### The World's Herbaria 2019:

## A Summary Report Based on Data from Index Herbariorum

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Barbara M. Thiers Editor, *Index Herbariorum* 

This document represents the third *Index Herbariorum* annual report. Reports for 2016 - 2018 are available for download on the *Index Herbariorum* website (http://sweetgum.nybg.org/science/ih/).

The purpose of the report is to provide an annual snapshot of *Index Herbariorum* data to facilitate tracking changes over time in the number of herbaria and the specimens they hold. Participating institutions can use these data to put their own collection in a global perspective and to understand how they contribute to the worldwide effort to document plant and fungal biodiversity. Hopefully the report will also prompt herbaria to update their information regularly.

Herbaria have long had a tradition of communication and cooperation, and *Index Herbariorum* benefits greatly from this tradition. I thank the hundreds of contributors each year who make changes in their own herbaria and alert me to changes in other herbaria. The statistics provided in this report reflect the content of the database as of <u>15 December 2019</u>.

### **BACKGROUND**

The International Association for Plant Taxonomy (IAPT) established *Index Herbariorum* in 1935, and published its first six editions. Dr. Patricia Holmgren, then Director of the New York Botanical Garden Herbarium, served as co-editor of edition 6, and subsequently became the senior editor. She oversaw the compilation of hard copy volumes 7 and 8, and Dr. Noel Holmgren, a member of The New York Botanical Garden's scientific staff, oversaw the development of the *Index Herbariorum* database, which became available on-line in 1997, superceding the printed version. In September 2008, Dr. Barbara M. Thiers, Director of the NYBG Herbarium, became the sole editor of the index.

#### **OVERVIEW**

According to the data in *Index Herbariorum* as of 15 December 2019, there are **3324** active herbaria in the world (229 more than last year), containing **392,353,689** specimens (4,739,636 more than last year). The increase in the number of herbaria requires explanation. During the past year, 99 herbaria were newly registered; the remainder of the increase comes from the restoration to active status of herbaria previously considered inactive. A lack of updates for more than 20 years led me last year to the decision to consider such herbaria inactive. However, during the past year, staff associated with a

number of herbaria so designated informed us that the collections were indeed active. So, I decided to move all herbaria that had been judged inactive based on these assumptions back to the active state. This year, 7 herbaria were reported as discontinued. There are 178 countries with at least one herbarium, same as in 2018.

Associated with these herbaria are **12,135** staff members and associates, 143 fewer than last year. This decline in staff is due mostly to the removal from the report of individuals born before 1930, on the assumption that no one over 90 years old is likely to still be actively associated with herbaria, and that failure to remove them from the index is an oversight.

2019 was the second full year for the self-registration and self-update protocol whereby herbarium administrators make changes to the records for their own collections and associated staff, and new herbaria submit their own record entry. Based on these two years of experience with the new registration and update protocol, its implementation has led to an increase in both activities.

### **SUMMARY TABLES AND GRAPHS**

The tables and charts included here reflect the most requested types of summary information from *Index Herbariorum*. The regions into which countries are grouped in these reports follows R. K. Brummitt's World *Geographical Scheme for Recording Plant Distributions, ed.* 2. 2001 for the most part, except that Russia former members of the Soviet Union are all included under Temperate Asia.

### Summary of herbaria by Region and Country

Region	Country	Herbaria	Specimens	Staff & Associates
EUROPE				
	Andorra	1	1,068	1
	Austria	19	10923710	113
	Belgium	9	5136944	53
	Bosnia and Herzegovina	2	112,000	4
	Bulgaria	4	422,200	24
	Croatia	12	377,884	29
	Cyprus	2	6,600	6
	Czech Republic	45	8,414,593	138
	Denmark	2	3,600,000	34
	Estonia	7	1,062,406	31
	Finland	11	5,482,701	61
	France	85	24,012,446	173

	Germany	70	22,450,100	254
	Greece	12	535,914	34
	Hungary	13	2,637,414	40
	Iceland	2	164,000	5
	Ireland	7	923,517	12
	Isle of Man	1	3,000	1
	Italy	84	11,592,884	309
	Latvia	7	581,600	25
	Lithuania	4	467,100	26
	Luxembourg	1	50,000	7
	Macedonia	5	171500	15
	Malta	1	10,000	1
	Montenegro	1	10,000	4
	Netherlands	14	7,385,919	65
	Norway	7	3,367,000	30
	Poland	33	5,407,733	194
	Portugal	19	1,900,801	68
	Romania	16	2,842,984	39
	Serbia & Montenegro	4	720,000	27
	Slovakia	18	1,235,905	75
	Slovenia	4	220,000	9
	Spain	56	6,087,546	380
	Sweden	10	11,873,000	56
	Switzerland	17	12,020,343	82
	U.K.	223	23464142	369
TOTAL		37 828	175,674,954	2794
AFRICA				
, ,	Algeria	3	377,365	5
	Angola	3	125,000	2
	Benin	2	22,000	7
	Botswana	5	34,479	11
	Burkina Faso	3	20,940	17
	Burundi	1	20,000	3
	Cameroon	3	137,000	11
	Central African Republic	1	10,000	5
	Comoros	1		5
	Comoros  Congo Republic (Congo-	1	5,066	5
	Brazzaville)	1	40,300	1
	Democratic Republic of the	11	298,444	44
	Congo			

