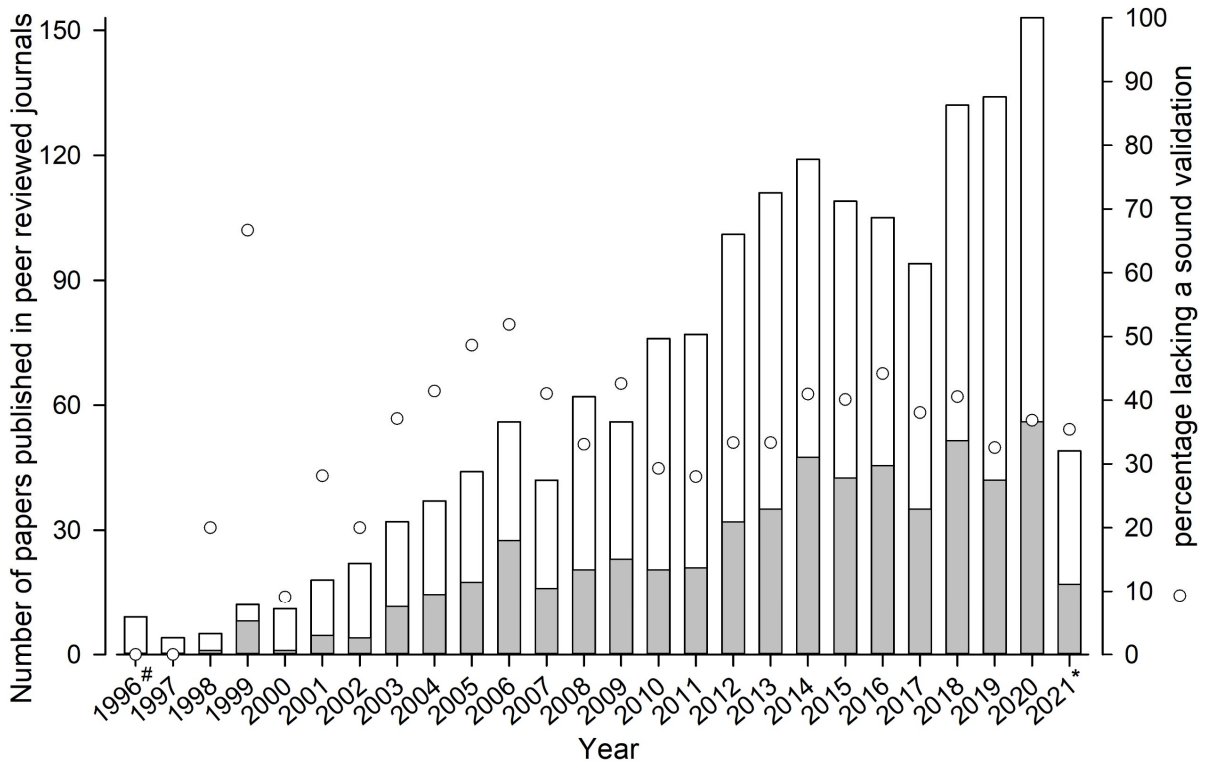


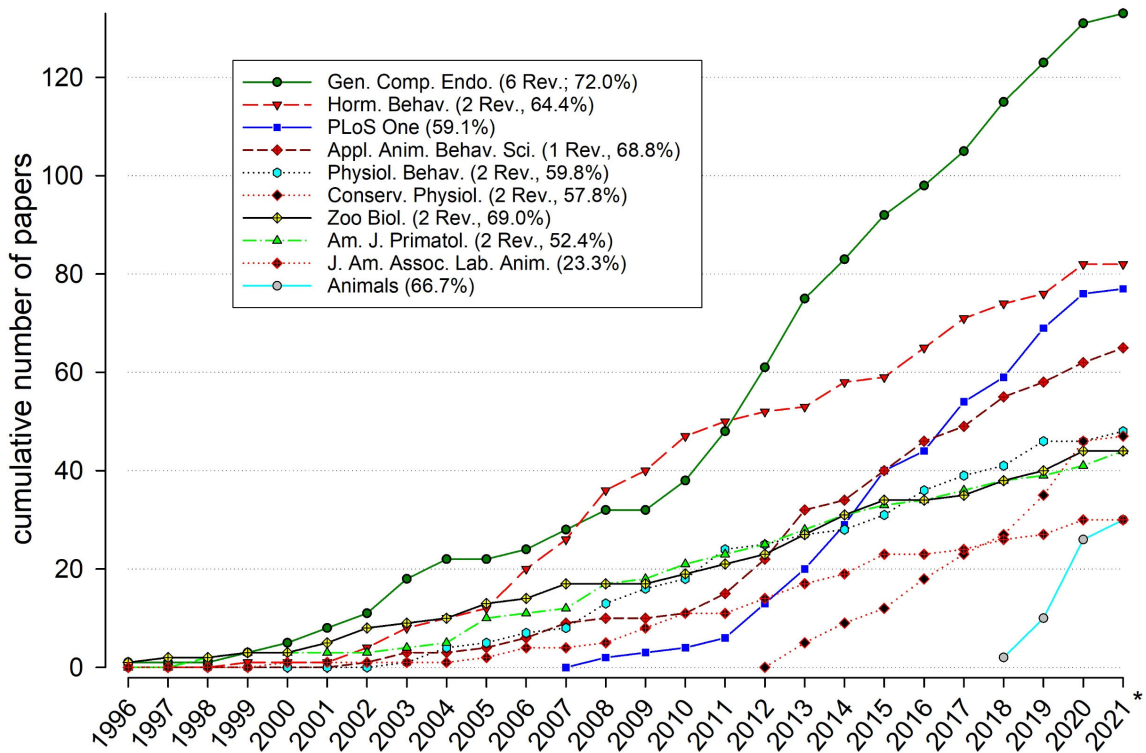
**Updated tables, figures and references of Palme, 2019,  
and the respective supplements (Date: 12<sup>th</sup> April 2021)**

**Table 2:** Overview of investigated species (by number) of Mammalia, Aves and others – given in total (first line), but also split up by order or phylum. The number of papers and the percentage of papers from “non-validated” studies (%n-v) are also given. \*Notice that in the case a paper investigated more than one species, it is counted for each species separately.

<b>Phylum</b>	<b>Order</b>	<b>Species (no.)</b>	<b>Papers (no.)*</b>	<b>%n-v</b>
<b>Sum</b>		<b>415</b>	<b>1688</b>	<b>37%</b>
<b><i>Mammalia</i></b>		<b><u>313</u></b>	<b><u>1439</u></b>	<b><u>38%</u></b>
	Primates	80	312	43%
	Glires (Rodentia/Lagomorpha)	67	466	42%
	Artiodactyla	58	271	40%
	Perissodactyla/Paenungulata	14	136	28%
	Carnivora	54	193	28%
	Marsupialia/Xenartha/Chiroptera	40	61	33%
<b><i>Aves</i></b>		<b><u>77</u></b>	<b><u>218</u></b>	<b><u>28%</u></b>
	Anseriformes	9	33	21%
	Charadriiformes	6	7	14%
	Galliformes	7	58	28%
	Passeriformes	19	38	29%
	Pelecaniformes	3	15	67%
	Psittaciformes	9	17	35%
	Sphenisciformes	5	13	8%
	Others	19	37	27%
<b><i>Others</i></b>		<b><u>25</u></b>	<b><u>31</u></b>	<b><u>69%</u></b>
	Reptilia	16	20	63%
	Amphibia	2	2	50%
	Fish	6	8	88%
	Mollusca	1	1	100%



**Fig. 3:** Number of FCM papers published by year (grey bar: number of papers representing non-validated FCM studies, white bar: number of papers of validated studies plus reviews) and the percentage (o; right y-axis) of non-validated studies (the 58 reviews were excluded). If a method utilized to measure FCM was not physiologically or biologically validated, that paper was rated “non-validated” (see section 2.). # ≤1996; \*as of the 12<sup>th</sup> April 2021



**Fig. 4:** Cumulative number of FCM papers published in the top 10 journals. The number of reviews and the percentage of papers from studies using validated FCM methodology (reviews excluded) are given in brackets. \*as of the 12<sup>th</sup> April 2021

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## Introductory statement

I have tried to collect all published FCM papers (criteria see M&M section). My rating of the papers is focused on FCM methodology (not on other aspects), and here most importantly whether utilized methods have been validated (indicated by a positive physiological or biological validation). Though this review was conducted very carefully and in a thorough manner, by handling more than 1750 papers some errors most likely have occurred. Please accept sincere apologies for any inconvenience this may cause.

**Table S1:** Published reviews, which deal with different aspects of FCMs (or with results derived from FCM studies). Reviews dealing only with a special group (order/taxa) of animals are listed in the following **Tables S2-S9**.

FCMs as indicators of stress (most papers also address many of the other issues listed below)

General: Möstl and Palme, 2002; von der Ohe and Servheen, 2002; Lane, 2006; Keay et al., 2006; Möstl, 2014

Farm animals/welfare: Mormede et al., 2007; Palme, 2012; Cook, 2012

Zoo and wildlife: Wielebnowski, 2003; Hernandez-Jauregui et al., 2005; Schwarzenberger, 2007; Wielebnowski and Watters, 2007; Sheriff et al., 2011a; Romano et al., 2010; Malikova et al., 2018; [Kumar and Umapathy, 2019](#)

Aquatic mammals: Amaral, 2010

Conservation: Millspaugh and Washburn, 2004; Busch and Hayward, 2009; Ganswindt et al., 2012c; Dantzer et al., 2014; Kersey and Dehnhard, 2014

FCM metabolism and excretion (background information)

Taylor, 1971; Palme et al., 2005

Focus on specific (methodological) issues

Faeces collection (indigestible markers): Fuller et al., 2011

Extraction: Palme et al., 2013

EIA: Möstl et al., 2005; 2014; LC-MS: Murtagh et al., 2013

Guidelines: Palme, 2005

Validation: Buchanan and Goldsmith, 2004; Touma and Palme, 2005; Goymann, 2005

Confounding factors: Goymann, 2012

Different aspects (including FCM studies)

Repeatability of GC measurement (meta-analysis): Schoenemann and Bonier, 2018; Taff et al., 2018

Social dominance and GC: Creel, 2001

GC and pregnancy: Edwards and Boonstra, 2018

### **General information related to Tables S2-S9**

Citation in normal letters: study utilized method for FCM analysis which has been (physiologically/biologically) validated; **bold: paper where such a validation is described in detail**; *italics: paper with a non-validated FCM method*; \* includes a radiometabolism study; (S) storage and (E) extraction experiments performed  
^ HPLC immunogram included; + more than one immunoassay was tested/applied; ↑ ACTH challenge test or ↓ dexamethasone suppression test included

**Table S2:** Published papers dealing with FCMs in different species (grouped by “Family”) of the order “Primates” (see general information on page II for further details)

