

## **Repositories for mite and tick specimens: acronyms and their nomenclature**

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## Repositories for mite and tick specimens: acronyms and their nomenclature

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As biologists, we deposit the specimens we collected and studied in repositories so that they can be preserved for future generations. Most repositories, (e.g. museums, collections or institutions) have acronyms for easier referencing in documents, research papers or on specimen labels. An acronym is a name formed from an abbreviation of the initial components of the name. For example, **BMNH** stands for the **British Museum (Natural History)** in London—one of world's oldest and largest repositories. In an ideal world, there should be one unique acronym for each repository; this will facilitate the accurate citation and reference of specimens from these repositories. In the real world, however, institutions change names from time to time and some institutions disappeared for various reasons or merged with others. Sometimes, people created new acronyms for the same institutions when their names changed and this resulted in synonyms of acronyms. For example, **British Museum (Natural History)** in London is now known as **The Natural History Museum, London** and some authors used **NHM**, although most researchers continue to use the widely recognized **BMNH** even though the name of the museum was changed; likewise mite specimens from the collection of A.C. Oudemans are referred to **RMNH**—(**Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands**), which is now part of the **Naturalis Biodiversity Center**. Synonyms of acronyms were also created when authors were unaware of existing ones, or they had no rules of nomenclature for acronyms to guide them. In addition to the problems with synonyms, acronyms may also have homonyms: e.g. **BM** was used by some authors for **Bishop Museum (Honolulu, Hawaii, USA)** whereas **BM** is also used by botanists (not zoologists) for **British Museum (Natural History)** in London. The former is **B.P. Bishop Museum (BPBM)** in full, which should be used for this museum in Honolulu.

I noted a relatively high incidence of synonyms of acronyms for acarological repositories during recent surveys of taxonomic papers on mites (Liu *et al.* 2013; Liu & Zhang 2016; Li & Zhang 2016; Lam & Zhang 2016; Liu *et al.* 2017). Many authors did not use acronyms for acarological repositories. Some authors also inconsistently used acronyms. For example, Silva *et al.* (2016) did not use acronyms for most repositories, but for the few that they did provide, they sometimes gave different ones for the same collection: e.g. **USNM** and **NMNH** for **US national mite collection at US National Museum of Natural History (NMNH)**, Washington, D.C., USA. The main purpose of this paper is to provide a sample list of acronyms for acarological repositories and their synonyms encountered during my survey. I also consulted a few books such as Schicha (1987), Mesa *et al.* (2009), Hernandez *et al.* (2011), and Guglielmone *et al.* (2014). This paper is not intended to provide a complete list of acronyms and their synonyms of repositories for mite and tick specimens. Rather, I aim to highlight recommended rules for formulating acronyms so that unique and correctively formed acronyms are used and possible synonyms can be avoided in the future. I also propose simple rules for choosing among synonyms of acronyms when they are detected in published literature. In addition, I provide examples to make it easy to understand these recommended rules.

## Rules and recommendations

1 *Systematic & Applied Acarology* will require authors to use correctly formed and widely accepted acronyms for repositories, effectively from the first issue of 2019. When papers include primary type specimens, the location of the repository must be mentioned at least once in the paper as required by Art. 16.4.2 of ICZN (1999): “a statement of intent that they will be (or are) deposited in a collection and a statement indicating the name and location of that collection”.

2. If an institution has no previously used acronyms, please formulate one using the initial components of the institution name (omitting definite article “the”, preposition “of”, conjunctions “and” *etc*), and ensure that the new acronym is unique (in the days of the internet, it is easy to search for previously used acronyms; e.g. <http://hbs.bishopmuseum.org/codens/>). (A) When the institution has subunits, please use the main institution names rather than its subunits unless the subunit is institutionalized as a repository; e.g. **AMU** is the correct and preferred acronym for the Adam Mickiewicz University, Poznań, Poland. Some papers used **DATE**, which is for Department of Animal Taxonomy and Ecology (Adam Mickiewicz University); however, **MCZ** (Museum of Comparative Zoology) is an institutionalized unit in Harvard University (Cambridge, Massachusetts, USA) and is widely recognized. (B) When the acronym is short with 3 or fewer letters, you can add the initial of the city or country name, or sometimes both or that of its subunits, which can reduce the chance of homonyms: e.g. **SAMA** for South Australian Museum, Adelaide, South Australia, Australia (SAM has also been used); **GUGC** for Guizhou University, Guiyang, China; **FACU** for Faculty of Agriculture, Cairo University, Giza, Egypt. Although 4-letter acronyms are widely used and recommended by some (e.g. Watt 1979), it is not a rule that needs to be followed.

3. When there are synonyms of acronyms, (A) use one that is correctively formed and also widely accepted (especially by current researchers of that institution or country): e.g. **TSUMZ** (Tyumen State University Museum of Zoology, Tyumen, Russia) is preferred over **TUMZ** (Tyumen State University Museum of Zoology); both were used in papers but the former was in wider uses in recent years by authors from this institution; (B) use one for the institution rather than its subunits; e.g. **AMU** (not **DATE**) for the Department of Animal Taxonomy and Ecology, Adam Mickiewicz University, Poznań, Poland.

## List of acronyms and their synonyms

This list is not complete and may contain errors. It will be revised in the future based on additional research and comments from colleagues. Please send me your comments or corrections. I especially welcome historical accounts of acarological repositories.

**ACIAU** see **SRIAUF**

**ACISTE**—Acarological Collection, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran

**ALCU**<sup>1</sup>—Acarology Laboratory, Department of Plant Protection, Çukurova University, Adana, Turkey

**AFUMI** see **UMI**

**AHC** see **UNAM**

**AI** see **VNUA**

**AINB**—Acari collections of INBio, Insitituto Nacional de Biodiversidad, Santo Domingo, Costa

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1. Mis-printed as **AFCU** in Liu *et al.* (2017).

Rica  
 =**INBCR**—Instituto Nacional Biologica of Costa Rica, Santo Domingo de Heredia, Costa Rica.

