

The World's Herbaria 2023:

A Summary Report Based on Data from Index Herbariorum

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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 31 December 2023.

Reports for previous years 2016 -2022 are available for download on the *Index Herbariorum* website (<http://sweetgum.nybg.org/science/ih/>).

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 31 December 2023, there are 3736 active herbaria in the world containing 400,209,441 specimens. Comparison with totals reported

in previous years are given in Table 5 and Table 6. In 2023, two herbaria were newly reported as inactive or permanently closed, and 98 were newly registered (representing 565263 specimens in total). There are now 186 countries with at least one herbarium. Associated with the world's herbaria are 13083 staff members and associates.

2023 was the seventh 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 entries. During the past year there were 1338 updates were submitted by IH participants (including new registrations of herbaria and staff), an average of 26 updates per week.

Since 2011, 851 herbaria have been newly registered in *Index Herbariorum*, and the total number of specimens reported for all herbaria increased by 40,209,441.

SUMMARY TABLES AND GRAPHS

The tables and charts included here reflect the most requested types of summary information from *Index Herbariorum*. Anyone interested in making their own regional grouping can download the data from the Index Herbariorum website

Table 1. Summary of herbaria by Country

Country	Herbaria	# Specimens	Number of Staff
Afghanistan	2	33609	1
Algeria	4	377366	4
Andorra	1	1068	3
Angola	3	125000	5
Argentina	65	5135200	563
Armenia	3	576820	23
Australia	36	8592204	259
Austria	19	11113710	98
Azerbaijan	1	600000	2
Bahamas	1	7215	7
Bangladesh	3	139000	15

Barbados	1	5000	1
Belarus	6	531526	47
Belgium	10	5166923	50
Belize	1	10000	2
Benin	2	22000	6
Bhutan	1	15000	6
Bolivia	4	525000	36
Bosnia and Herzegovina	4	116500	5
Botswana	5	34979	14
Brazil	214	8673693	947
Brunei Darussalam	4	59000	6
Bulgaria	4	441700	27
Burkina Faso	3	20940	17
Burundi	1	20000	3
Cambodia	1	12500	5
Cameroon	3	137000	11
Canada	97	9403302	193
Cayman Islands	1	1369	1
Central African Republic	1	10000	5
Chad	1	8000	0
Chile	25	736837	70
China	386	21046978	1489
Colombia	43	1788448	147
Comoros	1	8600	5

Congo Republic (Congo-Brazzaville)	2	40310	3
Democratic Republic of the Congo	12	300621	51
Costa Rica	6	654426	41
Croatia	11	406884	31
Cuba	13	847027	94
Cyprus	2	13069	6
Czech Republic	48	8473605	137
Denmark	2	3600000	30
Djibouti	1	172	4
Dominican Republic	6	189601	21
Ecuador	18	810182	67
Egypt	19	729066	92
El Salvador	4	93440	6
Equatorial Guinea	1	8000	2
Estonia	6	1213506	29
Ethiopia	5	178080	17
Falkland Islands	1	1135	1
Fiji	1	40000	1
Finland	11	5525829	54
France	97	24127088	240
French Guiana	2	170900	7
French Polynesia	2	24000	4
Gabon	1	65000	8
Georgia	7	1398821	23

Germany	75	22607400	267
Ghana	5	103101	9
Gibraltar	1	200	1
Greece	13	458067	35
Greenland	1	500	0
Guadeloupe	1	10000	2
Guam, U.S.A.	2	60775	4
Guatemala	6	144503	33
Guyana	2	57800	5
Haiti	1	7216	1
Honduras	5	309621	7
Hungary	13	2687648	36
Iceland	2	164000	4
India	145	5924102	401
Indonesia	16	2224116	64
Iran	46	2006694	154
Iraq	10	185431	30
Ireland	7	923633	12
Isle of Man	1	3000	1
Israel	5	1237720	8
Italy	90	11,707,765	341
Ivory Coast	3	52650	8
Jamaica	2	161600	5
Japan	78	14105928	239
Jordan	3	12630	6
Kazakhstan	10	785176	25

