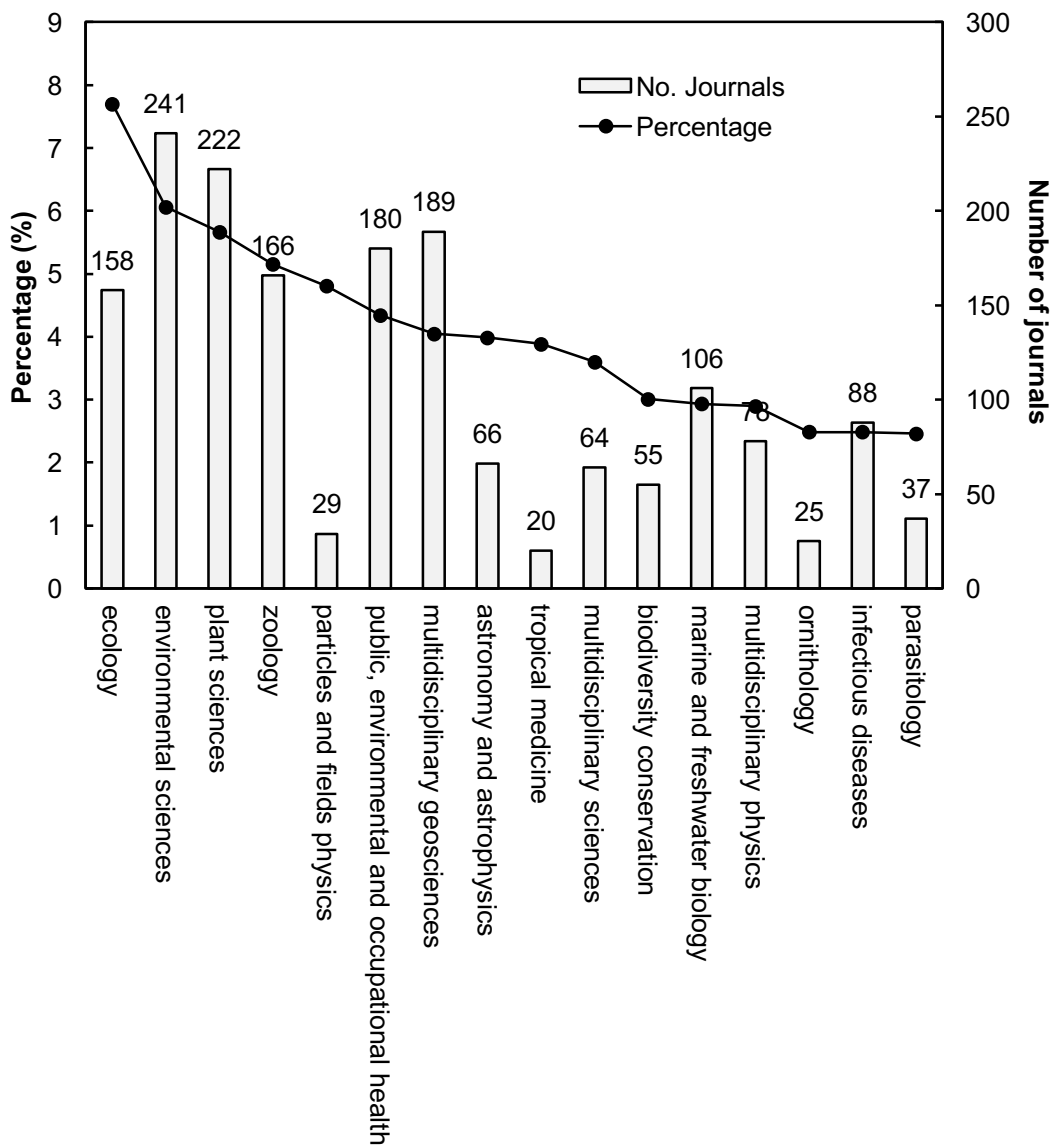