**AINP**—The collection of All India Network Project of Agricultural Acarology, Bangalore, India

**AM** see **AMS**

**AMMS**—Academy of Military Medical Sciences, Beijing, China

**AMNH**—American Museum of Natural History, New York City, New York, USA

**AMNZ**—Auckland Institute and Museum, Auckland, New Zealand

**AMSA** see **AMS**

**AMS**—Australian Museum, Sydney, Australia.  
 =**AMSA**—Australian Museum, Sydney, N.S.W., Australia  
 =**AM**—Australian Museum, Sydney, Australia

**AMU**—Department of Animal Morphology, Adam Mickiewicz University, Poznań, Poland.  
 = **DATE**—Department of Animal Taxonomy and Ecology, Adam Mickiewicz University, Poznań, Poland.

**ANIC**—Australian National Insect Collection, CSIRO Entomology, Canberra, Australia

**APAS**—Acarological Laboratory, Department of Plant Protection, Agricultural College, Shahrekord University, Chaharmahal and Bakhtiari Province, Iran

**ARC-PPRI**—Plant Protection Research Institute-Agricultural Research Center - Fruit Acarology Department, Dokki, Cairo, Egypt

**ASCR** see **IPCAS**

**ASCU**—Agricultural Scientific Collection Unit, Orange Agricultural Institute, Orange, New South Wales, Australia  
 =**BCRI**<sup>2</sup>—Biological and Chemical Research Institute, Rydalmere, New South Wales, Australia

**AUET** see **ZMAU**

**BASU**—Collection of Acarology Laboratory, Bu-Ali Sina University, Hamadan, Iran.

**BBM** see **BPBM**

**BCRI** see **ASCU**

**BEO**—Natural History Museum Belgrade (Narodni muzej u Beogradu), Serbia

**BITU**—Biological Institute, Faculty of Education, Tottori University, Tottori, Japan

**BM** see **BPBM**

**BMNH**—Natural History Museum [former known as British Museum (Natural History)], London, England, UK=**NHM**—Natural History Museum, London, UK

**BMSA** see **NMBS**

**BPBM**—B.P. Bishop Museum, Honolulu, Hawaii, USA  
 =**BM**—B.P. Bishop Museum, Honolulu, Hawaii, USA  
 =**BBM**— B.P. Bishop Museum, Honolulu, Hawaii, USA

**BUZM**—Acarological collection of the Zoology Museum, Bozok University, Yozgat, Turkey

**CALBS**—Collection of the Acarology Laboratory, University of Bu Ali Sina, Hamedan, Iran

**CAS** see **CASC**

**CASC**—California Academy of Sciences, San Francisco, California, USA  
 =**CAS**—California Academy of Sciences, San Francisco, California, USA  
 =**SM**—Science Museum, Golden Gate Park, San Francisco, USA

**CBGP**—Collection of the Centre de Biologie et de Gestion des Populations, Montferrier-sur-Lez, France

**CM**—Chilean Museum (Museo de Historia Natural, section of entomology), Santiago, Chile

**CBZM**—Celal Bayar University, Zoological Museum, Manisa, Turkey

**CDPV**—Colección Departamento de Parasitología Veterinaria, Salto, Uruguay

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2. This institute started in 1970 and ended in 1992.

=**DPVURU**—Departamento de Parasitología Veterinaria, Uruguay  
**CEA-MHNS**—Colección de la Estación Experimental Agronómica, Universidad de Chile; Museo de Historia Natural Santiago, Chile  
**CEUFLA**—Coleção Entomológica da Universidade Federal de Lavras, Lavras - MG, Brazil  
**CFCV**—Colección Facultad de Ciencias Veterinarias, Esperanza, Argentina  
 =**FAVE**—Facultad de Veterinaria, Esperanza, Argentina  
**CFMVZ**—Coleção da Faculdade de Medicina Veterinária e Zootecnia (also known as “Coleção Nacional de Carapatos”), São Paulo, Brazil  
**CGEN**—mite collection at Embrapa Genetic Resources and Biotechnology (former also known as “Cenargen”), Brasília, Federal District, Brazil  
 =**DFIB**—Collection of Laboratório de Quarentena Vegetal, Embrapa Recursos Genéticos e Biotecnologia, Brasília, Distrito Federal and of Instituto Biológico, Campinas, São Paulo, Brazil.  
**CI**—Cawthorn Institute, Nelson, New Zealand  
**CMC** see **CMNZ**  
**CMNH**—Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, U.S.A.  
**CMNZ**—Canterbury Museum, Rolleston Ave, Christchurch, New Zealand  
 = **CMC**—Canterbury Museum, Christchurch, New Zealand  
**CMNS**—Museum of Natural History, Shanghai, China (Mesa et al. 2009)  
**CNAC** see **UNAM**  
**CNC** see **CNCI**  
**CNCI**—Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada  
 = **CNC**—Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada  
**CNCP**<sup>3</sup>—Canadian National Collection of Phytoseiidae, University of Toronto, Canada  
**CNHM** see **FMNH**  
**CORBIDI**—Centro de Ornitología y Biodiversidad in Lima, Peru  
**CUBS**—Department of Zoology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia.  
**CUE**—Collection of Faculty of Agriculture, Cairo University, Egypt (Mesa et al 2009).  
**CUI**—The Division of Acarology of the Department of Zoology, Calicut University, India.  
**CUIC**—Cornell University Insect Collection, Ithaca, New York, U.S.A.  
 =**DECU**—Department of Entomology, Cornell University, Ithaca, NY, USA.  
**CUMN**—Acari collection of the Chulalongkorn University Museum of Natural History, Bangkok, Thailand.  
**CZIICT**—Centro de Zoologia do Instituto de Investigação Científica Tropical, Lisbon, Portugal  
**DA** see **DZUC**  
**DATE** see **AMU**  
**DB** see **KAU**  
**DEES** see **USPB**  
**DEKU** see **KUB**  
**DEP** see **EMEC**  
**DEUP** see **UPLB**  
**DFIB** see **CGEN**  
**DiBCA-EZUB** see **UBI**  
**DPFV**—Departamento de Parasitología, Facultad de Veterinaria, Zaragoza, Spain  
**DPZ** see **SIUG**

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3. This collection is now part of **CNCI**—Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada.

