Adilabad, Asifabad, Beechpally, Chennur, Eturnagaram, Gadwal, Gantavari Gudem, Godavari Valley, Gummadavalli, Hyderabad, Imampet, Jannaram, Kamareddy, Kapraipally, Kawal, Kerimeri, Khammam, Mahbubnagar, Medak, Meerpet, Munnampur, Musthapur, Nalgonda, Nandikonda, Nizamabad, Nirmal, Osmania Univ., Ramayampet, Ranga Reddy, Rushulacheruvu, Sangareddy, Sarvail, Tarnaka, Tekulaboru, Utnoor, Vijayapuri, Warangal, Wyra}, TRIPURA {Sepahijhala}, UTTAR PRADESH {Agra, Aligahr, Avadha/Awadh, Budamtan, Daliganj, Eldeco Utopia, Faizabad/Fyzabad, Gorakhpur, Jhansi, Kanpur/Cawnpore/Konch, Katerniaghat W.S., Kukrail Gharial Park, Lohia Park, Lucknow, Musa Bagh/Moosa Bagh, Nainital, Noida, Oudh, Prayagraj/Allahabad, Sant Kabir Nagar, Soor Sarovar Bird Sanctuary, Vasant Kunj, Yizayawada}, UTTARAKHAND {Chandrabani, Channdi Range, Corbett T.R., Dehradun, Haridwar/Hardwar, Jhilmil Jheel N.R., Kairwaan Gaon, Nainital, Pauri, Rajaji N.P., Ranipur, Teen Paani, Udham Singh Nagar}, PASCHIMBANGA/WEST BENGAL {Asansol, Bally, Bandipur/Bandipur, Bankura, Budamtan, Contai, Darjeeling, Dhalbhumgarh, Dooars, Dudh Kundi/Dudhkundi, Hahaipatha Tes Estate, Haldibari, Hooghly, Howrah, Jalpaiguri, Jogeshpally, Kanchrapara, Kharagpur, Kolkata/Calcutta [Botanical Gardens, Jesuit Ashram, Tangrah/Tangra, Zoological Gardens], Midnapore, Panchet Hill/Garh Panchkot, Panihati, 24-Parganas, Sampa Mirza Nagar, Serampore, Sevok, Siliguri, Subdarbans}},

6. IRAN [9–20/83 m] (FARS {?}, HORMOZGAN {Bandar Abbas, Qeshm [Qeshm]}, KERMAN {?}, KHUZESTAN {Ahvaz/Ahwaz}, SISTAN & BALUCHISTAN {?}),

7. IRAQ [3–39 m] (BAGHDAD {Baghdad [Wasreia]}, AL BASRAH {Basra}),

8. KUWAIT [6–91 m] (JAHRA {Al-Jahra}, AHMADI {Al-Jalia, Al-Wafra}, FARWANIYAH {Rabiya}, KUWAIT {Al-Dbaiyyah, Umm-al-Khwaisat}),

9. NEPAL [61–2805 m] (CENTRAL {Bhaluhi Bharbaliya, Bara, Battar, Birgun/Birganj, Devighat, Hukse, Kathmandu, Kathmandu Valley [Gouten d'Th, Hetauda, Kalimati, Khorsor, Korobari, Lahan, Lalitpur, Makawanpur, Nuwakot/Newakot, Patan], Parsa N. P. [Kamini Daha], Parsa W.R., Sarlahi, Sindhupalchok [Panch Pokhari], Tandhi, Tikauli Ghol}, EASTERN {Dhankuta, Jhapa, Gaighat, Mithila, Sankhuwasabha, Saptari, Siraha, Sunsari, Udayapur}, FAR-WESTERN {Kailali, Kanchanpur, Shivpur}, MID-WESTERN {Banke, Bardiya/Bardia, Hyengja, Pokhara, Surkhet}, WESTERN {Bara, Chitwan [Baghauda, Gaidakot, Nawalparasi, Royal Chitwan N.P. [Sauraha, Tiget Tops Lodge], Darkachua, Kapilvastu/Kapilbastu,

- Kaski, Palpa [Jhadewa, Somadi], Hyengja, Rupandehi, Siddharthanagar/Bhairahwa [Airport], Tribeni)),
10. OMAN [5–350 m] (AL BATINAH NORTH {Rustaq}, DHOFAR/SALALAH {Janub Ad Dahariz, Salalah}, MUSQAT {Muscat}),
 11. PAKISTAN [7–1660 m] (BALOCHISTAN {Bostan, Kalai, Kech/Kachh, Khuzdar, Kohlu, Las Bela, L’Oratar, Panjgur, Quetta, Sibi, U.S. Embassy}, FATA {North Waziristan}, ISLAMABAD {Margalla Hills Natl. Park}, KHYBER PAKHTUNKHWA/NORTH-WEST FRONTIER {Charsada, Chitral, Dera Ismail Khan, Lakki Marwat, Mardan, Peshawar}, PUNJAB {Ahmedpur Sial, Attock, Bahawalnagar, Bahawalpur, Chak San, Chakwal [Chakora, Chumbi Surla W.S., Dharabi Dam, Dhodial, Kallar Kahar Lake, Koont Farm, Pir Ochri], Chiniot, Dera Ghazi Khan, Faisalabad, Ghakhar, Garh Maharaja, Gujranwala, Gujrat, Hafizabad, Islamabad [Loi Bher W.P., Rawal Lake, Simly Dam], Jhang, Jhelum, Kasur, Khachian, Kharian, Khushab, Kot Amir Shah, Lahore [Shalimar Bagh/Shalamar Gardens], Lalamusa, Lalian, Layyah, Lodhran, Lyallpur, Multan, Narowal, Pakpattan, Rabwah, Rajanpur, Rahimpur Kitchian, Rahim Yar Khan, Rawalpindi [Chak Bhadur], Sahiwal, Sargodha, Sheikhpura, Sialkot, Thatta Mahla, Toba Tek Singh, Trimmu Barrage, Vehari}, SINDH {Clifton, Dadu, Dhingano Bozdar, Hyderabad, Jamshoro, Jerruck, Karachi [Express Market, Frere Hall, Hill Park, Hotel Metropole gardens, Jinnah Hospital, Jinnah Intl. Airport, Karachi Zoo Park/Ghandhi Gardens, Kulturinstitut, PECHS Stn., Saddar Town], Khirthar [Kirthar Protected Area Complex], Lakhat, Lyari, Malir, Mal Sipra, Port Qasim, Saddar, Sukkur, Thatta}),
 12. PALESTINE [*2002/2006* 0–30 m] (NORTHERN {Gaza Strip [Wadi Gaza N.R.]},
 13. QATAR [?] (AD DAWHAH {? Doha}),
 14. SAUDI ARABIA [0–2637 m] (AL MADINAH {Bī’r al Mashī, Medina}, AR-RIYADH {Banban/Jabal Banban, Riyadh}, ASEER/ASIR {Abha Dam, Al-Mesealy, Al Sharma Dam, Al Soudah, Amaq, Aayash Dam, Bisha, Bisha Dam, Hala, Nabaa Dam (Al-Bashir), Sad Al Makdey Dam, Tamena Dam, Wadi Al Makhad, Wadi treksh}, EASTERN {Al-Khoba, Al Hofuf/Hufuf}, JIZAN/JAZAN {Abu Arish, Ahad Almasarha, Al-Aradha, Al-Darb, Al-Hakwo, Al-Haredah, Bisha, Sabya, Sad Malaky, Samtah, Wadi Baqra, Wadi Lajjab, Zahban}, MAKKAH {Dhahban, Jeddah, King Abdullah Univ. of Science & Technology, Thuwal, Wadi Amarriyah}),
 15. SRI LANKA/CEYLON [0–1897 m] (CENTRAL {Anniwatta, Bambaragaleyaya F.R., Dambulla Town, Digana, Ellekade, Galaha, Gatagahawala, Hakgala, Hatton, Hettipola, Kandalama, Kandy/Kandie, Katugastota, Kotagala, Lagalla Estate, Lindula, Madakumbura, Madawala Demalabage, Mahaiyawa, Mahayaya, Matale, Nuwara Eliya, Pallegama, Pallekumbura, Patana, Pathadumbara, Peradeniya, Pitakandra, Pundaluoya, Rattota [Clodagh Estate], Sigiri Fortress, Sirimalwatta, Walahena}, EASTERN {Panama, Trincomalee}, NORTH CENTRAL {Amunubendawewa Estate, Anuradhapura, Habarana, Hunuwilagama, Ihalagama, Kandegama, Katukeliyawa, Kekirawa, Kudagalnewa, Kudagama, Mahawilachchiya, Mihintale, Moragaswewa, Nochchiyagama, Potana, Ritigala N.R., Talawa}, NORTHERN {Jaffna, *North*: Naranthanai, Velanai, *South*: Saravanai, Valikamakm}, NORTH WESTERN {Alawwa, Mutupanthiya, Pinkattiya Wewa, Polgahawela}, SABARAGAMIWA {Balangoda, Diyagama West, Horawala, Idangoda, Kalawana, Kiriella, Manana, Pimbura, Ratnapura}, SOUTHERN {Akmimana, Baddegama, Batapola, Boossa, Dedduwa Lake, Egodamulla, Galle, Kannaliya, Morankanda-Mukalana}, UVA {Dehilanda, Dematapelessa, Gampaha, Hembarawa, Kahakema, Koslanda, Kuda Oya, Mahiyangana, Monaragala, Nabodawala, New Town, Nilgala, Nilgala Fire Savannah, Pissagala, Ulhitiya Reservoir}, WESTERN {Abayawatta, Adikarigoda, Akarawita, Alwiswatta, Angulana, Athurugiriya, Attidiya, Bandaragama, Batadombaketiya, Batagama North, Battaramulla South, Batuwandara South, Bellanvila/Bellatara, Belummahara, bet. Halwatura & Nuggedanda, bet. Kalutara & Thebuwana, Bokundara, Bolgada, Bopagama Ella, Colombo [Colombo Natl. Mus., Town Hall], Dediya, Deewara Janapadaya, Dehiwala, Depanama, Dharga Town, Dippitigoda, Diyagoda, Egoda Uyana South, Elukwatta, Eluwila, Ethagama, Ethul Kotte, Galkanda, Galkissa, Gallasse, Galthude, Gangoda, Gangodawila, Gan-lma, Gankandagoda, Godagama, Godaparagahahena, Gonaduwa, Gorakana,

Hanwella, Henarathgoda, Hendala, Henemulla, Himidiriyawa, Hirana, Hokandara South, Homagama, Homagama South, Horagolla, Horagolla Model Village, Horana, Horathuduwa, Horethuduwa, Indibedda, Inuka, Ja-Ela, Jawatta, Jubilee Post, Kadana, Kaduruduwa, Kaduwela, Kajugaswatta, Kalamulla, Kalubowila, Kalugoda, Kalutara, Karagampitiya, Katudewala, Katukurunda, Katukurunda Airport, Katuwawala, Kavdana, Kekulaliya, Kelanimulla, Kelaniya, Kesbewa, Kethhena, Kindelpitiya, Kirallapona, Kiriberiya, Kirimetiya, Kirindiwela, Kiriwattuduwa North, Kochchikade, Kohuwala, Kokduwa, Kolaboda, Koppala, Koralawella, Korosduwa, Kosgama Ihala, Kottawa, Kottawa North, Kottawa South, Kpugoda, Kuda Hinatayangala, Kuda Gonaduwa, Kurunda, Kuruppumulla, Labugama, Lunawa, Mabole, Madapata, Madapatha, Madiwela, Mahabage, Mahagonaduwa, Mahara, Maharagama, Makumbura, Malambe, Malamulla, Manawila, Matugama, Mawala, Meegoda, Meepe, Minuwanpitiya, Miriswatta, Molligoda, Monteden, Moragahakanda, Moraketiya, Moratumulla, Moratuwa, Morawinna, Morontuduwa, Munanawatta, Muthurajawela Marshas, Mutturajawela, Meegoda, Mt. Lavinia, Nagoda, Nagoda South, Navinna, Neboda, Nedimala, Negombo, Nehinna, Newdawa, Nugagahawatta, Pahangama, Palatota, Palawatta, Palindanuwara, Pamunuwa, Panadura, Panapitiya, Panikkagoda, Pannipitiya, Paraduwa, Pasmanhandiya, Pelapitigoda, Pellyagodawatta, Pembroke, Pepiliyana, Pettah, Piliyandala, Pinwatta, Pita Kotte, Pitipana South, Pohaddaramulla, Potupitiya, Ragama, Raigama, Rajagiriya, Rathmalgoda, Rattanapitiya, Rawatawatta, Remuna, Remunagoda, Sabaragaha, Salawa, Sarikkamulla, Seeduwa, Sri Jayawardanapura Kotte, Surigawila, Suwarapola, Talangama North, Talangama South, Tebuwana, Tekkawatta, Telawala, Thanthirimulla, Tiniyawala, Tudella, Tudugala, Udahamulla, Uggalboda, Uyankele South, Uyanwatta, Waddegoda, Wadduwa, Wadiyamankada, Wadumulla, Waga, Waga East, Waga West, Wandurumulla, Waskaduwa, Wattala, Wattalpola, Wekada, Weligampitiya, Wellabada, Wellampitiya, Weragama, Wewalakanda, Wilegoda, Yakkala, Yakwalakandra, Yatadola, Yatadolawatta}},