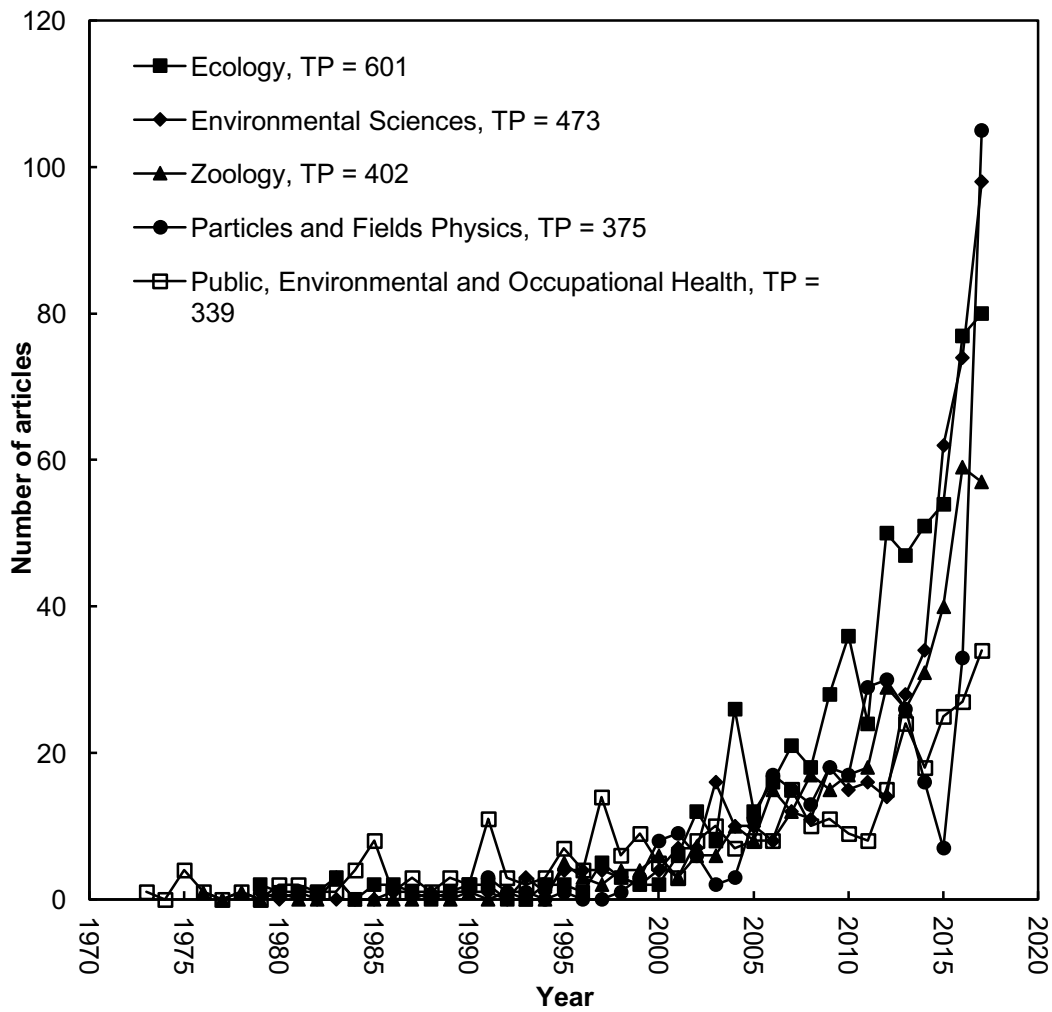