**DSIR** see **NZAC**  
**DZPU** see **PAU**  
**DZSJR** see **UEP**  
**DVCS**—Department of Veterinary and Capture Services, Kenya Wildlife Service, Nairobi, Kenya  
**DZUC**—Department of Zoology, University of Calicut, Kerala, India  
     =**DA**—Division of Acarology, Department of Zoology, University of Calicut, Kerala, India  
**EAVRO**—East African Veterinary Research Organization, Kikuyu, Kenya  
**EDPCQ**—Institute for Endemic Disease Prevention and Control of Qinghai province, China.  
**EMBT**—Department of Agriculture, Entomology & Zoology Division, Chatuchak, Bangkok, Thailand.  
**EMEC**—Essig Museum of Entomology, University of California, Berkeley, California, USA.  
     =**DEP**—Division of Entomology and Parasitology, University of California, Berkeley, USA<sup>4</sup>  
**EMV**—Escuela de Medicina Veterinaria, Santiago, Chile  
**ENV**—École Nationale Vétérinaire, Toulouse, France  
**EPCL** see **SUC**  
**ERGB**—Collection of Laboratório de Quarentena Vegetal, Embrapa Recursos Genéticos e Biotecnologia, Brasília, DF, Brazil.  
**ESALQ/USP** see **USPB**  
**EUE**—Acarology Laboratory of Erzincan University, Erzincan, Turkey  
**EUKT**—Acarological Collection of the Zoological Museum, Erciyes University, Kayseri, Turkey.  
**FAAS**—Institute of Plant Protection Collection, Fujian Academy of Agricultural Sciences, Fuzhou, P. R. China.  
**FACU**—Faculty of Agriculture, Cairo University, Giza, Egypt  
**FCM** see **FMNH**  
**FCPT**—Fundación Conjunto Paleontológico de Teruel-Dinópolis, Spain.  
**FEFU**—Far Eastern Federal University. Zoological Museum, Vladivostok, Russia  
 =**FESU**—Far East State University, Vladivostok, Russia  
**FF** see **UCM**  
**FFSDU**—Fundamental Science Laboratory collection, Faculty of Fisheries, Süleyman Demirel University, Egirdir/Isparta, Turkey  
**FESU** see **FEFU**  
**FM** see **FMNH**  
**FMNH**—Field Museum of Natural History, Chicago, Illinois, USA.  
     =**FM**—The Field Museum, Chicago, Illinois, USA.  
     =**CNHM**—Chicago Natural History Museum, Chicago, USA  
     =**FCM**—Field Columbia Museum, Chicago, USA  
**GML**—Gorgas Memorial Laboratory (=Instituto Conmemorativo Gorgas), Panama City, Panama  
**FMS**—Fukui Medical School, Laboratory of Ohara General Hospital, Omachi, Fukushima, Japan  
**FRNZ**—Scion, officially registered as New Zealand Forest Research Institute (formerly Forest Research Institute), Rotorua, New Zealand  
**FSCA**—Florida State Collection of Arthropods, Gainesville, Florida, USA  
**FUE** see **FUET**  
**FUET**—Research collection of the Biology Department, Firat University, Elazığ, Turkey  
     **FUE**—Research collection of the Biology Department, Firat University, Elazığ, Turkey  
**GM** see **MSNG**  
**GMNH**—Georgia Museum of Natural History, Natural History Building, University of Georgia, Athens, Georgia, USA  
**GNHM**—Collection of the Goulandris Natural History Museum, Kiphissia, Athens, Greece

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4. Used by Guglielmone *et al.* (2014).

**GUGC**—Institute of Entomology, Guizhou University, Guiyang, China  
**GUGX**—Guangxi University, Nanning, Guangxi Zhuang Autonomic Region, China  
**HCOE** see **OUNH**  
**HH**—Harry Hoogstraal Collection, United States Naval Medical Research Unit N° 3, Cairo, Egypt  
**HNHM**—Soil Zoology Collection of Hungarian Natural History Museum, Budapest, Hungary  
**HUB** see **ZMB**  
**HUHC**—Museum of Hebei University, Baoding, Hebei Province, China  
**IAHVS**—Institute of Animal Husbandry and Veterinary Science, Yang-xi County, Hubei Province, China  
**IARI**—National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi, India  
     = **INPC**—Indian Agricultural Research Institute, National Pusa Collection (NPC), New Delhi, India  
**IBAC**—Instituto de Biología, Academia de Ciencias de Cuba, Havana, Cuba  
**IBIW**—Research collection of the Institute for Biology of Inland Waters, Borok, Russia.  
**IBSP**—Instituto Butantã, São Paulo, Brazil  
**IBSS**—Research collection of the Institute of Biology and Soil Science, Vladivostok, Russia  
**IBU**—Instituto Butantan, São Paulo, Brazil  
**ICA**—Institute of Comparative Anatomy, University of Pavia, Pavia, Italy  
**ICIPE**—The International Centre for Insect Physiology and Ecology, Nairobi, Kenya.  
**IEBR VAST**—Department of Zoology Museum of the Institute for Ecology and Biological Resources, Vietnamese Academy of Science and Technology, Hanoi, Vietnam  
**IEMVPT**—Institut d'Élevage et de Médecine Vétérinaire des Pays Tropicaux, Tananarive, Madagascar  
**IGHTC**—Ivan G. Horak Tick Collection, Department of Veterinary Tropical Diseases, Faculty of Veterinary Science, University of Pretoria, Onderstepoort, South Africa  
**IM** see **ZSI**  
**IMR**—Institute for Medical Research, Kuala Lumpur, Malaysia  
     = **IMRKL**—Institute for Medical Research, Kuala Lumpur, Malaysia  
**INBCR** see **AINB**  
**INPA**—Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil  
**INPC** see **IARI**  
**INTA**—Instituto Nacional de Tecnología Agropecuaria, Rafaela, Argentina  
**IOC**—Instituto Oswaldo Cruz, Rio de Janeiro, Brazil  
**IOZ** see **IZAS**  
**IPASCR** see **IPCAS**  
**IPCAS**—Institute of Parasitology, Czech (formerly Czechoslovak) Academy of Sciences, České Budějovice, Czech Republic  
     = **IPASCR**—Institute of Parasitology, Academy of Sciences of the Czech Republic, České Budějovice, Czech Republic  
     = **ASCR**—Institute of Parasitology, Academy of Sciences of the Czech Republic, České Budějovice, Czech Republic  
     = **IPCR**—Institute of Parasitology, Academy of Sciences of the Czech Republic, České Budějovice, Czech Republic  
**IPCR** see **IPCAS**  
**IPG**—Institut Pasteur, Guyane et du Territoire de l'Inini, Cayenne, French Guiana  
**IPHCMC**—Institut Pasteur, Ho Chi Minh City, Vietnam  
**IPP**—Institut Pasteur, Paris, France  
**IPT**—Institut Pasteur, Tananarive, Madagascar  
**IRSNB**—Institut Royal des Sciences naturelles de Belgique, Brussels, Belgium  
     = **RBNS**—Collection of the Royal Belgian Institute of Natural Sciences, Brussels, Belgium.