Rwanda São Tomé e Príncipe Senegal Seychelles	1 1 1	1,500 12,000 3,081	2 3 2 1
		16,702	
Republic of Guinea Réunion	2 1	21,650 11500	4 6
Namibia Nigeria	1 10	94,000 213,550	7 26
Morocco Mozambique	6 2	222,549 125,350	21 14
Mauritius Mayotte	1 1	25,000 5,400	1 2
Mali Mauritania	1 1	6,400 6,200	4
Madagascar Malawi	4 1	421,000 100,000	7 13
Lesotho Liberia Libya	3 1 2	21,600 7,000 50,000	10 0 9
Ghana Ivory Coast Kenya	4 3 2	102,052 62,650 1,300,000	9 8 17
Equatorial Guinea Ethiopia Gabon	1 4 1	8,000 172,580 65,000	2 16 10
Djibouti Egypt	1 13	172 733,500	4 91

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TEMPERATE ASI	A				
	Afghanistan		2	33,609	2
	Armenia		4	576,820	20
	Azerbaijan		1	600,000	1
	Belarus		5	528,156	46
	Bhutan		1	15,000	6
	Djibouti		1	172	4
	Georgia		7	1,398,821	24
	Iran		38	1,053,132	134
	Iraq		10	185,331	30
	Israel		5	1,237,720	9
	Japan		69	12,334,980	233
	Jordan		2	10,490	6
	Kazakhstan		4	693,000	22
	Kuwait		1	20,000	4
	Kyrgyzstan		1	400,000	2
	Lebanon		1	68,000	1
	Moldova		2	221,200	2
	Mongolia		2	138,000	5
	Nepal		2	1,850,000	24
	Oman		3	24401	6
	Palestinian Territories		1	755	2
	People's Republic of China		361	20,159,390	1,318
	Republic of Korea		41	2,794,981	170
	Russia		118	15,964,477	488
	Saudi Arabia		7	117,600	17
	Taiwan		15	1,444,040	68
	Tajikistan		1	30,000	3
	Turkey		50	980,195	259
	Turkmenistan		1	135,000	2
	Ukraine		24	4,073,815	114
	United Arab Emirates		2	20,000	3
	Uzbekistan		2	1,506,000	4
	Yemen		1	5,500	3
subtotal		33	785	68,620,585	3,032
TROPICAL ASIA					
	Bangladesh		1	131,000	13
	Brunei Darussalam		2	90,000	5
	Cambodia		1	12,500	5

	India		96	5,507,226	424
	Indonesia		11	2,209,117	58
	Laos		2	8,700	7
	Malaysia		13	920,475	69
	Myanmar		5	23,700	3
	Pakistan		25	678,720	67
	Papua New Guinea		5	327,093	9
	Philippines		17	480,010	63
	Singapore		2	783,695	20
	Sri Lanka		2	132,000	3
	Thailand		15	668,765	115
	Vietnam		15	573,137	121
subtotal		15	212	12,546,138	982
AUSTRALIA &	NEW ZELAND				
	Australia		36	8,395,127	229
	New Zealand		12	1,606,120	67
subtotal		2	48	10,001,247	296
PACIFIC					
	Fiji		1	40,000	1
	French Polynesia		2	20,000	3
	Guam		2	60,775	4
	New Caledonia		1	80,000	8
	Republic of Palau		2	3,750	3
	Samoa		1	531	1
	Solomon Islands		1	35,000	3
	Tonga		1	3,030	2
	Vanuatu		1	6,000	2
subtotal		8	12	249,086	27
NORTH AME	RICA				
	Canada		88	9,383,122	211
	Greenland		1	500	0
	Mexico		69	5,348,670	386
	U.S.A.		686	78,694,916	1676
subtotal		4	844	93,427,208	2273
CARIBBEAN,	CENTRAL AMERICA AND SOUT	H AMERICA			
	Argentina		51	5,071,121	406
	Bahamas		1	7,215	6
	Barbados		1	5,000	1
	Belize		1	10,000	2