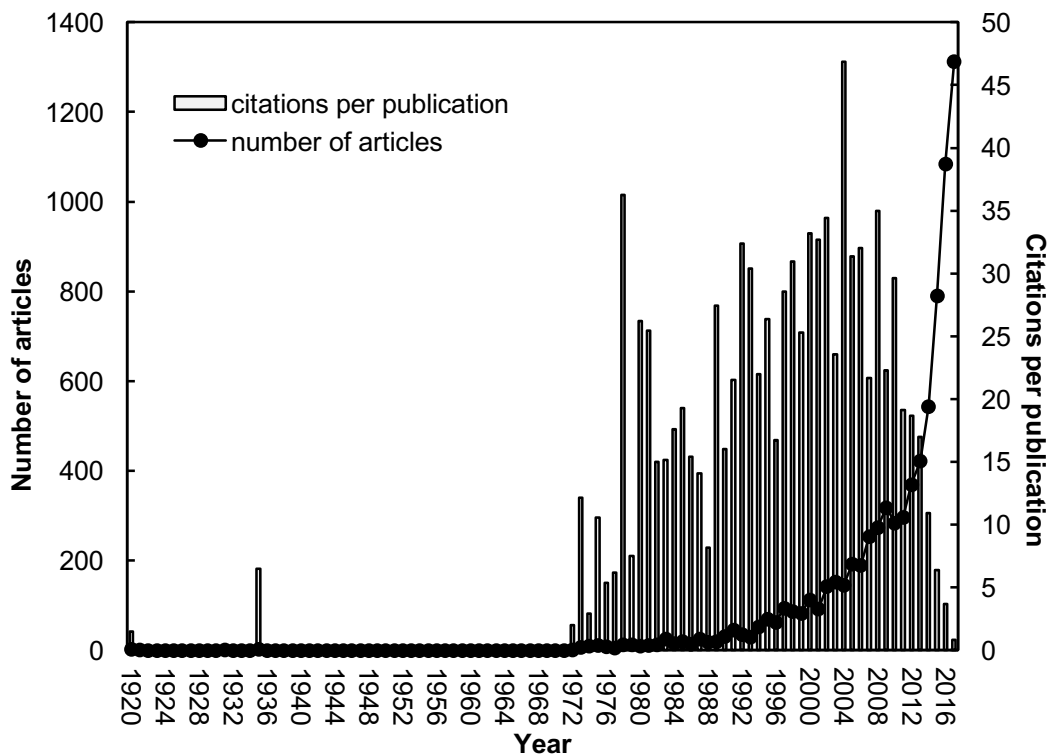
## DIGITAL APPENDIX



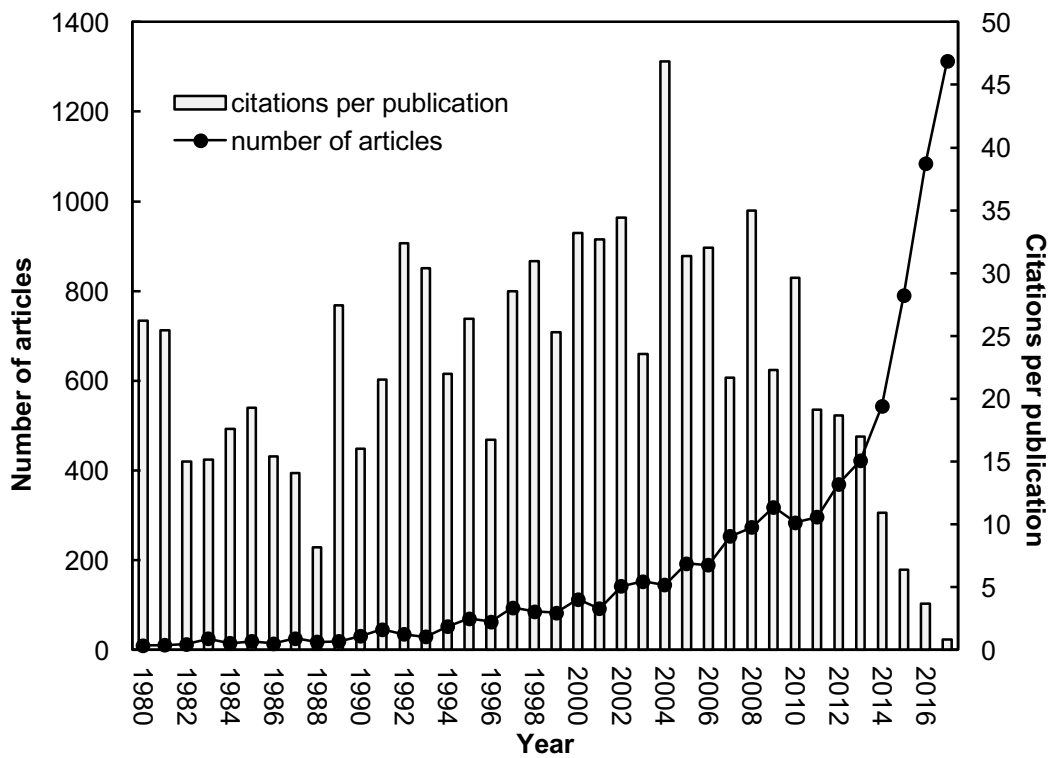
**Fig. 1.** Percentage of publications and number of journals from Ecuador (1920-2017), by Web of Science categories.