**ISEA**—Zoological Museum of Institute of Systematics and Ecology of Animals, Novosibirsk, Russia

**ISET**—Instituto de Salubridad y Enfermedades Tropicales, México D.F., Mexico

**ISM**—Institut Scientifique de Madagascar, Tananarive, Madagascar

**ISZA**—Istituto Sperimentale per la Zoologia Agraria di Firenze, Italy

**ITS**—Institut Tropical Suisse, Bâle, Switzerland

**IZAS**—Institute of Zoology, Academia Sinica, Beijing, China  
 =**NZMC**—National Zoological Museum of China, Institute of Zoology, Chinese Academy of Sciences, Beijing, China.  
 =**IOZ**—Institute of Zoology, Chinese Academy of Sciences, Beijing, China

**IZG**—Institute of Zoology of Georgia, Tbilisi, Georgia

**IZNASU**—Institute of Zoology, National Academy of Sciences of Ukraine, Ukraine

**IZSAS**—Institute of Zoology, Slovak Academy of Sciences, Bratislava, Slovak.

**IZUW**—Institut für Zoologie der Universität Wien, Wien, Austria

**JAZM**—Jalal Afshar Zoological Museum, College of Agriculture, University of Tehran, Tehran, Iran  
 = **UTKI**—Acarological Collection, Zoological Museum, College of Agriculture, University of Tehran, Karaj, Iran

**KAU**—King Abdulaziz University, Jeddah, Saudi Arabia  
 =**DB**<sup>5</sup>—Department of Biology, Faculty of Science, King Abdel Aziz University, Jeddah, Saudi Arabia

**KSMA** see **KSU**

**KSU**—King Saud University, Saudi Arabia  
 = **KSMA**—King Saud Museum of Arthropods, King Saud University, Riyadh, Saudi Arabia

**KUB**—Insect museum of Department of Entomology, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand  
 =**DEKU**—Department of Entomology, Kasetsart University, Bangkok, Thailand

**KUZ**—Collection of the Kyoto University Museum, Kyoto, Japan

**LA-CEIB**—Laboratório de Acarologia, Centro Experimental do Instituto Biológico, Campinas-SP, Brazil.

**LACM**—Natural History Museum of Los Angeles County (formerly “Los Angeles County Museum”), Los Angeles, California, USA

**LAZUA**—The Acari collection of Laboratory of Agricultural Zoology and Entomology, Agricultural University of Athens, Greece.

**LCCV**—Laboratorio Central de Cuarentena Vegetal de Cuba, Ciudad de La Habana, Cuba.

**LEMQ**—McGill University, Lyman Entomological Museum, Quebec, Canada

**LFE**—Laboratoire Federal de l’Élevage, Dakar, Senegal

**LMNH** see **RMNH**

**LP**—Laboratorio de Parasitología, Facultad de Medicina Veterinaria, Maracay, Venezuela

**LPFMR**—Laboratoire de Parasitologie, Faculté de Médecine de Rennes, Rennes, France

**LSHTM**—London School of Hygiene and Tropical Medicine, London, England

**LSUMZ**—Louisiana State University Museum of Zoology, Louisiana, USA.

**LUNZ**—Lincoln University, Lincoln, Canterbury, New Zealand  
 =**LCNZ**—Lincoln College, Lincoln, Canterbury, New Zealand

**MAEU**—Faculty of Science and Arts, Mehmet Akif Ersoy University, Burdur, Turkey

**MCN** see **ZAUMCN** or **MCNBR**

**MCNB**—Museo de Ciencias Naturales, Barcelona, Spain

**MCNBR**—Museo de Ciencias Naturales Bernardino Rivadavia, Buenos Aires, Argentina  
 =**MCN**—Museo de Ciencias Naturales Bernardino Rivadavia, Buenos Aires, Argentina

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5. Used by Guglielmone *et al.* (2014)



**MCSN** see **MSNG**

**MCZ**—Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA  
 =**MCZC**—Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA

**MGAB**—Acarological Collection of the “Grigore Antipa” National Museum of Natural History (Muzeul Național de Istorie Naturală “Grigore Antipa”), Bucharest, Romania

**MGS** see **MHNG**

**MHN**—“Museo de Historia Natural”, Lima, Peru.

**MHNCI**—Museu de Historia Natural Capão da Imbuia, Curitiba, Brazil

**MHNG**—Muséum d'histoire naturelle, Genève, Switzerland  
 =**NHMG**—Natural History Museum of Geneva, Switzerland  
 = **MGS**—Muséum d'histoire naturelle, Genève, Switzerland

**NHMG** see **MHNG**

**MHNLS**—Museo de Historia Natural La Salle, Caracas, Venezuela

**MHNM**—Museu de Historia Natural, Maputo, Mozambique

**MHO** see **OUMNH**

**MMP**—Museum of Montenegro, Podgorica, Montenegro.

**MNCN**—Museo Nacional de Ciencias Naturales, Madrid, Spain.

**MNHN**—Muséum National d'Histoire naturelle, Paris, France.

**MNHP**—Museum of the Natural History of Podgorica, Montenegro.

**MNHWU**—Museum of Natural History, Wrocław University, Wrocław, Poland.

**MNRJ**—Arachnological Collection of the National Museum of Rio de Janeiro (Museu Nacional Rio de Janeiro), Brazil

**NMNZ**—National Museum of New Zealand, Wellington, New Zealand  
 =**MNZT**—Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand  
 =**MNZ**—Museum of New Zealand, Wellington, New Zealand

