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2009-12

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http://hdl.handle.net10539/13811

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Technical note

New Cenozoic fossil- bearing site abbreviations for collections of the University of the Witwatersrand

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INTRODUCTION

The University of the Witwatersrand houses significant faunal and floral fossil collections. These contain a range of Palaeozoic, Mesozoic and Cenozoic vertebrates, invertebrates, trace fossils and plants, representing an almost continuous record of life on earth. Cataloguing and recording this large collection poses some significant curatorial problems. For the Palaeozoic and Mesozoic collections, primarily from the Karoo, a simple abbreviation and numbering system has been adopted, a number being allocated to each fossil when accessioned by the curator. This is practically possible as, for example, in the case of the Karoo vertebrates (assigned BP/1) housed at the Bernard Price Institute for Palaeontological Research (BPI), a South African Heritage Resources Agency (SAHRA) permit is granted to the institution rather than to any particular site or scientist. The BPI abbreviations are listed in Table 1. The accession of material is thus continuous, databases are up to date and available to all, and the possibility of duplication of accession abbreviations and numbers is practically eliminated. In addition, there is an added advantage that these collections may be incorporated into national databases (e.g. Nicolas 2007) containing all the fossil repositories with the view of creating future international databases. As soon as material is identifiable, it is accessioned, and becomes part of the larger collection.

With Cenozoic fossil collections, more specifically Late Miocene to Late Pleistocene fauna, excavations are carried out according to the archaeological model and SAHRA permits are granted to specific sites and scientists. This gives the permit holder the freedom to manage the site as he or she sees fit within the guidelines set out by the SAHRA. As a result, collections have received a variety of abbreviations created on a number of, often inconsistent, criteria. This has the potential for duplication of fossil accession allocations and confusion between sites, both nationally and internationally.

In this paper, we give examples of abbreviations used both at the University of the Witwatersrand and elsewhere and present a new abbreviation and numbering system for Cenozoic fossil-bearing sites to be used by the University of the Witwatersrand, together with the rationale for this decision.

Table 1. The list of collections currently housed at the Bernard Price Institute for Palaeontological Research at the University of the Witwatersrand.

Name of BPI collection	Catalogue series
Karoo Vertebrate Collection	BP/1/
Palaeobotanical Collection	BP/2/
Cenozoic Mammal Collections (site-specific collections)	BP/3/
Recent Comparative Faunal Collection	BP/4/
Maguire Collection of Putative Stone Artefacts (Makapansgat)	BP/5/
Ichnological (Trace Fossil) Collection	BP/6/
Sedimentological Collection	BP/7/
Collection of Bone Histology Slides	BP/8/
Invertebrate Collection	BP/9/
Palynology Collection	BP/10/
Collection of Fossil Casts	BP/11/
Teaching Collection	BP/12/
Collection of Teaching Slides	BP/13/
McLachlan Collection of Dwyka Fossils	BP/14/
Stromatolite Collection	BP/15/
Fossil Wood Collection	BP/16/
Cave of Hearths Collection	BP/17/
Comparative Collection of Recent/Extant Flora	BP/18/

WHAT DO THOSE ABBREVIATIONS MEAN?

As African Cenozoic fossil sites often yield, or potentially yield, early hominids, we will focus on these so-called 'hominid sites'. In the past there have been no 'hard and fast' rules for deciding on which abbreviations to use. In most cases the letters indicate where the fossil was found and/or the repository at which the fossil is kept. The letters are followed by a number indicating the number of fossils found in a series. For instance, KNM-ER 3733 was the 3733th specimen found in East Rudolf (= Koobi Fora) and is kept at the Kenya National Museum. In another instance the letters may indicate the place where the fossil was found and the type of fauna it represents. For example O.H. 8 (Olduvai Hominid 8) is the eighth hominid found at Olduvai. Some examples of African hominid site allocations are given in Table 2.

Table 2. Examples of common East and West African hominin-bearing site abbreviations.