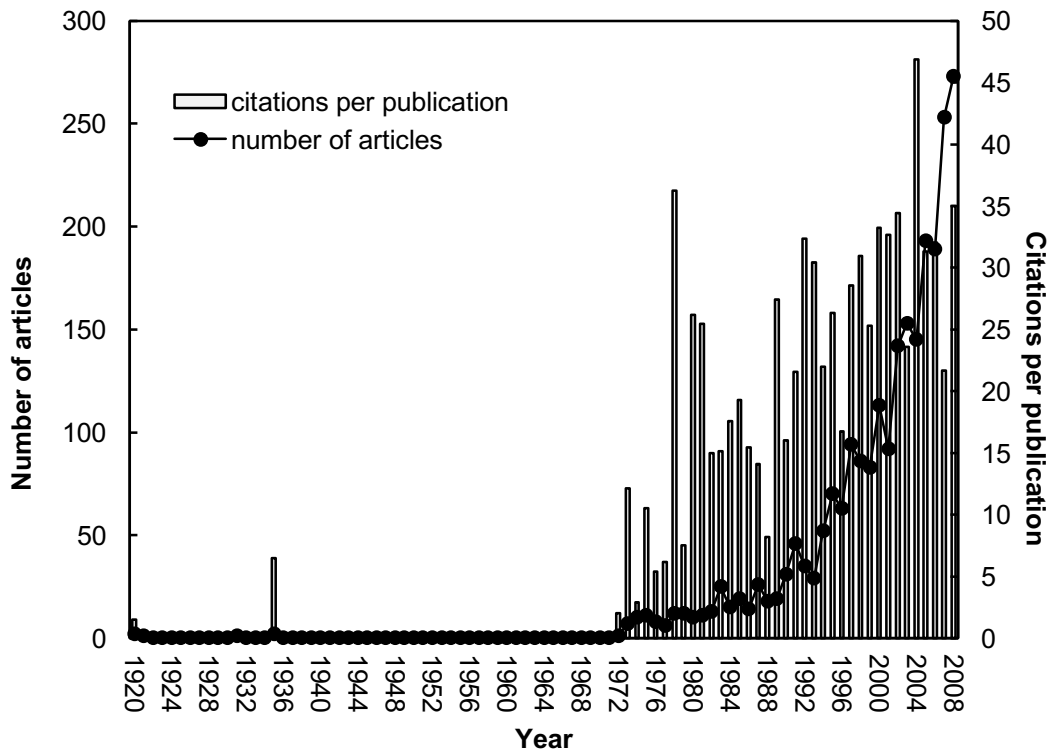
**Fig. 2.** Publication trends of the top five Web of Science categories.