**MNZ** see **NMNZ**

**MNZT** see **NMNZ**

**MPAS** see **PEM**

**MRAC**—Musée Royal de l’Afrique Centrale, Tervuren, Belgium  
 =**MRCB**—Musée Royal du Congo Belge, Tervuren, Belgium

**MRCB** see **MRAC**

**MRSN**—Musei Regionale di Scienze Naturali, Turin, Italy

**MSNG**—Museo Civico di Storia Naturale “Giacomo Doria”, Genova, Italy  
 = **GM**—Museo Civico di Storia Naturale di Genova Giacomo Doria, Genova, Italy  
 =**MCSN**—Museo Civico di Storia Naturale, Genova, Italy

**MSNM**—Milan Natural History Museum (Museo di Storia Naturale di Milano), Milan, Italy

**MUSM**—collection of the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru

**MVMA** see **NMVA**

**MZB** see **MZBB**

**MZBB**—Museum Zoologicum Bogoriense, Bogor, Indonesia.  
 =**MZB**—Museum Zoologicum Bogoriense, Bogor, Indonesia

**MZD** see **NUSM**

**MZLQ** see **USPB**

**MZNH**—Museum of Zoology and Natural History La Specola, Florence, Italy

**MZSP** see **USPB**

**MZUC**—Museo de Zoología Universidad de Concepción, Concepción, Bío Bío Region, Chile

**MZUNAV**—Museo de Zoología, Facultad de Ciencias, Universidad de Navarra, Spain.

**NBG**—Collection of the Nikita Botanical Gardens—National Scientific Center, Yalta, Crimea, Ukraine.

**NCA** see **NCA-PPRI**

**NCA-PPRI**—National Collection of Arachnida, Plant Protection Research Institute, Pretoria, South Africa.

=**NCA**—National Collection of Arachnida, Pretoria, South Africa

**NFCSO**—Department of Pest Management Development and Coordination, Directorate of Plant Protection, Soil Conservation and Agri-environment, National Food Chain Safety Office, Budapest, Hungary

**NHMB**—Naturhistorisches Museum Basel, Sweden

**NHMG**—Natural History Museum of Geneva, Switzerland

**NHM** see **BMNH**

**NHMW**—Naturhistorisches Museum Wien, Austria

= **NMW**—Naturhistorisches Museum, Wien, Austria

**NHRS**—Naturhistoriska Riksmuseet Stockholm, Sweden.

=**NRS**—Naturhistoriska Riksmuseet, Stockholm, Sweden

=**NRS**—Naturhistoriska Riksmuseet, Stockholm, Sweden

**NIH**—National Institute of Animal Health, Kodaira, Tokyo, Japan

**NIBR**—National Institute of Biological Resources, South Korea

**NIGA**—Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, China

**NIORI**—Museum of Biological Oceanography Division, National Institute of Oceanography, Goa, India.

**NIAU**—Arthropod/Mite Collection of the Department of Entomology, Nanjing Agricultural University, Jiangsu Province, P. R. China.

**NM** see **NMVA**

**NMB** see **NMBS**

**NMBS**—Acarology collection of the National Museum, Bloemfontein, South Africa.

=**NMB**—Acarology collection of the National Museum, Bloemfontein, South Africa

=**BMSA**—National Museum in Bloemfontein, South Africa

**NMNS**—National Museum of Natural Science, Taichung, Taiwan, Republic of China.

**NMPC**—National Museum of Prague, Czech Republic

=**NMP**—Arachnological collection of National Museum of Prague, Czech Republic

**NMP** see **NMPC**

**NMS**—National Museums of Scotland, Edinburgh, Scotland

= **EC**—Evans Collection in Edinburgh Museum, Scotland

**NMV** see **NMVA**

**NMVA**—Museum Victoria (formerly National Museum of Victoria), Melbourne, Victoria, Australia

= **NMV**—Museum Victoria, Melbourne, Australia

=**NM**—National Museum, Melbourne, Australia

=**MVMA**—Department of Entomology, Museum Victoria, Melbourne, Australia.

**NMW** see **NHMW**

**NMPC**—Arachnological collection of National Museum, Prague, Czech Republic

**NRS** see **NHRS**

**NRSS** see **NHRS**

**NSCY**—National Scientific Center, Yalta, Ukraine.

**NSM** see **NSMT**

**NSMT**—Collection of the National Museum of Nature and Science (former National Science Museum), Tokyo, Japan.

=**NSM**—National Science Museum, Natural History Institute, Shinjuku, Tokyo, Japan