Abbreviation	Locality/Institution
AL	Afar Locality, Ethiopia
ARA-VP	Aramis Vertebrate Paleontology, Ethiopia
BOU-VP	Bouri Vertebrate Palaeontology, Ethiopia
KNM-ER	Kenya National Museum, East (Lake) Rudolf, Kenya
KNM-WT	Kenya National Museum, West (Lake) Rudolf, Kenya
KP	Kanapoi, Kenya
KT	Koro Toro, Chad
OH	Olduvai Hominid, Tanzania
TM	Toros-Menalla, Chad

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PROBLEMS WITH UNIVERSITY OF THE WITWATERSRAND'S PRESENT SITE ACCESSION SYSTEM

The University of the Witwatersrand houses a remarkable range of fossils, more specifically, the material from more than sixty Miocene, Pliocene and Pleistocene sites, at least seven of these being significant early hominid localities. With the freedom of site permit holders to accession their excavated material, there is much variation in how this is done. In most instances, the abbreviations are linked only to the common name of the site (Table 3). For the famous locality of Sterkfontein (Broom & Schepers 1946), representing a single site, there are at least six different abbreviations allocated to different groups of fossils depending on the type of material and/or project carried out (e.g. Pickering). We do not suggest that there is anything wrong with this in principle, but feel that if this practice continues, over time, it could lead to confusion, difficulty in integrating databases and most importantly, the potential for duplication. Examples of duplication are the abbreviation 'TM', associated with the Transvaal Museum in Pretoria and with Toros Manalla in Chad, also 'SAM' used by both the South African Museum and South Australian Museum. Cranial fauna from Makapansgat has been assigned the abbreviation 'M' as a prefix to the fossil number, but the post-crania have the abbreviation as a suffix. This means that, for the same site, there are two fossils assigned to each number, the only difference being that one is assigned the abbreviation as a prefix (crania) and the other as a suffix (post-crania). This was not a problem with pre-computer cataloguing which occurred when these catalogues were created. For modern searchable electronic databases, however, this poses a major challenge as there are literally thousands of fossils with duplicate numbers.

Table 3. Examples of some common South African hominin-bearing site abbreviations.

Abbreviation	Locality/Institution
BC	Border Cave
GVD	Gladysvale
GVH	Gladysvale Hominid
C	Coopers
M	Makapansgat
MLD	Makapansgat Limeworks Deposit
DN	Drimolen
DNH	Drimolen Hominid
BP/3/	Bernard Price Institute Cenozoic Mammal
PL	Plovers Lake
T	Taung
StW	Sterkfontein, Witwatersrand Hominid
Sts	Sterkfontein Type Site
SWP	Sterkfontein Witwatersrand Primate
SKX	Swartkrans
ST	Swartkrans, Transvaal Museum
TM	Transvaal Museum
K	Kromdraai

A NEW SYSTEM FOR THE UNIVERSITY OF THE WITWATERSRAND

After careful consideration of fossil abbreviations and numbering used internationally, it was decided that a system similar to that used, for example in East Africa, be adopted. The abbreviation 'U.W.' (University of the Witwatersrand) indicates the repository responsible for or in any way associated with the material, followed by a number allocated to the site, followed by the number allocated to the fossil. To ensure continuity, a U.W. number has been allocated to all sites historically and currently associated with the University of the Witwatersrand (Table 4). This does not change the current *status quo* of established sites historically using a particular abbreviation and numbering system. The 'renumbering' of the sites serves only as a reference of the approximate chronological order of the noting, discovery and/or establishment of the sites so that future sites are numbered appropriately. For example U.W. 1, the first site discovered under the auspices of the University of the Witwatersrand is the 'Type Site' of *Australopithecus africanus* at Taung (Dart 1925). The 'Taung Child' (Taung 1), could therefore also be allocated as U.W. 1-1. It should be noted that the sites with their new U.W. numbers listed in Table 4 also contain a number of sites that have as yet not been excavated and also sites where the excavated material is housed at institutions other than the University of the Witwatersrand. The reason for their inclusion is that the sites have either been discovered or noted by individuals associated with Wits, or a permit holder/associate of the site is or has been employed at the university, but the site permit specifies that the material is curated elsewhere. Examples of such sites are Luleche (Adams *et al.* 2007) and a number of sites on Bolt's Farm (Thackeray *et al.* 2008). This does not imply that the material must or should be curated at the University of the Witwatersrand, nor that another institution housing the material is compelled to use U.W. numbers. The sites listed merely create an initial record of localities historically associated with the University of the Witwatersrand and also provide a U.W. number if required in future.

