Corrigendum

[Original article] Tembe D, Mukaratirwa S. Forensic entomology research and application in southern Africa: A scoping review. S Afr J Sci. 2020;116(5/6), Art. #6065, 8 pages. https://doi.org/10.17159/sajs.2020/6065

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Errors that appear in the Review Article by Tembe and Mukaratirwa are corrected here. Prof. Martin Villet (Director: Southern African Forensic Entomology Research Laboratory and Department of Zoology & Entomology, Rhodes University) is acknowledged for drawing the authors' attention to these errors.

Page 2, right column, section 'Search strategy and selection of the literature', paragraph 1, lines 13–17:

"Two exclusion criteria were also identified: (1) no focus on forensic entomology research, such as articles that dealt with identification or distribution of arthropods in southern African countries, but not undertaken in the context of forensic entomology; (2) no information points that contributed to answering the scoping question**."**

SHOULD BE REPLACED WITH:

"The exclusion criteria for this review were developed based on the three inclusion criteria which were peer-reviewed research articles from southern Africa explicitly reporting on forensic entomology research in a country or countries from southern Africa between 1932 and 2017 that included: (1) colonisation and succession pattern of arthropods during different stages of decomposition; (2) variation spectrum of carrion-feeding insects; and (3) diversity and/or abundance of arthropods colonising a carcass during different seasons. Any study that may have been referenced under forensic entomology, but did not report on one of the above-mentioned inclusion criteria, was not included. Furthermore, any study that had no information to contribute to answering the scoping questions was also excluded."

Page 4, Table 2, caption and columns 7 and 8 subheading AND page 6, left column, subheading for paragraph 2 AND page 6, right column, subheading:

Carrion-feeding SHOULD BE REPLACED WITH Carrion-associated

Page 4, Table 2, column 6, line 13:

"*Histeridae*" SHOULD BE DELETED

Page 4, Table 2, column 6, line 14:

"Fabricius" SHOULD BE: *"Thanatophilus (Chalcosilpha) micans* (Fabricius)"

Page 4, Table 2, column 6, line 49:

"*Dermestes maculatus"* SHOULD BE DELETED

Page 5, Table 2, column 6, line 89:

"*Muscidae*" SHOULD BE REPLACED WITH: "*Atherigona aberrans* (Mallocch), *A. naqvii* (Steyskal), *A. steeleae* (Emden), *Atherigona* spp. indet."

Page 5, Table 2, columns 6 and 7, line 99:

"*Lucilia* sp. –" SHOULD BE: "*Lucilia* sp. 47"

Page 6, left column, paragraph 2, lines 6–8:

"In both studies, *D. maculatus and Lucilia* spp. were found on decomposing carcasses during the dry season only."

SHOULD BE REPLACED WITH:

"In both studies, *Lucilia* spp. were found on decomposing carcasses during the dry season only. *Dermestes maculatus* was found only during the dry season in the study of Ellison[38], and was not found in either season in the study of Braack[37]."

Relevant species presented by Braack[37] that were omitted have been added to Table 2. These are: *Chrysomia marginalis* (Wd.), *Chrysomia putoria* (Wd.), *Rhinia apicalis* (Wd.), *Rhyncomya forcipata, Sarcophaga haemorrhoidalis* (Fallen), *S. hirtipes* (Wd.), *S. nodosa* (Engel), *Brachyponera sennaarensis* (Mayr), *Pheidole crassinoda* (Em.), *P. liengmei* (For.), *Axestotrigona togoensis* (Cockerell).

Relevant results from Kelly et al.[36] that were omitted have been added to Table 2.

The corrected Table 2 appears below.

Page 6, Table 3, caption and column 5:

Results by Williams et al.[39] obtained from rats and chicken liver that were omitted have been added to Table 3.

The corrected Table 3 appears below.