Kenya	3	1300000	17
Kuwait	1	20000	5
Kyrgyzstan	1	400000	2
Laos	2	8700	7
Latvia	6	599900	26
Lebanon	1	68000	1
Lesotho	3	21600	10
Liberia	1	7000	0
Libya	2	50000	10
Lithuania	3	467100	22
Luxembourg	1	90000	7
Macedonia	4	256430	15
Madagascar	4	421000	7
Malawi	1	100000	12
Malaysia	16	1025144	69
Mali	1	6400	4
Malta	1	10000	1
Martinique	1	2142	0
Mauritania	1	6200	3
Mauritius	1	25000	1
Mayotte	1	5400	2
Mexico	83	5458261	413
Moldova	2	221200	7
Mongolia	2	145400	6
Montenegro	2	24000	5
Montserrat	1	56	0

Morocco	4	225202	17
Mozambique	3	127435	15
Myanmar	5	54108	3
Namibia	1	96000	7
Nepal	2	185000	25
Netherlands	15	5286919	98
Netherlands Antilles	1	1089	2
New Caledonia	1	95000	5
New Zealand	13	1655320	61
Nicaragua	3	46000	11
Nigeria	13	225845	25
Norway	7	3446000	26
Oman	4	26331	6
Pakistan	36	680318	92
Palestinian Territories	1	755	4
Panama	3	176416	16
Papua New Guinea	4	327093	9
Paraguay	4	132500	16
China	386	21046978	1489
Peru	25	1308291	111
Philippines	23	505609	75
Poland	35	5498161	204
Portugal	22	1909677	80
Puerto Rico	4	167430	9
Republic of Guinea	2	21650	4

Republic of Korea	46	3291099	63
Republic of Palau	2	3750	3
Republic of South Africa	47	3329791	159
Romania	17	2848384	40
Russia	140	16575119	519
Rwanda	2	21114	5
Réunion	2	42482	6
Samoa	1	400	0
São Tomé e Príncipe	1	1500	3
Saudi Arabia	7	123159	19
Senegal	1	12000	2
Serbia	6	968350	28
Seychelles	1	3081	1
Sierra Leone	2	62000	3
Singapore	2	783695	23
Slovakia	19	1247905	79
Slovenia	4	220000	4
Solomon Islands	1	40000	3
Somalia	1	236	1
Spain	56	6146587	384
Sri Lanka	9	187689	7
Sudan	3	35500	6
Suriname	1	37000	2
Swaziland	1	7200	3
Sweden	10	11951000	50

Switzerland	18	13342534	81
Taiwan	16	1784836	66
Tajikistan	1	30000	3
Tanzania	6	378745	18
Thailand	17	817699	113
Togo	1	21000	2
Tonga	1	3030	2
Trinidad	1	50468	5
Tunisia	2	3200	2
Turkey	64	1067937	275
Turkmenistan	1	250000	2
United Kingdom	215	23563481	427
U.S.A.	764	79351198	1928
Uganda	4	131767	5
Ukraine	30	4077433	124
United Arab Emirates	2	27000	3
Uruguay	3	217000	21
Uzbekistan	3	1520500	6
Vanuatu	1	20000	2
Venezuela	19	1062092	103
Vietnam	20	604737	127
Virgin Islands, U.S.A.	1	3000	1
Yemen	1	5500	3
Zambia	4	111000	19
Zimbabwe	5	540636	19
Total	3736	400209441	13083