Grand Total		178	3324	392,252,689	12,135
ubtotal		32	416	22,376,264	2104
	Virgin Islands		1	3,000	1
	Venezuela		20	1,058,092	97
	Uruguay		5	217,000	30
	Trinidad		1	50,468	3
	Suriname		1	37,000	2
	Puerto Rico		5	167,430	9
	Peru		19	881,710	107
	Paraguay		4	132,500	18
	Panama		4	158,242	16
	Nicaragua		3	42,500	11
	Martinique		1	2,142	1
	Jamaica		2	161,600	5
	Honduras		5	309,621	10
	Haiti		1	7,216	1
	Guyana		3	57,850	5
	Guatemala		6	138,903	39
	Guadeloupe		1	10,000	2
	French Guiana		1	170,000	13
	Falkland Islands		1	1,135	1
	El Salvador		3	83,000	6
	Ecuador		17	776,661	60
	Dominican Republic		3	175,045	15
	Cuba		13	809,527	96
	Costa Rica		6	652,700	36
	Colombia		35	1,659,107	136
	Chile		16	551,522	63
	Cayman Islands		1	1,369	1
	Brazil		180	8,442,588	869
	Bolivia		4	525,000	36

## The Largest Herbaria in the World

This list includes those herbaria that fall within the top 100 size classes. The list includes all herbaria with more than 480,000 specimens.

Date **Rank Organization** Code Country Total **Founded** 1 Royal Botanic Gardens U.K. 8,125,000 1852 Κ Muséum National d'Histoire 2 Naturelle P&PC France 8,000,000 1635 3 The New York Botanical Garden NY U.S.A. 7,921,000 1891 4 Naturalis<sup>1</sup> L, Wag, U Netherlands 6,900,000 1829 5 Missouri Botanical Garden MO U.S.A. 6,850,000 1859 Conservatoire et Jardin botaniques de la Ville de 6 Genève G Switzerland 6,000,000 1824 Komarov Botanical Institute of 6 RAS LE Russia 6,000,000 1823 Naturhistorisches Museum 7 Wien W Austria 1807 5,500,000 8 The Natural History Museum BM U.K. 5,200,000 1753 U.S.A. 1848 9 Smithsonian Institution US 5,100,000 U.S.A. 10 Harvard University<sup>2</sup> HUH 5,005,000 1842 11 Natural History Museum 1842 FΙ Italy 5,000,000 Swedish Museum of Natural 12 History S Sweden 1739 4,570,000 13 Université Claude Bernard France 1924 LY 4,400,000 14 Botanic Garden Meise BR Belgium 4,000,000 1870 Botanischer Garten und Botanisches Museum Berlin-15 Dahlem 1815 В Germany 3,800,000 16 Université de Montpellier MPU France 3,500,000 1809 Friedrich-Schiller-Universität 16 Jena JE Germany 3,500,000 1896 17 University of Helsinki Н **Finland** 3,350,501 1751 **Botanische Staatssammlung** 18 München Μ Germany 3,200,000 1813 19 Museum of Evolution **UPS** Sweden 3,100,000 1785 Royal Botanic Garden 20 Edinburgh Ε U.K. 1839 3,000,000 С 21 University of Copenhagen Denmark 2,900,000 1759 Field Museum of Natural F U.S.A. 22 History 2,700,000 1893

Institute of Botany, Chinese 23 Academy of Sciences	PE	People's Republic of China	2,650,000	1928
24 Lund University	LD	Sweden	2,500,000	1770
25 California Academy of Sciences	CAS	U.S.A.	2,300,000	1853
M.G. Kholodny Institute of Botany, National Academy of	CAS			
26 Sciences of Ukraine	KW	Ukraine	2,263,207	1921
27 Charles University in Prague	PRC	Czech Republic	2,200,000	1775
28 University of California Hungarian Natural History	UC	U.S.A.	2,100,000	1872
29 Museum	BP	Hungary	2,097,424	1870
30 National Museum in Prague Eidgenössische Technische	PR	Czech Republic	2,000,000	1818
30 Hochschule Zürich	ZT	Switzerland	2,000,000	1859
30 Botanical Survey of India	CAL	India	2,000,000	1793
30 Research Centre for Biology National Museum of Nature and	BO I	Indonesia	2,000,000	1841
31 Science	TNS	Japan	1,937,000	1877
32 University of Hamburg	HBG	Germany	1,800,000	1879
32 University of Oslo	0	Norway	1,800,000	1863
33 University of Michigan	MICH	U.S.A.	1,750,000	1837
34 University of Tokyo	TI	Japan	1,700,000	1877
Universidad Nacional Autónoma 35 de México	MEXU	Mexico	1,600,000	1888
Agriculture and Agri-Food 36 Canada	DAO	Canada	1,550,000	1886
36 Universität Zürich	Z	Switzerland	1,500,000	1834
36 Academy of Science, Uzbekistan	TASH	Uzbekistan	1,500,000	1921
36 Royal Botanic Gardens Victoria Botanical Research Institute of	MEL	Australia	1,500,000	1853
37 Texas	BRIT	U.S.A.	1,482,000	1987
38 Academy of Natural Sciences Royal Botanic Gardens &	РН	U.S.A.	1,430,000	1812
39 Domain Trust	NSW	Australia	1,425,000	1896
40 Universität Wien Rancho Santa Ana Botanic	WU	Austria	1,400,000	1879
41 Garden	RSA	U.S.A.	1,230,000	1927
42 Polish Academy of Sciences	KRAM	Poland	1,227,500	1867
43 Australian National Herbarium Senckenberg Gesellschaft für	CANB	Australia	1,204,426	1930
44 Naturforschung  South African National	FR	Germany	1,200,000	1817
44 Biodiversity Institute	PRE	South Africa	1,200,000	1903
44 Kyoto University	KYO	Japan	1,200,000	1921