The main purpose of developing a new abbreviation and numbering system is not to change established sites, but to have a standardized abbreviation and a site number assigned by the University, rather than a 'random' abbreviation only, given by the site permit holder, discoverer or researcher. The disadvantage of this new system is that the name of the site is not obvious or indicated by a fossil accession number. However, even with the site abbreviations in use to date, it is not always clear as to what these abbreviations mean or their interpretation may be ambiguous. An example of this is a case of a hominin tooth in a piece of breccia marked 'BF' held at the University of the Witwatersrand. Bolt's Farm is the first locality that comes to mind, but this has to date not been confirmed, and the provenance is as yet still uncertain. Nevertheless, the new system avoids confusion, as the common site locality name may still be used in conjunction with the U.W. number, for example, reference can be made to U.W. 3 (Gladysvale) or U.W. 21 (Sterkfontein) (See Table 4). When a significant fossil is unprovenanced with limited information about the specimen, a U.W. number may also be assigned to such a

Table 4. Late Miocene to late Pleistocene palaeontological site details and their University of the Witwatersrand (U.W.) numbers.

U.W. no.	Reference no.	Common name	Locality/region	Coordinates	Geological context	First report
U.W. 1	None	Taung type site	Buxton Limeworks	27.6167S, 24.6167E	Thabaseek Tufa	Dart (1925)
U.W. 2	None	Hrdlička deposits	Buxton Limeworks	28.6167S, 24.6167E	Thabaseek Tufa	Hrdlička (1925)
U.W. 3	SAAN – 0001	Gladysvale	John Nash Reserve	25.9000S, 27.7000E	Dolomitic cave, Eccles Form.	Broom & Schepers (1946)
U.W. 4	SAAN – 0003	Kemps cave	Krugersdorp	26.0806S, 27.7056E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 5	SAAN – 0004	Minaars cave; Hadeco	Sterkfontein Valley	25.9900S, 27.7731E	Dolomitic cave, Monte Cristo Form.	Brain (1981)
U.W. 6	SAAN – 0005	None	Sterkfontein Valley	25.9881S, 27.8039E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 7	SAAN – 0006	None	Sterkfontein Valley	25.9853S, 27.7692E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 8	SAAN – 0007	None	Sterkfontein Valley	25.9671S, 27.7335E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 9	SAAN – 0008	None	Sterkfontein Valley	25.9812S, 27.7764E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 10	SAAN – 0009	None	Sterkfontein Valley	25.9543S, 27.7793E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 11	SAAN – 0010	None	Sterkfontein Valley	25.9525S, 27.7985S	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 12	SAAN – 0011	None	Sterkfontein Valley	25.8275S, 28.0131E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 13	SAAN – 0012	None	Sterkfontein Valley	25.8492S, 28.0132E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 14	SAAN – 0013	None	Sterkfontein Valley	25.8035S, 28.0657S	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 15	SAAN – 0014	None	Sterkfontein Valley	25.8032S, 28.0531E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 16	SAAN – 0015	None	Erasmia	25.8039S, 28.0525E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 17	SAAN – 0016	Legolo	Erasmia	25.8060E, 28.0508S	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 18	SAAN – 0017	None	Pelindaba	25.8161S, 27.9693E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 19	SAAN – 0018	None	John Nash Reserve	25.8895S, 27.7761E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 20	SAAN – 0019	None	John Nash Reserve	25.8442S, 27.8464E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 21	SAAN – 0020	Sterkfontein	Sterkfontein Valley	26.0317S, 27.7350E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 22	SAAN – 0021	Swartkrans	Sterkfontein Valley	26.0167S, 27.7239E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 23	SAAN – 0022	Kromdraai	Sterkfontein Valley	26.0106S, 27.7503E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 24	SAAN – 0023	Coopers A	Sterkfontein Valley	26.0128S, 27.7468E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 25	SAAN – 0023	Coopers B	Sterkfontein Valley	27.0128S, 27.7468E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 26	SAAN – 0023	Coopers C	Sterkfontein Valley	28.0128S, 27.7468E	Dolomitic cave, Monte Cristo Form.	Broom & Schepers (1946)