Page 8, reference 39:

Three of the authors were omitted. The corrected reference is:

Williams KA, Wallman JF, Lessard BD, Kavazos CRJ, Mazungula DN, Villet MH. Nocturnal oviposition behavior of blowflies (Diptera: Calliphoridae) in the southern hemisphere (South Africa and Australia) and its forensic implications. Forensic Sci Med Pathol. 2017;13(2):123–134. https://doi.org/10.1007/s12024-017-9861-x

Table 2: Summary of studies (1934–2017) on the diversity and abundance of carrion-associated arthropods collected during different seasons in southern Africa

Study	Country of study	Location of study	Objectives of study	Host animal	Outcome of study		
					Order/family/species	Average number of carrion-associated arthropods	
						Dry season	Rainy season
Braack[37]	South Africa	Kruger National Park	To collect and identify the species found on the large mammal carcasses during both summer and winter	Impala	*Anisolabis* sp.	–	<10
					Bormansia meridionalis Burr	–	<10
					Euborellia annulipes (Lucas)	–	<10
					Fusius rubricosus (Stal)	–	<10
					Lisarda rhodesiensis Miller	–	<10
					Rhinocoris albopunctatus (Stal)	–	<10
					R. violentus (Germar)	–	<10
					Xylocoris (Proxylocoris) afer Reuter	–	±60
					Solenostethium liligerum	–	<10
					Metagonum sp.	–	<10
					Platymetopus curtulus (Peringuey)	–	<10
					Xenodochus melanarius (Boheman)	–	<10
					Thanatophilus (Chalcosilpha) micans (Fabricius)	–	265
					Staphylinidae	–	625
					Trogidae	–	1422
					Allogymnopleurus thalassinus (Klug)	–	<30
					Anachalcos convexus (Boheman)	–	164
					Aphodius sp.	–	<100
					Caccobius convexifrons (Roth)	–	<30
					C. nigritulus (Klug)	–	<30
					Catharsius philus (Kolbe)	–	<30
					Copris amyntor (Klug)	–	<30
					C. elphenor (Klug)	–	<30
					C. evanidus (Klug)	–	<30
					C. mesacanthus (Harold)	–	<30
					Garreta nitens (Olivier)	–	<30
					Gymnopleurus virens (Erichson)	–	<30
					Metacatharsius opacus (Waterhouse)	–	<30
					Milichus sp. *probably apicalis* (Fahraeus)	–	<30
					Onitis fulgidus (Klug)	–	<30
					O. granulisetosus (Ferreira)	–	<30
					O. inversidens (van Lansberge)	–	<30
					O. obenbergeri (Balthasar)	–	<30
					O. picticollis (Fabricius)	–	<30
					Onthophagus (Proagoderus) dives (Klug)	–	5670
					Pedaria sp.	–	<30
					Phaeochrous madagascariensis (Westwood)	–	4486
					Phalops ardea (Klug)	–	<30
					Sarophorus costatus (Fahraeus)	–	2304
					Scarabaeus ebenus (Klug)	–	<30
					Sisyphus calcaratus (Klug)	–	<30
					S. goryi (Harold)	–	<30
					S. impressipennis (van Lansberge)	–	<30
					S. injuscatus (Klug)	–	<30
					S. seminulum (Gerstaecker)	–	<30
					Sybax distortus (Schaum)	–	<30
					Tiniocellus spinipes (Peringuey)	–	<30
					Necrobia rufipes (De Geer)	–	2572
					Phloeocopus sp.	–	1
					Carpophilus nr. *quadrisignatus* Er.	–	<10
					Carpophilus sp.	–	<10
					Bactria sp.	–	<10
					Euscelidia rapax (Westwood)	–	<10
					Hoplistomerus nobilis (Loew)	–	<10
					Neolophonotus (Lophopeltis) sp.	–	<10