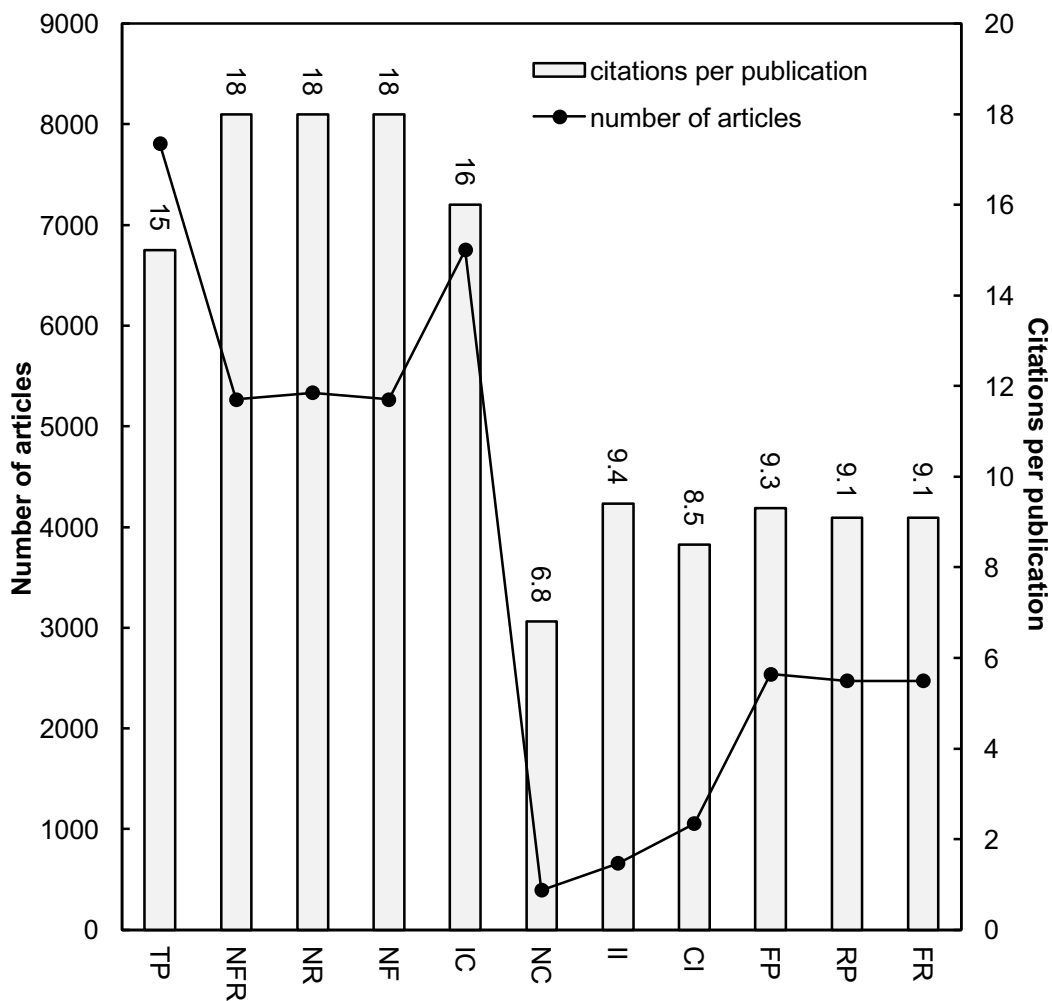
**Fig. 3.** Number of articles and citations per publication by year.



**Fig. 4.** Development trend of articles and their citations per publication during 1980 and 2017.



**Fig. 5.** Development trend of articles and their citations per publication during 1920 and 2008.



**Fig. 6.** Characteristics of publication type and their citations per publication. *TP*: total articles, *NFR*: both first and corresponding authors are not from Ecuador, *NR*: corresponding author is not from Ecuador, *NF*: first author is not from Ecuador, *IC*: internationally collaborative articles, *NC*: nationally collaborative articles, *I*: institutional independent articles, *CI*: Ecuador independent articles, *FP*: first author is from Ecuador, *RP*: corresponding author is from Ecuador, *FR*: both first and corresponding authors are from Ecuador.