**NTMD**—Northern Territory Museum (now Museum and Art Gallery of the Northern Territory), Darwin, Australia

= **MAGNT**—**M**useum and **A**rt **G**allery of the Northern Territory, Darwin, Australia  
 = **NTM**—Northern Territory **M**useum (now **M**useum and **A**rt **G**allery of the Northern Territory), Darwin, Australia  
**NU** see **UNSM**  
**NUSM**—**M**edical **Z**oology **D**epartment, Niigata **U**niversity, School of **M**edicine, Niigata, Japan  
 =**MZD**—**M**edical **Z**oology **D**epartment, Niigata University School of Medicine, Niigata, Japan  
**NUMU**—Department of Zoology, National **U**niversity of **M**ongolia, **U**laanbaatar, Mongolia  
**NZAC**—**N**ew **Z**ealand **A**rthropod **C**ollection, Landcare Research, Auckland, New Zealand  
 =**DSIR**—**D**epartment of **S**cientific and **I**ndustrial **R**esearch, Auckland, New Zealand  
**NZMC** see **IZAS**  
**ORSTOM**—**O**ffice de la **R**echerche **S**cientifique et **T**echnique **O**utre-**M**er, Paris, France  
**OMB**—Übersee-**M**useum **B**remen, Bremen, Germany  
**OMNZ**—Otago **M**useum, Dunedin, New Zealand  
**OSAL**—**O**hio **S**tate **U**niversity **A**carology **C**ollection, Columbus, Ohio, USA.  
 =**OSU**<sup>6</sup>—**M**useum of **B**iological **D**iversity, the **O**hio **S**tate **U**niversity, Columbus, Ohio, USA  
**OSU**—**O**regon **S**tate **U**niversity, Corvallis, Oregon, USA  
**OVI**—**O**nderstepoort **V**eterinary **I**nstitute, Onderstepoort, South Africa  
**OUMNH**—**O**xford **U**niversity **M**useum of **N**atural **H**istory, Oxford, UK  
 =**MHO**—**H**ope **M**useum, **O**xford, England  
 = **HCOE**—**H**ope **E**ntomological **C**ollections, University **M**useum, **O**xford, England  
**PAU**—The **A**carology **L**aboratory of **P**amukkale **U**niversity, Denizli, Turkey  
 = **DZPU**—**D**epartment of **Z**oology of **P**amukkale **U**niversity, Denizli, Turkey  
**PAUP**—**C**ollection of the **D**epartment of **Z**oology, **P**unjab **A**gricultural **U**niversity, Ludhiana, **P**unjab, India  
**PEM**—**P**eabody **E**ssex **M**useum<sup>7</sup>, Salem, Massachusetts, USA  
 =**MPAS**—**M**useum of the **P**eabody **A**cademy of **S**cience, Salem, Massachusetts, USA  
**PEU** see **UEP**  
**PFC**—**P**acific **F**orestry **C**entre (formerly known as **F**orest **R**esearch **L**aboratory), Victoria, British Columbia, Canada  
**PHEL**—**P**lant **H**ealth and **E**nvironment **L**aboratory, Ministry for **P**rimaries Industries, Auckland, New Zealand  
**PNM**—The **N**ational **M**useum of the **P**hilippines (**P**hilippine **N**ational **M**useum), Manila, The Philippines  
**PPRP**—**A**RC-**P**lant **P**rotection **R**esearch **I**nstitute, Pretoria, South Africa.  
 =**SANC**—**N**ational **C**ollection of **A**cari, **P**lant **P**rotection **R**esearch **I**nstitute, Department of **A**gricultural **T**echnical **S**ervices, Pretoria, South Africa (Mesa et al. 2009)  
**PRUL**—**P**est **R**esearch **U**nit **L**aboratory, National **C**ouncil for **S**cientific **R**esearch, Chilanga, Lusaka, Zambia  
**QDPI**—**Q**ueensland **D**epartment of **P**rimaries **I**ndustries **I**nsect **C**ollection, Indooroopilly, Queensland, Australia  
**QIMR**—**Q**ueensland **I**nstitute of **M**edical **R**esearch (now known as **Q**IMR Berghofer **M**edical **R**esearch **I**nstitute or in short form **Q**IMR Berghofer), Brisbane, Queensland, Australia  
**QM**—**Q**ueensland **M**useum, Brisbane, Queensland, Australia  
 =**QMBA**—**Q**ueensland **M**useum, Brisbane, Queensland, Australia.  
**QMBA** see **QM**  
**RBNS** see **IRSNB**  
**PMAE**—**R**oyal **A**lberta **M**useum (formerly **P**rovincial **M**useum of **A**lberta), Invertebrate Zoology,

6. Homonym of **OSU**—**O**regon **S**tate **U**niversity, Corvallis, Oregon, USA

7. Known as The Peabody Museum of Salem (1915–1992) and Peabody Academy of Science (1865–1915), which was a successor to the East India Marine Society (founded in 1799).

Edmonton, Alberta, Canada

**RMNH**—Naturalis Biodiversity Center (formerly “National Museum of Natural History=Rijksmuseum van Natuurlijke Historie”), Leiden, The Netherlands.

=**LMNH**—Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands

**RIH**—The collection of the Department of Vegetable and Ornamental Plant Protection at the Research Institute of Horticulture, Skierniewice, Poland.

**SAIMR**—South African Institute for Medical Research (now as National Institute for Communicable Diseases), Johannesburg, Republic of South Africa

**SAM** see **SAMA**

**SAMA**—South Australian Museum, Adelaide, South Australia, Australia.

=**SAM**—South Australian Museum, Adelaide, South Australia, Australia

**SANC** see **PPRP**

**SBUC** see **SBUK**

**SBUK**—the Collection of the Acarology Laboratory, Shahid Bahonar University of Kerman, Kerman, Iran

=**SBUC**—Collection of the Acarology Laboratory, Shahid Bahonar University of Kerman, Kerman, Iran

**SEATO**—SEATO<sup>8</sup> Medical Research Laboratory, Bangkok, Thailand

**SEMC**—Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas, USA (former Snow Entomological Museum)

**SFCST**—Service de Faunistique du Centre Scientifique et Technique, Bondy, France

**SGGW** see **WULS**

**SHZU**—Department of Plant Protection, College of Agriculture, Shihezi University, Shihezi, Xinjiang, China

**SIU**—Southern Illinois University, Carbondale, Illinois, U.S.A.

**SIUG**—Department of Parasitology and Zoology, Szent István University, Gödöllő, Hungary

=**DPZ**—Department of Parasitology and Zoology, Szent István University, Gödöllő, Hungary

**SIZK**—the collection of the Schmalhausen Institute of Zoology NAS, Kiev, Ukraine

**SMF**—Senckenberg-Museum Frankfurt (=Senckenberg Research Institute and Natural History Museum, Frankfurt, = Senckenberg Institution Frankfurt), Germany

**SMNG**—Acarological Collection of Staatliches Museum für Naturkunde Görlitz, Germany.

**SNMB**—Slovak National Museum, Bratislava, Slovakia

**SPSU**—Collection of the Laboratory of Phytoacarology, Department of Invertebrate Zoology, Biological and Soil Sciences Faculty, Saint Petersburg State University, Russia)

**SRIAUF**—Acarological Collection, Science and Research Branch, Islamic Azad University, Fars, Iran

=**ACIAU**—Acarology Collection, Islamic Azad University, Fars Science and Research Branch, Marvdasht, Iran.