44 Hebrew University	HUJ	Israel	1,200,000	1928
45 Karl-Franzens-Universität Graz	GZU	Austria	1,180,000	1900
46 Real Jardín Botánico Università degli Studi di Roma La	MA a	Spain	1,158,116	1755
47 Sapienza  Kunming Institute of Botany,	RO	Italy People's Republic	1,120,000	1872
48 Chinese Academy of Sciences	KUN	of China	1,114,000	1938
49 Cambridge University	CGE	U.K.	1,100,000	1761
49 Upper Austrian State Museum	LI	Austria	1,100,000	1833
50 Instituto Politécnico Nacional	ENCB	Mexico	1,080,000	1943
51 University of Wisconsin	WIS	U.S.A.	1,078,000	1849
52 Moscow State University State Herbarium of South	MW	Russia	1,044,751 1765 or 1	1780
53 Australia	AD	Australia	1,040,000	1954
54 University of Texas at Austin Staatliches Museum für	TEX	U.S.A.	1,006,000	1900
55 Naturkunde Stuttgart	STU	Germany	1,000,000	1791
55 University of Gothenburg Musée et Jardins Botaniques	GB	Sweden	1,000,000	1926
55 Cantonaux MJBC	LAU	Switzerland	1,000,000	1824
55 University of Manchester	MANCH	U.K.	1,000,000	1835
55 National Museums of Kenya Institute of Botany, Ilia State	EA	Kenya	1,000,000	1902
•	ТВІ	Georgia People's Republic	1,000,000	1902 1894
Institute of Botany, Ilia State		Georgia		
Institute of Botany, Ilia State 55 University	ТВІ	Georgia People's Republic	1,000,000	1894
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming 57 Hiroshima University	TBI IBSC RM HIRO	Georgia People's Republic of China	1,000,000	1894 1928
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming	TBI IBSC RM HIRO	Georgia People's Republic of China U.S.A.	1,000,000 1,000,000 9,830,000	1894 1928 1894
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University  U.S. National Fungus Collections	TBI IBSC RM HIRO	Georgia People's Republic of China U.S.A. Japan	1,000,000 1,000,000 9,830,000 970,000	1894 1928 1894 1929
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University  U.S. National Fungus Collections 58 USDA-ARS	TBI  IBSC  RM  HIRO	Georgia People's Republic of China U.S.A. Japan U.S.A.	1,000,000 1,000,000 9,830,000 970,000 950,000	1894 1928 1894 1929 1869
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota	TBI  IBSC  RM  HIRO  , BPI  MIN	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A.	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000	1894 1928 1894 1929 1869 1890
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku	TBI  IBSC  RM  HIRO  ,  BPI  MIN  TUR	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000 932,700	1894 1928 1894 1929 1869 1890 1919
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum	TBI  IBSC  RM  HIRO  ,  BPI  MIN  TUR  BRNM	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000 932,700 903,000	1894 1928 1894 1929 1869 1890 1919 1818
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum 62 Queensland Herbarium	TBI  IBSC  RM  HIRO  ,  BPI  MIN  TUR  BRNM  BRI	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000 932,700 903,000 871,571	1894 1928 1894 1929 1869 1890 1919 1818 1881
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming 57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum 62 Queensland Herbarium 63 Cornell University	TBI  IBSC  RM  HIRO  BPI  MIN  TUR  BRNM  BRNM  BRI  BH	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic Australia U.S.A.	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000 932,700 903,000 871,571 845,000	1894 1928 1894 1929 1869 1890 1919 1818 1881 1935
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum 62 Queensland Herbarium 63 Cornell University 64 Jagiellonian University	TBI  IBSC  RM  HIRO  ,  BPI  MIN  TUR  BRNM  BRNM  BRI  BH  KRA	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic Australia U.S.A. Poland	1,000,000 1,000,000 9,830,000 970,000 950,000 940,000 932,700 903,000 871,571 845,000 800,000	1894 1928 1894 1929 1869 1890 1919 1818 1881 1935 1780
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming 57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum 62 Queensland Herbarium 63 Cornell University 64 Jagiellonian University 64 University of Coimbra	TBI  IBSC  RM  HIRO  ,  BPI  MIN  TUR  BRNM  BRI  BH  KRA  COI	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic Australia U.S.A. Poland Portugal	1,000,000  1,000,000  9,830,000  970,000  950,000  940,000  932,700  903,000  871,571  845,000  800,000  800,000	1894 1928 1894 1929 1869 1890 1919 1818 1881 1935 1780 1772
Institute of Botany, Ilia State 55 University  55 South China Botanical Garden 56 University of Wyoming  57 Hiroshima University U.S. National Fungus Collections 58 USDA-ARS 59 University of Minnesota 60 University of Turku 61 Moravian Museum 62 Queensland Herbarium 63 Cornell University 64 Jagiellonian University 64 University of Coimbra 64 Institut Botànic de Barcelona	TBI  IBSC  RM  HIRO  BPI  MIN  TUR  BRNM  BRI  BH  KRA  COI  BC	Georgia People's Republic of China U.S.A. Japan U.S.A. U.S.A. Finland Czech Republic Australia U.S.A. Poland Portugal Spain	1,000,000  1,000,000  9,830,000  970,000  950,000  940,000  932,700  903,000  871,571  845,000  800,000  800,000  800,000	1894 1928 1894 1929 1869 1890 1919 1818 1881 1935 1780 1772 1917