Table 2. The Largest Herbaria in the World

This list includes those herbaria with 1 million or more specimens

organization	code	physical country	Specimen total	commenced date
Royal Botanic Gardens	K	U.K.	8125000	1852
Muséum National d'Histoire Naturelle	P & PC	France	8000000	1635
The New York Botanical Garden	NY	U.S.A.	7921000	1891
Missouri Botanical Garden	MO	U.S.A.	7000000	1859
Naturalis	L, WAG, U	Netherlands	6,900,000	1829
Komarov Botanical Institute of RAS	LE	Russia	6000000	1823
Conservatoire et Jardin botaniques de la Ville de Genève	G	Switzerland	6000000	1824
Naturhistorisches Museum Wien	W	Austria	5500000	1807
The Natural History Museum	BM	U.K.	5200000	1753
Smithsonian Institution	US	U.S.A.	5100000	1848
Harvard University	GH & FH	U.S.A.	5005000	
Natural History Museum	FI	Italy	5000000	1842
Swedish Museum of Natural History	S	Sweden	4570000	1739
Université Claude Bernard Lyon 1	LY	France	4400000	1924
Meise Botanic Garden	BR	Belgium	4000000	1870
ZE Botanischer Garten und Botanisches Museum, Freie Universität Berlin	B	Germany	3800000	1815

Université de Montpellier	MPU	France	3500000	1809
Friedrich Schiller University Jena	JE	Germany	3500000	1896
University of Helsinki	H	Finland	3393629	1751
Staatliche Naturwissenschaftliche Sammlungen Bayerns (SNSB)	M	Germany	3200000	1813
Museum of Evolution	UPS	Sweden	3100000	1785
Royal Botanic Garden Edinburgh	E	U.K.	3000000	1839
University of Copenhagen	C	Denmark	2900000	1759
Field Museum of Natural History	F	U.S.A.	2700000	1893
Institute of Botany, Chinese Academy of Sciences	PE	People's Republic of China	2650000	1928
Lund University	LD	Sweden	2500000	1770
Herbarium der Eidgenössische Technische Hochschule Zürich	ZT	Switzerland	2440000	
California Academy of Sciences	CAS	U.S.A.	2300000	1853
National Herbarium of Ukraine, M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine	KW	Ukraine	2247179	1921
Charles University, Prague	PRC	Czech Republic	2240000	1775
University of California	UC	U.S.A.	2100000	1872
Hungarian Natural History Museum	BP	Hungary	2097424	1870
Botanical Survey of India	CAL	India	2086650	1795
National Museum of Nature and Science	TNS	Japan	2063204	1877

National Museum in Prague	PR	Czech Republic	2000000	1818
Research Centre for Biology	BO	Indonesia	2000000	1841
University of Tokyo	TI	Japan	1900000	1877
Herbarium of the University of Zürich	Z	Switzerland	1840000	1834
University of Oslo (O)	O	Norway	1808000	1863
University of Hamburg	HBG	Germany	1800000	1879
University of Michigan	MICH	U.S.A.	1750000	1837
Universidad Nacional Autónoma de México	MEXU	Mexico	1600000	1888
National Collection of Vascular Plants - AAFC	DAO	Canada	1550000	1886
Royal Botanic Gardens Victoria	MEL	Australia	1500000	1853
Senckenberg Gesellschaft für Naturforschung: Senckenberg Forschungsinstitut und Naturmuseum	FR	Germany	1500000	1817
Academy of Science, Uzbekistan	TASH	Uzbekistan	1500000	1921
Botanical Research Institute of Texas	BRIT	U.S.A.	1482000	1987
Academy of Natural Sciences	PH	U.S.A.	1430000	1812
Royal Botanic Gardens & Domain Trust	NSW	Australia	1400000	1896
Universität Wien	WU	Austria	1400000	1879
California Botanic Garden	RSA	U.S.A.	1230000	1927
W. Szafer Institute of Botany, Polish Academy of Sciences	KRAM	Poland	1227500	1867
Australian National Herbarium	CANB	Australia	1204426	1930
Karl-Franzens-Universität Graz	GZU	Austria	1200000	1900