U.W. 27	SAAN – 0023	Coopers D	Sterkfontein Valley	29.0128S, 27.7468E	Dolomitic cave, Monte Cristo Form.	Berger *et al.* (2003)
U.W. 28	None	None	Thabazimbi Valley	Unknown	Unprovenanced	This publication
U.W. 29	None	Makapan Historic Cave	Makapan Valley	24.1500S, 29.1831E	Malmani Dolomites	Van Riet Louw (1954)
U.W. 30	None	Makapan Limeworks	Makapan Valley	24.1500S, 29.1831E	Malmani Dolomites	Dart (1952)
U.W. 31	None	Makapan Cave of Hearths	Makapan Valley	24.1500S, 29.1831E	Malmani Dolomites	Van Riet Louw (1954)
U.W. 32	None	Makapan Buffalo Cave	Makapan Valley	24.1478S, 29.1722E	Malmani Dolomites	Broom (1937)
U.W. 33	None	Border Cave	Ingwavuma	21.1000S; 31.5900E	Howies Poort Stratum	Cooke *et al.* (1945)
U.W. 34	UCMP Loc. V-67256	Kraal Pit (Pit 1)	Bolt's Farm	26.0286S, 27.7173E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 35	UCMP Loc. V-67257	H Cave (Pit 2)	Bolt's Farm	26.0281S, 27.7173E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 36	UCMP Loc. V-67258	Kaffir Beer/Cobra Cave (Pit 3)	Bolt's Farm	26.028S, 27.7171E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 37	UCMP Loc. V-67259	Garage Ravine Cave (Pit 4)	Bolt's Farm	26.0319S, 27.7155E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 38	UCMP Loc. V-67260	Smith Cave (Pit 5)	Bolt's Farm	26.0287S, 27.7166E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 39	UCMP Loc. V-67261	Baboon Cave (Pit 6)	Bolt's Farm	26.0327S, 27.7113E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 40	UCMP Loc. V-67262	Elephant/Bridge Cave (Pit 7)	Bolt's Farm	26.032S, 27.7127E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 41	None	Rodent Cave (Pit 8)	Bolt's Farm	26.0292S, 27.7163E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 42	None	No name (Pit 9)	Bolt's Farm	26.0285S, 27.7173E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 43	UCMP Loc. V-67263	Grey Bird Pit/Main Quarry (Pit 10)	Bolt's Farm	26.0267S, 27.7309E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 44	None	U Cave (Pit 11)	Bolt's Farm	26.0302S, 27.7316E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 45	12A	No name (Pit 12A))	Bolt's Farm	26.0304S, 27.7133E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 46	12B	No name (Pit 12B)	Bolt's Farm	26.0309S, 27.7133E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 47	None	Arm Pit (Pit 13)	Bolt's Farm	26.0287S, 27.7165E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 48	UCMP Loc. V-67264	Bench Mark Pit (Pit 14)	Bolt's Farm	26.0291S, 27.7163E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 49	None	Aves Cave (Pit 15)	Bolt's Farm	26.0291S, 27.7161E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 50	UCMP Loc. V-67288	Tit Hill Pit (Pit 23)	Bolt's Farm	26.0346S, 27.7128E	Dolomitic cave, Monte Cristo Form.	Cooke (1991)
U.W. 51	None	Dart deposits	Buxton Limeworks	27.6167S, 24.6167E	Thabaseek Tufa	McKee & Tobias (1994)
U.W. 52	None	Tobias Pinnacle deposit	Buxton Limeworks	28.6167S, 24.6167E	Thabaseek Tufa	McKee (1994)
U.W. 53	FEP 38-2	Berger Cave complex	Buxton Limeworks	29.6167S, 24.6167E	Thabaseek Tufa	McKee (1994)
U.W. 54	FEP 38-15	Unnamed Soluton Cavity	Buxton Limeworks	30.6167S, 24.6167E	Thabaseek Tufa	Cooke (1990)
U.W. 55	FEP 38-16	Unnamed Soluton Cavity	Buxton Limeworks	30.6167S, 24.6167E	Thabaseek Tufa	Cooke (1990)
U.W. 56	FEP 38-25	Unnamed Soluton Cavity	Buxton Limeworks	31.6167S, 24.6167E	Thabaseek Tufa	Cooke (1990)
U.W. 57	FEP 38-1	Lucky Moon Cave complex	Buxton Limeworks	33.6167S, 24.6167E	Norlim Tufa	McKee (1993)
U.W. 58	FEP 38-28	Peabody Cave	Buxton Limeworks	34.6167S, 24.6167E	Norlim Tufa	Cooke (1990)
U.W. 59	None	LSN Cave	Buxton Limeworks	35.6167S, 24.6167E	Norlim Tufa	McKee (1994)
U.W. 60	None	Innominate Cave	Buxton Limeworks	36.6167S, 24.6167E	Norlim Tufa	McKee (1994)
U.W. 61	None	Cut-through Alley	Buxton Limeworks	37.6167S, 24.6167E	Norlim Tufa	McKee (1994)