64	University of North Carolina at Chapel Hill	NCU	U.S.A.	800,000	1903
65	Jardim Botânico do Rio de Janeiro	RB	Brazil	780,000	1890
66	Université Laval	QFA	Canada	779,000	1962
67	Universität Göttingen	GOET	Germany	750,000	1832
	Singapore Botanic Gardens	SING	Singapore	750,000	1880
	Western Australian Herbarium	PERTH	Australia	750,000	1929
67	Bishop Museum	BISH	U.S.A.	750,000	1908
	Université de Montréal	MT	Canada	745,000	1920
69	Hebrew University	HUJ	Israel	725,000	1928
70	Fundación Miguel Lillo	LIL	Argentina	720,000	1931
71	University of British Columbia	UBC	Canada	713,000	1912
72	Aarhus University	AAU	Denmark	700,000	1963
72	University of Bergen	BG	Norway	700,000	1825
72	Institute of Botany, Jiangsu Province and Chinese Academy of Sciences	NAC	People's Republic	700 000	1022
		NAS		700,000	1923
	Instituto de Botánica Darwinion		Argentina	700,000	1911
	Masaryk University	BRNU	Czech Republic	666,000	1921
	Brigham Young University	BRY	U.S.A.	661,100	1923
	Babes-Bolyai University	CL	Romania	660,500	1873
	Iowa State University	ISC	U.S.A.	650,000	1870
	Miami University	MU	U.S.A.	650,000	1906
	University of Washington	WTU	U.S.A.	650,000	1882
77	University of Tennessee Manaaki Whenua - Landcare	TENN	U.S.A.	649,000	1888
78	Research	CHR	New Zealand	640,000	1928
79	Masaryk University Main Botanical Garden of the	BRNU	Czech Republic	634,000	1921
80	Russian Academy of Sciences	MHA	Russia	610,000	1958
81	Universalmuseum Joanneum	GJO	Austria	600,000	1811
81	National Museum	PRM	Czech Republic	600,000	1818
81	UNIVEGE Université Clermont Auvergne	CLF	France	600,000	1865
	Leibniz Institute of Plant Genetics and Crop Plant				
81	Research (IPK)	GAT	Germany	600,000	1946
81	National Botanic Gardens	DBN	Ireland	600,000	1847
81	Università degli Studi di Padova	PAD	Italy	600,000	1835
81	Azerbaijan National Academy of Sciences (ANAS)	BAK	Azerbaijan	600,000	1827
81	Museu Nacional	R	Brazil	600,000	1831

01	Universidad Nacional de	CO1	Calambia	COO 000	1021
	Colombia	COL	Colombia	600,000	1931
	Canadian Museum of Nature	CAN	Canada	588,000	1882
	University of Alberta	ALTA	Canada	570,500	1916
84	Michigan State University	MSC	U.S.A.	560,000	1863
85	University of Colorado Museum Orto Botanico dell'Università	COLO	U.S.A.	553,000	1890
86	degli Studi di Palermo	PAL	Italy	550,000	1795
86	National Museum of Wales	NMW	U.K.	550,000	1912
86	Northwestern Institute of Botany	WUK	People's Republic of China	550,000	1936
87	Instituto de Botánica del Nordeste	CTES	Argentina	530,000	1965
0,	Carnegie Museum of Natural	0.123	7 ii geritiila	330,000	1303
88	History	CM	U.S.A.	525,000	1895
	Institute of Applied Ecology,		People's Republic		
	Academia Sinica	IFP	of China	521,000	1953
90	Gradina Botanica D. Brandza	BUC	Romania	520,000	1882
90	University of Illinois	ILL	U.S.A.	520,000	1869
01	Taiwan Forestry Research Institute	TAIF	Taiwan	515,000	1904
	Botanic Garden	SRGH	Zimbabwe	•	1904
				513,736	
93	Arizona State University South African National	ASU	U.S.A.	513,328	1910
94	Biodiversity Institute	NBG	South Africa	507,000	1933
	National Institute of Biological				
95	Resources	КВ	Republic of Korea	505,512	2005
96	University of Oulu	OULU	Finland	500,000	1959
96	Universität Tübingen	TUB	Germany	500,000	
96	Museum für Naturkunde	MSTR	Germany	500,000	1872
96	Università di Catania	CAT	Italy	500,000	1858
	Maria Curie-Sklodowska			500.000	1017
	University	LBL	Poland	500,000	1947
	Wroclaw University	WRSL	Poland	500,000	1821
96	University of Oxford	OXF	U.K.	500,000	1621
	Institute of Botany of the National Academy of Sciences of				
96	Armenia	ERE	Armenia	500,000	1925
	Institute of Biology and Soil Science, Far Eastern Branch,				
96	Russian Academy of Sciences	VLA	Russia	500,000	1916
96	Tomsk State University	TK	Russia	500,000	1885
96	Ohio State University	OS	U.S.A.	500,000	1891
96	University of Arizona	ARIZ	U.S.A.	500,000	1891