16. UNITED ARAB EMIRATES [1–9 m] (ABU DHABI {Abu Dhabi city [Al Mushrif]}, DUBAI {?}).

Region 2 – INDIAN OCEAN

1. ANDAMAN & NICOBAR ISLANDS [5–36 m] (NICOBAR {*Car Nicobar* {*Chowra/Chaura*}, *Great Nicobar* {*Katchall, Long, Tarasa/Teresa*}}, NORTH & MIDDLE ANDAMAN {*Middle Andaman* [Mayabunder/Mayabander, Tugapur]}, SOUTH ANDAMAN {*South Andaman* [Choldari, *Havelock, Inglis*, Manglutan, *Neil/Neill*, Port Blair]}},
2. CHAGOS ARCHIPELAGO [0–15 m] (DIEGO GARCIA {*Diego Garcia* [populated places]}),
3. COMORO ISLANDS [7–560 m] (ANJOUAN {*Anjouan/Johanna* [?]}, GRANDE COMORE {*Grande Comoro* [Itsandra, La Grille, Moroni, Mvouni]}, *Mayotte* {Dziani Dzaha, Hamjago, Mt. Chongui, Ouangani, Sada}, MOHELI {*Mohéli* [Fomboni, Niomachoua, Ouangani, Ouallah]}),
4. LACCADIVE/LAKSHADWEEP ISLANDS [10 m] (MINICOY {*Minikoi/Minicoy* [?]}),
5. MADAGASCAR [0–1560 m] (ANTANANARIVO {Ambohivoangy, Andoharina, Antananarivo, Mandraka forest}, ANTSIRANANA {Ambanja, Ambilobe, Ampombofofo, Analavory, Andamoty, Andavakoera, Anjavy, Antsiranana/Diego Suarez, Bevaoka, Mahilaka, Montagne des Français, Mt. d’Ambre, *Nosy Bé* {Lokobe/Lukubé}, *Nosy Faly*, *Nosy Komba*, *Nosy Mitsio*, *Nosy Vorona*, Orangea, Sambava}, FIANARANTSOA {Ifanadiana, Mananjary, Ranomafana}, MAHAJANGA {Ambatolampy, Ampijora, Ankarafantsika N.P., Antsianitia forest, Bekiana, Benetsy, Betsako, Mahajanga, Majunga, Mandraka forest, Mariarano, Matsedroy, Mt. Ambatorongorongo, Tsiambara, Tsiombikbo forest}, TOAMASINA {Andranofotsy, Betampona N.R., Fito, Ivoloina N.P., Maroantsetra, *Nosy Boraha/Sainte-Marie*, Rantabe, Tamatave/Toamasina}, TOLIARA {Amboanemba, Amboasary Sud, Ambovombe, Androka, Beraketa, Berenty Reserve, Cap St. Marie, Makay, Manambaro, Petriky, Taolagnaro/Fort Dauphin, Tolagnaro B.G., Vallée de l’Onilahy, Toliara/Tuléar}},

6. MALDIVE ISLANDS [3–6 m] (ADDU ATOLL {Gan}, BAA ATOLL {Fehendhoo}, FAAFU ATOLL {Nilandhoo [Nilandu]}, MALÉ ATOLL {Girawa/Gir awn}, SOUTHERN MILADHUNMADULU ATOLL {Miladhunmadulu {Manadu}}),
7. MASCARENE ISLANDS [0–1391/1855 m] (*Mauritius* BLACK RIVER {Founeau, [Le Morne, Rivière Noire, Tamarin]}, GRAND PORT {Aigrettes, Grand Port, La Passe}, MOKA {Bel Ombre, Moka}, PAMPLEMOUSSES {Cannonien Point}, RIVIÈRE DU REMPART {Ambre, Flat/Plate, Gabriel}, {Réunion [Bas de l'Île, Beaufond, Fleurimont, Foret de l'Étang Salé, Plaine des Palmistes, Port-Est, Saint-Benoît, Saint-Denis, Saint-Marie, Saint-Paul [Grand Fond Saint-Gilles, Grande Ravine, Ravine Trois Bassins, Saint-Gilles les Bains], Saint-Pierre, Saint-Suzanne [Grande Rivière Saint-Jean, Petote Rivière Saint-Jean]}, {Rodrigues [Cocos, Crab, Grande Montagne, Mourouk, Réserve de Cascade St. Louis, Rodrigues College/St. Louis, Solitude], Hermitage}, {Round}),
8. SCATTERED ISLANDS/ÎLES ÉPARSES [0–7 m] (ÎLES ÉPARSES {Europa [?]}),
9. SEYCHELLE ISLANDS [0–295 m] (BAIE SAINTE ANNE {Curieuse [Anse St. Jose, Laraie Bay, Leper Colony]}, BEL AIR {La Réunion [Fleurimont, Le Port, Ravine Trois Bassins, Sainte Clotilde, Saint-Paul, Saint-Pierre [Plage de Grand Anse]}}, GRAND'ANSE {Aride, Cousin, Cousine, Fond Ferdinand N.R., Grande Anse}, GRAND'ANSE MAHE {Ilot, Mahé [Anse Intendance, Beau Vallon, Bel Air, Cascade, Côte D'or, Grand Anse, Grand Bois, La Reserve, Le Niolle, Mamelie Estate, Mont Fleuri, Pascal, Police Bay, Port Launay, Santa Maria, Upper Mt. Simpson, Victoria]}, GRAND'ANSE PRASLIN {Praslin [Amitie Beach, Baie Sainte Anne, Grand Anse, L'Amitie, Pasquere, Saint-Sauveur, Vallee De Mai]}, LA DIGUE AND INNER ISLANDS {Bird, Cerfs, Félicité, Frégate/Frigate [Main house, Main Settlement plateau], Grand Souer [Plateau], La Digue [Anse Reunion, Fly Catcher N.P., La Passe, La Veuve Reserve], Margenie/Marginay, North [Plateau], Récifs, Silhouette [La Passe, Lascars]}, MONT FLEURI {Cerf [bet. Cerf Island Marine Park Resort & South Point Villas], Sainte Anne [Plateau]}, OUTER ISLANDS {Alphonse, Assumption}),

Region 3 – SOUTHEAST ASIA

1. CAMBODIA/KAMPUCHEA [4–1800 m] (BATTAMBANG {bet. Battambang & Vatana}, KOH KONG/KAOH KONG {Botum Sakor N.P., Kirirom N.P., Phum Prek Popél, Tatai, Tatai Commune}, KAMPONG CHHNANG {Kampong Chhnang, Kirirom N.P., Trapeang-Chan}, KAMPONG SPEU {Phnum Aural W.S.}, KRATIE {bet. Krong Stung Treng & Oudom Sambath}, PHNOM PENH {Phnom Penh, Phum Kbai Tumnob}, PREAH VIHEAR {Kulen [Kulen Promtep W.S.]}, PURSAT {Phnom Samkos W.S.}, RATANAKIRI {Veun Sai-Siem Pang N.P.}, SIEM REAP {Angkor Wat, Kbal Spean, Meru, Phnom Kulen N.P., Royal Residence Gardens}, TAKEO {Takeo}),
2. LAOS [90–1305/1396 m] (CHAMPASACK {Dong Khanthung N.B.C.A., Mounlapamok, Xe Pian}, KHAMMOUAN {Ban Nathan}, LOUANGPHABANG {?}, PHONGSALI {Phongsaly [Phou Dendin N.P.]}, SAVANNAKHET {?}, VIENTIANE {Vientiane}, XAYABOURY {Sayaboury}, XIANGKHOUANG {?}),
3. MYANMAR/BURMA [2–1472 m] (AYEYARWADY {Mwe Hauk, Teinthaw/Teinzo}, BAGO {Minhla}, CHIN {Vaar}, KACHIN {Bhamo/Manmaw, Chipwi/Chipwe, Hepu, Kachin Hills, Metanja/Mt. Catein, Mohnyin [Indawgyi Lake W.S.], Myitkyina, Thigyam}, MAGWAY {Mauk, Pakokku [Myanmar Timber Enterprise]}, MANDALAY {Kyaukkyi, Kyaukse, Mandalay [No. 8 Basic Education H.S.], Mt. Popa, Myitta/Myithar, Shwe U Daung W.S., Ye Nya U}, RAKHINE {Kyaukpyu, Minbya/Minbyin}, SAGAING {Alaungdaw Kathapa N.P., Chatthin, Hta Man Thi, Kanbalu, Katha, Mindon Chaung Camp, Nauk Pe, Paya Chaung, Thabake Sae Camp, Yimmana}, SHAN {Kin Chaung, Minthaung/Mine Thaug, Nalli Chaung, Naungshwe, Nyaungshwe [Inle Lake, Inle Lake W.S. & Wet.S., Thale-U Hotel], Panlaung, Pyadalin Cave W.S., Taunggyi, Yanae}, TANINTHARYI/TENASSERIM {Tanintharyi, Yebu, Yepone}, YANGON {Bagan [Shwezigon Pagoda], Bago/Pegu, Gyobu Reservoir, Hlawga N.P., Mawlamyine/Moulmein, Mingalardon, Pyay/Prome, Shwemyo, Taik-kyi, Yangon/Rangoon}),

4. SINGAPORE [4–38 m] (*Singapore* {Singapore B.G., Bishan, Central Business Park, Holland Village, Hougang, North, Pasir Ris [Pasir Ris Park], Raffles Museum, River Valley, St. John's, South, Sungei Buloh We. R., *Tekong*, Toa Payoh, *Ubin*, West, Yishun Garden Park}),
5. THAILAND [4–1077 m] (BUENG KAN {Wisit}, BURIRAM {?}, CHACHOENGSAO {Khao Ang Ru Nai W.S., Muang Chachoengsao}, CHANTABUN {?}, CHANTHABURI {Chanthaburi/Chantaboon, Khao Soi Dao W.S.}, CHIANG MAI {Chiang Dao, Chiang Mai, Chang Mai Univ., Doi Saket, Doi Suthep-Pui N.P., Pa Pong}, CHIANG RAI {Mueang}, CHONBURI {Bang Saen}, CHUMPHON {Tha Taphao}, KANCHANABURI {Kanchanaburi, Muang, Sai Yok, Si Sawat, Thong Pha Phum}, KHON KAEN {?}, KRABI {Ampur Muang, Khlong Thom Nuea, Ko Lanta Yai, Krabi}, KRUNG THEP MAHANAKHON {Bangkok [Chatuchak [Nonthaburi, Pongphet 3 Village, Prapad Dao Village, Ruean Thong Village, Talat Kwan, Wat Sripawat, Yu Charoen Village], Khlong Toey, Lad Krabang, Lumpini, Lumpini Park, Pathum Wan, Phra Khanong, Phra Nakhon, Prawet [Phra Khanong], Chao Phraya Delta}, LAMPANG {?}, LOEI {Mueang Loei}, LOPBURI {?}, MAHA SARAKHAM {Borabue}, NAKHON PATHOM {?}, NAKHON RATCHASIMA {Khao Yai N.P., Pak Thong Chai, Sakaer Rat Sakaerat Ex.S., Sakaerat B.R., Sakaerat R.S., Wang Nam Khiao}, NAKHON SAWAN {Bueng Boraphet, Wat Kiriwong}, NAKHON SI THAMMARAT {Khao Luang}, NARATHIWAT {?}, NONTHABURI {Wat Thong Sa Ard, Yaek Nonthaburi}, PATHUM THANI {Khlong Luang, Rangsit}, PATTANI {Pattalung, Pattani}, PHANGNGA {Ban Bang Ba, Khao Lak Beach, Khao Lak-Lamru N.P., Khao Tao Rattanaorn, Phang-Nga City, Police Stn.}, PHATTHALUNG {Phatthalung}, PHETCHABURI {Ban Lat, Ban Salakern, Cha-am, Kaeng Krachan N.P.}, PHICHIT {Mueang Phichit}, PHITSANULOK {Ban Krang}, PHRAE {?}, PHRA NAKHON {Bangkok [Cape House Bangkok Hotel]}, PHUKET {*Phuket* [Banana Beach], *He/Hay/Coral* [Ko Hay], Ko Phuket, Phuket Marine Biological Centre, Salanga}, PRACHINBURI {?}, PRACHUAP KHIRI KHAN {Hua Hin, *Salanga*}, RANONG {Ban Bang Rin}, RATCHABURI {Ban Pong}, RAYONG {Kamnoetvidya Science Academy School (KVIS), Klaeng, *Koh Man Nai*, *Koh Man Nork*, *Ko Samet*, Wang Chan Valley}, ROI ET {Ban Sa At Na Di}, SA KAEO {?}, SAMUT PRAKAN {Bang Plee [Thana City Country Club], Phra That Pha Daeng, Thana City Country Club}, SAMUT SAKHON {?}, SARABURI {Muak Lek, Saraburi}, SONGKHLA {Kra Isthmus, Songkhla}, SUKHOTHAI {Sri Satchnalai}, SURAT THANI {Kanom Nai Plao Beach, Khao Sok N.P., Khlong Sok, *Koh Samui*, Phanom}, SURIN {Dangrek Hills}, TAK {Wang Chao}, TRANG {*Ko Libong*, Krabi Noi, Mueang}, TRAT {Khlong Yai}, UBON RATCHATHANI {Bun Thrik-Yot Mon W.S., Kaeng Tana N.P., Pha Taem N.P., Phu Jong-Na Yoi N.P., Ubon, Yot Dom W.S.}, UDON THANI {Udon Thani [Ban Phon Ngam]}, UTHAI THANI {Huai Kha Khaeng W.S., Khao Nang Rum R.S., Rabam}, UTTARADIT {?}, YALA {Betong, Biserat}),
6. VIETNAM [1–790/888 m] (BAC GIANG {Bac Giang/Phu Lang Thuong, Luc Nam, Phuc Son, Son Dong, Tay Yen Tu N.R.}, BAC THAI {Ba Be N.P.}, BA RIA-VUNG TAU {Binh Chau-Phuok Buu N.P.}, BINH DUONG {Dau Tieng}, BINH THUAN {Phan Son}, CAO BANG {Tra Linh}, DAC LAC {Yok Don N.P.}, DAK NONG {?}, DONG NAI {Bien Hoa, Cat Tien [Cat Tien N.P.], Trang Bom}, *Cu Lao Phon Vong*, DONG THAP {Tram Chim N.P.}, GIA LAI {Song Ba Farm}, HANOI {Hanoi, Nghia Do}, HA TINH {Ha Tinh, Hoa Hai, Ke Go, Ky Anh}, HAI DUONG {Chi Linh, Hoang Hua Tham}, HAI PHONG {*Cat Ba* [Truong Trung], Haiphong, *Xuy Nong Chao/Hon Nor Way*}, HO CHI MINH/SAIGON {Gia Dinh, Ho Chi Minh}, KHANH HOA {Loc Tho, Nha Trang}, KIEN GIANG {Ha Tien, *Hon Tre*, *Lai Son/Hon Son*, Nha Trang}, LAM DONG {Cat Loc, Cat Tien [Cat Tien N.P., Bao Sau Trail], Phuoc Son}, LANG SON {Lang Son}, LAO CAI {Lao Cai}, LONG XUYEN {?}, NAM DINH {Xuan Thuy N.P.}, NGHE AN {Pu Mat N.P., Yen Luu}, PHU THO {?}, PHU YEN {Song Ba}, QUANG BINH {Dong Hoi, Phong Nha-Ke Bang N.P.}, QUANG NAM {Cu Lao Cham}, QUANG NINH {Cu Lao Phon Vong, Fong Wong, Ky Thuong}, QUANG THANH {?}, QUANG TRI {Dong Ha, Houng Hoa, Khe Sanh, Quang Tri, Vinh Linh}, SON LA {Xuan Nha}, TAY NINH {Ba Den Mt., Tay Ninh}, THAI BINH {Dong Tien}, THAI NGUYEN {Dai Tu, Ky Phu}, THANH HOA {Hoa Hai, Tho Xuan}, THUA THIEN HUE {A Luoi, Hue, Phu Loc}, TUYEN QUANG {Pac Ban [Na Hang N.R.]}, VINH PHUC {*Cu Lao Phon Vong*, Me-Linh B.Stn., Tam Dao}, VUNG TAU {*Con Son/Condor*, Vung Tau/Cap Saint Jacques}, YEN BAI {Lang Kay}),