<b>Reviews</b> (ordered by year)		
Hormone-behaviour interactions (Whitten et al., 1998a; Anestis, 2010); methodological issues (Ziegler and Wittwer, 2005); enzyme immunoassay comparisons (Heistermann et al., 2006); stress and coping in females (Cheney and Seyfarth, 2009); well-being (Novak et al., 2013); social status and stress (Cavigelli and Caruso, 2015); sociality and reproduction in rhesus macaques (Maestriperi and Georgiev, 2016); field endocrinology (Higham, 2016); physiological markers of stress (Behringer and Deschner, 2017); <a href="#">anthropogenic disturbances</a> (Kaisin et al., 2021)		
<b>Family/Latin name</b>	<b>common name</b>	<b>articles (ordered by year; validations/validated first)</b>
<b>Cheirogaleidae</b> (dwarf lemurs)		
<i>Microcebus murinus</i>	gray mouse lemurs	<a href="#">Hämäläinen et al., 2014<sup>+</sup></a> (S), 2015
<i>Microcebus rufus</i>	brown mouse lemur	<a href="#">Zohdy et al., 2017</a>
<b>Lemuridae</b> (lemurs)		
<i>Eulemur collaris</i>	collared brown lemur	<a href="#">Balestri et al., 2014<sup>+</sup></a> ; <a href="#">Volfova et al., 2020b</a>
<i>Eulemur rufifrons</i>	red-fronted lemur	<a href="#">Ostner et al., 2008b<sup>+</sup></a> ; <a href="#">Clough et al., 2010</a>
<i>Eulemur albifrons</i>	white-headed lemur	<a href="#">Volfova et al., 2020b</a>
<i>Lemur catta</i>	ring-tailed lemur	<a href="#">Volfová et al., 2020a, b</a> ; <a href="#">Cavigelli, 1999</a> ; <a href="#">Cavigelli et al., 2003</a> ; <a href="#">Gould et al., 2005</a> ; <a href="#">Pride, 2005a-c</a> ; <a href="#">Starling et al., 2010</a> ; <a href="#">Smith et al., 2015</a> ; <a href="#">Gabriel et al., 2018</a>
<i>Varecia variegata</i>	black-and-white ruffed lemur	<a href="#">Volfová et al., 2019</a>
<i>Varecia rubra</i>	red-ruffed lemur	<a href="#">Vaglio et al., 2021</a>
<b>Lorisidae</b> (loris)		
<i>Nycticebus pygmaeus</i>	pygmy slow loris	<a href="#">Fernandez-Lazaro et al., 2019</a> ; <a href="#">Yamanashi et al., 2021</a>
<b>Indriidae</b>		
<i>Propithecus verreauxi</i>	Verreaux’s sifaka	<a href="#">Fichtel et al., 2007<sup>+</sup></a> (S); <a href="#">Rudolph et al., 2019, 2020</a> ; <a href="#">Dinter et al., 2021</a> ; <a href="#">Brockman et al., 2009</a>
<i>Propithecus diadema</i>	diademed sifaka	<a href="#">Tecot et al., 2019</a>
<i>Propithecus coquereli</i>	Coquerel’s sifaka	<a href="#">Ross, 2020</a>
<b>Galagidae</b>		
<i>Galago moholi</i>	African lesser bushbaby	<a href="#">Scheun et al., 2015<sup>+</sup></a> , 2017
<i>Otolemur garnettii</i>	Garnett’s bushbaby	<a href="#">Watson et al., 2005</a>
<b>Callitrichidae</b> (New World monkeys)		
<i>Callithrix jacchus</i>	common marmoset	<a href="#">Bahr et al., 2000<sup>+</sup></a> ; <a href="#">Heistermann et al., 2006<sup>+</sup></a> ; <a href="#">Sousa and Ziegler, 1998</a> ; <a href="#">Albuquerque et al., 2001</a> ; <a href="#">Raminelli et al., 2001</a> ; <a href="#">Ziegler and Sousa, 2002</a> ; <a href="#">Sousa et al., 2005, 2015</a> ; <a href="#">Barbosa and Mota, 2009</a> ; <a href="#">Lampert et al., 2011</a> ; <a href="#">Kuehnel et al., 2012</a> ; <a href="#">Galvao-Coelho et al., 2012, 2017</a> ; <a href="#">Galvao et al., 2016</a> ; <a href="#">da Silva et al., 2019</a> ; <a href="#">Fernandez-Lazaro et al., 2019</a>
<i>Callithrix geoffroyi</i>	white-fronted marmoset	<a href="#">Wark et al., 2016</a> ; <a href="#">Fernandez-Lazaro et al., 2019</a>
<i>Callithrix penicillata</i>	black-tufted marmoset	<a href="#">Pizzutto et al., 2015a<sup>+</sup></a>
<i>Callimico goeldii</i>	Goeldi’s monkey	<a href="#">Wark et al., 2016</a>
<i>Cebuella pygmaea</i>	pygmy marmoset	<a href="#">Fernandez-Lazaro et al., 2019</a>
<i>Saguinus bicolor</i>	ped tamarin	<a href="#">Wark et al., 2016</a> ; <a href="#">Armstrong and Santymire, 2013</a> ; <a href="#">Price et al., 2019</a>
<i>Saguinus imperator</i>	emperor tamarin	<a href="#">Fernandez-Lazaro et al., 2019</a>
<i>Saguinus mystax</i>	moustached tamarin	<a href="#">Huck et al., 2005</a>
<i>Saguinus oedipus</i>	cotton-top tamarin	<a href="#">Keller et al., 2014</a> ; <a href="#">Fontani et al., 2014</a> ; <a href="#">Fernandez-Lazaro et al., 2019</a>
<i>Leontopithecus rosalia</i>	golden lion tamarin	<a href="#">Wark et al., 2016</a> ; <a href="#">Bales et al., 2002, 2005, 2006</a> ; <a href="#">Fernandez-Lazaro et al., 2019</a>
<i>L. chrysopygus</i>	black lion tamarin	<a href="#">Bertoli et al., 2019<sup>+</sup></a>
<i>L. chrysomelas</i>	golden-headed lion tam.	<a href="#">Costa et al., 2020</a>
<b>Cebidae</b> (New World monkeys)		
<i>Cebus capucinus</i>	white-faced capuchin	<a href="#">Weltring et al., 2012 (LC-MS)</a> ; <a href="#">Jack et al., 2008, 2014</a> ; <a href="#">Carnegie et al., 2011</a> ; <a href="#">Schoof et al. 2011, 2014, 2016</a> ; <a href="#">Schoof and Jack, 2013</a>
<i>Sapajus apella</i>	tufted capuchin monkey	<a href="#">Wheeler et al., 2013<sup>+</sup></a> (S); 2014; <a href="#">Kean et al., 2017</a> ; <a href="#">Boinski et al., 1999a, b</a> ; <a href="#">Lynch et al., 2002<sup>+</sup></a> ; <a href="#">Ulyan et al., 2006</a> ; <a href="#">Pomerantz et al., 2012</a> ; <a href="#">Sherwen et al., 2015a</a> ; <a href="#">Lima et al., 2019</a>
<i>Sapajus libidinosus</i>	bearded capuchin monkey	<a href="#">Mendonca-Furtado et al., 2017<sup>+</sup></a> $\downarrow$ $\uparrow$ , 2014; <a href="#">Ferreira et al., 2018, 2020</a> ; <a href="#">Lima et al., 2019</a>
<i>Sapajus nigritus</i>	black capuchin monkey	<a href="#">Mendonca-Furtado et al., 2017<sup>+</sup></a> ; <a href="#">Moreira et al., 2016</a>
<b>Pitheciidae</b> (New World monkeys)		
<i>Plecturocebus donacophilus</i>	Bolivian gray titi monkey	<a href="#">Linerós et al., 2020</a>

**Atelidae** (New World monkeys)

<i>Alouatta palliata</i>	mantled howler monkey	<b>Gómez-Espinosa et al., 2014</b> ; Dias et al., 2017; <b>Aguilar-Cucurachi et al., 2010</b> Cristobal-Azkarate et al., 2007; Dunn et al., 2013; Aguilar-Melo et al., 2013; <a href="#">Canadas Santiago et al., 2019</a>
<i>Alouatta pigra</i>	black howler monkey	<b>Martínez-Mota et al., 2008+</b> , 2016, 2017, 2007; <b>Rangel-Negrín et al., 2014a+</b> , b, 2018a, 2018b; <i>Van Belle et al., 2009</i> <sup>^</sup> ; <i>Behie et al., 2010, 2014</i>
<i>Alouatta seniculus</i>	red howler monkey	<b>Rimbach et al., 2013a</b> <sup>^</sup> (S), b
<i>Alouatta caraya</i>	black and gold howler	<b>Cantarelli et al., 2017</b> <sup>↑</sup> ; <a href="#">Vaglio et al., 2021</a>
<i>Alouatta clamitans</i>	brown howler monkey	<b>Buti et al., 2018</b> <sup>↑</sup> ; <a href="#">Chaves et al., 2019</a>
<i>Alouatta belzebul</i>	red-handed howler	<i>Monteiro et al., 2013</i>
<i>Ateles geoffroyi</i>	Geoffroy's spider monkey	<b>Rangel-Negrin et al., 2015</b> ; <b>Rodrigues et al., 2015</b> ; Rodrigues, 2017; <i>Ordonez-Gomez et al., 2016</i>
<i>A. geoffroyi yucatanensis</i>	Yucatan G.'s spider m.	<b>Rangel-Negrin et al., 2009</b>
<i>Ateles hybridus</i>	brown spider monkey	<b>Rimbach et al., 2013a</b> <sup>^</sup> , b, 2014
<i>Brachyteles arachnoides</i>	southern muriqui	<i>Strier et al., 1999</i>
<i>Brachyteles hypoxanthus</i>	northern muriqui	<i>Strier et al., 2003</i>
<i>Lagothrix lagotricha poeppigii</i>	woolly monkey	<a href="#">Pain et al., 2021</a>
<i>Pithecia pithecia</i>	white-faced saki	<a href="#">Fernandez-Lazaro et al., 2019</a>

**Cercopithecoidea** (Old World monkeys)

<i>Chlorocebus pygerythrus</i>	vervet monkey	<b>Young et al., 2017</b> <sup>↑</sup> +, 2019, <a href="#">Young et al. 2020</a> ; <a href="#">Chipangura et al., 2020</a>
<i>Cercopithecus mitis stuhlmanni</i>	blue monkey	Foerster et al., 2011, 2012; <a href="#">Thompson et al., 2020</a>
<i>C. (mitis) albogularis</i>	Sykes' monkey	<b>Foerster and Monfort, 2010</b> <sup>↑</sup> ; Foerster et al., 2015
<i>C. a. erythrarchus</i>	samango monkey	<a href="#">Scheun et al., 2020b</a> <sup>↑</sup> +
<i>Cercocebus torquatus</i>	red-capped mangabey	<i>Friant et al., 2016a, b</i>
<i>Lophocebus albigena</i>	gray-cheeked mangabey	<i>Arlet et al., 2009; 2013, 2015; Arlet and Isbell, 2009</i>
<i>Macaca arctoides</i>	stumptail macaque	<b>Pineda-Galindo et al., 2017</b>
<i>Macaca assamensis</i>	Assamese macaque	<i>Ostner et al., 2008a</i> <sup>^</sup> ; <i>Fürtbauer et al., 2014; Schülke et al., 2014; Berghänel et al., 2016</i>
<i>Macaca fascicularis</i>	long-tailed macaque	Bahr et al., 2000 <sup>*^</sup> ++; <b>Heistermann et al., 2006</b> <sup>↑^</sup> ++; Girard-Buttoz et al., 2009; 2014a, b; Cannon et al., 2016; <b>Wasser et al., 2000+</b> ; <i>Stavisky et al., 2001</i> <sup>^</sup> ; <i>Paramastri et al., 2007+</i> ; <i>Lee et al., 2010; Westlund et al., 2012; Bardi et al., 2017; Yin et al., 2020</i>
<i>Macaca fuscata</i>	Japanese macaque	<b>Takehita et al., 2018</b> <sup>↑</sup> , 2017; 2020; <i>Barrett et al., 2002; Bardi et al., 2003; MacIntosh et al., 2012; Pflüger et al., 2014; 2016; Takehita et al., 2014;</i>
<i>Macaca mulatta</i>	rhesus macaque	<b>Hoffman et al., 2011</b> ; Brent et al., 2011; Higham et al., 2013, 2021; McFarland et al., 2013; Mandalaywala et al., 2014; Cannon et al., 2016; <i>Steinmetz et al., 2006; Doyle et al., 2008; Field et al., 2015; Millich et al., 2018+</i> ; <i>Lee et al., 2010; Zhang et al., 2018</i>
<i>Macaca nigra</i>	crested macaque	Marty et al., 2017; Gholib et al., 2017 (S), 2018 (SE)
<i>Macaca sylvanus</i>	barbary macaque	<b>Heistermann et al., 2006</b> <sup>↑^</sup> ++; Shutt et al., 2007; Henkel et al., 2010; Marechal et al., 2011; 2016; Gustison et al., 2012; Young et al., 2014; Paschek et al., 2018; Müller-Klein et al., 2019a, b; <a href="#">Tkaczynski et al., 2019</a> ; <b>Edwards et al., 2013</b> <sup>^</sup> ; <i>Wallner et al., 1999a</i> <sup>^</sup> , b, 2006
<i>Macaca tonkeana</i>	Tonkean macaque	<i>Cinque et al., 2017</i>
<i>Papio anubis</i>	olive baboon	Higham et al., 2009; Ellis et al., 2011; Lodge et al., 2013; Kalbitzer and Heistermann, 2013 <sup>^</sup> (SE); <a href="#">Tkaczynski et al., 2014</a> ; MacLarnon et al., 2015
<i>Papio cynocephalus</i>	yellow baboon	<b>Wasser et al., 2000</b> <sup>*^</sup> ↑ <sup>^</sup> ++; Khan et al., 2002 (SE); Altmann et al., 2004; Gesquiere et al., 2005, 2008, 2011a, b; 2018; Beehner et al., 2006; Nguyen et al., 2008; Onyango et al., 2008; Markham et al., 2015; Akinyi et al., 2017, 2019; <a href="#">Habig et al., 2019</a> ; <a href="#">Rosenbaum et al., 2020</a> ; <a href="#">Levy et al., 2020</a>
<i>Papio ursinus</i>	chacma baboon	Beehner et al., 2005; Bergman et al., 2005; Engh et al., 2006a, b; Crockford et al., 2008; Wittig et al., 2008; Seyfarth et al., 2012; Cheney et al., 2015; <a href="#">Chowdhury et al., 2020</a> ; <i>Weingrill et al., 2004</i> <sup>^</sup> ; <i>Kalbitzer et al., 2015</i>
<i>Papio papio</i>	Guinea baboon	<b>Kalbitzer et al., 2015</b>
<i>Papio</i> spp.	baboons	Lynch et al., 2003 (SE); <b>Beehner and Whitten, 2004</b> (SE)
<i>Theropithecus gelada</i>	gelada	<b>Beehner and McCann, 2008</b> <sup>↑</sup> ; Pappano et al., 2010 (SE); Johnson et al., 2018 <a href="#">Carrera et al., 2020</a> <sup>↑</sup> +
<i>Mandrillus sphinx</i>	mandrill	<b>Setchell et al., 2008, 2010; Charpentier et al., 2018; Lavin et al., 2019</b> <sup>^</sup> (S)
<i>Colobus guereza</i>	black-and-white colobus	<i>Hodder and Chapman, 2012</i>
<i>Ptilocolobus gordonorum</i>	Udzungwa red colobus	<i>Barelli et al., 2015; 2019</i>