TABLE 1  
Characteristics of document type

Document type	TP	%	AU	APP	$TC_{2017}$	$CPP_{2017}$
Article	7 806	81	558 518	72	119 313	15
Meeting abstract	914	9.5	6 158	6.7	113	0.12
Review	399	4.1	3 506	8.8	10 859	27
Letter	243	2.5	1 101	4.5	961	4.0
Proceedings paper	198	2.1	1 112	5.6	3 351	17
Editorial material	165	1.7	715	4.3	944	5.7
Note	74	0.77	254	3.4	936	13
Correction	31	0.32	6 057	195	21	0.68
Book chapter	13	0.13	73	5.6	805	62
News item	13	0.13	69	5.3	17	1.3
Biographical-item	5	0.052	9	1.8	0	0
Book review	3	0.031	3	1.0	0	0
Reprint	3	0.031	7	2.3	56	19
Data paper	2	0.021	48	24	5	2.5
Discussion	1	0.010	5	5.0	0	0
Item about an individual	1	0.010	1	1.0	0	0

*TP*: number of publications: Randomised publications; *AU*: number of authors; *APP*: number of authors per publication;  $TC_{2017}$ : the total number of citations from Web of Science Core Collection since publication to the end of 2017;  $CPP_{2017}$ : number of citations ( $TC_{2017}$ ) per publication (*TP*).

TABLE 2  
Top ten most productive journals

Journal	<i>TP</i> (%)	<i>IF</i> <sub>2017</sub>	Web of Science category
Physical Review Letters	194 (2.5)	8.83 9	multidisciplinary physics
Physical Review D	161 (2.1)	4.39 4	astronomy and astrophysics particles and fields physics
PLoS One	148 (1.9)	2.76 6	multidisciplinary sciences
Physics Letters B	126 (1.6)	4.25 4	astronomy and astrophysics nuclear physics particles and fields physics
Revista Ecuatoriana De Neurología	99 (1.3)	N/A	neurosciences
Zootaxa	95 (1.2)	0.93 1	zoology
American Journal of Tropical Medicine and Hygiene	87 (1.1)	2.56 4	public, environmental and occupational health tropical medicine
Ornitologia Neotropical	84 (1.1)	0.20 0	ornithology
IEEE Latin America Transactions	74 (0.95)	0.50 2	information systems computer science electrical and electronic engineering
Journal of High Energy Physics	54 (0.69)	5.54 1	particles and fields physics

*TP* (%): rank and the percentage of number of articles; *IF*<sub>2017</sub>: impact factor in 2017

TABLE 3  
Top 13 articles with  $TC_{2017} > 450$

Rank ( $TC_{2017}$ )	Rank ( $C_{2017}$ )	Article titles	Countries	References
1 (828)	1 (306)	Preexposure chemoprophylaxis for HIV prevention in men who have sex with men	USA, Peru, Ecuador, Brazil, Thailand, South Africa	Grant et al. (2010)
2 (229)	5 (152)	$G_{ST}$ and its relatives do not measure differentiation	Ecuador	Jost (2008)
3 (836)	17 (64)	Widespread amphibian extinctions from epidemic disease driven by global warming	Costa Rica, Ecuador, USA, Japan, Venezuela, Canada	Pounds et al. (2006)
4 (741)	33 (46)	Beta-diversity in tropical forest trees	USA, France, Peru, Ecuador	Condit et al. (2002)
5 (711)	3 (261)	Antibiotic resistance-the need for global solutions	Sweden, USA, India, South Africa, Pakistan, UK, Thailand, Belgium, Argentina, Switzerland, Tanzania, Ecuador, Kenya, Canada	Laxminarayan et al. (2013)
6 (699)	7 (93)	Drought Sensitivity of the Amazon Rainforest	UK, Peru, Brazil, USA, Bolivia, Venezuela, Netherlands, France, Colombia, Australia, Ecuador, Germany, Panama	Phillips et al. (2009)
7 (619)	13 (83)	The status of the world's land and marine mammals: Diversity, threat, and knowledge	Switzerland, USA, Italy, UK, Argentina, Kenya, Philippines, Australia, Germany, Brazil, Canada, South Africa, Uruguay, Costa Rica, New Zealand, India, Japan, Madagascar, Norway, Belgium, Mexico, China, Ecuador, Poland, Russia	Schipper et al. (2008)