Oberösterreichische Landeskultur GmbH	LI	Austria	1200000	1833
The Hebrew University of Jerusalem	HUJ	Israel	1200000	1928
Kyoto University	KYO	Japan	1200000	1921
South African National Biodiversity Institute	PRE	Republic of South Africa	1200000	1903
Real Jardín Botánico	MA	Spain	1158116	1755
Università degli Studi di Roma La Sapienza	RO	Italy	1120000	1872
Kunming Institute of Botany, Chinese Academy of Sciences	KUN	People's Republic of China	1114000	1938
Moscow State University	MW	Russia	1109606	1765 or 1780
University of Gothenburg	GB	Sweden	1100000	1926
Cambridge University Herbarium	CGE	U.K.	1100000	1761
Instituto Politécnico Nacional	ENCB	Mexico	1080000	1943
University of Wisconsin	WIS	U.S.A.	1078000	1849
University of Wyoming	RM	U.S.A.	1046250	1894
State Herbarium of South Australia	AD	Australia	1040000	1954
University of Texas at Austin	TEX	U.S.A.	1006000	1890
Institute of Botany, Ilia State University	TBI	Georgia	1000000	1894
Staatliches Museum für Naturkunde Stuttgart	STU	Germany	1000000	1791
National Museums of Kenya	EA	Kenya	1000000	1902
South China Botanical Garden	IBSC	People's Republic of China	1000000	1928
Musée et Jardins Botaniques Cantonaux MJBC	LAU	Switzerland	1000000	1824

University of Manchester	MANCH	U.K.	1000000	1835
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Table 3. Herbaria Newly Added in 2023

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

physical country	code	organization	total accessioned	commented date
Argentina	LUJ	Universidad Nacional de Luján Museo Provincial de Ciencias Naturales “Dr. Ángel Gallardo”.	761	2019
Argentina	MGBV	Ángel Gallardo”.	1500	2010
Australia	STANAU	STANAU	2227	2022
Bosnia and Herzegovina	BALU	University of Banja Luka, Faculty of Forestry Universidade Estadual do Centro Oeste -	4000	
Brazil	ARAUCA	UNICENTRO	3100	2022
Brazil	CCAA	Centro de Ciências de Chapadinha Federal Institute of Education, Science and	101	2017
Brazil	FIFUNGI	Technology of São Paulo - IFSP	1600	2023
Brazil	HBEI	Fundação Universidade Federal do Pampa	1838	2007
Brazil	IRATI	Midwest State University (Universidade Estadyak	7282	2002
Canada	YUKONU	Yukon University	7900	
Chile	MURAY	Museo Regional de Aysén College of Agronomy, Jiangxi Agricultural	3000	
China	HJAUP	University Zhongkai University of Agriculture and	2000	
China	ZHKU	Engineering Zhejiang Institute of Subtropical Crops	1000	2021
China	ZJSC	Herbarium	1500	1962
Colombia	HUEB	Universidad El Bosque	8000	
Costa Rica	AAG	Universidad Nacional de Costa Rica	3500	1987
Croatia	GMV	Varaždin City Museum (Gradski muzej Varaždin)	21000	2023
France	ARL	Médiathèque d’Arles	15000	
France	CORS	Coriscan Department of the Environment	5000	2005
Germany	HNP	Harz National Park	14500	1995