<i>Ptilocolobus rufomitratu</i> s	Eastern red colobus	<i>Snaith et al., 2008; Hodder and Chapman 2012; Wasserman et al., 2012, 2013; Chapman et al. 2015</i>
<i>Ptilocolobus tephrosceles</i>	Ugandan red colobus	<i>Chapman et al., 2006, 2007</i>
<i>Trachypithecus geei</i>	golden langur	<b>Sarmah et al., 2017↑+</b>
<i>Pygathrix nemaeus</i>	red-shanked douc	<b>Heistermann et al., 2004^</b>
<i>Rhinopithecus roxellana</i>	golden snub-nosed monkey	<b>Chen et al., 2017; Zhang et al., 2013^; Huang et al., 2014; Yang et al., 2016a, b</b>
<b>Hylobatidae</b> (gibbons)		
<i>Hylobates lar</i>	white-handed gibbon	<i>Gillespie et al., 2013; Vaglio et al., 2021</i>
<i>Hylobates pileatus</i>	pileated gibbon	<b>Pirovino et al., 2011↑^+</b>
<i>Symphalangus syndactylus</i>	siamang	<i>Rafacz et al., 2012; Vaglio et al., 2021</i>
<b>Hominidae</b> (great apes)		
<i>Pongo spp.</i>	orangutan	<b>Weingrill et al., 2011^+; Amrein et al., 2014; Marty et al., 2015; Nugraha et al., 2017 (SE); Mendonça et al., 2016; Takeshita et al., 2020; Kunz et al., 2021; Muehlenbein et al., 2012; Vaglio et al., 2021</b>
<i>Gorilla beringei</i>	mountain gorilla	<b>Nizeyi et al., 2011a^+; Eckardt et al., 2016, 2019</b>
<i>Gorilla gorilla gorilla</i>	lowland gorilla	<b>Heistermann et al., 2006^+; Shutt et al., 2012^+ (SE); 2014; Vlckova et al., 2018; Nizeyi et al., 2011a↑^+, b (S); Jacobs et al., 2014; Clark et al., 2012^; Fuller et al., 2018; Fuller and Allard, 2019; Bastian et al., 2020^; Peel et al., 2005</b>
<i>Pan troglodytes</i>	chimpanzee	<i>Bahr et al., 2000*^+; Whitten et al., 1998b^; Heistermann et al., 2006↑^+; Reimers et al., 2007; Santymire et al., 2012↑; Murray et al., 2013↑; 2018; Markham et al., 2014; McLennan et al., 2019 (S); Pizzutto et al., 2015b; Machatschke et al., 2006; Muehlenbein, 2006; Kutsukake et al., 2009; Muehlenbein and Watts, 2010; Yamanashi et al., 2013</i>
<i>P. t. schweinfurthii</i>	eastern chimpanzee	<i>Stanton et al., 2015; Seraphin et al., 2008+</i>



**Table S3a:** Published papers dealing with FCMs in different species (grouped by “Family”) of the clade “Glires” (consisting of lagomorphs and rodents; see general information on page II for further details)

Family/Latin name	common name	articles (ordered by year; validations first)
<b>Lagomorpha</b>		
<i>Lepus americanus</i>	snowshoe hare	<b>Sheriff et al., 2009a*</b> ↑↓, b, <b>2010a</b> ↑↓, b, 2011b; Lafferty et al., 2017, <b>2019</b> ; <b>Lavergne et al., 2019, 2020</b> ; <b>Boudreau et al., 2019</b>
<i>Lepus europaeus</i>	European hare	<b>Teskey-Gerstl et al., 2000*</b> ^; Janicki et al., 2006; <b>Cybulska et al., 2020</b>
<i>Lepus timidus</i>	mountain hare	<b>Rehnus et al., 2009</b> ↑+ (S), 2010, 2014; Rehnus and Palme, 2017
<i>Oryctolagus cuniculus</i>	European rabbit	<b>Monclus et al., 2006</b> ↑, 2009; Buijs et al., 2011; Andrist et al., 2012; Goldschlager et al., 2013; Pérez-Merino et al., 2014; <b>Cabezas et al., 2007</b> ; <b>de Lima et al., 2013</b> ; <b>Prola et al., 2013</b> ; <b>Szendrö et al., 2013</b> ; <b>Trocino et al., 2014, 2018</b> ; <b>Dalmau et al., 2015</b> ; <b>Sabés-Alsina et al., 2015</b> ; <b>Cornale et al., 2016</b> ; <b>Matics et al., 2018, 2019</b> ; <b>Peveler and Hickman, 2018</b> ; <b>Coda et al., 2020</b> ; <b>Benedek et al., 2021</b>
<i>Brachylagus idahoensis</i>	pygmy rabbit	<b>Scarlata et al., 2011</b> ^, 2012, 2013
<i>Romerolagus diazi</i>	volcano rabbit	<b>Rizo-Aguilar et al., 2014</b>
<i>Ochotona princeps</i>	American pika	<b>Wilkening et al., 2013, 2015, 2016</b> ; Wilkening and Ray, 2015 (S), 2016
<b>Rodentia (rodents)</b>		
<b>Muridae</b>		
<i>Acomys cahirinus</i>	Cairo spiny mice	<b>Novakova et al., 2008</b> ↑+, Frankova et al., 2012+; <b>Gutman et al., 2011</b> ; Frynta et al., 2009+; <b>Warburton et al., 2020</b> ; <b>2021</b>
<i>Acomys russatus</i>	golden spiny mice	<b>Gutman et al., 2011</b>
<i>Acomys spinosissimus</i>	S. African spiny mice	<b>de Bruin et al., 2014</b>
<i>Gerbillus sp.</i>	gerbils	St Juliana et al., 2014↑, 2017; <b>2019a</b> ↑, b; <b>Navarro-Castilla et al., 2021</b> ↑
<i>Meriones sp.</i>	gerbils	St Juliana et al., 2014
<i>Meriones mefidianus pall.</i>	Midday gerbil	<b>Kuznetsov et al., 2004</b>
<i>Meriones tamariscinus</i>	Tamarisk Jird	<b>Moshkin et al., 2001</b>
<i>Meriones unguiculatus</i>	Mongolian gerbil	<b>Scheibler et al., 2004</b> ; <b>Waiblinger &amp; König, 2004</b> ; <b>Yamaguchi et al., 2005</b> ; <b>Shimozuru et al., 2006, 2008</b> ;
<i>Rhombomys opimus</i>	great gerbil	<b>Rogovin et al., 2003, 2008</b>
<i>Rattus norvegicus</i>	brown rat	Albert et al., 2008; <b>Fardell et al., 2021</b>
<i>Rattus n. f. domesticus</i>	laboratory rat	<b>Lepschy et al., 2007*</b> ↑↓^; others see Table S4b
<i>Rattus rattus</i>	black rat	<b>Zampachova et al., 2021</b> ↑; <b>Fardell et al., 2021</b>
<i>Micaelamys namaquensis</i>	Namaqua rock mice	<b>Ramahlo et al., 2019</b>
<i>Rhabdomys sp.</i>	stripped mouse	<b>Jones et al., 2011</b>
<i>Mus spicilegus</i>	mound-building mouse	<b>Rangassamy et al., 2016</b> ↑
<i>Mus spretus</i>	Algerian mouse	<b>Navarro-Castilla et al., 2017</b>
<i>Mus musculus</i>	wild mouse	<b>Daniszova et al., 2017</b> ↑; <b>Hiadlovská et al., 2015</b> ; <b>Gale et al., 2018, 2019</b> ; <b>Harper and Austad, 2000</b> , <b>Harper et al., 2006</b> ; <b>Miller et al., 2000</b> ; <b>Mancera et al., 2017, 2018</b>
<i>Mus m. f. domesticus</i>	laboratory mouse	<b>Touma et al., 2003*</b> ^+, <b>2004a</b> ↑↓; others see Table S4b
<i>Apodemus sylvaticus</i>	wood mouse	<b>Navarro-Castilla et al., 2018</b> ↑, <b>2019</b> ; <b>Sanchez-Gonzalez et al., 2018a, b</b> ; <b>Hernández et al., 2018, 2019, 2020</b> ; <b>Navarro-Castilla et al., 2014b</b> ; <b>Navarro-Castilla and Barja, 2014, 2019</b> ; <b>Monarca et al., 2015</b>
<i>Apodemus agrarius</i>	striped field mouse	<b>Wang et al., 2011</b> ; <b>Lopucki et al., 2018</b> ; <b>2019</b>
<b>Cricetidae</b>		
<i>Arvicola amphibius</i>	water vole	<b>Gelling et al., 2012</b>
<i>Arvicola scherman</i>	fossorial water vole	<b>Charbonnel et al., 2008</b> +
<i>Microtus agrestis</i>	vole	<b>Lilley et al., 2010</b> ; <b>Helle et al., 2013</b>
<i>Microtus arvalis</i>	common vole	<b>Liesenjohann et al., 2013</b> ; <b>Gracceva et al., 2014</b> ; <b>Navarro-Castilla et al., 2014a</b> ; <b>Lopucki et al., 2018</b>
<i>Microtus ochrogaster</i>	prairie vole	<b>Blondel et al., 2016</b>
<i>Microtus oeconomus</i>	root vole	<b>Bian et al., 2015</b> ; <b>Du et al., 2016</b> ; <b>Yang et al., 2018</b> ; <b>Shang et al., 2019, 2020</b>
<i>Microtus pennsylvanicus</i>	meadow voles	<b>Edwards et al., 2019*</b> ↑↓; <b>Anacker et al., 2016</b>
<i>Ellobius talpinus Pall.</i>	mole voles	<b>Novikov et al., 2015</b>
<i>Lemmus trimucronatus</i>	Arctic (brown) lemming	<b>Fauteux et al., 2017</b> ^, 2018
<i>Myodes (Clethrionomys) glareolus</i>	bank vole	<b>Zavyalov et al., 2003</b> ↑; <b>Rogovin and Naidenko, 2010</b> ↑; <b>Sipari et al., 2017*</b> ↑^, 2016a, b; <b>Hoffmann et al., 2018</b> ; <b>Sievert et al., 2019</b> ; <b>Mazza et al., 2019</b> ; <b>Ylönen et al., 2006</b> ; <b>Tidhar et al., 2007</b> ; <b>Eccard et al., 2011</b> ; <b>Kravchenko et al., 2016</b>
<i>Myodes gapperi</i>	red-backed vole	<b>Harper and Austad, 2000, 2001, 2004</b>
<i>Cricetus cricetus</i>	common hamster	<b>Franceschini et al., 2007</b> ; <b>Siutz and Millesi, 2012</b>
<i>Mesocricetus auratus</i>	Syrian hamster	<b>Chelini et al., 2010</b> ↑, 2011, 2006; <b>Ohrnberger et al., 2018</b> ; <b>Krause and Schüler, 2010</b> ;