7. WEST MALAYSIA [4–1424 m] (JOHOR {*Babi Besar* [Masjid Jamik Pulau Besar], *Besar*, Endau Rompin N.P., Gunung Pulai Recreational Forest, Johore Bahru, Kota Tinggi, Mersing, Muar, Senai, Senggarang, Seribu Arch. {*Aceh* [central], *Aur* [Sebukang Bay Resort], *Dayang*, *Sibu*, *Sibu Tengah*, *Tioman* [Barjaya, Juara, Kampong Juara, Paya, Tekek], *Tunas Selatan*}, KEDAH {Beris Valley, Gunung Inas F.R. [Sungai Reyau], *Langkawi* [Awana Porto, Gunung Raya, Telok Burau]}, KUALA LUMPUR {Kuala Lumpur [Cheras, Kajang, Kuala Lumpur Butterfly Park, Pandan Indah, Resthouse, Taman Segambut Sppk, Wilayah Persekutuan], Kuala Pilah, Serdang}, NEGERI SEMBILAN {Bukit Nanas, Labu, Port Dickson [Jalan Toh Kee Kah, Taman Mewah], Seremban, Taman Tasek Seremban, Tampin}, PAHANG {Gunung Senyum Forest, Kuala Gandah, Krau W.R. [Sungai Sebuai], Kuantan, Pantai Telok Chempedak}, PENANG/PINANG {Penang B.G., *Penang*, Penang Hill, Seberang Perai}, PERAK {Gunung Bubu, Hilir Perak, Kampar, Kinta, *Pangkor* [Standard Camp Pangkor], Taiping}, SELANGOR {Gombak, Hulu Langat, Kajang, Petaling Jaya, Shah Alam, Sungai Buloh, Universiti Kebangsaan Malaysia}, TERENGGANU {Kuala Terengganu, *Perhentian Besar*, *Redang*, *Susu Dara Besar*, *Tulai*}).

Region 4 – EAST ASIA

1. CHINA [0–2165 m] (CHONGQING {Chongqing}, FUJIAN {Fuqing/Futsing Fuzhou/Foochow, *Kinmen*, Nan'an, Nanping/Yenping, Wuyishan N.R., *Wu Yu*, *Xiamen* [Xiamen/Amoy]}, GUANGDONG {*Dahengqin*, Deng'ao, Dongguan, Guangzhou/Canton [Tung-Kun], *Guan Yu*, Gui Chen, Hai Qian, Houzhai, Huanghua, Huanghua Shan Shuiku, Kwangchowan, *Nan'ao/Nan Ao* [Yun'aozhen], Nanling N.N.R., *Ping Yu*, Shajiao/Jiao, Shantou/Swatow, Shitan/Shi Tan Shi, Tai Zhu Ao, Tangshan/Tungshan, Whampoa, *Zhuha*}, GUANGXI {Nanning [People's Park]}, GUIZHOU {?}, HAINAN {central, Haikou, *Hainan*, Hoihao/Hoi How, Kachai, Lingao/Ting-au, Nodoo, Mt. Wuzhishan, Nodoo, Shantangcun}, HUBEI {Dongping Hydropower Dam}, HUNAN {?}, JIANGSU {Gaoyou}, JIANGXI {*Matsu*, Dayu/Nananfu, Jiulianshan N.R.} SICHUAN {?}, SHANGHAI {Changning}, YUNNAN {Baoshan [Salween River], Bawan, Hengduan Mountains, Nabang, Saomanjan, Xishuangbanna}, ZHEJIANG [{Zhengzhou}],
2. HONG KONG [0–448/600 m] (HONG KONG {*Hong Kong* [Aberdeen West], *Chek Lap Kok* [Cheng Sha Lan, Fu Tao Shan, Fu Tei Wan, Fui Yiu Wan, Ha Law Wan, Kwo Lo Wan, Sham Wan Tseun, Shem Wan], *Cheung Chau*, Ho Chung, Hok Tau Wai Pavillon, *Kat O Chau*, *Kau Yi Chau*, *Lamma*, *Park* [Ma Wan Park], *Peng Chau*, *Port Shelter*, *Po Toi*, Sheung Yeung Shan, *Tai Lei*, Tai Tam Tuk, *Tung Ping Chau*, Yung Shue Wan}, KOWLOON {Hoi Ha, Lai Chi Kok, Sai Kung, Shek Kong/Mt. Butler, *Stonecutter's/Ngong Shuen Chau*, Tiu Keng Wan, Toipo Market, Tsuen Wan}, LANTAU {*Lantau* [Cheung Sha, Disneyland Resort, Ma Po Ping, Mui Wo, Shek Pic, Shui Hau, Tai Long Wan]}, NEW TERRITORIES {Fan Kwai Tong, *Hei Ling Chau*, Ho Chung, Ho Sheung Heung, *Kau Yi Chau*, Kan Tau Au, Keung Shan, LAM TSUEN, *Ma Chau*, Mai Po N.R., Ma Po Ping, *Ma Shi Chau*, Ngau Kwu Long, Pat Sin Leng Country Park, Pineapple Dam Nature Trail, Pui O Beach, San Tau, *Shek Chau*, Shek Kong, *Shek Kwu Chau*, *Siu A Chau*, *Tai A Chau*, Tai Lam County Pk., Tai Mo Shan, Tai Po, Tung Chung, Wonderland Villas, *Yim Tin Tsai*, *Yuen Chau*, Yuen Long [Mai Po Marshes N.R.]},
3. JAPAN [0–382 m] (HOKKAIDO {*Kojima*, *Nakajima*, *North Kojima*, *South Kojima*}, TOKYO {Chiba, *Hachijojima*, *Izujima*, Ogasawara/Bonin Islands {*Chichijima* [Ohmura], *Ogasawara*}, Izu Islands {*Hachijojima/Hatizyozima* [Nakanojo/Nakanogou]}, ISHIKAWA {*Notojima/Nohojima*, *Ojima*}, OSAKA {*Kobijima*, *Sakishima*}, OKAYAMA {*Kobishima*}, NAGASAKI {*Ikejima*}, KAGOSHIMA {*Amurojima*, *Maejima/Midorijima*, Shibushi city}, SATSUNAN ISLANDS: Osumi Islands {*Kuroshima*, *Tanegashima*}, Tokara Islands {*Akusekijima*, *Kagoshima/Nakanoshima*, *Kodakarajima*, *Nanseisyotou*, *Suwanosejima*, *Takarajima*}, Amami Islands {*Amamioshima* [Ayamaru-misaki, Kasaricho], *Kakeromajima*, *Kikaijima*, *Kikaigashima*, *Okinoerabujima* [Wadomari], *Tokunoshima* [Innojofuta], *Ukejima/Ukeshima*, *Yoronjima*, *Yorojima/Yoroshima*}, OKINAWA OKINAWA ISLANDS {*Agunijima*, *Gishifujima*, *Gusukujima/Gushikawajima*, *Hamahigajima/Hamahigashima*,

- Hatejima, Hyanzajima, Iejima, Iheyajima* [Iheya/Iheyason], *Irabujima, Ishigakishima, Izenajima/Isenajima, Kerumajima, Korijima/Kourijima, Kudakajima, Kumejima, Kurojima/Kuroshima, Miyagijima, Nakajima, Ohajima, Okinawajima* [Awasi, Camp Hansen, Camp Schwab, Chatan, Fudemma Shrine Cave, Futenma, Ginoza/Jinuza, Hyakuna Tamagusuku, Imadomari, Iribaru, Ishikawa, Itoman, Izumi, Kadena A.F.B., Kaniku, Kin, Kiyan, Kosa, Kunigami, Kunigami-gun [US Coast Guard base], MabuniMeku Habu, Motobu-Mura, Motobu-tyo, Nago, Nago-shi, Naha A.F.B., Naha-shi, Onna, Ryukyu Rhetto, Shimajiri-gun, Sunabe, Tokashiki-son, Univ. of the Ryukyus, Uruma, Yomitan], *Sesokojima, Tokashikijima, Tonakijima, Tsukenjima, Ukibarujima, Yabuchijima, Yaguchijima, Yanahajima*, Kerama Islands {*Akajima, Fukajijima, Yakabijima, Zamamijima*}, SAKISHIMA ISLANDS: Miyako Islands {*Ikemajima, Irabujima, Kurimajima, Minnajima, Miyakojima/Kurimajima, Ogamijima, Shimojishima, Taramajima*}, Yaeyama Islands {*Aragusukujima, Haterumajima, Iriomotejima* [Funaura, Taketomi, Yaeyama], *Ishigakijima* [Ajidoko Iwa, Ishikawa, Yaetake], *Kayamajima/Kamiyamajima, Kohamajima, Kuroshima, Nakanogamijima/Nakanokamishima, Taketomijima, Yonagunijima*}}, DAITO ISLANDS: {*Kitadaitojima, Minamidaito, Minami-Daitojima, Okinodaitojima*}, SENKAKU/DIAOYUDAO ISLANDS: {*Kitakojima, Kubajima, Minamikojima, Uotsurijima*}},
4. MACAU/MACAO [1–66 m] (*Macau* {*SÉ* [Monte Fort Garden, São Lázaro]}, *NOSSA SENHORA DO CARMO* {*Taipa*}, *SÃO FRANCISCO XAVIER* {*Coloane* [Coloane, Cotai, Ka-Ho, São Francisco Xavier]}),
5. PHILIPPINE ISLANDS [0–1465 m] Palawan Region I: CALAMIANES: {*Apo, Busuanga, Cabulauan, Calauit*}, PALAWAN: {*Coron, Palawan* [Barangay San Miguel, Brooke's Point, Iwahig, Puerto Princessa, San Nicolas]}, Luzon Region II: BABUYAN: {*Babuyan* [Camiguin Norte], *Barit* [Gagaco Beach], *Camiguin* [Barrio Baylao, Camiguin Mindanao, Catarman, Kidag-om, Mt. Mambajao, Sagay], *Camiguin Sur, Dalupiri, Fuga, Maybag* [southeast]}, BATANES {*Bataan* [Barangay Bognabong], *Batan* [Basco, Itbud], *Ibahos/Ivojos* [Sabtang]}, BICOL {*Panay* [Aklan, Antique, bet. Balasan & Carles, Estancia, Ibajay, Iloilo, Iloilo City, Lantangan Barrio, Malay, Nueva Valencia, *Sibay Sibay*]}, CATANDUANES: {*Catanduanes* [Bagamanok, Barrio Simamla, Bugao, Panganiban, Viga]}, LUZON: {*Corregidor, Luzon* [Alabang, Alaminos, Angat Dam, Angeles City, Antipolo, Bacoor, Baguio/Baggio, Baler, Bambang, Barangay Balbalasang, Barangay Bani, Barangay Dibuluan, Barangay Del Pilar, Barangay Ibayugan, Barangay Kawayan, Barangay Lucap, Barrio San Miguel, Barrio Via, Bataan, Batangas, Batangas Reservoir, bet. Labo & Talisay, Batuferry, Binatug, Bocaue, Botolan, Buhl, Bulacan, Burgos, Caloocan, Camarines Norte [Labo, Tulay Na Lupa], Caramoan, Cardona, Carranglan [Sitio Calisitan], Cavite, Coto, Dalupiri, Daraga, Dinalungan Munic, Dingalon, Ilocos Norte, Jalajala, Kalinga, Laguna, Legazpi City/Albay, Los Baños, Maldam, Malilipot, Manila [Bagong Barrio West, Barangay 643, Batasan Hills, Malabon], Mariroc, Masinloc, Mt. Anacua, Mt. Calaclan, Mt. Makiling, Nueva Vizcaya, Olongapo, Pao, Paracale, Pilillo [bet. Gumaca & Pitogo], *Polillo*, Quezón, Quezón City, Real Town, Rizal, Rosario, San Francisco, San Lorenzo, San Pedro City, Siniloan, Sitio Dimani, Sitio Langud, Sitio Minoli, Sorsogon, Subic Bay, Tanay [Lilok Farm], Talatay Tayabas, Zambales]}, MARINDUQUE: {*Marinduque* [Amoingon, Boac, Dolores, Tayabas]}, MINDORO: {*Mindoro* [Barangay Balatero, Barangay Lumang Bayan, Caguray, Calapan, Hacienda Waterous, Mangarin, Mt. Iglit-Baco N.P., Mt. Tallulah/Tulala, Naujan, Progreso, Puerto Galera, San Jose, Sitio Maligaya, Sumagui], *Gigante Sur* [Estancia], *Panay* [Bugting-bate], *Semirara* [Barangay Tinogboc, Caluya]}, POLILLO: {*Polillo* [Barangay Bucao]}, Mindanao Region III: BOHOL: {*Bohol* [Abacajan Barrio, Biabas, Sagunan Mt.], *Lapinin, Pamilacan* [Baclayon], *Tintiman* [Ubay], *Tres Reyes/Lapinin Chico*}, LEYTE: {*Leyte* [BayBay, San Joaquin, San Rogue, Visayas State Univ.]}, MINDANAO: {*Mindanao* [Balatacan, Barangay Ayala, Bukidnon, Bunawan, Cabadbaran, Dapitan, Dapitan Peak, Davao City [Catalunan Grande], Del Monte Plantation, *Dinagat* [Loreto], Iligan City, Kolambugan, Lanao del Norte [Iligan], Madaum, Marawi city, Mindanao Institute of Technology, Mt. Hilong-Hilong, Mutia, Padada, Parang, Patang, San Ramon, Sapamoro, Sarangani, Sibuco, Tangob City, Zamboanga City, Zamboanga del Norte, Zamboanga del Sur]}, SAMAR: {*Buad, Samar* [Guiuan, Mt. Huraw, Osmena, San Jose de Buan, Uno