Greece	SPP	Society for the Protection of Prespa	1153	2023
India	AUSCH	Life Science & Bioinformatics	4100	1998
India	CCMT	Carmel College	3159	
India	CTBCH	Centre for Tropical Biodiversity Conservation (CTBC)	300	2017
India	DGMBJH	Hon. Balasaheb Jadhav college Ale	7000	2009
India	DMP	REGIONAL AYURVEDA RESEARCH CENTRE (RARC), DIMAPUR, NAGALAND	465	2021
India	GVCH	Government Victoria College Palakkad	350	1958
India	HJSS	J.S.S. Arts, Science and Commerce College, Gokak- 591307, Belagavi, Karnataka	150	
India	JNAMPGH	Regional Ayurveda Research Institute,	15500	1967
India	NCK	The New College, Kolhapur	1750	
India	OHT	Orchid Research Centre Tipi	5002	
India	SNCH	Sree Narayana College Kollam	5500	1949
India	STCHK	St. Thomas College Kozhencherry	500	1958
Indonesia	LGS	Program Studi Biologi, Universitas Samudra	163	
Indonesia	LGS	Program Studi Biologi, Universitas Samudra	163	
Indonesia	MEDA	Universitas Sumatera Utara	1000	2003
Indonesia	MUL	Universitas Mataram	1159	2002
Iran	KF	Herbarium, Faculty of Pharmacy, Kerman University of Medical Sciences	700	
Italy	AUSERB	Regione Lazio Parco Monti Ausoni	1870	1986
Japan	GIFU	Gifu University	60000	
Jordan	PIBS	Bethlehem University	2140	2017
Kazakhstan	ABG	Altai Botanical Garden	30000	1887-1915
Kazakhstan	MANG	Mangyshlak experimental botanical garden	6338	
Kazakhstan	QAR	Buketov University	16000	
Kazakhstan	TOBYLKZ	Baitursynov Kostanay Regional University	10000	2010
Mexico	CPC	Colegio de Postgraduados	509	2022
Mexico	HCIAD	Centro de Investigación en Alimentación y Desarrollo, A.C.	3785	2015
Mexico	HZAC	Centro de Investigaciones de Zacatecas S.C.	3570	2018
Mexico	MUAA	Universidad Autónoma de Aguascalientes	2531	1979
Mexico	UMARPA	Universidad del Mar	1030	2011
Montserrat	MNT	Montserrat National Trust	56	

Netherlands	KOLK	Herbarium Henk-Jan van der Kolk	4500	2013
Netherlands		The Caribbean Research and Management of		
Antilles	CW	Biodiversity (CARMABI) Foundation	1089	1983
Nigeria	UMYUH	Umaru Musa Yar'dua University, Katsina, Nigeria	2000	2015
Pakistan	FJPGC	Fatima Jinnah Government Postgraduate College for Women Muzaffarabad	800	2018
Pakistan	GCABBT	Government Post Graduate College No. 1 Abbottabad	3500	1997
Pakistan	HGPGCM	Government Post Graduate College Mandian Abbottabad	700	2017
Pakistan	LCWU	Lahore College for Women University, Lahore, Pakistan	200	
Pakistan	PGMUZM	Government Post Graduate College for Boys Muzaffarabad	800	2015
Peru	HCCL	Universidad Nacional de Cajamarca	5062	2019
Peru	ISV	Universidad Nacional de Jaén	2236	2022
Peru	MOLF	UNIVERSIDAD NACIONAL AGRARIA LA MOLINA	60000	1962
Philippines	VSUBGH	Visayas State University	235	2023
Romania	TSBAI	Transylvania School of Botanic Art & Illustration	300	2023
Russia	EKAT	Russian Academy of Sciences, Ural Branch: Institute Botanic Garden	3276	2016
Russia	PALE	Perkalsky Arboretum of the Komarov Botanical Institute of RAS	40000	
Russia	STOLBY	National Park "Krasnoyarsk Stolby"	7508	1934
Saudi Arabia	ALJAWF	National Center for Vegetation Cover	3453	
Saudi Arabia	PNUH	Princess Nourah Bint Abdulrahman University, Riyadh, Kingdom Saudi Arabia	6206	2013
Serbia	BIOLACHC	University of Belgrade, Institute of Chemistry, Technology and Metallurgy - National Institute of the Republic of Serbia	100	2017
South Korea	CBNU	Department of Forest Science, Chungbuk National University	700	
Sudan	KHR	University of Khartoum	25000	1945
Switzerland	JUR	Jurassica Museum	35000	
Turkey	AKDU	Akdeniz University	5400	2011
U.S.A.	ARDOT	Arkansas Department of Transportation	89	2015
U.S.A.	BMR	University of California Davis	0	1968
U.S.A.	CDSC	Desert Studies Center	1000	
U.S.A.	CMH	Carrizo Mountain Herbarium	15000	