<i>Tscherskia triton</i>	long-tailed hamster	<i>Kuo et al., 2011; Ross et al., 2017</i>
<i>Scotinomys teguina</i>	singing mouse	<i>Wang et al., 2009</i>
<i>Peromyscus californicus</i>	California mouse	<b>Crino et al., 2010</b> ↑
<i>Peromyscus leucopus</i>	white-footed mouse	<i>Harris et al., 2012</i> *^; <i>Bardi et al., 2011</i>
<i>Peromyscus maniculatus</i>	deer mouse	<i>Brown and Fuller, 2006; Pedersen and Greives, 2008; Stewart et al., 2020</i>
		<b>Harper and Austad, 2000, 2001, 2004;</b> <i>Hayssen et al., 2002;</i> <b>Eleftheriou et al., 2020</b> ↑↓+; <i>Pedersen and Greives, 2008; Fredebaugh-Siller et al., 2013; Veitch et al., 2020</i>
<i>Peromyscus polionotus</i>	oldfield mouse	<i>Good et al., 2003, 2005</i>
<b>Sciuridae</b> (squirrels)		
<i>Sciurus carolinensis</i>	Eastern grey squirrel	<b>Bosson et al., 2013</b> *↑^+; <i>Stothart et al., 2019; Santicchia et al., 2020; Romeo et al., 2020</i>
<i>Sciurus vulgaris</i>	Eurasian red squirrel	<b>Dantzer et al., 2016;</b> <i>Haigh et al., 2017; Santicchia et al., 2018; Shimamoto et al., 2020</i>
<i>Tamiasciurus hudsonicus</i>	N. American red squirrel	<b>Dantzer et al., 2010</b> *↑^, 2011, 2013; <i>Stothart et al., 2016; Van Kesteren et al., 2019</i>
<i>Tamias alpinus</i>	alpine chipmunk	<b>Guindre-Parker et al., 2019; Westrick et al., 2019</b>
<i>Tamias speciosus</i>	lodgepole chipmunk	<b>Hammond et al., 2015</b> ↑, 2018a, b, <b>2019a</b>
<i>Tamias striatus</i>	Eastern chipmunk	<b>Hammond et al., 2015</b> ↑, 2018a, b, <b>2019a</b>
<i>Marmota flaviventris</i>	yellow-bellied marmot	<b>Montiglio et al., 2012a</b> *↑^+, b, 2015; <i>Lyons et al., 2017</i>
<i>Spermophilus beldingi</i>	Belding's ground squirrel	<b>Smith et al., 2012</b> ↑; <i>Blumstein et al., 2006, 2016; Monclus et al., 2011; Blumstein and Chi, 2012; Wey et al., 2015; Chmura et al., 2016; Mady and Blumstein, 2017; Petelle et al., 2017; Pinho et al., 2019; Price et al., 2018</i>
<i>Spermophilus citellus</i>	European ground squirrel	<i>Mateo and Cavigelli, 2005</i> ↑↓ (E); <i>Mateo, 2006, 2007, 2008; Brooks and Mateo, 2013; Dosmann et al., 2015</i>
<i>S. columbianus</i>	Columbian ground squirrel	<b>Strauss et al., 2007;</b> <i>Brenner et al., 2017; Kachamakova et al., 2021; Aschauer et al., 2006</i>
<i>Otospermophilus beecheyi</i>	California ground squirrel	<b>Bosson et al., 2009</b> *↑↓^+; <i>Sosa et al., 2020</i>
<i>Cynomys ludovicianus</i>	black-tailed prairie dog	<b>Hammond et al., 2019b</b> ↑+; <i> Holding et al., 2020</i>
<i>Urocitellus parryii</i>	arctic ground squirrel	<i>Pauli and Buskirk, 2007; Crill et al., 2019</i>
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	<b>Sheriff et al., 2012</b> ↑↓+, 2017; <i>Edwards et al., 2016; Zhang et al., 2020</i>
		<b>Hare et al., 2014</b> ↑; <i>Ryan et al., 2012, 2014; Clary et al., 2014; Freeman et al., 2019</i>
<b>Other rodents</b>		
<i>Cavia aperea f. porcellus</i>	guinea pig	<b>Bauer et al., 2008</b> ↑; <i>Keckeis et al., 2012</i> *^; <i>Schöpfer et al., 2011, 2012; Powell et al., 2020↑, <i>Fenske, 1999; Walters et al., 2012; Nemeth et al., 2016</i></i>
<i>Cuniculus paca</i>	paca	<i>Nogueira et al., 2021</i>
<i>Chinchilla lanigera</i>	chinchilla	<i>Ponzio et al., 2004</i> ↑*^
<i>Ctenomys sociabilis</i>	tuco-tuco	<b>Woodruff et al., 2010</b> ↑, 2013
<i>Octodon degus</i>	degu	<b>Soto-Gamboa et al., 2009</b> ↑; <i>Ebensperger et al., 2011, 2013, 2015; Quirici et al., 2011</i>
<i>Fukomys damarensis</i>	Damaraland mole-rat	<b>Medger et al., 2018</b> ↑
<i>Heterocephalus glaber</i>	naked mole-rat	<b>Edwards et al., 2020</b> *↑^+
<i>Glis glis</i>	edible dormouse	<b>Cornalis et al., 2018</b> +

**Table S3b:** Published papers dealing with FCMs in laboratory **rats** and **mice**

<b>Reviews</b>	
Rowland and Toth, 2019	
<b><i>Rattus norvegicus f. domesticus</i></b>	<b>laboratory rat</b>
Bamberg et al., 2001* $\uparrow\downarrow^{\wedge+}$ ; <b>Lepschy et al., 2007*<math>\uparrow\downarrow^{\wedge}</math>, 2010<math>\uparrow\downarrow</math></b> ; Abelson et al., 2009*; <b>Bardi et al., 2010, 2012</b> ; Rima et al., 2009; Hawley, et al., 2010; Christiansen et al., 2012; Henningsen et al., 2012; Amugongo and Hlusko, 2014; Lambert et al., 2014; Hoheisl et al., 2015; Kent et al., 2017; Möller et al., 2018; Di Liberto et al., 2018; <b>Cinque et al., 2018</b> ; <b>Seiffert et al., 2019</b> ; <b>Koska et al., 2019</b> ; <b>Crawford et al., 2019</b> ; <b>Scarola et al., 2019, 2020</b> ; <b>Ziegłowski et al., 2020</b> ; <b>Kroll et al., 2021</b> <i>Pihl and Hau, 2003</i> ; <i>Eriksson et al., 2004</i> ; <i>Knox et al., 2004</i> ; <i>Royo et al., 2004</i> ; <i>Cavigelli et al., 2005<math>\wedge</math> (LC-MS), 2006</i> , <i>Boggiano et al., 2008</i> ; <i>Burman et al., 2008</i> ; <i>Leasure and Jones, 2008</i> ; <i>Siswanto et al., 2008</i> ; <i>Dahlin et al., 2009</i> ; <i>Garcia-Diaz et al., 2009</i> ; <i>Thanos et al., 2009</i> ; <i>Cloutier and Newberry, 2010</i> ; <i>Kalliokoski et al., 2010a</i> ; <i>Kemppinen et al., 2010</i> ; <i>Rosa et al., 2010, 2011, 2012</i> ; <i>Cannon et al., 2011</i> ; <i>Paternain et al., 2011, 2013</i> ; <i>Horn et al., 2012</i> ; <i>Rosenfeld and Weller, 2012</i> ; <i>Turner et al., 2012, 2014</i> ; <i>Cloutier et al., 2013, 2014</i> ; <i>Benite-Ribeiro et al., 2014</i> ; <i>Caruso et al., 2014</i> ; <i>Szkudlarek et al., 2014</i> ; <i>Chaby et al., 2015</i> ; <i>Cox and Hager, 2016</i> ; <i>Hüske et al., 2016</i> ; <i>Maynard et al., 2016</i> ; <i>Wilson et al., 2016</i> ; <i>Barker et al., 2017</i> ; <i>Hestehave et al., 2017, 2020</i> ; <i>Lundberg et al., 2017</i> ; <i>Laaksonen et al., 2017</i> ; <i>Green et al., 2018</i> ; <i>Harikrishnan et al., 2018</i> ; <i>Kasanen et al., 2018</i> ; <i>LaFollette et al., 2018</i> ; <i>Sardi et al., 2018</i> ; <i>Thiele et al., 2020</i> ; <i>Stone et al., 2020</i>	
<b><i>Mus musculus f. domesticus</i></b>	<b>laboratory mouse</b>
<b>Touma et al., 2003*<math>\wedge+</math>, 2004a<math>\uparrow\downarrow</math>, b, 2008, 2009</b> , *Kalliokoski et al., 2010b, 2012a $\uparrow$ , 2013, 2015; Ambree et al., 2006; Dallmann et al., 2006; Voigtländer et al., 2006; Ibarguen-Vargas et al., 2008; Richter et al., 2008; Blottner et al., 2009; Godfrey and Silverman, 2009+; Nicholson et al., 2009; Adamson et al., 2010; Fuss et al., 2010; Jansen et al., 2010, 2011; Jensen et al., 2010; Akre et al., 2011; Edgar et al., 2011; Heiming et al., 2011; Kloke et al., 2011; Surget et al., 2011; Coudereau et al., 2012; Gurfein et al., 2012, 2014, 2017; Kolbe et al., 2012, 2015, 2016; Philbert et al., 2012; Walker et al., 2012; Buschert et al., 2013; Ellman et al., 2013; Voigt et al., 2013; Walker et al., 2013, 2016; Azzinari et al., 2014; Heinzmann et al., 2014; Krohn et al., 2014; Atanasov et al., 2015; Bodden et al., 2015, 2018, 2021; Gutknecht et al., 2015; Pfeiffenberger et al., 2015; Garratt et al., 2016; Mallien et al., 2016, 2020; Novak et al., 2016; Soto et al., 2016; Daniszova et al., 2017 $\uparrow$ ; Hohlbaum et al., 2017, 2018a, b, 2020a, b; Bailoo et al., 2018a, b, 2020; Weidt et al., 2018; Kästner et al., 2018; Razzoli et al., 2018; Varholick et al., 2018, 2019; Resch et al., 2018; <b>Melotti et al., 2019</b> ; <b>Mertens et al., 2019, 2020</b> ; <b>Weidner et al., 2019</b> ; <b>Candemir et al., 2019</b> ; <b>Rumpel et al., 2019</b> ; <b>Jirkof et al., 2019, 2020</b> ; <b>von Hövel et al., 2019</b> ; <b>Abdelrahman et al., 2019</b> ; <b>Feige-Diller et al., 2020, 2021</b> ; <b>Kumstel et al., 2020a-c</b> ; <b>Baier et al., 2020</b> ; <b>Harrison et al., 2020</b> ; <b>Vogt et al., 2020</b> ; <b>Krakenberg et al., 2020, 2021</b> ; <b>Ernst et al., 2020</b> ; <b>Meyer et al., 2020</b> ; <b>Jeuthe et al., 2020</b> ; <b>Sensini et al., 2020</b> ; <b>Kortzfleisch et al., 2020</b> ; <b>Tang et al., 2020</b> ; <b>Boldt et al., 2021</b> ; <b>Durst et al., 2021</b> ; Harper and Austad, 2000; Harper et al., 2003; Davidson et al., 2006; Hunt and Humbly, 2006; Caruso et al., 2017; Caulfield et al., 2017; <b>2021a, b</b> ; <i>Abraham et al., 2006</i> ; <i>Wright-Williams et al., 2007, 2013</i> ; <i>O'Malley et al., 2008</i> ; <i>Pilorz et al., 2009</i> ; <i>Rosenbaum et al., 2009</i> ; <i>Kiessling et al., 2010</i> ; <i>Oliva et al., 2010</i> ; <i>Sundbom et al., 2011</i> ; <i>Bundgaard et al., 2012</i> ; <i>Horn et al., 2012</i> ; <i>Jacobsen et al., 2012, 2013a, b</i> ; <i>Rakowski-Anderson et al., 2012</i> ; <i>Teilmann et al., 2012, 2014</i> ; <i>Ohland et al., 2013</i> ; <i>Steele et al., 2013</i> ; <i>Davis et al., 2014</i> ; <i>Leliavski et al., 2014</i> ; <i>Van den Beukel et al., 2014</i> ; <i>Melo et al., 2014</i> ; <i>Acklin and Gault, 2015</i> ; <i>Clipperton-Allen et al., 2015</i> ; <i>Spulber et al., 2015</i> ; <i>Schroeder et al., 2015</i> ; <i>Toth et al., 2015</i> ; <i>Yap et al., 2015</i> ; <i>Abelson et al., 2016<math>\uparrow+</math></i> ; <i>Koch et al., 2016</i> ; <i>Svensson et al., 2016</i> ; <i>Gjendal et al., 2017, 2019</i> ; <i>Daniszova et al., 2017</i> ; <i>Brochu et al., 2018</i> ; <i>Choudhary et al., 2018</i> ; <i>Harikrishnan et al., 2018</i> ; <i>Nørgaard et al., 2018</i> ; <i>St-Cyr et al., 2018</i> ; <i>Kamimura et al., 2019</i> ; <i>Falkenberg et al., 2019</i> ; <i>Resasco et al., 2019</i> ; <i>Terenina et al., 2019</i> ; <i>Gjendal et al., 2020a, b</i> ; <i>Shaw et al., 2020</i> ; <i>Singh et al., 2020</i> ; <i>Wu et al., 2020</i>	

**Table S4:** Published papers dealing with FCMs in different species (grouped by “Family”) of the order “Artiodactyla” (see general information on page II for further details)