- Barangay], *Sibay*}, Negros-Panay Region IV: CEBU: {*Cebu* [Alegria], *Bantayan* [Tamiao], Basak Pardo/Basac, bet. Barili & Carcar City, Calumbangan [Camp Four], Cebu city, Cordova, Danao, Gabi Barrio, Mantalongon, Talisay city, Tisa, *Mactan* [Carmen, Gabi, Mactan, Pilar, Union Barrio], *Pacijan* [Union San Francisco], *Ponson* [Pilar]}, GUIMARAS: {*Guimaras* [Guimares], *Guiwanon*, *Panobolon*, *Yeto*}, MASBATE: {*Masbate/San Miguel*}, NEGROS: {*Negros* [*Agutayan*, *Apo*, Bacong, Baranagy Bongbong, Bayawan City, bet. Cauayan & Sipalay City, Biaknabato, Bondo Barrio, [sm. *island* off] Bulata, Cabagna-an Barrio, Candumas, Canlaon City, Cauayan, Cavan-Lagasan, Cuernos de Negros, Dumaguete, Hinoba-an, Ilaya Sitio, Kadal-ugan, La Carlota, La Castellana, La Granja, Ma-ao, Mampas, Maricalum, Mt. Canlaon, Negros Occidental, Negros Oriental, Okoy River Valley, Palapay Falls, Pamplona, Pilar, Palinpinon, Pulangbato, Saravia, Saksak Barrio, San Rafael, Siaton, Sibulan/Sibulon, Silay, Tiapi Barrio, Valencia/Luzuriaga [Maite River], Victorias]}, PANAY: {*Boracay* [Balabag Barrio, Malay, Palaypay, Yapak/Yepak], *Panay*}, ROMBLON: {*Isabela*, *Sibuyan* [San Fernando, Taclobo Barrio], *Tablas* [Odiongan]}, Sulu Region V: SULU: {*Basilan* [bet. Lantawan & Santa Clara], *Bongao* [Bongao, Bongao Peak], *Cagayan*, *Jolo* [Jolo City, Seit], *Pangasinan*)},
6. TAIWAN/FORMOSA [0–958 m] (CHANG HUA {bet. Dongshi & Liujiao}, CHIAYI SHIH {Chiayi, Natl. Chiayi Univ. B.G.}, CHIAYI {Bankoro/Fanlu, Zhongpu, Zhuqi}, Chihmei, HSIN CHU {Emei}, HSIN CHU SHIH {Hsinchu [Natl. Exp. School]}, HUA LIEN {Chinyang farm, Chisingtan Scenic Area, Hua-lien Hsien, Shoufeng}, I LIAN {?}, HSINCHU {?}, KAO HSIUNG {Jiaxian, Kaohsiung/Takao [Central Park], Kasempo, *Pratas/Dongsha*, Shaoshan Mt., Yanchao}, Chuan-Shih, KEELUNG {Keelung/Chilung}, MIAO LI {Dali, Miaoli City [Wenfeng E.S.], Zhunan}, NEW TAIPEI {New Taipei, New Taipei Senior H.S., Shengkeng, Tamsui, Taoyuan, Yangmingshan N.P., Zhonghe}, NAN TOU {bet. Jiji & Shuili, Caotun, Chanyeyunshu, Nantou, Puli}, PENGHU {Akan Language Center, *Penghu/Pescadores* [*Baisha* [Zhenhai Junior H.S.], *Chimei/Big Island*, *Huxi*, Magong/Ma-kung]}, PING TUNG {Hengchun/Kontei, Kenting N.P., Kosempo, Koshun, Kuraru, Neishan, Pingtung, Wanluan, Wenshan Bridge, Yucun Park}, TAI CHUNG {Dadu Blue Hwy., Taiping, Xinshe}, TAI CHUNG SHIH {Natl. Chung Hsing Univ., Taichung}, TAI NAN {Anping/Ampin, Hutoupi Youth Activity Center, Tainan}, TAI PEI {Baling, Guandu Na.P., Maru Yama, NAMRU 2 compound, Shilin, Taihoku, Taipei, Taipei Hsien, Tianmu, Xiaoyoukeng Recreation Area, Yangmingshan N.P., Yung Foh Lee (Grass Mtn.)}, TAI PEI SHIH {Beitou/Pei-tou, Tianmu/Tien-mou}, TAI TUNG {Beinan, Chishang, Haiduan, *Lanyu/Orchid/Boitel Tobago* [Hon-tou, Hon-tou-tsun], Taimali, Taitung}, TAO YUAN {bet. Guanyin & Xinwu, Luzhu, Taoyuan}, YILAN {Chilan F.R., Dongshan, Guantian, Jiaoxi}, YUN LIN {Yulin}).

Region 5 – EAST INDIES

1. AUSTRALIA [0–633 m] (NEW SOUTH WALES {Balmoral, Bocoble, Boorara, Bourke N.R., Brawlin, Budden, Concord, *Cook*, Gilgandra, Lansdowne, Mudgee, Naryilco, Oakville, Ravensworth, Round Hill N.R., Rylstone, Sidney [Gladesville, Guildford, North Rocks], Springdale, Urliup, Wahroonga, Warroo}, NORTHERN TERRITORY {Adelaide River, Adelaide River Hills, Alice Springs, Annaburroo Stn., Bardon, *Bathurst* [Killimira], Berrimah, Berry Springs N.R., Beswick, Black Point, Bradshaw Stn., Cobourg, Daly River, Darwin [Alawa School, Bakewell, Darwin River, East Point Reserve, Fanny Bay, Knuckey Lagoons, Lake Nash, Larrakeyah, Malak, Milner, Nakara, Shoal Bay, Rapid Creek, Stuart Park, Virginia, Wagaman, Wulagi], Douglas Hot Springs N.P., Eley N.P., Fish River, Fogg Dam, Horseshoe Bend Stn., Howard Springs, Humpty Doo, Kadadu N.P., Kapalga Access, Katherine, Katherine Low Level N.R., Maningrida, Marrakai Stn., Mary River Stn., Maryvale Stn., *Melville* [Andranangoo Creek, Goose Creek, Pickertaramoor: Takamprimili Creek], Moroak Stn., Nitmiluk N.P., Opium Creek Stn., Ranger Mine, Roe Creek, Taracumbi Falls, Tiwi, Wildman River N.R., Yangunbi}, QUEENSLAND {Ashgrove, Ayr, Bamaga, Bardon, Barron, Blair Athol coal mine, Brinsmead, Brisbane, Bungalow, Caboolture, Cairns [Trinity], Cape Upstart, Castlevalle Stn., Cedar Creek, Chapel Hill, Chinchilla, Clermont, Conondale N.P., Cooktown, Cooya Beach, D’Aguilar N.P., Dallachy, Douglas, Durrie Stn., Gayndah,

- Gubberamunda, Heatley, Kroombit Tops N.P., Lockerbie, *Magnetic* [Picnic Bay], Moorooka, Mt. Bassett, Mt. Hartley, Mt. Isa, Mt. Nebo, Mt. Whitfield, Noosa, Noosaville, Nuga Nuga/Nugga Nugga N.P., Paluma, Redlynch Valley, Roma, Rowes Bay, Salisbury, St. Lucia [The Esplanade], Sybella Creek, Taringa, Torres Strait [*Badu, Thursday*], Townsville [Bush Garden Nursery, Pallarenda, Pimlico, Queens Gardens, Townsville B.G.], Trinity Beach, Wangetti, Whitsunday, Wilga Downs}, VICTORIA {Ballarat, Campaspe River, Lockwood South, Warracknabeal, Werribee [Wyndham Vale]}, WESTERN AUSTRALIA {Broome, Darlington, Derby, Dunham River Stn., Jerramungup, Karratha, Kewdale, Kingston Rest, Kununurra, Perth [north, southeast, Kingsley Garden], Pilbara coast, Port Denison, Port Hedland, Ravensthorpe, Roebuck Bay, Shark Bay}},
2. CHRISTMAS ISLAND [3–289 m] (*Christmas* {Drumsite, Open Drill Line, Plant Nursery, Rocky Point, Settlement}),
 3. COCOS/KEELING ISLANDS [0–14 m] (*Home/Panjang, West/Selma* {Admin. Bldg.}),
 4. EAST MALAYSIA [5–522 m] (BRUNEI DARUSSALAM {Bandar Seri Begawan, Jalan Gadong, Jalan Kiarong, Jalan Muara, Jalan Perayaan, Jalan Sungai Tilog, Jalan Tutong, Lambak Kanan, Panaga, Seria, Simpang}, SARAWAK {Bintulu, Buntok, Gunung Santubong, Kuching [Biawak Industrial Estate], Lambir Hills N.P., Lumbidan, Lundu, Nyabu F.R. [Sungei Nyabu camp], Samarinda, Sandakan [Sepilok], Santubong, Sibul, Singkawang}, SABAH {Jesselton, Kepayan Veterinary Stn., Kota Kinabalu, *Labuan* [Labuan, Labuan Bajo], Lahad Datu [Madai Cave], Tambunan, Taman Semarak, Tawau [Lorong Semarak 2c/2], Tenom}),
 5. INDONESIA [0–2090 m] (JAWA/JAVA REGION: *Java* BANTEN {Banten/Bantam, Jalan Benteng Betawi, Periuk, Serang}, CENTRAL JAVA/TENGAH {Gunung Kidul, Kali Swela, Kecamatan, Kedung Kebo, Pekalongan, Semarang/Samarang, Sronol}, EAST JAVA {Baluran N.P., Banyuwangi, Gerbo, Jember/Djember, Kediri, Klakah, *Madura/Madoera*, Malang, Sidoarjo, Situbondo [Panji Permai], Sumberduren, Surabaya/Surabaya/Soerabaya, Surakarta}, JAKARTA {Jabodetabek, Jakarta/Batavia [Jalan Saco Ragunan]}, WEST JAVA {Bandung, Bogor/Buitenzorg [Botanical Garden], Cianjur, Cibodas/Tjibatoe/Tjibodas, Cikahuripan, Cimahi/Tjimahi, Darmaga/Dramaga, Depok, Gadog/Gadok, Gambir, Garut/Garoet, Jalan Leuwinanggung, Kota Banjar, Kota Bogor, Kota Tasikmalaya, Masjid Assuada, Mulyasari, Padang, Rancaekek, South Cianjur, South Tangerang, Sukabumi, Tasikmalaya/Tasikmalaja, Telaga Warna, Ujung Kulon N.P.}, YOGYAKARTA {Karangduwet, Yogyakarta [Daerah Istimewa Yogyakarta, Gadjah Mada Univ., Jetis, Karangduwet, Maguwoharjo, Opak River, Playen, Sleman]}, KALIMANTAN REGION: {*Kalimantan* CENTRAL KALIMANTAN [Buntok Kota], EAST KALIMANTAN [Balikpapan, Kelian River [Kelian Equatorial Mining Camp], Samarinda, Samarinda city], NORTH KALIMANTAN [Malinau [Bulungan forest, Malinau River forest], Tarakan], SOUTH KALIMANTAN [Binawara, Martapura, Tanah Bumbu], WEST KALIMANTAN [Pontianak, Singkawang]}, MALUKU/MOLUCCAS REGION: CENTRAL MALUKU {*Buru/Boeroe/Boerue* [Leksoela/Leksula], *Great Banda* [Cambir], *Saparua/Saparna, Seram/Ceram* [Dorf Tehorn, Manusela N.P., Saunulu, Wahai/Wahaay, Waikawa]}, NORTHERN MALUKU {*Ambon/Amboina* {Waa}, *Bacan/Batjan, Halmahera* [Patani], *Taliabu* [Tolong], *Ternate* [Fort Oranje]}, SOUTHERN MALUKU {*Aru Arch.* [?], Barat Daya Arch., Kei Arch. *Dulah/Dullah* [Tual], *Kei Besar, Kei Ketjil/Kecil, Kur, Kisar/Yotowawa, Nila, Taam/Tam, Tajondu* [Desa Tam Ngurhir]}, *Tanimbar, Yamdena* [Latdalam]}, SULAWESI/CELEBES REGION: CENTRAL SULAWESI {Parigi [Masigi], *Peleng* [Koyobunga], *Woto*}, GORONTALO {Gorontalo, *Sondaa/Sonda*}, NORTH SULAWESI {Bogani Nani Wartabone N.P., Bone Bolango, Kema, Manado, Minahassa Peninsula, Tomohon, Weltevreden}, SOUTH SULAWESI {Bantimurung-Bulusaraung N.P., Bulukumba, Kappang, Luwu, Makassar, Maros, Mt. Tompotika, *Postiljon, Sabalana, Sapoeka Besar, Selayar, Tamangura, Tanah Jampea* [Makmanasa, Maminasa], Ujung Pandang}, SOUTHEAST SULAWESI {*Buton/Butung* [Baubau, *Buton*, Kakenauwe F.R., Kolaka, La bundo bundo, Lambusango F.R.], *Hoga, Kabaena, Tomea* [Waha], Wakatobi Arch. [Wakatobi N.P.], Watubanga}, WEST SULAWESI {Mamuju}, SUMATERA/SUMATRA REGION: {*Sumatra* ACEH [Aceh/Atjeh, Atschin, Edi, Singkil/Singkel, *We/Weh* [Sabang]}, BANGKA-BELITUNG {*Bangka, Belitung/Billiton*}, BENGKULU {*Bengkulu* [Bengkulu Utara], *Enggano*}, JAMBI {Batang Hari}, LAMPUNG {Krakatoa Is. [*Verlaten/Sertung*], *Sebesi*}, NORTH SUMATRA {Asahan, Berastagi,