U.S.A.	DRURY	Drury University	3250	
U.S.A.	DSCGA	Dalton State College	268	1966
U.S.A.	FDWS	United States Department of Agriculture, Agricultural Research Service	150	2023
U.S.A.	GRBA	Great Basin National Park	1500	
U.S.A.	HBCFS	Bard College Field Station	10000	1971
U.S.A.	HTNF	Humboldt-Toiyabe National Forest	3000	1901
U.S.A.	MBMNH	California State Parks	1000	
U.S.A.	MLA	University of Minnesota Landscape Arboretum	6000	
U.S.A.	OUHC	Oakland University	1000	
U.S.A.	PRIH	Pacific Rim Institute	1689	1998
U.S.A.	RISD	Rhode Island School of Design	952	
U.S.A.	SCPNCH	The Nature Center at Steele Creek Park	1110	2020
U.S.A.	SCSU	Southern Connecticut State University	3000	
U.S.A.	SLS	Private Herbarium	200	2023
U.S.A.	SRH	Bard College at Simon's Rock	1729	1975
U.S.A.	TNF	United States Forest Service	8814	
U.S.A.	TOOL	Toolik Field Station, University of Alaska Fairbanks	2000	
U.S.A.	VSCC	Volunteer State Community College	1495	
U.S.A.	WMRC	White Mountain Research Center	3000	
Vietnam	VRTC	Joint Vietnam-Russia Tropical Science and Technology Research Centre	200	2023
TOTAL			565263	

Table 4. Herbaria Reported as Inactive in 2023

Note that some herbaria reported here became inactive prior to 2021 but were not previously reported as such.

Country	Code	Institution	Notes/Disposition of Specimens
U.S.A.	POST	Long Island University- Post	Transferred to NYS in 2023

Egypt	BRPP	Botanica Royal Park of Palm Hills	Disposition of specimens is unknown
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Table 5. 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.

Year	# herbaria	Data Source
1964	1850	<i>Index Herbariorum</i> ed. 5
1974	1700	<i>Index Herbariorum</i> ed. 6
1983	1900	<i>Index Herbariorum</i> ed. 7
1990	2639	<i>Index Herbariorum</i> ed. 7
2011	2885	Archived dataset for IBC 2011 presentation
2016	2962	Archived dataset for <i>World's Herbaria 2016</i>
2017	3001	Archived dataset for <i>World's Herbaria 2017</i>
2018	3095	Archived dataset for <i>World's Herbaria 2018</i>
2019	3324	Archived dataset for <i>World's Herbaria 2019</i>
2020	3426	Archived dataset for <i>World's Herbaria 2020</i>
2021	3522	Archived dataset for <i>World's Herbaria 2021</i>
2022	3567	Archived dataset for <i>World's Herbaria 2022</i>
2023	3736	Archived dataset for <i>World's Herbaria 2022</i>

Table 6. Change in the Number of Specimens Held in Herbaria Over Time

Year	# Specimens	Data Source
1964	149,000,000	<i>Index Herbariorum</i> ed. 5
1983	227,000,000	<i>Index Herbariorum</i> ed. 7
1990	272,000,000	<i>Index Herbariorum</i> ed. 7
2011	360,000,000	Archived dataset for IBC presentation
2016	381,000,000	Archived dataset for <i>World's Herbaria 2016</i>

2017	387,007,790	Archived dataset for <i>World's Herbaria 2017</i>
2018	387,513,053	Archived dataset for <i>World's Herbaria 2018</i>
2019	392,252,689	Archived dataset for <i>World's Herbaria 2019</i>
2020	396,204,891	Archived dataset for <i>World's Herbaria 2020</i>
2021	397,598,253	Archived dataset for <i>World's Herbaria 2021</i>
2022	396,746,986	Archived dataset for <i>World's Herbaria 2022</i>
2023	400,209,441	Archived dataset for <i>World's Herbaria 2023</i>