Family/Latin name	common name	articles (ordered by year; validations first)
<b>Camelidae</b> (camels)		
<i>Camelus dromedarius</i>	dromedary	<b>Sid-Ahmed et al., 2013b</b> ↑^
<i>Lama glama</i>	llama	<b>Arias et al., 2013</b> ↑
<i>Lama guanicoe</i>	guanaco	<i>Ovejero Aguilar et al., 2016; Gregorio et al., 2019</i>
<i>Vicugna pacos</i>	alpaca	<b>Arias et al., 2013</b> ↑ (S); <i>Wittek et al., 2017</i>
<i>Vicugna vicugna</i>	vicuña	<b>Arias et al., 2013; Pritchard et al., 2020</b>
<b>Suidae</b> (pigs)		
<i>Sus scrofa f. domestica</i>	domestic pig	<i>Palme et al., 1996*</i> ; <i>Möstl et al., 1999*</i> ↑↓^+ (S); <b>Wolf et al., 2020</b> ↑+; <i>Royo et al., 2005; Cornale et al., 2015; Wesoly et al., 2015; Carlsson et al., 2007; Khonmee et al., 2018; Jiang et al., 2019; Mohan et al., 2020</i>
<b>Tayassuidae</b>		
<i>Pecari tajacu</i>	collared peccary	<b>Coradello et al., 2012</b> ↑; <i>Nogueira et al., 2011; Semper-Pascual et al., 2019; Oliveira et al., 2016</i>
<b>Cetacea</b> (whales; infraorder)		
Review		<i>Hunt et al., 2013 (large whales), 2015 (North Atlantic right whale)</i>
<i>Eubalaena glacialis</i>	N. Atlantic right whale	<i>Hunt et al., 2006</i> ^; <i>Rolland et al., 2012, 2017; Corkeron et al., 2017</i>
<i>Balaenoptera musculus</i>	N. Pacific blue whale	<i>Valenzuela-Molina et al., 2018</i> ^
<i>Megaptera novaeangliae</i>	humpback whale	<i>Hunt et al., 2019</i>
<i>Eschrichtius robustus</i>	N. Pacific gray whale	<i>Lemos et al., 2020</i>
<i>Orcinus orca</i>	killer whale	<i>Ayres et al., 2012; Wasser et al., 2017; Steinman et al., 2020</i> ^; <i>Steinman and Robeck, 2021</i>
<i>Tursiops truncatus</i>	bottlenose dolphin	<b>Champagne et al., 2018, 2017; Houser et al., 2017; Biancani et al., 2017; Serres et al., 2020</b>
<i>Neophocaena asiaeorientalis</i>	Yangtze finless porpoises	<i>Serres et al., 2020</i>
<b>Antilocapridae</b>		
<i>Antilocapra americana</i>	N. American pronghorn	<i>Beckmann et al., 2016</i>
<b>Giraffidae</b>		
<i>Giraffa camelopardalis</i>	giraffe	<b>Bashaw et al., 2016</b> ↑+; <i>Wolf et al., 2018a, b; Marealle et al., 2020; Scheijen et al., 2021; Razal et al., 2017; Chinnadurai et al., 2009</i>
<b>Cervidae</b> (deer)		
<i>Dama dama L.</i>	fallow deer	<b>Konjević et al., 2011</b> ↑, 2016; <i>Pecorella et al., 2016</i>
<i>Dama dama m.</i>	Persian fallow deer	<i>Zidon et al., 2009</i>
<i>Cervus canadensis</i>	elk or wapiti	<i>Creel et al., 2002; Millspaugh et al., 2001; 2003 (S); Jachowski et al., 2015a; Lehman et al., 2019; Ensminger et al., 2020; Creel et al., 2009; Forristal et al., 2012</i>
<i>Cervus c. roosevelti</i>	Roosevelt elk	<b>Wasser et al., 2000</b>
<i>Cervus elaphus</i>	red deer	<b>Huber et al., 2003a</b> ↑^+, b; <b>Zbyryt et al., 2018</b> ↑^+; <i>Corlatti et al., 2011; Santos et al., 2014, 2018; Pavitt et al., 2015, 2016; Vilela et al., 2020; Sauerwein et al., 2004</i>
<i>Cervus e. hispanicus</i>	Iberian red deer	<i>Azorit et al., 2012; Carranza et al., 2020, De la Pena et al., 2020a, b, 2021; Pérez et al., 2020 (S)</i>
<i>Elaphurus davidianus</i>	Père David’s deer	<i>Li et al., 2007</i>
<i>Rangifer t. tarandus</i>	reindeer	<i>Rehbinder and Hau, 2006; Ashley et al., 2011↑; <i>Yin et al., 2015; Carlsson et al., 2016; Gülzari et al., 2019↑</i></i>
<i>Rangifer t. granti</i>	caribou	<b>Ashley et al., 2011</b> ↑; <i>Wasser et al., 2011; Joly et al., 2015;</i>
<i>Odocoileus virginianus</i>	white-tailed deer	<b>Millspaugh et al., 2002</b> ↑ (S); 2003 (SE); <i>Washburn and Millspaugh, 2002 (S); Millspaugh and Washburn, 2003 (E); Taillon and Cote, 2008; Moll et al., 2009; McCoy and Ditchkoff, 2012; Jachowski et al., 2015b; Parikh et al., 2018; Vega et al., 2020</i>
<i>Odocoileus hemionus</i>	black-tailed (mule) deer	<i>Le Saout et al., 2016; Jachowski et al., 2018; Atwood et al., 2020; Ortega et al., 2020</i>
<i>Mazama gouazoubira</i>	brown brocket deer	<b>Christofolletti et al., 2010</b> ↑; <i>Zanetti et al., 2014</i>
<i>Blastocercus dichotomus</i>	marsh deer	<b>Christofolletti et al., 2010</b>
<i>Ozotoceros bezoarticus</i>	pampas deer	<i>Munerato et al., 2015+</i> ; <i>Pereira et al., 2006</i>
<i>Capreolus capreolus</i>	roe deer	<b>Dehnhard et al., 2001</b> ↑↓^+; <b>Escribano-Avila et al., 2013</b> ↑; <i>Zbyryt et al., 2018</i> ^+ <i>Iglesias-Merchan et al., 2018; Horcajada-Sanchez et al., 2019; Carbillet et al., 2020; Lemaitrei et al., 2020; Klich et al., 2020</i>
<i>Alces alces</i>	moose/Euroasian elk	<i>Wasser et al., 2011; Jesmer et al., 2017; Thompson et al., 2020a, b</i>

**Moschidae**

*Moschus berezovskii* Musk deer *He et al., 2014; Wang et al., 2016; Fan et al., 2018; Yang et al., 2020; Wang et al., 2020 (E); Li et al., 2021*

**Bovidae**

*Bos taurus* cattle **Palme et al., 1999**↑↓, **2000; Morrow et al., 2001**↑, **2002**↑+ (S); **Möstl et al., 2002**\*^+; Hopster et al., 2002; Fisher et al., 2003; Mülleder et al., 2003; Weiss et al., 2004, 2005; Kahrer et al., 2006; Pesenhofer et al., 2006; Kofler et al., 2007; Tucker et al., 2007a, b; Gonzalez et al., 2008a, b, 2009; Saco et al., 2008; Webster et al., 2008; Belo et al., 2009; Lexer et al., 2009; Alvarez-Rodriguez et al., 2010; Arioli et al., 2010; Montanholi et al., 2010, 2013; Rouha-Mülleder et al., 2010; Faleiro et al., 2011; Huzzey et al., 2011, 2012a, b, 2015; Castro et al., 2012; Krawczel et al., 2012; Wagner et al., 2012; Bertulat et al., 2013; Horak and Möstl, 2013+ (S); Moya et al., 2013; De Clercq et al., 2014 (LC-MS; SE); Madella-Oliveira et al., 2014; El-Bahr and Albokhadaim, 2015+ (S); Lürzel et al., 2015; Dörfler et al., 2016; Foote et al., 2016; Janßen et al., 2016; Rees et al., 2016; White et al., 2016; Veissier et al., 2018; Spore et al., 2018; Ivemeyer et al., 2018; **Dzviti et al., 2019; Fujiwara et al., 2019; Campbell et al., 2019; Mazer et al., 2020; Heinrich et al., 2020; Ebinghaus et al., 2020; Geischeder et al., 2021; del Campo et al., 2021; Schütz et al., 2013; Cucuzza et al., 2014; Kovacs et al., 2015; Tallo-Parra et al., 2015; Hernández-Cruz et al., 2016; Jurkovich et al., 2017; Brunel et al., 2018; Khonmee et al., 2020; von Kuhlberg et al., 2021; Parham et al., 2021**

*Bison bison* bison **Mettrione et al., 2020; Mooring et al., 2006**^; *Ranglack et al., 2017*

*Syncerus caffer* African buffalo **Ganswindt et al., 2012b**↑+ (S); **Spaan et al., 2017**↑+

*Tragelaphus buxtoni* nyala *Chinnadurai et al., 2009*

*Tragelaphus strepsiceros* kudu *Chinnadurai et al., 2009*

*Aepyceros melampus* impala **Chizzola et al., 2018**↑; *Lunde et al., 2016; Hunninck et al., 2020a-c; Chinnadurai et al., 2009*

*Antilope cervicapra* Indian blackbuck *Rajagopal et al., 2011*

*Antidorcas marsupialis* springbok *Cizauskas et al., 2015+*

*Litocranius walleri* gerenuk **Wasser et al., 2000**

*Nanger granti* Grant's gazelle *Ezenwa et al., 2012*↑

*Procapra przewalskii* Przewalski's gazelle **Liu et al., 2020**

*Capra aegagrus hircus* domestic goat **Kleinsasser et al., 2010**↑+; *Nordmann et al., 2011, 2015; Patt et al., 2012, 2013a, b; Szabo et al., 2013; Schilling et al., 2015; Baxter et al., 2016*

*Capra ibex* Alpine ibex *Brivio et al., 2015*

*Capra pyrenaica* Iberian ibex *Molina-García et al., 2018; Pérez et al., 2019*

*Pantholops hodgsonii* Tibetan antelope *Shi et al., 2021*

*Oreamnos americanus* Rocky Mountain goat **Broin et al., 2019**↑^, 2020

*Ovis ammon f. aries* domestic sheep *Lindner, 1972*\*; *Palme et al., 1996*\*; **Palme and Möstl, 1997**\*^+; **Palme et al., 1999**↑↓; *Möstl et al., 2002*\*^+; *Rossi et al., 2007; Ates et al., 2008; Lexen et al., 2008+* (S); **Sid-Ahmed et al., 2013a**↑^; *Schilling et al., 2015; Stubbsjøen et al., 2015, 2018; Salaberger et al., 2016; Weaver et al., 2021; O'Neill et al., 2020; Dalmau et al., 2014; Lv et al., 2015; Messori et al., 2015; Narayan et al., 2018a; Zhang et al., 2018; Combs et al., 2018, 2019; Scherpenhuizen et al., 2020 (S); Navarro et al., 2020*

*Ovis c. canadensis* Rocky Mountain bighorn sheep **Miller et al., 1991a**↑, b; *Goldstein et al., 2005; Coburn et al., 2010*

*Rupicapra pyrenaica* Pyrenean chamois *Dalmau et al., 2007; Fattorini et al., 2018a, b*

*Rupicapra rupicapra* Alpine chamois *Hoby et al., 2006; Hadinger et al., 2015*^ (S); *Corlatti et al., 2012, 2014, 2019; Corlatti, 2018; Formenti et al., 2018*

*Rupicapra r. tatraica* chamois *Zwijacz-Kozica et al., 2013*

*Naemorhedus griseus* goral *Khonmee et al., 2014a+*, b

*Connochaetes taurinus* (blue) wildebeest **Chizzola et al., 2018; Stabach et al., 2015; Chinnadurai et al., 2009**

*Alcelaphus buselaphus* Jackson's hartebeest *Spratt et al., 2019*

*Hippotragus niger* sable antelope *Loeding et al., 2011*

*Oryx dammah* scimitar-horned oryx **Wasser et al., 2000; Stabach et al., 2020; Pauling et al., 2017**

**Table S5:** Published papers dealing with FCMs in different species (grouped by “Family”) of the order “Perissodactyla” (Equidae and Rhinocerotidae) and the “Afrotheria” (Proboscidae, Sirenia and Macroscelidae; (see general information on page II for further details)