- bet. Pematang Siantar & Tebing Tinggi, Deli, Medan [Centre Ville], *Nias*, Pispis, Siboga},
 RIAU {*Bintan*, Pekanbaru, Pekanbaru Rumabai camp, Rumbai/Rumabai}, SOUTH SUMATRA
 {Ogan Komering Ilir, Ogan Komering Ulu}, WEST SUMATRA {Cubadak, Fort De Kok,
 Panjang, Payakumbuh City}, NUSA TENGGARA/LESSER SUNDAS REGION: BALI {*Bali* [Baturiti,
 Blimbingsari, Candikesuma, Jembrana, Padangbai/Padang Bai, Samadi Bali, Sanur
 Tanjung Bukit, Ubud], *Nusa Penida* [Batumulapan, Ped, Pejukutan, Sumaya]}, EAST NUSA
 TENGGARA {*Flores* [Bara Zoom, Ende/Endeh, Labuan Bajo, Larantuka/Larentoeka, Look
 Nggoer, Maumere/Maumeri, Nangaroro, Nggoer, Nggorang Bowosie, Wolowaru/Wolo
 Waro], *Kawasang*, *Komodo* [Komodo N.P., Loho Liang, Lo Lavai/Loho Lavai], *Lembata*,
Lomblen, *Rinca*, *Sumba/Soemba* [Baing, Kampera, Karuni/Karoeni, Kodi, Lindiwatju,
 Maha Niwa, Melolo, Waikarudi, Waimangura], *West Timor* [Amarasi, Atapupu/Atapoepe,
 Djemplong, Kota Kupang, Lelogama]}, WEST NUSA TENGGARA {*Lombok* [Mataram,
 Narmada, Senggigi, Siva, Swela, Tetebatu], *Sumbawa* [Mt. Tambora, Sumbaya Besar,
 Tambora Estate]}, WEST PAPUA/IRIAN JAYA REGION: PAPUA {Bivak/Pionierbivak,
 Digul/Digoel, Ifar Besar/Ifar, *Japen* [Seroei], Jayapura/Hollandia, Lake Sentani, Merauke,
 Nabire, Sentani [Hotel Masupatrani, Hotel Sentani], Tanahmerah, Taritau/Bernhard Camp,
 Idenburg River}, WEST PAPUA {Manokwari [Pasir Poetih], Raja Ampat, Sorong, Waisai)},
 6. PAPUA NEW GUINEA & NORTH SOLOMON ISLANDS [5–2588 m] (CENTRAL {Doa,
 Kokoda Track [Iomare W.M.A., Varirata N.P., Zo-Oimaga W.M.A.]}, EAST NEW BRITAIN
 {*New Britain* [Rabaul]}, EAST SEPIK {Pagwi, Wewak [Windjammer Hotel]}, GULF {Kikori},
 MADANG {Alexishafen, Awar, Kalibobo Point, *Kar Kar*, *Manam* [Abaria], Madang, Nagada
 Harbour, Siar Plantation, Wanang}, MANUS {*Manus*: Naringell}, MILNE BAY {Alotau
 [Napatana Lodge], Trobriand Islands [*Kiriwina*, *Losua*], Woodlark Islands [*Woodlark*],
 MOROBE {Bulolo, Finschafen, Kokoda Track, Lae, Upper Watut River, Wasu, Wau/Wei,
 Zare}, NATIONAL CAPITAL DISTRICT {Gordons [Boroko Drive], Moitaka [Sanitary Depot], Port
 Moresby [Hanuabada, Hohola, K anudi, Korobosea, Univ. of PNG]}, NORTH SOLOMONS
 {*Bougainville* [Arawa, Buin, Boku, Kieta, Kunua], ORO/NORTHERN {Itokama, Kokoda Track
 [Homberata W.M.A.], Lego, Sangara}, WEST SEPIK {Vanimo}, WESTERN {*Nusa Tupe*, Gizo,
 Morehead, *New Georgia* [Munda airstrip]}, WESTERN HIGHLANDS {Tomba}},
 7. SOUTH SOLOMON ISLANDS [0–217 m] (CENTRAL {*Tulagi* [?]}, CHOISEUL {*Choiseul* [south
 end], *Taro*}, GUADALCANAL *Guadalcanal* {Cape Hunter, Honiara, Honiara
 Airport/Henderson Field, Mbua Valley}, ISABEL {*Isabel* [Buala Buala]}, MAKIRA-ULAWA {*San
 Cristobal* [Wanoni Bay]}, MALAITA {*Malaita* [Auki, Dala, Nunubala camp, Su'u Harbor]},
 RENNELL & BELLONA {*Rennell* [Guesthouse garden, Lake Tungano/Te-Nggano]}, WESTERN
 {*New Georgia* [Munda [Munda Airport], Poitete Forestry camp, Sa Ba Ju Forestry camp],
Nusa Simbo/Narovo/Eddystone, *Ranongga*, *Rendova* [Kenelo village, Phoko Forestry
 camp], *Vella Lavella* [Kokolope]}),
 8. TIMOR-LESTE/EAST TIMOR [5–1495 m] (*Timor* AINARO {Pousada de Maubisse}, BAUCAU
 {?}, DILI {Dili, Suco Beloi, Suco Comoro, Timor Lodge Hotel}, LAUTÉM {Pousada de Com},
 MANUFAHI {Fatucahi, Ladiki, Same, Motael Church/St. Antony d'Lisa}, VIQUEQUE
 {Loihuno/Loihuna}).

Region 6 – PACIFIC OCEAN

1. AMERICAN SAMOA [9–109 m] (*Ta'u*, *Tutuila* {ITUAAU [Pago Pago], SUA [Alega], TAFUNA
 [Ottoville Forest, Tafuna], TUTUILA [Pavai'ai]}, *Upolu* {Fugalei, Matautu}),
2. FEDERATED STATES OF MICRONESIA/CAROLINE ISLANDS [1–30 m] (CHUUK
 {*Weno/Moen* [Weno]}, KOSRAE {*Kosrae*: Malem}, POHNPEI {Kolonias, *Lenger*, Madolenihw,
Pasa-to, *Ponape* [*Mwahnd Peidi*, *Sokehs*]}, YAP {*Ulithi* {Gielap, Iaar, *Soong*}, *Yap* [Colonia,
 Dimaar, Ngolog]}),
3. FIJI ISLANDS [7–150 m] (CENTRAL {*Viti Levu* (part) [Lami, Namadi Heights, Raiwai, Suva]},
 NORTHERN {*Taveuni*, *Vanua Levu* [Kilaka Forest C.A.]}, WESTERN {*Viti Levu* (part) [Cuvu,
 Lautoka]}),
4. FRENCH POLYNESIA/SOCIETY ISLANDS [5–1190 m] (WINDWARD ISLANDS {*Tahiti*
 [Fachauda, Papeete, Pirae, Punaauia]}),

5. GUAM [2–147 m] (*Guam* AGAT {Agat, Neye, Orote Point [Naval Stn.]}, ASAN {Asan}, BARRIGADA {Canada Barrigada}, DEDEDO {Andersen A.F.B., Chalan Karetta, Finegayan, Mt. Machanao, Potts Jct., Ritidian Point [Guam N.W.R.]}, HAGATNA {Agana/Hagatna, *Ladrone*}, MANGILAO {Mangilao}, PITI {Piti [Experiment Stn., War in Pacific N.P.]}, SANTA RITA {Naval Activity Ordnance Annex}, SINAJANA {Agana, Agana-Chaot River}, TAMUNING {Harmon, Oca Point, Tamuning, Tumon}, YIGO {Northwest Airfield, Ritidian Point [Guam N.W.R.]}, YIGO, YONA {Yling River}),
6. KIRIBATI [4–12 m] (GILBERT ISLANDS {*North Tawara* [Nabeina Inlet], *Tarawa* [Banreaba, Buoto]}),
7. LOYALTY ISLANDS [45 m] (MARÉ {*Maré* [bet. La Roche & Rawa]}),
8. MARIANA ISLANDS (NORTHERN) [0–179 m] (NORTHERN {*Agrihan*, *Aguigan* [Pisonia Rockshelter], *Alamagan* [southwest], *Anatahan*, *Gonaham*, *Pagan* [north end, Freshwater Lake], *Sarigan* [northwest Coconut forest]}, ROTA {*Rota* [As Bake, Alaguan: Payapan Cave, As Matmos Cliffside Cave, Sinapalu, Songsong]}, SAIPAN {*Saipan* (AMNH 19682)} [American Memorial Park, Bahia Laolao, Fanonchuluyan Basin, Garapan, Navy Hill, Papago Dr.], TINIAN {*Tinian* [Marpo, Mt. Lasu/Lasso, Riverside Drive at 86th Street, 8th Avenue at 86th Street, Carolinas: Railhunter Rockshelter, Seabird Crevice]}),
9. MARSHALL ISLANDS [0–18 m] (ARNO {*Arno*}, ENEWETAK & UJELANG {*Enewetak/Eniwetok*, *Medren*, *Parry/Perry*}, JALUIT {*Jaluit* [Emidj, Jabor]}, KWAJALEIN {*Kwajalein* [[Kwajalein, Power Stn.]}, MAJURO {*Majuro* [Laura village]}),
10. MIDWAY [15 m] (*Sand* {Bulky Dump}, *Kure Atoll* {*Mokupapapa*}),
11. NAURU [5–36 m] (*Nauru* {AIWO [Od-N Aiwo Hotel, Orro]}, BUADA [Arenibek], MENENG [southeast]}),
12. NEW CALEDONIA [0–360 m] (ILES {*Grand Terre/New Caledonia* [Anse Vata, Bourail Nature Trail, Guaro-déva, Kaavac, Koutio, Koumourou, La Conception, La Foa, Lifou, Magenta, Mt. Koyaboa, Nimbo, Nouméa [Magenta], Ouaca, Ouen Toro, Païta, *Pia*, *Pins*, Poindimie, Pouembout, Robinson, Sarraméa, Tia, Tia Plateau, Tinip, Tomo, Touho, Tsiba, Yaté]}, NORD {*Baaba*, Hienghène, Koné, Poum-Titch, *Yande* [Xolado]}), SUD {7 éme Km, Bourail, *Pines/Kunie* [Baie de Kanumera, Baie de Kuto]}),
13. NEW ZEALAND (? Auckland),
14. PALAU/BELAU [0–81 m] (AIMELIIK {Icebox Park}, AIRAI {Airai Airport}, ANGAUR {*Ngeaur/Angaur* [Coast Guard Stn.]}, BABELDAOB {*Babeldaob* [north end, Aimeliik, Airai, Galap, Nekkeng [Forestry Camp], Ulimang]}, KAYANGEL {*Ngcheangel/Kayangal* [?]}, KOROR {*Koror/ Oreor* [Dngeronger, Icebox Park, Idid-meketii, Ikelau, Koror [Belau National Museum, Koror Post Office, Palau Art Museum], Meketii Abai, Mechang, Medalaii, Meyungs, Ngarbaged [Adelbai's house, Entomology Lab], Ngaremeduu Bay C.A., Ngaremlengui waterfall, Ngekeseuao, Ngerbodel [second cemetery], Ngerbeched, Ngermid, Ngeremdiu Beach, Palau Community College, Rael Dil Point, Sand Beach, Tngeronger], *Malakal/Ngemelachel* [Pirates' Cove, Port of Palau], *Medren*, *Ngerekebesang* [Meyungs], *Ngermalk* [north], *Ngetmeduch* [Causeway]}), MELEKEOK {*Babelthaup* [Galap, Nekking, Ngaraard, Ngebuked]}, PELELIU {*Carp/Ngercheu*, *Ngedbus* [east]}, SONSOROL {*Merir/Melieli* [Melieli]}),
15. SAMOA (WESTERN) [52–679 m] (*Upolu* {TUAMASAGA Apia, Mata'utu-Tai, Tuamasaga, Vaimauga West}),
16. TONGA [11 m] (TONGATAPU {*Tongatapu* [Nishi Trading Quarry]}),
17. VANUATU/NEW HEBRIDES [5–264 m] (MALAMPA {*Ambryn* [Wakon]}, PENAMA {*Ambae* [Navunda, Saratamata]}, SANMA {*Espiritu Santo* [Cocoteraie, Four à Coprah, Luganville]}, SHEFA {*Efaté* [Mele, Napara, Paonapokas Bernier Mt., Port Vila [British Paddock: White House], Tagabe [Agricultural Stn.]}, TAKARA [Takara Hot Springs], *Epi* [Lamen Bay]}, TAFEA {*Tanna* [Green Hill]}, TORBA {*Toga*}),
18. WALLIS & FUTUNA ISLANDS (Futuna {?}, *Wallis* {?}).