**SUC**—Institute of Entomology, Southwest University, Chongqing, China

= **EPCL**—Chongqing Key Laboratory of Entomology and Pest Control Engineering, Southwest University, Chongqing, China.

**SUI**—Department of Plant Protection, Shiraz University, Iran

**TIUC** see **TNU**

**TM** see **TMAG**

**TMAG**—Tasmanian Museum and Art Gallery, Hobart, Australia

=**TM**—Tasmania Museum, Hobart, Australia

**TMU**—Acarological Collection, Department of Entomology, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran.

**TNAU**—Department of Agricultural Entomology Collection, Tamil Nadu Agricultural University,

Coimbatore, India

**TNU**—Taiwan National University, Taipei, Taiwan.

=**TIUC**—Taihoku Imperial University Collections, Taipei, Taiwan

**TTU**—Texas Tech University, Lubbock, Texas, USA

**TSUMZ**—Tyumen State University Museum of Zoology, Tyumen, Russia

= **TUMZ**—Tyumen State University Museum of Zoology, Tyumen, Russia

**TUPH**<sup>9</sup>—Acarology Research Section of Plant Pests & Diseases Research Institute, Iran

**UASM**—University of Alberta Strickland Museum, Edmonton, Canada.

**UAC**—The collection of the University of Ankara, Plant protection Department, Ankara, Turkey

**UADBA**—Université d' Antananarivo, Département de Biologie Animale, Antananarivo, Madagascar

**UAT**—Department of Plant Protection, Agricultural Faculty, University of Ankara, Turkey

**UBI**—Dipartimento di Biologia e Chimica Agro-forestale e Ambientale (DiBCA), Entomological and Zoological Section, University of Bari, Italy

=**DiBCA-EZUB**—Dipartimento di Biologia e Chimica Agro-forestale e Ambientale (DiBCA), Entomological and Zoological Section, University of Bari, Italy

**UBS**—Acarology collection, Department of Entomology and Agricultural Zoology, Faculty of Agriculture, University of Belgrade, Serbia.

**UCL**—Université Catholique de Louvain, Louvain, Belgium

**UCM**—Universidad Complutense de Madrid, Madrid, Spain

=**FF**—Facultad de Farmacia, Universidad de Madrid, Madrid, Spain

**UEP**—Zoologia e Botânica, Universidade Estadual Paulista (UNESP), São José do Rio Preto, State of São Paulo, Brazil.

=**UNESP**—Departamento de Zoologia e Botânica, Universidade Estadual Paulista, São José do Rio Preto, State of São Paulo, Brazil

=**PEU**—Acari Collection of Departamento de Zoologia e Botânica, Universidade Estadual Paulista (UNESP), campus de São José do Rio Preto, São Paulo, Brazil

=**DZSJRP**—Acari Collection of Departamento de Zoologia e Botânica, Universidade Estadual Paulista (UNESP), campus de São José do Rio Preto, São Paulo, Brazil

**UESC**—the Acarological collection of Universidade Estadual de Santa Cruz, Ilhéus, Bahia, Brazil

**UFAL**— Universidade Federal de Alagoas, Campus Arapiraca, Arapiraca, Alagoas, Brazil

**UFMG**—Universidade Federal de Minas Gerais, Pampulha, Belo Horizonte, MG, Brasil

=**UFMG-AC**—Acarological collection of the Federal University of Minas Gerais, Pampulha, Belo Horizonte - MG, Brazil

**UFMG-AC** see **UFMG**

**UFRP**—Collection of the Laboratório de Acarologia, Departamento de Agronomia, Universidade Federal Rural de Pernambuco, Recife, PE, Brazil.

**UGA**—University of Georgia, Athens, Georgia, U.S.A.

**UGDIZP**—University of Gdańsk, Department of Invertebrate Zoology and Parasitology, Gdańsk, Poland

**UGMC**—University of Guilan Mite Collection, Rasht, Gilan Province, Iran

**UKK**—Biosystematics Research Unit, Department of Zoology, University of Kalyani, Kalyani 741235, West Bengal, India.

**UM**—University of Maryland, College Park, Maryland, USA

**UMAC** see **UMI**

**UMI**—Collection of the Acarology Laboratory, University of Maragheh, Maragheh, Iran.

=**AFUMI**—Acarological Collection, Department of Plant Protection, Faculty of Agriculture, University of Maragheh, Maragheh, East Azerbaijan Province, Iran.

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9. Used by Mesa *et al.* (2009). It is not clear to me how this acronym was formed. It is possibly based on a previous name of the same organization.