Family/Latin name	common name	articles (ordered by year; validations first)
<b>Equidae</b>		
<i>Equus caballus</i>	domestic horse	Palme et al., 1996*; <b>Möstl et al., 1999*</b> ↑↓^+, Merl et al., 2000; <b>Flauger et al., 2010</b> ↑↓^+ (S); Berghold et al., 2007; Gorgasser et al., 2007; Hoffmann et al., 2009, 2012; Jakubowska et al., 2010; Schmidt et al., 2010a-c; Christensen et al., 2012, 2018; Malmkvist et al., 2012b; Fejsakova et al., 2013; Fureix et al., 2013; Schulman et al., 2014; Badenhorst et al., 2015; Gorecka-Bruzda et al., 2015; Page et al., 2017; Pawlusi et al., 2017; van Vollenhoven et al., 2018; Yarnel et al., 2015, 2016; Yarnell and Walker, 2018; <b>Esch et al., 2019</b> ; <b>Krueger et al., 2019</b> (S); <b>Marr et al., 2020</b> ; <b>Hinchcliffe et al., 2021</b> ; <b>Heleski et al., 2002</b> ; <b>Nunez et al., 2014</b> ; <b>York and Schulte, 2014</b> ; <b>Merkies et al., 2016</b> ; <b>Mercer-Bowyer et al., 2017</b>
<i>Equus ferus przewalskii</i>	PrezwalSKI horse	<b>Ji et al., 2013</b> ; Wolter et al., 2014
<i>Equus hemionus onager</i>	Persian Onager	<b>Vick et al., 2012</b>
<i>Equus grevyi</i>	Grevy's zebra	<b>Franceschini et al., 2008</b> ↑; Seeber et al., 2018; <i>Yarnell and Walker, 2017</i> (S)
<i>Equus quagga</i>	plains zebra	<b>Periquet et al., 2017</b> ↑; <b>Seeber et al., 2018</b> ↑; <i>Chinnadurai et al., 2009</i> ; <i>Cizauskas et al., 2015</i>
<i>Equus zebra</i>	mountain zebra	<i>Lea et al., 2018</i>
<b>Rhinocerotidae</b>		
<i>Ceratotherium simum</i>	white rhinoceros	Turner et al., 2002+; Badenhorst et al., 2016; <b>Yang et al., 2019</b> ; <b>Fabregas et al., 2019</b> ; <b>2020, 2021</b> ; <i>Brown et al., 2001</i> ^+; <i>Carlstead and Brown, 2005</i> ; <i>Linklater et al., 2010</i> ; <i>Metrione and Harder, 2011</i> ; <i>Penny et al., 2020</i>
<i>Diceros bicornis</i>	black rhinoceros	<b>Wasser et al., 2000</b> ; <b>Brown et al., 2001</b> ↑^+; Turner et al., 2002; Carlstead and Brown, 2005; Dorsey et al., 2010; Linklater et al., 2010; <b>Santymire et al., 2012</b> ↑; <i>Watson et al., 2013</i> ; Edwards et al., 2014 (SE); <i>Antwis et al., 2019</i> ; Edwards et al., 2015a, b, <b>2020</b> ; <i>Götttert et al., 2015</i>
<i>Rhinoceros unicornis</i>	Indian rhinoceros	<b>Capiro et al., 2014</b> ↑
<b>Proboscidae</b>		
Review		welfare (Mason and Veasey, 2010)
<i>Elephas maximus</i>	Asian elephant	<b>Laws et al., 2007</b> +; <b>Fanson et al., 2013</b> ; <i>Watson et al., 2013</i> ; Ghosal et al., 2013; Kumar et al., 2014, <b>2019</b> ; Kajajysri and Nokkaew, 2014; Pokharel et al., 2017, 2019; <b>2020</b> Vijayakrishnan et al., 2018; <i>Mumby et al., 2015</i> ; <i>Edwards et al., 2016</i> ; <b>2019a, b</b> ; <i>Wong et al., 2016</i> (S); <i>Norkaew et al., 2018</i> ; <b>2019a, b</b> ; <i>Bansiddhi et al., 2019</i> ; <i>Brown et al., 2019, 2020</i> ; <i>Tang et al., 2020</i> ; <i>Seltmann et al., 2020</i> ; <i>Kosaruk et al., 2020</i> ; <i>Crawley et al., 2021</i>
<i>Loxodonta africana</i>	African elephant	<b>Stead et al., 2000</b> ↑^+; <b>Wasser et al., 2000</b> ; <b>Ganswindt et al., 2003</b> *↑^+, 2005a,b, 2010a, b; <b>Santymire et al., 2012</b> ↑; Foley et al., 2001; Hunt and Wasser, 2003 (S); Millspaugh et al., 2007; Burke et al., 2008; Gobush et al., 2008; Munshi-South et al., 2008; Rasmussen et al., 2008; Viljoen et al., 2008a, b; Wooley et al., 2008, 2009; Pinter-Wollman et al., 2009; De Nys et al., 2010; Ahlering et al., 2011, 2013; Jachowski et al., 2012, 2013a, b; Tingvold et al., 2013; Hunninck et al., 2017; Webber et al., 2018 (S); <b>Brown et al., 2019</b> ; <b>Edwards et al., 2019b</b> ; <b>Szott et al., 2020</b> ; <b>Carlin et al., 2020</b> ; <b>Grotto et al., 2020</b> ; <b>Oduor et al., 2020</b>
<b>Sirenia</b>		
<i>Dugong dugon</i>	dugong	<i>Burgess et al., 2013</i>
<i>Trichechus manatus latirostris</i>	Florida manatee	<i>Merson et al., 2014</i>
<b>Macroscelidae</b>		
<i>Elephantulus myurus</i>	Eastern rock sengis	<b>Medger et al., 2020</b> ↑+

**Table S6:** Published papers dealing with FCMs in different species (grouped by “Family”) of the order “Carnivora” (see general information on page II for further details)

<b>Reviews</b> (ordered by year)		
Dominance, aggression and glucocorticoids (Creel, 2005); comparative endocrinology of felids (Brown, 2006)		
<b>Family/Latin name</b>	<b>common name</b>	<b>articles (ordered by year; validations first)</b>
<b>Canidae</b> (canids)		
<i>Canis lupus</i>	wolf	Sands and Creel, 2004↑; <b>Molnar et al., 2015</b> ; Creel et al., 2002; Eggermann et al., 2013
<i>Canis lupus f. familiaris</i>	domestic dog	<b>Schatz and Palme, 2001*</b> ↑↓^+; Palme et al., 2001; De Palma et al., 2005; Slotta-Bachmayr and Schwarzenberger, 2007; <i>Farca et al., 2006+</i> ; <i>Accorsi et al., 2008</i> ; <b>2018</b> Bryan et al., 2013; Walker et al., 2014; Uetake et al., 2015; 2016; <i>Righi et al., 2019</i> ; <i>Mondo et al., 2020</i>
<i>Canis lupus baileyi</i>	Mexican wolf	<b>Pifarre et al., 2012</b> ; Escobar-Ibarra et al., 2017; <i>Alejandro et al., 2008</i>
<i>Canis lupus signatus</i>	Iberian wolf	<i>Barja et al., 2008</i>
<i>Canis rufus</i>	red wolf	<b>Young et al., 2004</b> ↑^+; <b>Franklin et al., 2020</b> ↑
<i>Canis latrans</i>	coyote	<b>Schell et al., 2013</b> ↑+, 2016, 2018; <b>Stevenson et al., 2018</b> ↑+, <b>2020</b> (S)
<i>Canis simensis</i>	Ethiopian wolf	<i>Van Kesteren et al., 2012, 2013</i>
<i>Lycaon pictus</i>	African wild dog	<b>Monfort et al., 1998</b> ↑^+; Creel et al., 1996, 1997; <b>Rafacz and Santymire, 2014</b> ↑; Santymire and Armstrong, 2010 (SE); <i>Crossey et al., 2018</i> (S), <b>2020</b> ; <b>Van den Berghe et al., 2019a</b> ↑ (S), b; <i>Van der Weyde et al., 2016</i>
<i>Chrysocyon brachyurus</i>	maned wolf	<b>Vasconcellos et al., 2011</b> ↑+, 2009; Vynne et al., 2012 (S), 2014; Coehlo et al., 2016; <b>Sperciski et al., 2012</b> ; Cummings et al., 2007; Teodoro et al., 2012; Jones et al., 2018
<i>Cerdocyon thous</i>	crab-eating-fox	<b>Paz et al., 2014</b> ↑, <b>2015</b>
<i>Otocyon megalotis</i>	bat-eared fox	<b>Le Roux et al., 2016</b> ↑+; de Bruin et al., 2018
<i>Vulpes vulpes</i>	silver fox	<b>Hovland et al., 2017</b> ↑+
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	<i>Nelson et al., 2015</i>
<i>Vulpes lagopus</i>	Arctic fox	McDonald et al., 2018; <i>Sanson et al., 2005</i>
<i>Urocyon littoralis</i>	island fox	<b>Kozlowski et al., 2020</b> ↑
<b>Ursidae</b> (bears)		
<i>Ursus arctos horribilis</i>	grizzly bear	<b>Hunt and Wasser, 2003</b> ↑^ (S); <b>White et al., 2015</b> ↑; Wasser et al., 2004; von der Ohe et al., 2004; <i>Stetz et al., 2013</i>
<i>Ursus arctos (+syracus)</i>	brown bear	<b>Dalerum et al., 2020</b> ↑+; <i>Sergiel et al., 2020</i>
<i>Ursus maritimus</i>	polar bear	<b>Shepherdson et al., 2013</b> ↑; <b>White et al., 2015</b> ↑; <b>Hein et al., 2020</b> ; <i>Bryant and Roth, 2018</i>
<i>Ursus americanus</i>	black bear	<i>Wasser et al., 2004</i> ; <i>Stetz et al., 2013</i>
<i>Ursus thibetanus</i>	Asiatic black bear	<b>Young et al., 2004</b> ↑^+; Malcolm et al., 2013, 2014; Narayan et al., 2018b
<i>Helarctos malayanus</i>	Malayan sun bear	<b>Wasser et al., 2000</b> ; Frederick et al., 2013
<i>Melursus ursinus</i>	sloth bear	<i>Young et al., 2004</i>
<i>Ailuropoda melanoleuca</i>	giant panda	<b>Kersey et al., 2010</b> ↑^+; 2011; <i>Liu et al., 2006</i> ; <i>Yu et al., 2011</i> ; <i>Deng et al., 2014a, b</i> ; <i>Zhou et al., 2020</i>
<b>Pinnipedia</b> (Pinnipeds)		
<i>Arctocephalus pusillus</i>	Cape fur seal	<i>Hammerschlag et al., 2017</i>
<i>Eumetopias jubatus</i>	Steller sea lion	<b>Mashburn and Atkinson, 2004</b> ↑^ (S); <b>2007</b> ↑; <b>2008</b> ↑; <b>Hunt et al., 2004</b> ↑; Petrauskas and Atkinson, 2006; Petrauskas et al. 2006, 2008;
<i>Zalophus californianus</i>	California sea lion	Petrauskas et al., 2008
<i>Monachus schauinslandi</i>	Hawaiian monk seal	<i>Gobush et al., 2014</i>
<i>Phoca vitulina richardii</i>	harbor seal	<i>Gulland et al., 1999↑</i>
<b>Musteloidae</b> (mustelids)		
<i>Ailurus fulgens fulgens</i>	red panda	<i>Budithi et al., 2016</i>
<i>Procyon lotor</i>	raccoon	<b>Monello et al., 2010</b> ↑
<i>Gulo gulo</i>	wolverine	<b>Dalerum et al., 2006</b> ↑
<i>Martes martes</i>	European pine marten	<i>Barja et al., 2007, 2011</i>
<i>Meles meles</i>	European badger	<b>Barja et al., 2012</b> ↑ (S); Schütz et al., 2006; <i>George et al., 2014</i>
<i>Mustela nigripes</i>	black-footed ferret	<b>Young et al., 2001</b> ↑^+; <b>2004</b> ↑^+; Poessel et al., 2011+; <i>Santymire et al., 2020</i>
<i>Mustela putorius furo</i>	ferret	<i>Sladky et al., 2000</i>
<i>Neovison vison</i> ( <i>Mustela vison</i> )	mink	<b>Malmkvist et al., 2011*</b> ↑^+; Hansen et al., 2007; Svendsen et al., 2007+; 2013+; Malmkvist and Palme, 2008+; 2015+; Malmkvist et al., 2012a, 2013+, 2016; Meagher et al., 2012; 2013, 2014; Buob et al., 2013; Diez-Leon et al., 2013, 2016; Rauch et al., 2014; Schou et al., 2018, <b>2019</b> ; <i>Schwartz et al., 2004</i>