Region 7 – AFRICA

1. BENIN/DAHOMÉY [7–188 m] (ATAKORA {Parc National de la Pandjari}, LITTORAL {Cotonou}),
2. BURKINA FASO/UPPER VOLTA [301 m] (KADIOGO {Ouagadougou}),
3. BURUNDI [890 m] (BUJUMBURA MAIRIE {Mont Sion Gikungu}),
4. CAMEROON [5 m] (LITTORAL {Douala}, SOUTHWEST {?}),
5. CENTRAL AFRICAN REPUBLIC [381 m] (OMBELLA-M'POKO {Bangui}),
6. CONGO (BRAZZAVILLE)/PRC [300–500 m] (KOUILOU {zone côtière}, POOL {Patte d'Oie F.R. [City of Science Forest, Experimental Garden]}, SANGHA {Haute Sangha}),
7. CONGO (KINSHASA)/DRC [258–962 m] (KINSHASA {Kinshasa [Stanley Pool]}, LUALABA {Lualaba}),
8. EGYPT [1–225 m] (AL-QAHLIYYAH {Al Matariyyah, Shubra Al Khaymah}, AL QAHIRAH/GIZA {Cairo, El Maadi, First New Cairo}, ALEXANDRIA {62 km W Alexandria}, BENI SUEF {?}, ISMAILIA {Fanara, Ismailia}, MENOFA {Ashmun}, MATRUH {Marsa Matruh/Marsa Matrouh}, SOUTH SINAI {? Qaryet al-Raed, Sharm El Sheikh}, SUEZ {Ain Sukhna, Kasfareet, Suez Canal}),
9. EQUATORIAL GUINEA [23 m] (ANNOBÓN {Annobón [Lago A Pot, San Antonio de Palé]}),
10. GABON [6–44 m] (ESTUAIRE {Libreville [Hotel Tropicana, Quartier La Sablière, Quartier Louis, Quartier Quaben, Quartier Tahiti]}, OGOUÉ-MARITIME {Port-Gentil}),
11. IVORY COAST/CÔTE D'IVOIRE [34–182 m] (ABIDJAN {Abidjan, Adiopodoumé}, BASSASSANDRA {Tai N.P.}, LAGUNES {Lamto}),
12. KENYA [0–1631 m] (COAST {Diani Beach, Lamu [Lamu town, Pokomonie], Mombasa, Watamu}, KWALE {Wasini}, NAIROBI {Nairobi [Embakasi]}, NYANZA {Kisumu [Lake View House]}),
13. LIBYA [589 m] (TRIPOLITANIA {Jabal al Gharbi [Bu Gheilan]}),
14. MAURITANIA [5 m] (TRARZA {Nouakchott}),
15. MOROCCO [305 m] (ASSA-ZAG {Guelmim, Es-Semara}),
16. MOZAMBIQUE [10–26 m] (CABO DELGADO {Ciudad de Pemba, *Querimba*}, INHAMBANE {Inhambane}, NAMPULA {*Mozambique*}, SOFALA {Beira}),
17. NIGERIA [8 m] (LAGOS {Lagos}),
18. SENEGAL [35 m] (DAKAR {Dakar [ORSTOM, Parc Forestier], zone côtière}),
19. SOMALIA [60 m] (BANAADIR {Mogadishu}),
20. SOUTH AFRICA [5–1656 m] (FREE STATE {Virginia}, KWAZULU-NATAL {Albert Park, Bellair, Bluff, Bridepark, Buffeld Bosch, Durban [Durban Snake Park, Montcalir], Durban North [Athlone, Berea, Destinations Guest House, Sea Cow Lake], Durbanville, Essenwood, eThekweni, Glen Anil, Glenashly, Glenwood, La Lucia, Newlands West, Parkland [Bridepark], Sea View, Stamford Hill [Pony Club], Thekwini, Umhlanga, Umhlanga Rocks, Westville, Woodlands}, LIMPOPO {Balule N.R., Lephalale}, MPUMALANGA {Eskom Tutuka Power Stn.}, WESTERN CAPE {Cape Town [Athlone, Avondale, Bellville North, Blouberg, Bloubergstrand, Boston, Bothasig, Chrismar, Claremont, Devil's Peak, Devil's Peak Animal paddocks, Edgemead, Goodwood, Helderberg, Kraaifontein, Lakeside, Land En Zeezicht, Leon Terrace, Milnerton, Mowbray, Municipal Gardens, Observatory, Pinelands, Platteklouf, Plumstead, Porterville, Robertson, Sandvlei Estuary N.R., Sea Point, Somerset West, South African Museum, Southern Suburbs, Strand, Table View, Tamboerskloof, Univ. of Cape Town, Zonnebloem], Table Mountain [Devil's Peak, Kirstenbosch B.G.], Worcester}),
21. TANZANIA/TANGANYIKA [10–1199 m] (DAR ES SALAAM {bet. Kilwa Road & Rehmanji Street, Kinondoni [Dar es Salaam Univ.], Mlalakuwa}, LINDI {Lindi, Liwale}, MOROGORO {Lundi}, PWANI/COAST {Bagamoyo, *Mafia* [Utende]}, TABORA {Nzega}, TANGA {Maweni}),
22. TOGO [10 m] (MARITIME {Lomé}),
23. ZAMBIA [1254–1313 m] (COPPERBELT {Ndola}, NORTH WEST {Kalumbila Woodlands Estate, Lusaka [Mimosa Road bet. Chawama & Chilango]}),
24. ZANZIBAR/UNGUJA [7–55 m] ({*Pemba* KUSINI PEMBA [Chake-Chake], KASKAZINI PEMBA [Wete]}, {*Zanzibar* KUSINI UNGUJA [Jozani], MJINI MAGHARIBI [Kikwajuni, Zanzibar city]}).

Region 8 – EUROPE

1. ITALY [35–67 m] (CAMPANIA {*Ischia* [Ischia]}, SICILY {*Sicily* [Paceco]}),

2. MALTA [4 m] (SOUTHERN HARBOUR {*Malta* [Marsa sports facility]}),
3. PORTUGAL [63–312 m] (MADEIRA {*Madeira* [Funchal, São Martinho (Promenade do Lido)]}),
4. CAPE VERDE ISLANDS/CABO VERDE [441–575 m] (SANTA CRUZ {*Santiago* [Ribeira Zimbrão, Zimbrão]}),
5. SPAIN [48–470 m] (ALMERÍA {Aguadulce}, GIRONA {?}, GRANADA {western & central Granada}),
6. BALEARIC ISLANDS [8–112 m] (ISLAS BALEARES {*Mallorca* [Calvia, Magaluf]}),
7. CANARY ISLANDS/ISLAS CANARIAS [10–888 m] (LAS PALMAS {*Fuerteventura* [Caleta de Fustes, Esquinzo, Pájara], Oasis Park}, {*Grand Canaria* [Campo Internacional de Maspalomas, Campus de Tafira, Maspalomas, Pasito Blanco, San Bartolomé de Tirajana]}, {*Lanzarote* [Puerto del Carmen, Tías]}, SANTA CRUZ DE TENERIFE {*La Gomera* [Jardín Botánico], {*Santa Cruz de Tenerife* [Adeje, Araya, Bajamar, El Mayorazo, Golf las Américas, La Laguna, Las Breveras-Tejina, Los Silos, Palmetum, Parque la Granja]}),

Region 9 – CARIBBEAN

1. ANGUILLA [6–7 m] (*Anguilla* {Mallihouana Hotel, Mead's Bay}),
2. BAHAMA ISLANDS [5–7 m] (CAY SAL BANK {*Abaco* [Little Harbor]}, SAN SALVADOR BANK {*New Providence* [?]}),
3. BARBADOS [8–65 m] (*Barbados* CHRIST CHURCH {Christ Church [Graeme Hill N.S.]}, ST. JAMES {St. James}, ST. JOSEPH {St. Joseph}, ST. MICHAEL {St. Michael [Bridgetown]}, ST. PETER {St. Peter}, ST. THOMAS {St. Thomas}),
4. CAYMAN ISLANDS [7 m] (*Grand Cayman* {Bodden Town [north side], George Town, Newlands, Queen Elizabeth II Botanic Park, West Bay}),
5. CUBA [11–73 m] (*Cuba* GUANTÁNAMO {Caimanera}, HAVANA {Boyeros [El Tigral: Maria Soto Ruiz famr], Diez de Octubre [Camilo Cienfuegos, La Vibora], Havana [Lawton, Loma del Burro, Playa]}, VILLA CLARA {El Coronado}),
6. DOMINICAN REPUBLIC [25 m] (*Hispaniola* DISTRITO NACIONAL {Santo Domingo [Enriquillo]}),
7. DUTCH LEEWARD ANTILLES/ABC ISLANDS [1–25 m] (*Aruba* {NOORD [Bakval, Druif Beach, Malmok]}, {*Curaçao* [Coral Estate [Habitat Curaçao Resort], Jan Thielbaai]}),
8. DUTCH WINDWARD ANTILLES [6–60 m] (*Sint Eustatius* {Esteban, Oranjestad [St. Eustatius Mus.], Statia, St. Eustatius N.P.}, *Sint Maarten* (southern) {Cole Bay, Emilio Wilson Park, Simson Bay}),
9. FRENCH LESSER ANTILLES [0–66 m] (GUADELOUPE {*Guadeloupe* [Basse Terre, Cocoyer, Grande-Terre, Petit Cul-de-Sac Marin, Saint-François], *La Désirade* [Baie-Mahault]}, MARTINIQUE {*Martinique* [?]}, SAINT BARTHÉLEMY {*Saint-Barthélemy/Saint-Barts* [entire island]}, SAINT MARTIN {*Saint-Martin* (northern) [Cupecoy, Grand Case]}),
10. GRENADA [25 m] (*Grenada* {ST. GEORGE [Lance aux Épines]}),
11. MONTSERRAT [ca. 20 m] (SAINT ANTHONY {*Montserrat* [Belham River, north side]}),
12. PUERTO RICO [8–85 m] (*Puerto Rico* BAYAMÓN {Hato Tejas}, GURABO {Iglesia Bautista de El Cielito}, SAN JUAN {San Juan [Guaynabo]}),
13. ST. KITTS/CHRISTOPHER & NEVIS [20–22 m] (*St. Christopher/St. Kitts* SAINT ANNE {Sandy Point}, SAINT PETER {Basseterre Health Ctr.}),
14. ST. VINCENT & GRENADINE ISLANDS {*Mustique* [?], *Petit St. Vincent* [?]}),
15. TURKS & CAICOS ISLANDS [5–8 m] (NORTH/MIDDLE/SOUTH CAICOS {*Caicos* [?], *North Caicos* [Kew]}, GRAND TURK {*Grand Turk/Turks Island* [south end], PROVIDENCIALES {*Providenciales* [?]}),
16. U.S. VIRGIN ISLANDS [8–37 m] (NORTHWEST {*St. Croix* [Carambola Beach Resort]}, TUTU {*St. Thomas* [?]}).