Table 2 continued

Study	Country of study	Location of study	Objectives of study	Host animal	Outcome of study		
					Order/family/species	Average number of carrion-associated arthropods	
						Dry season	Rainy season
					Ommatius sp.	–	<10
					Stichopogon caffer (Hermann)	–	<10
					S. punctus (Loew)	–	<10
					Hypocerides spinulicosta (Beyer)	–	<10
					Megaselia curtineura	–	<10
					Megaselia sp. n. *pauculitincta*	–	<10
					Plethysmochaeta sp.	–	<10
					Australosepsis niveipennis (Becker)	–	<50
					Paratoxopoda depilis (Walker)	–	97
					Xenosepsis sp.	–	<50
					Cestrotus n. sp.	–	<10
					Homoneura (Keisomyia) n. sp.	–	<10
					Curtonotum cuthbertsoni (Duda)	–	<10
					Atherigona aberrans (Mallocch), *A. naqvii* (Steyskal), *A. steeleae* (Emden), *Atherigona* spp. indet.	–	1289
					Fannia leucosticta (Meigen)	–	1
					Graphomya leucomelas (Wiedemann)	–	1
					Gymnodia mervinia (Walker)	–	5
					Gymnodia tonitrui (Wiedemann)	–	3
					Haematobosca latifrons (Malloch)	–	1
					H. spinigera (Malloch)	–	6
					H. thirouxi ssp. *potans* (Bezzi)	–	7
					Morellia nilotica (Loew)	–	3
					Lucilia sp.	47	–
					Chrysomya marginalis (Wd.)	–	>991
					Chrysomya putoria (Wd.)	–	<10
					Rhinia apicalis (Wd.)	<10	–
					Rhyncomya forcipata	<10	–
					Sarcophaga haemorrhoidalis (Fallen)	<10	–
					S. hirtipes (Wd.)	<10	–
					S. nodosa (Engel)	<10	–
					Nasonia vitripennis (Walker)	–	<40
					Trichopria lewisi (Nixon)	–	>35
					Brachyponera sennaarensis (Mayr)	–	<5000
					Pheidole crassinoda (Em.)	–	<5000
					P. liengmei (For.)	–	>5000
					Axestotrigona togoensis (Cockerell)	–	30–50
					Lardoglyphus sp.	–	<100
					Macrocheles muscaedomesticae (Scopoli)	–	<100
					Pygmephorus sp.	–	<100
Ellison[38]	South Africa	Klaserie Private Nature Reserve	The effect of scavenger mutilation on the subsequent rate of decomposition and insect colonisation of such carcasses	Impala	*Saprinus* spp.	1.3	–
					Necrobia rufipes	6.6	–
					Dermestes maculatus	9.2	–
					Aleochara spp.	<1	–
					Thanatophilus spp.	<1	–
					Mycetophagidae spp.	<1	–
					Onthophagus spp.	<1	–
					Piophila spp.	36.5	–
					Ophyra capensis	3.4	–
					Musca spp.	10.9	–
					Chrysomya albiceps	3.4	–
					Chrysomya chloropyga	<1	–
					Chrysomya marginalis	4	–
					Chrysomya putoria	<1	–
					Tricyclea spp.	9.7	–
					Lucilia spp.	11	–
					Sarcophaga spp.	0.75	–
					Auchmeromyia luteola	0.25	–
					Ceratophaga vastella	<1	–
					Brachynieria spp.	<1	–
					Acrididae spp.	<1	–

Table 2 continued

Study	Country of study	Location of study	Objectives of study	Host animal	Outcome of study		
					Order/family/species	Average number of carrion-associated arthropods	
						Dry season	Rainy season
†Kelly et al.[36]	South Africa	University of the Free State, Bloemfontein	(1) Study the effect of various wound types on the detection and selection of the carcasses by Diptera (2) Study the early dipteran colonisation and overall arthropod succession patterns on wounded and non-wounded carcasses (3) Compare unclothed and clothed carcasses decomposition and arthropod succession during all seasons	Pig (*Sus scrofa* L.)	*Chrysomya albiceps* *Chrysomya chloropyga* *Chrysomya marginalis* *Calliphora vicina* *Sarcophagidae* *Dermestes maculatus* *Necrobia rufipes* *Musca* spp. *Thanatophilus micans*	– 2 – 1 4 1 2 – 3	2 4 1 – 3 1 2 – –

†Note: 1, most abundant (highest counts); 2, second most abundant; 3, few individuals; 4, few individuals (least counts)
–, None present or identified

Table 3: Summary of the diurnal and nocturnal oviposition by forensically important arthropods on pork chops, chicken liver and rat carcasses in southern Africa

Study	Country of study	Location of study	Objective of study	Host animal	Outcome of study		
					Species identified	Day	Night
Williams et al.[39]	South Africa	Grahamstown and Durban	To determine the nocturnal oviposition behaviour of blowflies in the southern hemisphere	Pig (pork chops)	*Chrysomya megacephala*	1	0
					Lucilia sericata	8	1
					Chrysomya putoria	7	1
					Chrysomya chloropyga	2	1
				Rat (carcasses)	*Lucilia sericata*	0	1
					Sarcophaga sp.	+	0
				Chicken (liver)	*Sarcophaga* sp.	+	0
					Chrysomya megacephala	0	+
					Lucilia cuprina	+	+