<i>Lontra canadensis</i>	river otter	<i>Rothschild et al., 2008; Taylor et al., 2016; Crowley et al., 2018; Huang et al., 2018</i>
<i>Pteronura brasiliensis</i>	giant river otter	<i>Mettrione et al., 2018</i>
<i>Enhydra lutris kenyoni</i>	Alaskan sea otter	<b>Wasser et al., 2000</b>
<i>Aonyx capensis</i>	African clawless otter	<b>Majelantle et al., 2020+ (S)</b>
<b>Felidae</b>		
<i>Neofelis nebulosa</i>	clouded leopard	<b>Wasser et al., 2000; Wielebnowski et al., 2002a↑; Young et al., 2004↑; Shepherdson et al., 2004; DeCaluwe et al., 2013</b>
<i>Panthera uncia</i>	snow leopard	<i>Burgener et al., 2008; Kinoshita et al., 2011; Herrick et al., 2020↑; Chosy et al., 2014+</i>
<i>Panthera tigris</i>	tiger	<i>Parnell et al., 2015 (SE); Malviya et al., 2018; Bhattacharjee et al., 2015; Tyagi et al., 2019, Dembiec et al., 2004; Mondol et al., 2020↑^</i>
<i>Panthera t. altaica</i>	Siberian tiger	<b>Rozhnov et al., 2010↑; Naidenko et al., 2011↑, 2019 (E); Ivanov et al., 2017</b>
<i>Panthera t. sumatrae</i>	Sumatran tiger	<b>Narayan et al., 2013a; Parnell et al., 2014</b>
<i>Panthera t. tigris</i>	Bengal tiger	<b>Narayan et al., 2013a; Ruskell et al., 2015; Naidenko et al., 2019; Vaz et al., 2017</b>
<i>Panthera pardus</i>	leopard	<b>Webster et al., 2018↑ (S); Chosy et al., 2014+; Vaz et al., 2017</b>
<i>Panthera onca</i>	jaguar	<b>Morato et al., 2004; Conforti et al., 2012↑; Mesa-Cruz et al., 2014^+, 2016</b>
<i>Panthera leo</i>	African lion	<b>Santymire et al., 2012↑; Creel et al., 2013↑; Putman et al., 2015, 2019^</b>
<i>Panthera leo persica</i>	Asiatic lion	<i>Goswami et al., 2021</i>
<i>Leptailurus serval</i>	serval	<i>Chosy et al., 2014</i>
<i>Leopardus pardalis</i>	ocelot	<b>Dias et al., 2008↑+; Mesa-Cruz et al., 2016</b>
<i>Leopardus wiedii</i>	margay	<i>Gusset, 2005; Moreira et al., 2007</i>
<i>Leopardus tigrinus</i>	tigrina	<i>Moreira et al., 2007</i>
<i>Lynx canadensis</i>	Canada lynx	<b>Fanson et al., 2012↑+; Fanson &amp; Wielebnowski, 2013</b>
<i>Lynx lynx/Lynx pardinus</i>	Eurasian/Iberian lynx	<b>Pribbenow et al., 2014*↑^+</b>
<i>Lynx rufus</i>	mountain cat	<i>Alejandro et al., 2008</i>
<i>Acinonyx jubatus</i>	cheetah	<b>Terio et al., 1999↑^, 2002 (SE), 2003, 2004; Wasser et al., 2000; Ludwig et al., 2013*↑^; Young et al., 2004↑^+; Koester et al., 2015↑, 2017; Wielebnowski et al., 2002b; Wells et al., 2004; Miller et al., 2016; Crosier et al., 2017; Maly et al., 2018; Thuwanut et al., 2019; Jurke et al., 1997, Uetake et al., 2014</b>
<i>Puma concolor</i>	cougar	<i>Mesa-Cruz et al., 2016; Ruskell et al., 2015; Bonier et al., 2004+</i>
<i>Otocolobus manul</i>	Pallas' Cat	<i>Newell-Fugate et al., 2007</i>
<i>Prionailurus bengalensis</i>	Bengal cat	<b>Pavlova and Naidenko, 2008↑</b>
<i>Prionailurus viverrinus</i>	fishing cat	<b>Khonmee et al., 2016↑; Fazio et al., 2020↑^+</b>
<i>Felis chaus</i>	jungle cat	<i>Marinath et al., 2019</i>
<i>Felis silvestris</i>	wild cat	<i>Pineiro et al., 2012; 2015</i>
<i>Felis catus</i>	domestic cat	<b>Graham and Brown, 1996*↑^; Schatz and Palme, 2001*↑↓^+; Young et al., 2004↑^+; Palme et al., 2001+; Ramos et al., 2012; 2013, 2020; Fukimoto et al., 2020</b>
<b>Hyaenidae (hyaenas)</b>		
<i>Crocuta crocuta</i>	spotted hyena	<b>Goymann et al., 1999↑^, 2001, 2003; Benhaiem et al., 2012*↑^, 2013; Davidian et al., 2015; 2021; Dlonak et al., 2006; Van Meter et al., 2009</b>
<i>Hyaena brunnea</i>	brown hyaena	<b>Hulsman et al., 2011↑ (S)</b>
<i>Proteles cristata</i>	aardwolf	<b>Ganswindt et al., 2012a↑+; Marneweck et al., 2013, 2015</b>
<b>Herpestidae (mongoose)</b>		
<i>Mungos mungo</i>	banded mongoose	<b>Laver et al., 2012↑↓+ (S), 2020; Sanderson et al., 2014↑, 2015</b>
<i>Suricata suricatta</i>	meerkat	<b>Young et al., 2004↑^+; Young et al., 2006, 2008; Young and Monfort, 2009; Barette et al., 2012; Voellmy et al., 2014; Dimac-Stohl et al., 2018; Goncalves et al., 2016↑^+; Dantzer et al., 2017, 2019; Mausbach et al., 2017; Scott et al., 2017; Magg et al., 2019</b>



**Table S7:** Published papers dealing with FCMs in different species (grouped by “Family”) of other order “**Marsupialia**, **Xenarthra**, **Chiroptera**, **Tubulidentata** and **Pholidota**” (see general information on page II for further details)

<b>Reviews</b> (ordered by year)		
Assay/validation comparisons (Fanson et al., 2017)		
<b>Family/Latin name</b>	<b>common name</b>	<b>articles (ordered by year; validations first)</b>
<b>Marsupialia</b>		
<i>Sarcophilus harrisi</i>	Tasmanian devil	<b>Keeley et al., 2012</b> ↑
<i>Myrmecobius fasciatus</i>	numbat	<b>Hogan et al., 2012</b> ↑
<i>Macrotis lagotis</i>	greater bilby	<b>Narayan et al., 2014</b> ↑, 2012; Evans et al., 2013
<i>Perameles nasuta</i>	bandicoot	<i>Dowle et al., 2013</i>
<i>Phascolarctos cinereus</i>	koala	<b>Davies et al., 2013a</b> ↑, b, 2014; <b>Johnston et al., 2013</b> ↑; <b>Narayan et al., 2013b</b> ↑ <b>Fanson et al., 2017</b> ↑+; Webster et al., 2017; <b>Narayan and Vanderneut, 2019</b> ; <a href="#">Narayan, 2019</a>
<i>Lasiorhinus latifrons</i>	S. hairy-nosed wombat	<b>Hogan et al., 2011</b> ↑; Descovich et al., 2012 (S); <b>Fanson et al., 2017</b> +
<i>Lasiorhinus krefftii</i>	N. hairy-nosed wombat	<b>Fanson et al., 2017</b> +
<i>Tarsipes rostratus</i>	honey possum	*Oates et al, 2007
<i>Burramys parvus</i>	mountain pygmy-possum	Fanson et al., 2017
<i>Petaurus australis</i>	yellow-bellied glider	<b>Fanson et al., 2017</b> +
<i>Petaurus breviceps</i>	sugar glider	<b>Scheun et al., 2020a</b> ↑+
<i>Potorous gilbertii</i>	Gilbert’s potoroo	<i>Stead-Richardson et al., 2010</i>
<i>Potorous tridactylus</i>	long-nosed potoroo	<b>Fanson et al., 2017</b> +
<i>Bettongia gaimardi</i>	bettong	<b>Fanson et al., 2017</b> ++; <i>Batson et al., 2017</i>
<i>Bettongia penicillata</i>	woylie	<b>Fanson et al., 2017</b> ↑+; <a href="#">Page et al., 2019</a> ; <i>Hing et al., 2016a, b, 2017a, b</i>
<i>Macropus eugenii</i>	tammar wallaby	<b>McKenzie and Deane, 2005</b> ; <i>Schwanz and Robert, 2014</i>
<i>Macropus fuliginosus</i>	Western grey kangaroo	<b>Fanson et al., 2017</b> ↑+
<i>Macropus f. fuliginosus</i>	Kangaroo Island kangaroo	Sherwen et al., 2015b
<i>Macropus giganteus</i>	Eastern grey kangaroo	<b>Fanson et al., 2017</b> ↑+; <a href="#">Branton et al., 2020</a>
<i>Macropus rufus</i>	red kangaroos	Sherwen et al., 2015b
<i>Gracilinanus agilis</i>	agile gracile opossum	<b>Hernandez et al., 2018</b>
<i>Dasyurus geoffroii</i>	western quoll	<a href="#">Jensen et al., 2019</a>
<i>Sminthopsis crassicaudata</i>	fat-tailed dunnart	<a href="#">Swinston et al., 2020</a>
<b>Xenarthra</b>		
<i>Myrmecophaga tridactyla</i>	giant anteater	<i>Knott et al., 2013</i>
<i>Tamandua tetradactyla</i>	collared anteater	<b>Eguizábal et al., 2013</b> ↑↓, 2019; <a href="#">Ruiz et al., 2019</a>
<i>Tolypeutes matacus</i>	armadillo	<b>Howell-Stephens et al., 2012</b> ↑; <b>Baird et al., 2016</b> ↑+
<i>Zaedyus pichiy</i>	pichi	<i>Superina et al., 2009</i>
<b>Chiroptera</b>		
<i>Eptesicus isabellinus</i>	Isabell bat	<b>Kelm et al., 2016</b> ↑
<i>Pteropus poliocephalus</i>	grey-headed flying-fox	<i>Parry-Jones et al., 2016</i>
<i>Pteropus vampyrus</i>	large flying fox	<b>Freeman et al., 2018</b> ^+; <i>Van der Aa et al., 2006</i>
<i>Pteropus hypomelanus</i>	small flying fox	<i>Van der Aa et al., 2006</i>
<i>Acerdon jubatus</i>	giant golden-crowned f. fox	<i>Van der Aa et al., 2006</i>
<i>Artibeus/Sturnia spp.</i>	frugivorous bats	<a href="#">Medina-Cruz et al., 2020</a>
<i>Myotis vivesi</i>	fish-eating Myotis	<a href="#">Hernandez-Arciga et al., 2020</a>
<b>Tubulidentata</b>		
<i>Orycteropus afer</i>	aardvark	<a href="#">Hamilton et al., 2020</a>
<b>Pholidota</b>		
<i>Manis pentadactyla</i>	Taiwanese pangolin	<a href="#">Arora et al., 2020</a>
<i>Manis javanica</i>	Malayan pangolins	<a href="#">Yan et al., 2021</a>

**Table S8:** Published papers dealing with FCMs in different species (grouped by “Order” – alphabetical) of the class “Aves” (see general information on page II for further details)

<b>Reviews</b> (ordered by year)		
Hirschenhauser et al., 2005 (S; greylag geese); Goymann, 2005 (validation; influential factors; SE)		
<b>Order/Latin name</b>	<b>common name</b>	<b>articles (ordered by year; validations first)</b>
<b>Accipitriformes</b>		
<i>Aquila chrysaetos</i>	golden eagle	<b>Staley et al., 2007</b> ↑^
<i>Buteo jamaicensis</i>	red-tailed hawk	<b>Baird et al., 2016</b> ↑
<i>Cathartes aura</i>	turkey vulture	<i>Herring et al., 2018</i>
<b>Anseriformes</b>		
<i>Anser anser</i>	greylag goose	Kotrschal et al., 1998; Hirschenhauser et al., 2000; Frigerio et al., 2001, 2003, <b>2004a+</b> , b; Pfeffer et al., 2002; Scheiber et al., 2005a, b; 2009, 2015; Kralj-Fišer et al., 2007, 2010a, b; Dorn et al., 2014; Hemetsberger et al., 2010; Ludwig et al., 2017; <i>Szipl et al., 2019</i>
<i>Anser a. domesticus</i>	domestic goose	<b>Kotrschal et al., 2000</b> ↑+
<i>Chen caerulescens atlantica</i>	snow goose	<b>Legagneux et al., 2011</b> ↑
<i>Chloephaga picta</i>	Upland goose	<b>Koch et al., 2009</b> ↑+; Gladbach et al., 2011
<i>Branta leucopsis</i>	barnacle goose	<i>Scheiber et al., 2017, 2018</i>
<i>Anas platyrhynchos</i>	duck	Holmes et al., 1972*; Helton and Holmes, 1973*
<i>Somateria mollissima</i>	eider	<i>Jatinen et al., 2013; Latty et al., 2016; Noreikiene et al., 2017</i>
<i>Dendrocygna bicolor</i>	whistling-duck	<i>Herring and Gawlick, 2009 (S)</i>
<i>Histrionicus histrionicus</i>	harlekin duck	<b>Nilsson et al., 2008</b> ↑^; <i>Hansen et al., 2016</i>
<b>Apodiformes</b>		
<i>Hylocharis leucotis</i>	white-eared hummingbird	<i>Chavez-Zichinelli et al., 2014</i>
<b>Bucerotiformes</b>		
<i>Buceros bicornis</i>	great hornbill	<i>Crofoot et al., 2003</i> ^
<i>Tockus leucomelas</i>	Southern African hornbill	<b>Bouwer et al., 2021</b> ↑
<b>Casuariiformes</b>		
<i>Dromaius novaehollandiae</i>	emu	<i>Jakob-Hoff et al., 2019</i>
<b>Charadriiformes</b>		
<i>Alle alle</i>	little auk	<b>Kidawa et al., 2014</b> ↑+, 2017
<i>Gelochelidon nilotica</i>	gull-billed tern	<b>Albano et al., 2015</b> ↑+
<i>Larus californicus</i>	California gull	<b>Herring and Ackerman, 2011</b>
<i>Sterna forsteri</i>	Forster’s tern	<b>Herring et al., 2012</b>
<i>Sterna hirundo</i>	common tern	<b>Braasch et al., 2011</b>
<i>Oceanites oceanicus</i>	Wilson’s storm-petrel	<i>Quillfeldt &amp; Möstl, 2003</i> ^
<b>Columbiformes</b>		
<i>Columba palumbus?</i>	Pigeon	Holmes et al., 1972*
<i>Zenaida macroura</i>	mourning dove	<b>Washburn et al., 2003</b> ↑; Schulz et al., 2005; Jachowski et al., 2014, 2015b
<b>Falconiformes</b>		
<i>Falco peregrinus</i>	peregrine falcon	<b>Staley et al., 2007</b> ↑^
<i>Falco sparverius</i>	American kestrel	<b>Pereira et al., 2009</b> ↑, 2010
<i>Accipiter gentilis</i>	goshawk	<i>Dehnhard et al., 2003</i>