96	Museo de La Plata	LP	Argentina	500,000	1887
96	Herbario CORD	CORD	Argentina	500,000	1870
	Universidad Nacional Mayor de				
96	San Marcos	USM	Peru	500,000	1918
96	Instituto de Botânica	SP	Brazil	500,000	1917
96	Universität Hohenheim	НОН	Germany	500,000	1828
	Norwegian University of Science				
96	and Technology	TRH	Norway	500,000	1760
96	Łódz University	LOD	Poland	500,000	1946
96	Oregon State University	OSC	U.S.A.	500,000	1886
97	Museo Nacional de Costa Rica	CR	Costa Rica	495,000	1887
98	Natural History Museum	BEO	Serbia	490,000	1895
98	Royal Ontario Museum	TRTC	Canada	490,000	1887
99	Tohoku University	TUS	Japan	485,000	1924
100	Hattori Botanical Laboratory	NICH	Japan	480,000	1946
	Florida Museum of Natural				
100	History	FLAS	U.S.A.	480,000	1891
	Instituto Nacional de Tecnología				
100	Agropecuaria	BAB	Argentina	480,000	1899
	TOTAL				

## Herbaria Newly Added in 2019

Note that herbaria newly added are not necessarily newly formed, but are those that were newly registered this year.

	•	Total
gium ARW	/ESP Arboretum Wespela	aar 1426
	II Mycological Society	MycoBH 2000
	nia and	,

<sup>1</sup> Naturalis now houses L, WAG, and U although they are curated as separate collections

<sup>&</sup>lt;sup>2</sup> "HUH" is an informal code for the Harvard University Herbaria, which includes A, AMES, ECON, FH, GH, NEBC

	France	BIF	Bibliothèque de l'Institut de France	326
	France	DP	Daniel PELLÉ Herbarium	1974
	France	MHNM	Muséum d'histoire naturelle de Marseille	63450
	France	BZR	Musées de la Ville de Béziers	95000
	Greece	BBGK	Hellenic Agricultural Organization-DEMETER	1074
	Greece	СВН	Cephalonia Botanica, Focas Cosmetatos Foundation	1000
	Hungary	MMGMK	The Museum and Library of Hungarian Agriculture	20000
	Ireland	HUUD	Dublin City University	3000
	Italy	HMSNMO	Museo civico di Storia naturale di Morbegno	5804
	Italy	AGMT	Associazione Gruppi Micologici Toscani	5880
	Italy	MN	Liceo Classico "Virgilio"	3000
	Poland	POZA	Adam Mickiewicz University Algal Herbarium	5800
	Romania	UOP	University of Oradea	600
	Spain	HMIM	Jardí Botànic Marimurtra	15000
	U.K.	UKC	University of Kent (at Canterbury)	1665
	U.K.	NBGW	The National Botanic Garden of Wales	0
	18			226999
<u>AFRICA</u>				
	Morocco	CHAMB	Mathieu Chambouleyron Herbarium	4972
	Nigeria	JUHN	University of Jos	1500
	South Africa	SANDC	North-West University	21000
	Tunisia	IRABS	Arid Regions Institute	200
	4			27672
TEMPERA	ATE ASIA			
	Georgia	AUMH	Agricultural University of Georgia	18821
			Science and Research Branch, Islamic Azad	
	Iran	ALBORZ	University, Tehran, Iran	1000
	Iran	RUHK	Razi University Herbarium	2878
	Iran	TBZFPH	Tabriz University of Medical Sciences	5000
	Iran	UTFH	College of Agriculture and Natural Resources, University of Tehran	14100
	Japan	TKY	Gifu University	6000
	Japan	UTF	The University of Tokyo Forests	10130
	Palestinian Territories	PMNHH	Palestine Museum of Natural History	755
			,	