- =**UMAC**—Acarological Collection, Department of Plant Protection, Faculty of Agriculture, University of Maragheh, Maragheh, East Azerbaijan Province, Iran.
- UMMZ**—University of Michigan, Museum of Zoology, Ann Arbor, Michigan, USA.
- UMSP**—University of Minnesota, St. Paul, Minnesota, USA.
- =**DEEZ**—Division of Entomology and Economic Zoology, University of Minnesota, St. Paul, USA
- UMR CBGP**—the mite collection of Montpellier SupAgro—INRA Acarology collection, Montpellier, France
- UNESP** see **UEP**
- UNSM**—University of Nebraska State Museum, Lincoln, Nebraska, U.S.A.
- =**NU**—University of Nebraska State Museum, Lincoln, Nebraska, U.S.A.
- UNAM**—Acarology Collection of the Universidad Autónoma de México, Mexico City, Mexico
- =**CNAC**—Colección Nacional de Ácaros del Instituto de Biología, Mexico City, Mexico
- =**AHC**—Anita Hoffmann Collection, Instituto de Biología, Universidad Autónoma de México, Mexico City, Mexico
- UNIPA**—Acari collection of the Laboratory of Applied Acarology "Eliahu Swirski, Department of Agricultural and Forest Sciences, University of Palermo, Italy
- UPLB**—Entomological Museum, Museum of Natural History, University of the Philippines Los Baños, the Philippines
- =**DEUP**—Department of Entomology, University of Philippines, Los Baños, the Philippines
- UQRoo**—Universidad de Quintana Roo, Chetumal, Quintana Roo, Mexico
- USNM**—United States National Museum of Natural History, Smithsonian Institution, Washington, D.C, USA.
- =**NMNH**—National Museum of Natural History at the Smithsonian Institution, Washington, D.C, USA.
- =**SNMNH**—Smithsonian National Museum of Natural History, Washington, D.C., USA.
- USNTC**<sup>10</sup>—U.S. National Tick Collection, Georgia Southern University, Statesboro, Georgia, USA.
- USNPC**—United States National Parasite Collection, Beltsville, Maryland, USA
- USPB**—“Museu de Zoologia Luiz de Queiroz” at the Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo, Piracicaba, São Paulo, Brazil.
- =**MZLQ**—“Museu de Zoologia Luiz de Queiroz”, Mite Reference Collection, Department of Entomology and Acarology, Escola Superior de Agricultura "Luiz de Queiroz", Brazil.
- =**ESALQ/USP**—Collection of Departamento de Entomologia e Acarologia, **ESALQ** – Universidade de São Paulo, Piracicaba, São Paulo, Brazil
- =**DEES**<sup>11</sup>—Reference Collection of Departamento de Entomologia, Fitopatologia e Zoologia Agrícola, Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo, Piracicaba, SP, Brazil
- UTI**—Acarological Collection, Department of Plant Protection, Faculty of Agriculture, University of Tabriz, Tabriz, Iran.
- UTKI** see **JAZM**
- UUZM**—Uppsala University, Museum of Evolution, Zoology section (known as “Uppsala University Zoological Museum” before 1999), Uppsala, Sweden
- =**ZMU**—Museum of Evolution, Uppsala, Sweden
- =**LC**—Linnaeus Collection, Uppsala, Sweden
- UWMO**—Collection of the Department of Ecology and Environmental Protection, the University of Warmia and Mazury in Olsztyn, Poland
- VLM**—Veterinary Laboratory (Faculdade de Veterinária, Universidade Eduardo Mondlane), Maputo, Mozambique.

10. Incorrectly as **USNMENT** in Liu *et al.* (2017).

11. Used by Mesa *et al.* (2009)

**VMDFA**—Veterinary Medicine Department, Faculty of Agriculture, University of Tokyo, Tokyo, Japan

**VNUA**—Vietnam National University of Agriculture, Hanoi, Vietnam  
 =**AI**—Agriculture Institute N 1, Hanoi, Vietnam

**VRC**—Virus Research Centre, Poona, India

**VRLH**—Veterinary Research Laboratory, Harare, Zimbabwe

**VRLKK**—Veterinary Laboratory Research, Kabete, Kenya

**WAM**—Western Australian Museum, Perth, Australia.

**WINC**—Waite Insect and Nematode Collection<sup>12</sup>, Entomology Unit, South Australian Research and Development Institute, Adelaide (EUSARDI), South Australia, Australia (Mesa et al 2009).

**WULS**—the collection of the Department of Applied Entomology, Warsaw University of Life Sciences, Warsaw, Poland  
 = **SGGW**—Szkoła Główna Gospodarstwa Wiejskiego w Warszawie, Poland

**YIAZ**—Yazd Branch, Islamic Azad University, Yazd, Iran

**YSU**—Youngstown State University, Youngstown, Ohio, U.S.A.

**WUM**—Wrocław University Museum of Natural History, Wrocław, Poland

**ZAUMCN**—Museu de Ciências Naturais, UNIVATES—Centro Universitário, Lajeado, Rio Grande do Sul State, Brazil  
 = **MCN**—the mite reference collection (CAS) of the Museu de Ciências Naturais, UNIVATES Centro Universitário, Lajeado, the state of Rio Grande do Sul, Brazil

**ZIAC** see **ZISP**

**ZIRAS** see **ZISP**

**ZISP**—Zoological Institute, Russian Academy of Sciences, Saint-Petersburg, Russia.  
 =**ZIRAS**—Collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia.  
 =**ZIAC**—Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia

**ZIZMUH**—Biozentrum Grindel und Zoologisches Museum (formerly: Zoologisches Institut und Zoologisches Museum der Universität Hamburg), Hamburg, Germany.

**ZMA** see **ZMAN**

**ZMAN**—Zoological Museum in Amsterdam, The Netherlands.  
 =**ZMA**—Zoological Museum, Amsterdam, The Netherlands

**ZMAU**—Zoological Museum of Atatürk University, Erzurum, Turkey  
 =**AUET**—Zoological Museum of Atatürk University, Erzurum, Turkey

**ZMB**—Zoologischen Museen Berlin (now known as “Museum für Naturkunde der Humboldt-Universität zu Berlin”), Berlin, Germany  
 =**HUB**—Museum of Natural History, Department of Arachnids, Myriapods and Stemgroup Arthropoda, Humboldt University Berlin, Germany  
 =**ZMHU**—Zoologische Museum, Humboldt Universität, Berlin, Germany

**ZMBN**—the University Museum of Bergen, Norway

**ZMM**—Zoologischen Museum München, München, Germany

**ZMUM**—Zoological Museum, University of Moscow, Moscow, Russia  
 =**ZMMO**—Zoological Museum of Moscow University, Moscow, Russia

**ZMH**—Zoological Museum in Hamburg (now Zoological Museum, Center of Natural History, University of Hamburg), Germany.

**ZSH**—Zoologischen Staatsmuseum Hamburg, Hamburg, Germany

**ZMJU**—Zoological Museum of the Jagiellonian University, Cracow, Poland

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12. The merger of Adelaide University's Duncan Swan Insect Collection (WARI), the Waite Institute Nematode Collection (WINC), and the South Australian Research and Development Institute (SARDI) insect collection.

**ZMMO** see **ZMUM**

**ZMT**—Zoological Museum of Turku University, Turku, Finland

**ZMUC**—the Zoological Museum, University of Copenhagen, Natural History Museum of Denmark, Copenhagen, Denmark

**ZMUO**—The collections of the Museum of Zoology, I. I. Mechnikov Odessa National University, Odessa, Ukraine

**ZSI**—Zoological Survey of India, Calcutta, India

=**IM**—Indian Museum, Calcutta, India

**ZSH** see **ZMH**

**ZSM**—Zoologische Staatssammlung Munich, Germany.

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