8 (520)	25 (56)	One-third of reef-building corals face elevated extinction risk from climate change and local impacts	USA, Indonesia, Ecuador, Costa Rica, Australia, UK, Panama, Netherlands, Philippines, Fiji, Kenya	Carpenter et al. (2008)
9 (508)	6 (127)	Global human footprint on the linkage between biodiversity and ecosystem functioning in reef fishes	Canada, USA, Mexico, Ecuador, Australia, Colombia, Israel, France, Costa Rica, Venezuela, Germany, UK, Panama, Papua N Guinea, Japan, Spain, Malaysia	Mora et al. (2011)
10 (495)	13 (83)	The impact of conservation on the status of the world's vertebrates	UK, USA, Canada, Switzerland, Philippines, Australia, India, France, Argentina, Italy, Russia, New Zealand, Indonesia, Costa Rica, Colombia, South Africa, Brazil, Taiwan, Germany, Japan, Madagascar, Singapore, Norway, Venezuela, China, Belgium, Tanzania, Mexico, Poland, Iran, Peru, Ecuador, South Korea, Chile, Kenya, U Arab Emirates	Hoffmann et al. (2010)
11 (490)	592 (6)	The upgraded DO detector	Argentina, Brazil, Canada, China, Colombia, Czech Republic, Ecuador, France, Germany, India, Ireland, South Korea, Mexico, Netherlands, Russia, Sweden, UK, USA, Byelarus, Poland, Switzerland	Abazov et al. (2006)
12 (489)	31 (48)	Comparative evaluation of 11 essential oils of different origin as functional antioxidants, antiradicals and antimicrobials in foods	Italy, Ecuador	Sacchetti et al. (2005)



13 (468)	43 (38)	Effect of intravenous corticosteroids on death within 14 days in 10008 adults with clinically significant head injury (MRC CRASH trial): Randomised placebo-controlled trial	UK, Albania, Argentina, Australia, Austria, Belgium, Brazil, Chile, China, Colombia, Mexico, Cuba, Czech Republic, Ecuador, Egypt, Rep of Georgia, Germany, Ghana, Greece, India, Indonesia, Iran, Ireland, Italy, Cote Ivoire, Kenya, Malaysia, New Zealand, Nigeria, Pakistan, Panama, Paraguay, Peru, Romania, Saudi Arabia, Serbia, Singapore, Slovakia, South Africa, Spain, Sri Lanka, France, Switzerland, Thailand, Tunisia, Turkey, Uganda	Muzha et al. (2004)
-------------	---------	--	---	---------------------

*TC*<sub>2017</sub>: number of citations since publication to the end of 2017 from Web of Science Core Collection; *C*<sub>2017</sub>: number of citations in 2017 only.