	People's Republic of China	ERCG	Jilin Agriculture University, Ginseng Research Center	300
	People's Republic of China People's Republic of	НМЈИ	Jilin Agricultural Science and Technology University	3000
	China	SNTCM	Shaanxi University of Chinese Medicine	300
	People's Republic of China	YZB	Rare plants research institute of Yangtze river, Hubei province	unknown
	Republic of Korea	NNH	Nakdonggang National Institute of Biological Resources	60000
	Republic of Korea	WFRC	Warm-Temperate and Subtropical Forest Research Center, Korea Forest Research Institute	76507
	Russia	AR	Federal Center for Integrated Arctic Research Russian Academy of Sciences	10000
	Russia	SIBS	Institute of Marine Biological Research	34000
	Russia	MYX	Lomonosov Moscow State University	12000
	Russia	TUL	Tula State Lev Tolstoy Pedagogical University	10000
	Russia	TUVA	Tuvan State University	3000
	Russia	VRBG	Volgograd Regional Botanical Garden	2078
	Saudi Arabia	JAZUH	Jazan University	2000
	Saudi Arabia	PNUH	Princess Nourah Bint Abdulrahman University, Riyadh, Kingdom Saudi Arabia	4100
	Turkey	CBB	Herbarium of Canakkale Botanical Garden	18809
	Turkey	CUEF	Cukurova University	1700
			Vasyl Krychevsky Poltava Museum of Local	
	Ukraine	PW	Lore	9960
TROPICAL	ΔSIΔ			296478
THOFICAL	Bangladesh	JUH	Jahangirnagar University	31000
	Bangiauesii	1011	,	31000
	India	BHPL	Indian Institute of Science Education and Research-Bhopal	1000
	India	GUD	The Gandhigram Rural Institute	1029
	India	PRFH	Patanjali Research Foundation	5500
	India	ZGC	The Zamorin's Guruvayurappan College	9500
	Indonesia	MALG	Universitas Negeri Malang	200

	Indonesia	MBY	Museum Biologi Yogyakarta	234
	Pakistan	GCUSAH	GC University, Lahore	1070
	Pakistan	ICFP	Islamia College University Peshawar	300
			Pir Mehr Ali Shah Arid Agriculture University,	
	Pakistan	PMAS	Rawalpindi, Pakistan	2500
	Pakistan	POONCH	University of the Poonch Rawalakot	700
	Pakistan	SARGU	University of Sargodha	200
	Pakistan	SINDH	University of Sindh, Jamshoro	15000
	Philippines	DLSUH	De La Salle University	4390
	Thailand	TTM	Thai Traditional Medicine Research Institute	4530
	15			77153
PACIFIC				
	Samoa	SAMOA	National University of Samoa	400
	1		·	400
NORTH AN	MERICA			
	Canada	BMSC	Bamfield Marine Science Centre	6591
	Canada	DFB	Daniel Brunton Private Herbarium	19763
			Facultad de Ciencias Biologicas-Universidad	
	Mexico	HJAAA	Juarez del Estado de Durango	633
	Mexico	HHUAQ	Universidad Autónoma de Querétaro	300
	Mexico	JES	Universidad Autónoma Chapingo	33000
	Mexico	UCOL	Universidad de Colima	2500
	Mexico	WLM	Jardín Botánico El Charco del Ingenio	1158
	U.S.A.	BCBC	Broward College	200
	U.S.A.	BWNC	Baltimore Woods Nature Center	443
	U.S.A.	CGCC	Columbia-Greene Community College	4055
	U.S.A.	DINO	Dinosaur National Monument	4400
	U.S.A.	ERDC	U.S. Army Corps of Engineers	100
	U.S.A.	DSRC	Mohonk Preserve	3508
	U.S.A.	ICHAUWAY	Jones Center at Ichauway	2200
	U.S.A.	ICTB	Florida International University	11000
	U.S.A.	LUC	Loyola University of Chicago	3800
	U.S.A.	MNF	Malheur National Forest	2417
	U.S.A.	PPWD	Pepperwood Preserve	2500
	U.S.A.	PRR	Patuxent Research Refuge	5040
	U.S.A.	RARO	Raven Rock State Park	unknown
	U.S.A.	SBLM	Bureau of Land Management	1070
	U.S.A.	SJNM	San Juan College	71000