Region 10 – LATIN AMERICA

1. BELIZE [2–252 m] (BELIZE {bet. Hattieville & Rockville}, CAYO {Green Hills Butterfly Ranch, San José Succotz [BZM Tours]}, TURNEFFE ISLANDS {*Calabash Cay*}),
2. COLOMBIA [5–1221 m] (ANTIOQUIA {Urabá}, RISARALDA {Pereira [Cerrito-Sazagua]}),
3. COSTA RICA [12–242 m] (GUANACASTE {bet. Matapalo & Playa Grande, La Cruz [Santa Rosa N.P.]}, Santa Cruz, Tamarindo [Playa Langosta]), PUNTARENAS {Punta Morales}),
4. EL SALVADOR [620–930 m] (LA LIBERTAD {Santa Tecla}, SAN SALVADOR {San Salvador [Parque Zoológico Nacional, Soyapango]}),
5. GUATEMALA [60–1535 m] (BAJA VERAPAZ {Rabinal}, ESCUINTLA {35 km E Escuintla}, GUATEMALA {Colonia Eterna Primavera, Guatemala city [CD Parque del Plata, Francisco Marroquin School of Medicine, JESED, La Aurora Zoo, Museo Nacional de Historia Natura, Plaza del Obelisco, Zones 1, 4, 7, 10, 12, 13I]}, IZABAL {El Rico}, SACATEPEQUEZ {Antigua [Parque Central, Parque Erik Barrondo]}, SUCHITEPEQUEZ {Cayotenango, Mazatenango}, ZACAPA {Aldea El Rosario}),
6. HONDURAS [3–1090 m] (ATLÁNTIDA {Col Dantillo, La Ceiba [beach], Salado Barra, Tela [Jardín Botánico]}, COMAYAGUA {Siguatopeque}, CORTÉS {Omoa, San Pedro Sula [Residencial Campisa]}, ISLAS DE LA BAHÍA {*Utila* [Iguana Stn.]}, OCOTEPEQUE {Antigua, bet. Río Lempa & Antigua}, SANTA BÁRBARA San José de Colinas}),
7. MEXICO [0–2620 m] (AGUASCALIENTES {Aguascalientes [La Plazuela], Jáltiche de Abajo, Jesús Maravillas, María, Pabellón de Arteaga}, BAJA CALIFORNIA NORTE {El Sauzal, Ensenada [Azteca, bet. Azteca & Estado de México, Carlos Pacheco 2, Centro Cultural ISSSTE, Centro Estudios Tecnológicos del Mar, Parque Revolución], Puerta del Mar, Universidad Autónoma de Baja California [Cafeteria, Centro de Evaluación Universitario]}, BAJA CALIFORNIA SUR {La Paz [Zona Comercial], San Ignacio}, CAMPECHE {*Carmen* [Boca Nueva, Chiapa de Corzo, Ciudad del Carmen, Maya World]}, CHIAPAS {Cintalapa de Figueroa, Frontera Tapachula, Corozal, Jaltenango, Tapachula}, CHIHUAHUA {Chihuahua, Chihuahua H.S., Las Puentes, Pedro Meoqui, Universidad Autónoma de Chihuahua [Philosophy & Letters Faculty gardens]}, CIUDAD DE MEXICO {Caltongo, Cuauhtémoc, Coapa, Colonia Condesa, Cuauhtémoc, Ensueños, Lomas de Tonalco, Lomas Lindas, Malinalco, Parque Ecologico Bosque de los Remedios, Rincon de Echeagaray, San Juan de Aragón, Santa María Nativitas}, COAHUILA DE ZARAGOZA {Saltillo [Margarita Maza de Juárez, Parques de la Cañada], Sabinas}, COLIMA {Colima, Coquimatlán, Navidad, Manzanillo [La Joya], Tepeyac}, DISTRITO FEDERAL {Ciudad Universitaria, Coyoacan, San Francisco Culhuacan, San Angel, San Pablo Tepetlapa, Santa Úrsula, Santa Ursula Coapa, Telyehualco, Villa Olímpica, Xochimilco}, DURANGO {Gómez Palacio, Torreón [Núcleo Universitario], Vicente Guerrero}, GUANAJUATO {Acámbaro, Celaya, Cerro del Veinte, Cortijos de la Gloria, El Refugio de Iods Sauces, Guanajuato, Irapuato, Las Fuentes, Las Musas N.P., León, Pénjamo, Salamanca, Sierra de Santa Rosa, Urireo, Valle de Santiago, Vista Hermosa}, GUERRERO {Acapulco, Acapulco de Juárez, Acahuizotla, Agua del Obispo, Ayutla de los Libres, Barrio del Chorrillo, bet. Alcholoa & San Jerónimo, bet. Las Ollas & Pantla, Chilpancinga, Chilpancingo de los Bravos, Colonia Valerio Trujano, Colotlipa, Coyuca, Coyuca de Catalán, El Limoncito, Garrapatas, Iguala, Iguala de la Independencia [Ruben Jaramillo], Laguna Coyuca, La Poza, Mescala, Petatlán, Pie de la Cuesta, Puerto Marqués, Rancho Stephens, Río Balsas, San Marcos, Taxco, Tecpan de Galeana, Tierra Colorada, Troncones, Viveros, Xaltianguis, Zihuatanejo}, HIDALGO {Chilcuautla, Huejutla, Los Venados, Metztitlán, Mixquiahuala de Juárez, Progreso de Obregón, Tasquillo, Tunititlán, Tzindejé}, JALISCO {Acatlan de Juárez, Ajijic, Autlán de Navarro, Bolaños, Del Sur, El Grullo, Guadalajara [Colomos III], Hostotipaquillo, Ixtapa, Jáltiche de Abajo, La Huerta, Laguna de Chapala, La Primavera N.P.A., La Resolana, Los Colomos N.P.A., Mascota, Piedras Bola N.P.A., Pinar de La Calma, Puerto Vallarta [Bobadilla], Rastro, Tala, Valparaiso, Yahualica de González Gallo, Zapopan, Zapotlanejo}, MEXICO {Atizapán de Zaragoza, Ciudad López Mateos, Naucalpan de Juárez, Tenancingo, Tequixquiac [El Refugio]}, MICHOACAN {Apatzingán, Arteaga, Caleta de Campos, Carrizal, Jacona de Plancarte, Los Reyes, Morelia [Los Vergeles], Nuevo Urecho, Playa Azul, Uruapan, Villa Eréndira, Zimpaneo Norte, Zumpimito}, MORELOS {Amacuzac, Cerro de Chumil, Chapultepec Zoo, Ciudad Ayala, Cuautla,

- Cuernavaca, Emiliano Zapata, Nuevo San José, Parque Ecológico San Miguel Acapantzingo, Playon de Mexiquillo, Tepoztlán, Tlaquiltenango, Tres de Mayo, Yecapixtla}, NAYARIT {Bahía de Banderas, Chacala, Isabel, Las Juntas, Las Varas, Ruíz, San Cayetano, Santiago Ixcuintla, Sierra San Juan, Tepic}, NUEVO LEÓN {Allende, Apodaca [Cabecera Municipal, public park], Cerro de la Silla N.P.A., Colonia Santa Monica, General Escobedo, General Zuazua, General Zuazua, Guadalupe, Linares, Hacienda del Canadá, Melchor Ocampo, Montemorelos [Las Palmas, Zaragoza], Monterrey, San Nicolás de los Garza, San Pedro, San Pedro Garza Garcia, Santa Rosa, Santiago, Sierra “Cerro de la Silla” N.P.A., Universidad Autónoma de Nuevo León, Villa de las Torres, Villas del Poniente [Parque Sector Cedral]}, OAXACA {Alejandria, Crucecita, Cuilapan de Guerrero, Cuicatlán, Loma Larga, Oaxaca de Juarez, Pinotrepá Nacional, Pueblo Nuevo, Río Grande, Río La Silla, San Juan Bautista Tuxtepec, San Pablo Villa de Mitla, San Pedro Pochutla, Rojas de Cuauhtémoc, Santa Catarina Minas, Santa Cruz Xoxocotlán, Santa María Huatulco, Santa María Tonameca, Santiago Quiotepec, Tututepec, Valerio Trujano}, PUEBLA {Atlixco, Cuenca Hidrográfica del Río Necaxa, Puebla [Miguel Abed], Rincón de Santa Barbara, San Gabriel Chilac, San Pedro Cholula, Tehuacan, Tepeaca, Tepeojuma}, QUERETARO {Cadereyta de Montes, El Cerrito, El Pueblito, Jalpan de Serra, Jardines de Payo Obispo, Pedro Escobedo, Querétaro, Reserva de Biosfera Sierra Gorda de Querétaro, San José de los Olvera, Santiago de Querétaro}, QUINTANA ROO {Benito Juárez, Cancún [Alfredo V. Bonfil, Centro de Cancún, Marriott Cancún Resort, Puerto Cancún, Zona Hotelera], Casa Habitación Carmen Pozo, Chetumal [Colonia Flores Magón, Colonia Fovisste, Comité Proterritorio], Colonia Magisterial, *Cozumel* [San Miguel], Ejidal, Joaquín Zetina Gasca, Othón P. Blanco, Playa del Carmen, Puerto Morelos, Solidaridad}, SAN LUIS POTOSÍ {Ciudad Valles, Jardín de Tequisquiapan, La Morita, Parque Juan H. Sanchez, San Luis Potosí}, SINALOA {Alamos, Culiacán, Culiacán Rosales, El Palmar, Los Mochis, Mazatlán, Mocorito [Ejido Juan Escutia], Rosario, Sabb Beach}, SONORA {Hermosillo, Huatabampo [La Trinidad], Rancho Los Chinos, Rancho Santa Barbara}, TABASCO {Fraccionamiento Pomoca, Lomitas, Ocuilzapotlán, Palace of Villahermosa}, TAMAULIPAS {Ciudad Mante, Ciudad Victoria, Las Canoas/Ejido Canoas, Nuevo Laredo [Hipódromo], Ocampo}, VERACRUZ {Alto Lucero, Alvarado, Boca del Río, Coatepec, Coatzacoalcos, Córdoba, El Sendero Residencial, Isla, La Antigua, Loma Bonita, Manilo Fabio Altamirano, Mocambo, Paraje Nuevo, Playa Linda, Playa Mocambo, Poza Rica, San Andres Tuxtla, Tierra Blanca, Tonalapa, Veracruz [Miguel Hidalgo], Xalapa, Xalapa-Enríquez}, YUCATAN {Cholul, Conkal, Hunucmá, Ixil, Mérida [Bugambilias, Francisco de Montejo II, Gran Santa Fe, Kanasin, La Florida, Limones, Sol Campestre], Santuario del Manati N.P.A., Valladolid}, ZACATECAS Valparaiso}},
8. NICARAGUA [57–470 m] (GRANADA {Granada}, MANAGUA {El Crucero [Reparto Santa Ana]}, RIVAS {Buenos Aires}),
9. PANAMA [21–258 m] (CHIRIQUÍ {Dolega}, COCLÉ {Aguadulce [bet. Parque Rodolfo Chiari & Villa Monica]}), PANAMA {Jaraba Place, La Chorrera, San Miguelito}).

Region 11 – NORTH AMERICA

1. ALABAMA [1–30 m] (BALDWIN {JSU student flowerbed; Ono [Ono North Recreation Center], Pensacola N.A.S. & Bronson Field}, MOBILE {Mobile [Historic district], Theodore}),
2. ARIZONA [330–724 m] (MARICOPA {Awatukee, Chandler, Gilbert [Villages of Park Village], Glendale, Lookout Mountain, Mesa, Phoenix [Ahwatukee Foothills Village, Ann Lee Estates, Lookout Ridge], Scottsdale, Sunland Village [Mormon Church of LDS], Tempe [Airport Sheraton Hotel]}, PIMA {Tucson}, PINAL {Casa Grande}),
3. CALIFORNIA [16–196 m] (KERN {Bakersfield}, LOS ANGELES {Arcadia, Azusa, Claremont, Cudahy, Culver City [Carlson Park, Farragut Elementary School], Dominguez Rancho, Downey, East Whittier, El Monte, El Sereno, Inglewood, Lakewood, La Miranda, Long Beach, Los Alamitos, Los Angeles, Malibu [Pepperdine Univ.], Marina del Rey, Monrovia, Monte Verde Park, Occidental College, Pasadena, Pico Rivera, San Gabriel, San Pedro

- [Harbor View Memorial Park, Temple Heights Baptist Church], Sierra Madre, South Whittier, Van Nuys, West Los Angeles, Whittier, Wilmington}, ORANGE {Anaheim, Buena Park, Costa Mesa, Cowan Heights, Fullerton, Garden Grove, Huntington Beach [Derby Circle], Irvine [Springwater], Laguna Niguel, *Lido Isle*, Orange, Santa Ana, Santa Ana Country Club, Univ. of California at Irvine, Winter Park, Woodbridge}, RIVERSIDE {Norco, Riverside}, SAN DIEGO {Balboa Park, Bonita, bet. Bella Vista Condos & Rolando Village, Carmel Mountain Ranch, Carmel Valley, Chula Vista [Bonita Long Cyn.], El Cajon, Encanto, Gage Elementary School, Highland Ranch Elementary School, La Jolla, La Mesa, La Presa, National City, Norman Park, Oak Park, Ocean View Growing Grounds, Pacific Beach, Poway, Rancho Peñasquitos, Redwood Village, San Diego, San Diego KOA Resort, Serra Mesa, Spring Valley [Mount Miguel H.S.], Stadium Golf Ctr., Stone Crest Village, Tecolote Cyn. N.P., Tijuana River N.E.R.R.}, VENTURA {Camarillo, Simi Valley, Thousand Oaks, Ventura}},
4. DISTRICT OF COLUMBIA [30 m] (WASHINGTON {Washington [Natl. Zool. Park: Reptile House, Rock Creek State Park]}),
5. FLORIDA [0–57 m] (ALACHUA {Gainesville [Lake Alice, Mason Manor, USDA Laboratory]}), BAY {Panama City [Bunkers Cove]}, BRADFORD {?}, BREVARD {Brevard Zoo, Cape Canaveral, Cocoa, Eau Gallie, Floridana Beach, Indian River Lagoon, Kennedy Space Center, Malabar, Melbourne, *Merritt*, Palm Bay, Palm City, Port St. John, Satellite Beach, Sheridan Estates, Sherwood Park, Titusville, West Melbourne}, BROWARD {Boulevard Park Isles, Broward Markham City Park, Coconut Creek, Cooper City, Coral Creek, Coral Springs, Dania, Dania Beach, Davie, Deerfield Beach [Deerfield Beach M.S., Quiet Waters Park, Regency Lakes], East Coral Lake, Everglades Wildlife Management Area, Flamingo Gardens, Flamingo Park, Golden Isles Park, Hallandale Beach, Hollywood [South Central Beach], Loggers Run Park, Margate, North Community Park, Oakland Park, Oakwood, Palm Bay, Parkland, Pembroke Pines, Plantation, Pompano Beach, Shetland Shelter, Silver Lake, Sunrise, Tamarac, Turtle Run, Weston, Wolf Lake Park}, CHARLOTTE {Charlotte Harbor Environmental Ctr., Englewood, Murdock, Port Charlotte}, CITRUS {Beverly Hills, Citrus Springs, Dunnellon, Hernando, Homosassa, Inverness, Paradise Point}, CLAY {Keystone Heights, Lake Brooklyn, Orange Park}, COLLIER {Collier Bay, Everglades city, Immokalee, *Marco Island*, Naples {Parkshore subdivision, Picayune Strand S.F.}, Royal Palm Hammock, Tigertail Beach}, DUVAL {Hollywood Park, Jacksonville [Five Points, Jacksonville Zoo, Lakewood, Oak Landing, Riverside, Windsor Place], Mayport, U.S. Navy Criminal Investigation}, ESCAMBIA {Avondale Park, Belleview, Dunwoody Park, Pensacola, Pensacola Bay [Luna Settlement], Pensacola N.A.S., Univ. Stn.}, FRANKLIN {Apalachicola [St. Vincent N.W.R.], Carrabelle, Kapes Bayou}, GLADES {Buckhead Ridge}, HENDRY {bet. Cowbone Hammock & Clewiston, bet. Switzerland & Tillman, Big Cypress Reservation, Clewiston, Dinner Island Ranch W.M.A., Florida Cane Fields, Skydive Spaceland Clewiston}, HERNANDO {Brooksville, Hillsborough Wilderness Preserve, Lake Lowery, Spring Hill, Temple Terrace, Weeki Wachee, Weeki Wachee Springs S.P.}, HIGHLANDS {Grace Church of Sebring, Grassy Lake, Lake Isis, Lake Jackson, Lake Lelia, Lake Placid [Lake Placid Holding Co., Placid Lakes], Lake Sebring, Sebring}, HILLSBOROUGH {Apollo Beach, Brandon, Buck Hammock, Dover, Flatwoods C.P., Gibsonton, Greater Northdale, Hospitality Consultants, Lake at Countryway, Lutz, Noreast Lake, *Picnic Island*, Plant City, Riverview, Tampa [Countryway Golf Club ponds], Valrico}, INDIAN RIVER {Indian River Lagoon}, LAKE {Astatula Landfill, bet. Alttona & Umatilla, Eustis, Fruitland Park, Lady Lake, Leesburg, Leesburg High School, Orchid Lake, Palatlahaha River Park, Tavares}, LEE {Bonita Springs, Calusa N.C., Cape Coral [Jason Verdow Memorial Pk., NE Cape Coral], Estero, Estero Bay, Florida Gulf Coast Univ., Fort Myers [Dean Park Historic District, Edgewood, Hickory Swamp Preserve, Kleist Health Educ. Ctr., Tropical Sands Resort], Gateway, Lee County Chamber of Commerce, Lehigh Acrea, Matlacha Pass N.W.R., Olga, Pineland, *Sanibel* [J.N. “Ding” Darling N.W.R., Gulf Pines, Gulf Shores]}, LEON {Celebration Baptist Church, Killlearn Estates, Tallahassee [Florida State Univ., Waverley Hills]}, LEVY {?}, MANATEE {Bradenton, Lakewood Ranch, Palmetto, Palmetto City, *Snead Island*, South Bradenton, Sunshine Academy}, MARION