TABLE 4  
Top 20 most collaborative countries

Country	TP	<i>TPR</i> (%)	<i>FPR</i> (%)	<i>RPR</i> (%)	<i>CPP</i> <sub>2017</sub>
USA	2 872	1 (37)	1 (17)	1 (17)	24
Spain	1 582	2 (20)	2 (8.8)	2 (9.0)	11
UK	1 218	3 (16)	5 (3.1)	5 (3.1)	31
France	1 197	4 (15)	3 (3.8)	3 (3.8)	26
Brazil	1 187	5 (15)	7 (2.5)	7 (2.5)	28
Germany	1 129	6 (14)	6 (2.9)	6 (3.0)	24
Mexico	1 061	7 (14)	10 (1.9)	10 (2.0)	23
Colombia	989	8 (13)	16 (1.0)	16 (1.0)	27
China	702	9 (9.0)	24 (0.50)	23 (0.51)	29
India	682	10 (8.7)	36 (0.12)	36 (0.12)	31
Netherlands	657	11 (8.4)	17 (1.0)	17 (1.0)	31
Argentina	653	12 (8.4)	11 (1.8)	11 (1.8)	35
Russia	611	13 (7.8)	4 (3.6)	4 (3.7)	29
South Korea	602	14 (7.7)	32 (0.17)	32 (0.17)	27
Czech Republic	590	15 (7.6)	41 (0.064)	41 (0.07)	27
Canada	565	16 (7.2)	14 (1.3)	14 (1.3)	38
Italy	551	17 (7.1)	8 (2.4)	8 (2.4)	22
Sweden	525	18 (6.7)	22 (0.55)	24 (0.50)	35
Ireland	522	19 (6.7)	46 (0.038)	46 (0.04)	27
Belgium	485	20 (6.2)	8 (2.4)	8 (2.4)	18

*TP*: total number of collaborative articles with Ecuador; *TPR* (%): rank total number of collaborative articles with Ecuador and the percentage of total articles; *FPR* (%): rank and the percentage of first author articles; *RPR* (%): rank and the percentage of the corresponding authored articles; *CPP*<sub>2017</sub>: number of citations (*TC*<sub>2017</sub>) per publication (*TP*).

TABLE 5

### Top 10 productive institutions

Institute	TP	<i>TPR</i> (%)	<i>IPR</i> (%)	<i>CPR</i> (%)	<i>FPR</i> (%)	<i>RPR</i> (%)	<i>SPR</i> (%)	<i>CPP</i> <sub>2017</sub>
Universidad San Francisco de Quito	1 127	1 (14)	8 (3.2)	1 (16)	4 (1.8)	4 (1.3)	8 (2.7)	18
Pontificia Universidad Católica del Ecuador	757	2 (10)	1 (11)	2 (10)	1 (3.1)	1 (2.5)	1 (12)	19
Escuela Politécnica Nacional	619	3 (7.9)	3 (7.0)	6 (8.0)	2 (2.3)	3 (1.6)	2 (9.0)	13
Escuela Super Politécnica Litoral	389	4 (5.0)	7 (3.6)	67 (5.1)	5 (1.5)	8 (0.68)	11 (1.8)	11
Universidad Técnica Particular Loja	368	5 (4.7)	2 (8.6)	80 (4.3)	3 (2.1)	2 (2.0)	4 (3.6)	7
Charles Darwin Research Station	354	6 (4.5)	4 (4.5)	77 (4.5)	7 (1.2)	7 (0.70)	3 (8.1)	21
Universidad Central del Ecuador	326	7 (4.2)	14 (1.7)	79 (4.4)	8 (0.92)	12 (0.53)	13 (1.5)	15
Universidad de Cuenca	267	8 (3.4)	15 (1.5)	91 (3.6)	9 (0.86)	6 (0.85)	19 (0.90)	17
Universidad de las Fuerzas Armadas ESPE	253	9 (3.2)	4 (4.5)	102 (3.1)	6 (1.3)	5 (1.0)	10 (2.4)	4.5
Universidad Católica Santiago de Guayaquil	159	10 (2.0)	10 (2.1)	151 (2.0)	11 (0.65)	11 (0.54)	25 (0.60)	13

*TP*: total number of articles; *TPR* (%): rank and percentage of total articles; *IPR* (%): rank and percentage of single institute articles; *CPR* (%): rank and percentage of inter-institutionally collaborative articles; *FPR* (%): rank and the percentage of first author articles; *RPR* (%): rank and the percentage of the corresponding authored articles; *SPR* (%): rank and percentage of single author articles; *CPP*<sub>2017</sub>: number of citations (*TC*<sub>2017</sub>) per publication (*TP*).