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Table 4 (*continued*)

U.W. no.	Reference no.	Common name	Locality/region	Coordinates	Geological context	First report
U.W. 62	None	Quinney cave	Buxton Limeworks	38.6167S, 24.6167E	Norlim Tufa	McKee (1994)
U.W. 63	None	Black Earth Cave	Buxton Limeworks	39.6167S, 24.6167E	Norlim Tufa	McKee (1994)
U.W. 64	None	Equus Cave	Buxton Limeworks	40.6167S, 24.6167E	Oxland Tufa	Grine & Klein (1985)
U.W. 65	None	Peabody's Equus Site	Buxton Limeworks	41.6167S, 24.6167E	Oxland Tufa	Peabody (1954)
U.W. 66	None	Blom Cave	Buxton Limeworks	42.6167S, 24.6167E	Oxland Tufa	McKee (1994)
U.W. 67	None	Acacia Cave	Buxton Limeworks	43.6167S, 24.6167E	Oxland Tufa	McKee (1994)
U.W. 68	FEP 38-29?	Satan Cave	Buxton Limeworks	44.6167S, 24.6167E	Oxland Tufa	McKee (1994)
U.W. 69	None	Oxland Mammal Site	Buxton Limeworks	45.6167S, 24.6167E	Oxland Tufa	McKee (1994)
U.W. 70	FEP 38-12	Blue Pool Cave	Buxton Limeworks	46.6167S, 24.6167E	Oxland Tufa	McKee (1994)
U.W. 71	None	Spiers' Cave	Buxton Limeworks	47.6167S, 24.6167E	Oxland Tufa	Broom (1946)
U.W. 72	None	Tobias Cave	Buxton Limeworks	48.6167S, 24.6167E	Oxland Tufa	Humphreys (1978)
U.W. 73	None	Alcove Cave	Buxton Limeworks	49.6167S, 24.6167E	Blue Pool Tufa	McKee (1994)
U.W. 74	None	None	Buxton Limeworks	Unknown	Unprovenanced	This publication
U.W. 75	SAAN – 0024	Drimolen	Rhino Game Reserve	25.9681S, 27.7564E	Dolomitic cave, Monte Cristo Form.	Keyser et. al. (2000)
U.W. 76	SAAN – 0025	Plovers Lake A	Sterkfontein Valley	25.9936S, 27.7764E	Dolomitic cave, Monte Cristo Form.	Brain (1981)
U.W. 77	SAAN – 0025	Plovers Lake B	Sterkfontein Valley	25.9936S, 27.7764E	Dolomitic cave, Monte Cristo Form.	Brain (1981)
U.W. 78	SAAN – 0026	Bones Cave	Sterkfontein Valley	25.9756S, 27.7783E	Dolomitic cave, Monte Cristo Form.	Brain (1981)
U.W. 79	SAAN – 0027	Wonder Cave	Sterkfontein Valley	25.9703S, 27.7720E	Dolomitic cave, Monte Cristo Form.	Brain (1981)
U.W. 80	None	None	Cape St. Francis	Unknown	Unprovenanced	This publication
U.W. 81	None	Kalkbank	Kalkbank	23.5167S, 29.3500E	Fluvial Sandstone	Dart & Kitching (1958)
U.W. 82	None	None	Sudwala	Unknown	Unprovenanced	This publication
U.W. 83	None	Goldsmith's	Bolt's Farm	26.0386S, 27.7103E	Dolomitic cave, Monte Cristo Form.	Mokokwe (2005)
U.W. 84	SAAN – 0028	None	John Nash Reserve	25.8992S, 27.7984E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 85	SAAN – 0029	None	Motstetsi Farm	25.9131S, 27.8281E	Dolomitic cave, Monte Cristo Form.	Berger & Brink (2007)
U.W. 86	SAAN – 0030	Motstetsi	Motstetsi Farm	25.9025S, 27.8267E	Dolomitic cave, Monte Cristo Form.	Berger & Lacruz (2003)
U.W. 87	SAAN – 0031	Gondolin	Skurweberg	25.8303S, 27.8635E	Dolomitic cave, Monte Cristo Form.	Watson (1993)
U.W. 88	None	Malapa	John Nash Reserve	25.5339S; 27.4757E	Dolomitic cave, Monte Cristo Form.	This publication
U.W. 89	None	None	John Nash Reserve	25.5728S; 27.4649E	Tufa cave	This publication
U.W. 90	None	Luleche	Skurweberg	25.8332S, 27.8560E	Dolomitic cave, Eccles Form.	Adams *et al.* (2007)
U.W. 91	None	Femur Dump	Bolt's Fram	26.0347S, 27.7127E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 92	None	Alcelaphenae Site	Bolt's Farm	26.0336S, 27.7135E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 93	None	Waypoint 160	Bolt's Farm	26.0339S, 27.7139E	Dolomitic cave, Monte Cristo Form.	Sénégas *et. al.* (2002)
U.W. 94	None	Machine Cave	Bolt's Farm	26.0352S, 27.7110E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 95	None	Dom's Site	Bolt's Farm	26.0339S, 27.7136E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 96	None	X Cave	Bolt's Farm	26.0299S, 27.7148E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 97	None	Y Cave	Bolt's Farm	26.0294S, 27.7151E	Dolomitic cave, Monte Cristo Form.	Thackeray *et. al.* (2008)
U.W. 98	None	None	Bolt's Farm	Unknown	Dolomitic cave, Monte Cristo Form.	This publication
U.W. 99	None	Hermanus Cave	Hermanus	Unknown	Unprovenanced	This publication
U.W. 100	None	None	Boesmansklip	Unknown	Unprovenanced	This publication