U	I.S.A.	UIU	Upper Iowa University	3000
U	J.S.A.	UNGGVH	University of North Georgia	1000
U	J.S.A.	UWB	University of Washington Bothell	1100
	25			180778
	ENTRAL AMERICA	AND		
SOUTH AMERIC		DAI	Deterris Condon of the City "Conles Theye"	4612
_	rgentina	BAJ	Botanic Garden of the City "Carlos Thays"	4613
А	rgentina	HSESJ	National University of San Juan	3375
			Instituto de Investigaciones Marinas y Costeras, CONICET-Universidad Nacional de	
А	rgentina	MDQ	Mar del Plata	500
	rgentina	MICODIF	Universidad Nacional de San Luis	1800
	razil	AJU	Universidade Tiradentes	1100
	razil	ARA	Universidade Federal de Alagoas	6561
	razil	BMA	Federal University of Maranhão	2500
			Fundação Oswaldo Cruz - FIOCRUZ (Oswaldo	
В	razil	CBPM	Cruz Foundation)	1391
			Fundação Municipal da Casa da Cultura de	
	razil	FCCM	Marabá	5000
	razil razil	HCP HFC	Universidade Federal Rural da Amazônia	200 10100
D	i dZII	пгС	Embrapa Florestas  Jardim Botânico Municipal "Max Habliztel" de	10100
В	razil	HIPE	São José	800
В	razil	HJ	Universidade Federal de Jataí	8000
В	razil	HLAJ	Prefeitura Municipal de Lajeado	200
В	razil	HTL	Universidade Federal de Mato Grosso do Sul	3000
В	razil	HUFSP	Universidade Federal de São Paulo	150
В	razil	HUNEB	Universidade do Estado da Bahia	15000
D	razil	LAG	Universidade do Estado de Santa Catarina (UDESC), Herbário Anita Garibaldi	1000
	razil	MACK	Universidade Presbiteriana Mackenzie	3220
	razil	RSPF	Universidade de Passo Fundo	16000
	razil	UALF	Federal University of Alfenas	3000
	razil	UEGQ	Universidade Estadual de Goiás	5452
	hile	MICOCL	ONG Micófilos	900
	hile	UTAL	Universidad de Talca	3152
	olombia	HT	Herbario Tropical S.A.S.	732
	cuador	AMAS	Universidad Técnica de Ambato	1000
E	cuador	UTCEC	Universidad Técnica de Cotopaxi	2500
	25			96633

### **GRAND TOTAL:**

99 905,713

## Herbaria Reported as Inactive in 2019

Note that some herbaria reported here became inactive prior to 2019, but were not reported as inactive previously.

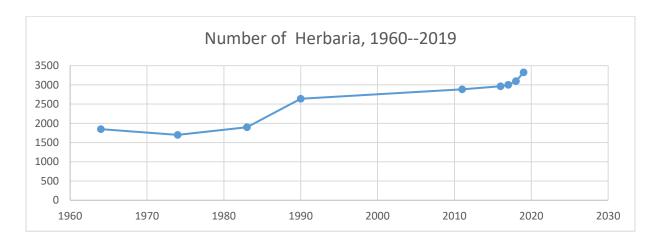
Dania	C	6	Oussuisstiau	C'h	Con a store a rea	Notes/Disposition
Region	Country	Code	Organization	City	Specimens	of specimens
<u>EUROPE</u>						Now incorporated
	Finland	HEL	University of Helsinki	Helsinki	unknown	into H.
						Now incorporated
	Hungary	BP	Eötvös Loránd University	Budapest	35,000	into BP.
						All GRO
			State University of			collections have been transferred
	Netherlands	GRO	Groningen	Haren	50,000	to L.
AUSTRAL	IA & NEW ZEAL	AND				
			Commonwealth Scientific			
			and Industrial Research			Now incorporated
	Australia	FRI	Organization (CSIRO)	Canberra	unknown	into CANB.
NORTH A	<u>MERICA</u>					
			University of Arizona			
			South,	6:		Now been
		6611	Agricultural Extension	Sierra		incorporated into
	U.S.A.	CCH	Service	Vista	unknown	ASU.
	II.C.A	1500	Lord Fairfax Community	\\/a=====	20.000	Now incorporated
	U.S.A.	LFCC	College	Warrenton	20,000	into GMUF Now incorporated
	U.S.A.	SDU	University of South Dakota	Vermillion	unknown	into BHSC
	J.J.A.	300	omversity of south bakota	V CI IIIIIIIIIIII	GIIKIIO VVII	into brisc

## Change in the Number of Active Herbaria Over Time

Currently there are limited data points for tracking changes in the number of herbaria over time. The totals given in print editions of *Index Herbariorum* provide the data for the years 1964, 1974, 1983 and 1990. This total is updated in annual *World's Herbaria* reports henceforth.

Γ	Year # herbaria		Data Source
	1964	1850	Index Herbariorum ed. 5
	1974	1700	Index Herbariorum ed. 6
	1983	1900	Index Herbariorum ed. 7
	1990	2639	Index Herbariorum ed. 7

2011	2885	Archived dataset for IBC 2011 presentation
2016	2962	Archived dataset for World's Herbaria 2016
2017	3001	Archived dataset for World's Herbaria 2017
2018	3095	Archived dataset for World's Herbaria 2018
2019	3324	Archived dataset for World's Herbaria 2019



# Change in the Number of Specimens Held in Herbaria Over Time

Year	# Specimens	Data Source
1964	149,000,000	Index Herbariorum ed. 5
1983	227,000,000	Index Herbariorum ed. 7
1990	272,000,000	Index Herbariorum ed. 7
2011	360,000,000	Archived dataset for IBC presentation
2016	381,000,000	Archived dataset for World's Herbaria 2016
2017	387,007,790	Archived dataset for World's Herbaria 2017
2018	387,513,053	Archived dataset for World's Herbaria 2018
2010	392,252,689	Archived dataset for World's Herbaria 2019