{bet. Crossroads Church of God & Southwest Christian Church, bet. Chandler Hills Golf Course & Friendship Baptist Church, Halpata Tastanaki Nature Reserve, Marion H.S., North Magnolia, Ocala, Ocala N.F.}, MARTIN {Hobe Sound, Palm City}, MIAMI-DADE {*Adams Key* [Picnic Area], A.D. Barnes Park, Barnacle Historic S.P., Big Cypress N.P., Cape Terrace, Coral Gables [Matheson Hammock Park, Univ. of Miami], Cutler [Deering Estate], Cutler Bay, Dadeland, *Dorada*, Elizabeth Virrick Park, Ernest F. Coe Visitor Ctr., Everglades Outpost, Flamingo Campground, Florida City, Homestead [Short Key], Homestead A.F.B., Ingram Park, Jean Willis Park, Jest Island, Kendall Indian Hammocks, Kendall West [Westwind Lakes Park], *Key Biscayne* [Bill Baggs Cape Florida S.P., Crandon Park], Lake Manning, Leisure City, Long Pine Key, Ludlam Pineland, Matheson Hammock Park, Medley, Metro Zoo, Miami, [AD Barnes Park, All American Park, Arch Creek Park, East Little Havana, Florida Int. Univ., Miami Int. Airport, North Beach, North Miami, South Miami, Westbrook Park], Ned Glenn N.P., North Miami Beach, Palmetto Bay, Pinecrest [Isla Dorada], R. Hardy Matheson Preserve, Quail Heights, Richmond West, Scheck Hillel Field, Shark Valley, South Dade Baptist Church, South Florida Community Health Ctr., Sunny Isles Beach, Tamiami, The Kampong, Three Lakes, Turkey Point, University Park, *Virginia Key* [Wild Thing], Westchester}, MONROE {*Bahia Honda Key* [Bahia Honda S.P.], bet. Bird Key & Wood Key, *Big Pine Key* [central, north end, Natl. Key Deer Refuge], Blue Heron Hammock, *Boca Chica Key*, *Boot Key*, *Cudjoe Key*, *Fat Deer Key*, Flamingo, *Fleming Key*, *Geiger Key*, Harry Harris Beach, Islamorada, *Key Largo* [John Pennekamp Coral Reef S.P.], *Key Vaca*, *Key West* [*1982*] [Bayview Park, Fort Zachary Taylor, Higgs Beach, Historic District, southeast Key West, Key West N.A.S., Oldest House & Garden Museum, *Stock* [Key West Tropical Forest & B.G.], Turtle Cannery Museum], *Lignumvitae Key* [Botanical S.P., Klopp Tract, Teatable Hammock], *Little Duck Key* [Veterans Memorial Pk.], *Marathon Key* [Marathon, Oceanfront Park], Old Town, Pine Rockland, *Plantation Key*, Rockland Hammock, *Spanish Harbor Key* [Girl Scout Camp Wesumkee], St. Mary Star of the Sea Basilica, *Upper Matecumbe Key*, *Vaca Key*}, OKALOOSA {Destin [Moreno Point], Duck Pond, Fort Walton Beach, Mary Esther}, OKEECHOBEE {Lake Okeechbee}, ORANGE {bet. Lake Hammer & Lake Julia, Edgewood, Lake Gem Mary, Orlando [Colonialtown North, Killarney E.S., Lake Ruby, Maxim Pky., Raccoon Lake, Texas Woods Circle], Union Park, Windermere, Winter Garden, Winter Park}, OSCEOLA {Kissimmee [Kissimmee Gateway Airport, Oak Street Extension Preserve], St. Cloud}, PALM BEACH {Belle Glade, Belle Glade Camp, bet. Loxahatchee & Pahokee, Boca Raton [Boca Lago Country Club], Boynton Beach, Caloosa, Clewiston, Jupiter [Jupiter Inlet Lighthouse, Jupiter Ridge N.A., Oil House], Lake Ida, Lake Okeechobee [southeast], Lake Worth, Loxahatchee, Palm Beach Gardens, Phipps Skate Park, Royal Palm Beach, South Bay, The Acreage, Twentymile Bend, Wellington, West Palm Beach}, PASCO {Bayonet Point, Dade City [Shady Hills], bet. Oak Hollow & Woodward Village, Grace Bible Church, Hudson, Port Richey, West Springfield Parks & Rec.}, PINELLAS {Bardmoor, Belleair Bluffs, bet. Bayou Veterinary Hospital & St. Nicholas Antiochian Orthodox Church, Calvary Catholic Cemetery, Chase Park, Clearwater, Dunedin Pines, East Lake, Eckerd College, Feather Sound, George C. McGough N.P., Gulfport [Maximo Park], Lake Park, Largo, Oakhurst Shores, Palm Harbor, Pinellas Park, Shadowlake Village at Woodfield, Shady Oak Farms, Smith Bayou, Suncoast Christian Center, St. Petersburg [Fort De Soto Park], Windward Pointe}, POLK {Alcoma, Auburndale [bet. Lake Ariana & Lake Mariana], Babson Pk., Bartow, bet. Reedy Lake & Lake Weohyakapka, Crooked Lake Park, Four Corners, Frostproof, Haines City, Highland Park, Lakeland, Lake Lorraine, Lake Wales, Polk City, Warner Univ., Winter Haven}, SANTA ROSA {Whiting Field N.A.S.}, SARASOTA {Englewood, Sarasota [New College of Florida, Payne Park], Sarasota, Venice [Nokomis]}, SEMINOLE {Altamonte Springs [Lake Orienta], bet. Goldenrod & Slavia, Casselberry, Lake Howell, Sanford}, ST. JOHNS {Davenport Park, *San Pablo* [Vilano Beach], St. Augustine}, ST. LUCIE {Indian River Lagoon, Jensen Beach, Port St. Lucie, Stuart}, SUMTER {The Villages [Foggy Brook Loop], Wildwood [Lake Panasoffkee]}, VOLUSIA {Daytona Beach [Cypress Park], DeLand, Hart in Riverside Park, Holly Hill, *McKenzie Islands*, New Smyrna Beach [Zelia Sams], Ormand Beach [Tomoka Estates]]},

6. GEORGIA [4–111 m] (CHATHAM {Ardley Park, Savannah [Thomas Square]}, DOUGHERTY {Albany, Albany M.C.L.B.}, GLYNN {Brunswick, Sea Island}, GREENE {Redlands W.M.A.}, SEMINOLE {?}, TIFT {Tifton}, WAYNE {Jessup}),
7. HAWAII [0–3049 m] (HAWAII {*Hawaii* [Captain Cook, Charles Lindbergh's grave, Hawi, Hilo, Honaunau, Honokoa, Kalaoa, Kaloko-Honokohau N.H.P., Kamuela, Kapaau/Kaipapu, Kapoho, Keaau, Keauhou, Kipukapuau N.R., Kohala Ranch, Kona, Koolauloa, Laupahoehoe, Naalehu, Ninole, Orchidland, Paho, Puueo, Pu'uhonua o Honaunau N.H.P. (Mauka Garden), Pu'ukohola Heiau N.H.S., Univ. of Hawaii at Hilo, Volcanoes Natl. Pk., Waikoloa, Waiohina (Ka'u)]}, KAUAI {*Kauai* [Kalaheo, Kapaa, Keaku, Kekaha, Kihei, Kilauea, Kilohana Plantation, Koloa, Laauokala Point, Lawai, Lydgate Beach Park, Mana Plains F.R., Natl. Tropical B.G., Paihale S.P., Papahana Kuaola, Poipu, Princeville, St. Poipu, Wailua River S.P., Waimea Canyon S.P., Waipao]}, LANAI {*Lanai* [Lanai]}, MAUI {*Maui* [Haiku-Pauwela, Haleakala N.P., Hamoa Beach, *Kahoolawe*, Kahului/Kahului (Kahului Airport, Kanaha Pond W.R.)}, Kapalua (Plantation Golf Course), Kenani Kai, Kihei, Lahaina Harbor, Makawao, Mauna Loa, Maui Nui B.G., Wailea]}, MOLOKAI {*Molokai* [Halawa, Kaunakakai, Ka Nani Kai]}, OAHU {*Oahu* [Alewa Heights, *Flat/Popoia*, Hickman A.F.B., Honolulu (Aliamanu M.R., Bishop Museum/Kamehameha School, Foster B.G., Honolulu Zoo, 'Iolani School, Kahaluu, Kailua, Kaimuki, Kaneohe/Kaneohee, Kapiolani Park, Laie, Manoa Valley, Niu Valley Park, Palolo, Pearl City, Pearl Harbor-Hickam Base, *Sand*, Waikiki Beach), Honolulu Watershed F.R., Kaena Point, Kahuku, Kailua, Kaka'ako, Kalo Place Mini Park, Kaimuki, Kalihi, Kaneana, Kapahulu, Kapalama, Koko Head, Koko Head Crater B.G., Koolau Mtns., Kualoa Point, Kuliouou, Lower Manoa Valley, Makakilo, Makua Beach, Manoa, Mokapu Peninsula (Marine Corps Base Hawaii), Mokuleia, Monoa Valley (Teahouse), Mt. Tantalus, Paho (Mackenzie S.P.), Pohaku Kula'ilai, Punahou School, St. Louis Heights, Univ. of Hawaii at Manoa, Wahiawa, Waikiki, Waiahole, Waikane, Waialua, Waimanalo, Waipahu, Wailea, Wilhelmina Rise]}),
8. LOUISIANA [0–11 m] (JEFFERSON {Gretna}, LAFAYETTE {Lafayette}, LAFOURCHE {Thibodaux}, ORLEANS {Audubon Zoo, Bayou St. John, Fleur de Lis Park, New Orleans [Crescent Park, Lakeshore/Lake Vista, New Orleans B.G.]}, PLAQUEMINES {?}, ST. CHARLES {Luling}, ST. MARY {Franklin}),
9. MARYLAND [127 m] (HOWARD {Ellicott City [David W. Force Park]}),
10. MASSACHUSETTS [8–305 m] (BERKSHIRE {Cheshire}, MIDDLESEX {Watertown}, SUFFOLK {Boston}),
11. MINNESOTA [256 m] (HENNEPIN {Minneapolis-St. Paul}),
12. MISSISSIPPI [284 m] (JACKSON {Jackson florist shop}),
13. NORTH CAROLINA [105 m] (WAKE {Raleigh}),
14. OHIO [202 m] (CUYAHOGA [202 m]{Cleveland [Rocky River Reservation]}),
15. SOUTH CAROLINA [2–7 m] (CHARLESTON {Isle of Palms, Mt. Pleasant}),
16. TEXAS [1–231/258 m] (ANGELINA {Lufkin}, BEXAR {San Antonio [Converse North Park, Morningfield, Royal Ridge, Sonoma Ranch], Universal City}, CAMERON {Brownsville [Gladys Porter Zoo, Subdivision Colonia], Combes, Harlingen, Hugh Ramsey N.P., Los Fresnos, *South Padre*, Southmost Texas N.P.}, DENTON {Argyle}, FORT BEND {Richmond [The Grove], Sugar Land}, GUADALUPE {Seguin}, HARRIS {Bellaire [Russ Pitman Park], Houston}, HAYS {San Marcos}, HIDALGO {Alamo, Alton, Donna, Edinburg [Education Complex, Univ. of Texas at Edinburg], Estero Llano Grande S.P., McAllen [Emerald Point], Pharr, Quinta Mazatlan, Weslaco}, MONTGOMERY {Spring}, NACOGDOCHES {Nacogdoches}, NEUCES {Corpus Christi [Evelyn Price Park], *Mustang*, Port Aransas [Leonabelle Turnbull Birding Ctr.]}, TARRANT {Fort Worth [Fort Worth B.G.]}, TRAVIS {Austin}, WEBB {Laredo [Texas A&M Int. Univ.]}, WILLIAMSON {Georgetown, Round Rock}),
17. VIRGINIA [11–50 m] (NEWPORT NEWS {Newport News}, RICHMOND {Richmond}).