specimen or specimens; after all, the specimen has come from somewhere, albeit that the exact locality is currently unknown. More accurate information may be found on such specimens in future, in the interim it has been accessioned and catalogued and therefore 'exists' and has a reference for future research. For localities that have more than one site, for example, Buxton Limeworks (Taung), Coopers and Bolt's Farm (See McKee 1994; Broom & Schepers 1946; Thackeray *et al.* 2008), each site receives its own U.W. number.

It is difficult if not impossible to find a practical abbreviation and numbering system that has or will never be replicated elsewhere. Similar to U.W., the abbreviations UW (University of Wyoming), Uw (University of Utrecht Wood) and UWBM (University of Washington Burke Museum) are used on fossils. For this reason, periods have been inserted in the University of the Witwatersrand abbreviation (U.W. as opposed to UW). Even without this, or the same abbreviation adopted by another institution in future, the use of a site number, followed by the specimen number is unlikely to be replicated in exactly the same manner elsewhere.

In terms of assigning catalogue numbers to fossils, we encourage scientists and curators to number these consecutively, regardless of what type of fossil (or artifact) it is. This implies that, for example, non-primate and primate (including hominin) fauna be incorporated into the same catalogue. This refers to a curatorial database; of course, for research purposes, these can be subdivided into separate catalogues or lists. It is also suggested that each fossil, even if presumed to be from the same individual, be given its own number. This allows each element to have its own number, rather than the same number (for the individual) with sub-letters such as a, b, c ,etc. This suggestion of numbering each fossil separately creates a biologically sound principle, that a specimen may have been misidentified and at a later stage not deemed to be part of a particular individual. This would prevent confusion and the need to renumber specimens. It follows that new material, later to be conclusively identified as part of a previously (incorrectly) identified individual, keep its 'place' in the catalogue and simply be noted as part of the previously identified individual. Furthermore, such a system readily allows the easy association of individual elements from a skeleton, simply by referring to their unique accession number. As an additional source of reference, an alterna-

tive name may be assigned to an important specimen, or specimens, in order to link them to each other. For example, at the new site of Malapa (U.W. 88) in the Cradle of Humankind, a number of elements, each having their own accession number, but belonging to the same partial hominin individual is also known as MH 1 (Malapa Hominin 1), indicating the first hominin found at Malapa. Other names may also be given to important specimens in order to make them unique and easily identifiable to the scientific community.

CONCLUSION

A new system of abbreviation and numbering of fossil sites associated with the University of the Witwatersrand has been presented. The fossil locality number is allocated by the University Curator of Collections. Any alternative names or numbers are still given at the discretion of the fossil site permit holder. The list of sites and their U.W numbers in Table 4 will be updated from time to time and published as a source of reference. This list is by no means complete and may also contain inadvertent errors which, if identified will be corrected in future. It does, however, highlight the remarkable number of sites associated with the University of the Witwatersrand.

Our grateful thanks go to M. Raath (formerly of BPI), for his advice and for suggesting the establishment of a new abbreviation and numbering system. We thank an anonymous reviewer for the helpful comments and suggestions.

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