<b>Galliformes</b>		
<i>Coturnix c. japonica</i>	Japanese quail	<b>Busso et al., 2013↑; Stöwe et al., 2013↑^</b> ; Hirschenhauser et al., 2012*↑^+; Dominchin et al., 2014, 2017; Pellegrini et al., 2015; <i>Pike and Petrie, 2006; Cockrem et al., 2012; Botelho et al., 2015</i>
<i>Gallus domesticus</i>	chicken	<b>Rettenbacher et al., 2004*↑↓^</b> ; <b>Dehnhard et al., 2003↑↓^</b> ; Hirschenhauser et al., 2012*↑^+; Rettenbacher et al., 2006*↑^; Jensen et al., 2006; Janczak et al., 2007; Buijs et al., 2009; Rettenbacher and Palme, 2009; Kjaer et al., 2011; <b>Stöwe et al., 2013↑^</b> ; <b>Alm et al., 2014</b> , 2015, 2016; Brantsæter et al., 2016; <b>Chousalkar et al., 2016</b> ; Weldon et al., 2016; de Haas et al., 2017; <b>Gole et al., 2017</b> ; Bertin et al., 2018, <b>2019</b> ; Carvalho et al., 2018; Sprafke et al., 2018; Weimer et al., 2018; <b>Larsen et al., 2018</b> ; <i>Dawkins et al., 2004; Fraise and Cockrem, 2006; Nicol et al., 2006; Carlsson et al., 2009; Jankowski et al., 2010; Sherwin et al., 2010; Sharma et al., 2017; Zhou et al., 2019; Trocino et al., 2020</i>
<i>Tetrao urogallus</i>	capercaillie	<b>Thiel et al., 2005*↑^+ (S)</b> , 2008, 2011, Coppes et al., 2018;
<i>Tetrao tetrix</i>	black grouse	<b>Baltic et al., 2005*↑^+ (S)</b> ; Arlettaz et al., 2007, 2015; Formenti et al., 2015; <i>Sokol and Koziatka-Sadlowska, 2020</i>
<i>Centrocercus urophasianus</i>	greater sage grouse	<b>Jankowski et al., 2009↑ (S)</b> , 2014; Blickley et al., 2012
<i>Bonasa umbellus</i>	ruffed grouse	<i>Zimmerman et al., 2013; Shipley et al., 2019</i>
<i>Colinus virginianus</i>	northern bobwhite	<b>Mohlman et al., 2020↑</b>
<b>Gruiformes</b>		
<i>Grus americana</i>	whooping crane	<b>Hartup et al., 2005^</b> , <b>Brown et al., 2016, 2020</b>
<i>Grus canadensis</i>	sandhill crane	<b>Ludders et al., 2001↑</b> ; Hartup et al., 2004
<b>Otidiformes</b>		
<i>Tetrax tetrax</i>	little bustard	<i>Tarjuelo et al., 2015</i>
<i>Otis tarda</i>	great bustard	<i>Liu et al., 2018</i>
<b>Passeriformes</b>		
<i>Agelaius phoeniceus</i>	red-winged blackbird	<i>Buxton et al., 2018</i>
<i>Carduelis chloris</i>	greenfinch	<i>Albores-Barajas et al., 2012+</i>
<i>Corvus corax</i>	common raven	<b>Stocker et al., 2016↑^+; Stöwe et al., 2008+</b> ; Munteanu et al., 2017; <i>Herring et al., 2018</i>
<i>Corvus frugilegus</i>	rook	<i>Scheid and Noe, 2010+</i>
<i>Cyanistes caeruleus</i>	blue tit	<b>Lobato et al., 2008↑^+; Lucass et al., 2016</b>
<i>Ficedula albicollis</i>	collared flycatcher	<i>Garamszegi et al., 2012*</i> ; <i>Fletcher et al., 2018</i>
<i>Ficedula hypoleuca</i>	pie flycatcher	<b>Lobato et al., 2008↑^+</b> , 2010; Moreno et al., 2010;
<i>Hirundo rustica</i>	barn swallow	<i>Cinque et al., 2021 (S)</i>
<i>Lonchura striata</i>	white-backed munia	<b>Suzuki et al., 2012↑</b>
<i>Lonchura s. domestica</i>	Bengalese finch	<b>Suzuki et al., 2012↑</b>
<i>Malurus melanocephalus</i>	red-backed fairywren	<i>Schwabl et al., 2014</i>
<i>Oenanthe oenanthe</i>	northern wheatear	<b>Eikenaar et al., 2014a↑, b, 2018</b>
<i>Parus major</i>	great tit	<b>Carere et al., 2003^+; Stöwe et al., 2010^</b> , 2013; Eeva et al., 2014
<i>Passer domesticus</i>	house sparrow	<i>Chávez-Zichinelli et al., 2010; Berk et al., 2016</i>
<i>Poecile carolinensis</i>	Carolina chickadee	<i>Lucas et al., 2006</i>
<i>Pyrrhocorax graculus/</i>	Alpine/	
<i>P. pyrrhocorax</i>	red-billed chough	<b>Jimenez et al., 2011↑+</b>
<i>Saxicola torquata rubicola</i>	European stonechat	<b>Goymann et al., 2002*↑↓^+</b> , 2006; <b>Goymann, 2005*↑</b> ; Goymann and Trappschuh, 2011
<i>Sporophila angolensis</i>	chestnut-bellied seed-finch	<b>Barbosa et al., 2019↑</b>
<i>Spiza americana</i>	dickcissel	<b>Wells et al., 2003</b>
<i>Sturnus vulgaris</i>	European starling	<b>Cyr and Romero, 2008↑</b> ; Bauer et al., 2011; <i>Bean et al., 2014</i>
<i>Turdoides bicolor</i>	southern pied babblers	<b>Jepsen et al., 2019↑+</b>
<b>Pelecaniformes</b>		
<i>Geronticus eremita</i>	Northern bald ibis	<b>Puehringer-Sturmayer et al., 2018+, 2020</b> ; Tintner & Kotrschal, 2002; Sorata and Kotrschal, 2006; Frigerio et al., 2016; <i>Dorn et al., 2014</i>
<i>Eudocimus albus</i>	white ibis	<i>Adams et al., 2009; Herring et al., 2009, 2011, 2014; Herring and Gawlik, 2009 (S), 2013</i>
<i>Ardea alba</i>	great egret	<i>Herring et al., 2009, 2014; Herring and Gawlik, 2013</i>

<b>Psittaciformes</b>		
<i>Amazona aestiva</i>	blue-fronted parrot	<b>Ferreira, et al., 2015</b> ↑↓; Queiroz et al., 2016; Matos et al., 2017; <b>Vidal et al., 2019</b>
<i>Amazona brasiliensis</i>	red-tailed parrot	<i>Popp et al., 2008</i>
<i>Ara ararauna</i>	blue-and-yellow macaws	<b>de Almeida et al., 2018</b> ↑+
<i>Cacatua galerita</i>	sulphur-crested cockatoo	<i>Peng et al., 2014</i>
<i>Melopsittacus undulatus</i>	budgerigar	<b>Young &amp; Hallford, 2013</b> ↑; Dahlin et al., 2014; <i>Duggan et al., 2017</i> ; <i>Malek et al., 2020</i>
<i>Primolius couloni</i>	blue-headed macaw	Watson et al., 2013
<i>Psittacus erithacus</i>	African grey parrot	<i>Owen and Lane, 2006</i> ; <i>Costa et al., 2016</i> ; <i>Bienboire-Frosini et al., 2018</i>
<i>Pyrrhura molinae</i>	green-cheeked conure	<i>Paul-Murphy et al., 2009</i>
<i>Guaruba guarouba</i>	golden conure	<b>Sinhorini et al., 2020</b> ↑
<b>Pteroclidiformes</b>		
<i>Pterocles alchata</i>	pin-tailed sandgrouse	<i>Casas et al., 2016</i>
<b>Rheiformes</b>		
Review		Navarro et al., 2019
<i>Rhea americana</i>	great rhea	<b>Leche et al., 2011</b> ↑^, 2014, 2015, 2016; <i>Della Costa et al., 2019, 2020</i>
<b>Sphenisciformes</b>		
<i>Eudyptula minor</i>	little penguin	<b>Sherwen and Fanson, 2015</b> ; <i>Chiew et al., 2019, 2021</i>
<i>Pygoscelis adeliae</i>	Adelie penguin	<b>Nakagawa et al., 2003</b> ↑^+; <i>Ninnes et al., 2010, 2011</i>
<i>Pygoscelis papua</i>	gentoo penguin	<i>Lynch et al., 2019</i>
<i>Spheniscus demersus</i>	African Penguin	<b>Anfossi et al., 2014</b> +; <i>Ozella et al., 2015, 2017</i> , <i>Scheun et al., 2020c (E)</i> ; <b>2021</b>
<i>Spheniscus humboldti</i>	Humboldt penguins	<i>Xie &amp; McWhorter, 2021</i>
<b>Stringiformes</b>		
<i>Strix occidentalis caurina</i>	northern spotted owl	<b>Wasser et al., 1997</b> ↑, <b>2000</b> ; <i>Hayward et al., 2010 (E), 2011</i>
<i>Strix o. occidentalis</i>	California spotted owl	<i>Tempel and Gutierrez, 2003, 2004</i>
<i>Strix sp.</i>		Wasser and Hunt, 2005↑*

**Table S9:** Published papers dealing with FCMs in different species (grouped by “Class”) of other phyla (see general information on page II for further details)

Family/Latin name	common name	articles (ordered by year; validations first)
<b>Mollusca</b>		
<i>Enteroctopus dofleini</i>	giant Pacific octopuse	<b>Larson &amp; Anderson, 2010</b> ↑
<b>Fish</b>		
Review		Ellis et al., 2013; <a href="#">Sadoul and Geffrey, 2019</a>
<i>Cyprinus carpio L.</i>	koi	<a href="#">Lupica and Turner, 2010</a>
<i>Hemiscyllium ocellatum</i>	epaulette shark	<a href="#">Karsten and Turner, 2003</a>
<i>Oryzias latipes</i>	medaka	Grillitsch et al., 2010
<i>Salmo salar L.</i>	Atlantic salmom	<a href="#">Cao et al., 2017</a> ; <a href="#">Uren Webster et al., 2020</a>
<i>Scarus/Sparisoma sp.</i>	parrotfish	<a href="#">Turner et al., 2003</a> ; <a href="#">Lupica and Turner, 2009</a>
<i>Sparus aurata</i>	seabream	<a href="#">Herrera et al., 2016</a>
<b>Amphibia</b>		
<i>Atelopus spp.</i>	harlequin frog	<b>Cikaneck et al., 2014</b> ↑↑+
<i>Necturus maculosus</i>	common mudpuppy	<a href="#">Nagel et al., 2019</a>
<b>Reptilia</b>		
Review	snakes	Van Waeyenberge et al., 2018
<i>Anolis carolinensis</i>	Carolina anole	<b>Borgmans et al., 2018, 2019, 2021a,b</b> ; <a href="#">Hudson et al., 2019</a>
<i>Crocodylus niloticus</i>	Nile crocodile	<b>Ganswindt et al., 2014</b> ↑+ (S)
<i>Crocodylus rhombifer</i>	Cuban crocodile	<a href="#">Augustine et al., 2020</a>
<i>Ctenosaura acanthura</i>	spiny tailed iguana	<a href="#">Suarez-Dominguez et al., 2011</a>
<i>Gallotia galloti</i>	Tenerife lizard	<a href="#">Megia-Palma et al., 2020</a>
<i>Iguana iguana</i>	green iguana	<a href="#">Kalliokoski et al., 2012b</a>
<i>Indotestudo travancorica</i>	Travancore tortoise	<a href="#">Umapathy et al., 2015</a> ^
<i>Lamprophis fuliginosus</i>	African house snake	<a href="#">Berkvens et al., 2013</a>
<i>Sistrurus catenatus</i>	Massasauga rattlesnake	<a href="#">Berkvens et al., 2013</a> ↑
<i>Smaug giganteus</i>	sungazer	<b>Scheun et al., 2018</b> ↑+
<i>Thamnophis sirtalis</i>	common gartersnake	<a href="#">Halliday et al., 2015</a>
<i>Terrapene carolina carolina</i>	Eastern box turtle	<a href="#">Case et al., 2005</a>
<i>Terrapene carolina triunguis</i>	three-toed box turtle	<a href="#">Rittenhouse et al., 2005</a>
<i>Trachylepis margaritifera</i>	rainbow skink	Miller et al., 2013
<i>Uromastyx acanthinura</i>	spiny-tailed lizards	<a href="#">Kechnebbou et al., 2019</a>
<i>Vijayachelys silvatica</i>	cane turtle	<a href="#">Umapathy et al., 2015</a> ^

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