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Editorial

Comparative Medicine and *JAALAS* Impact Factors–2011

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Over the past 5 y, the impact factors for *Comparative Medicine* (*CM*) and the *Journal of the American Association for Laboratory Animal Science* (*JAALAS*) have remained relatively constant, with perhaps a slight upward trend for both journals, as have the journals' rankings in comparison with other journals (Figure 1). Yearly impact factors for journals are calculated as the following ratio: total number of citations in a given year (for example, 2011) to articles published in the previous 2 y (for example, 2009 and 2010), divided by the total number of citable items published in the cited years (2009 and 2010). In *CM*, for example, the 115 articles that were published in 2009 and 2010 garnered 121 citations in 2011, resulting in an impact factor of 121/115, or 1.052. Thus, the yearly impact factor reflects only citations of relatively recent work.

The impact factor for *CM* for 2011 is substantially above the median for all journals in the Veterinary Science classification and is near the median for all classified journals, whereas *JAALAS* ranks near the median for veterinary science journals. Similarly, *CM* ranks nears the 50th percentile among all journals and near the 30th percentile for veterinary journals, ranking better than *JAALAS* in both categories. This difference between *CM* and *JAALAS* likely reflects size of the audience for articles published in *CM* compared with *JAALAS*. Whereas *CM* incorporates animal models of disease, which are likely to interest readers in addition to those the laboratory animal science community, articles in *JAALAS* focus on the interests of the latter. This idea is supported by the recent membership survey, in which respondents generally view *JAALAS* as more applicable to their on-the-job needs and find *CM* to be less relevant.[1] Also consistent with this interpretation, *CM* articles appear to garner more citations in general than do *JAALAS* articles, indicating appeal and utility to a broader audience (Tables 1 and 2).

Raising the impact factor is particularly difficult for journals with a focused readership, many of whom do not themselves engage in related research or publication. The limited focus of the journals is reflected in Table 3, which shows that many of the citations in and by the AALAS journals were self-citations, citations to the other AALAS journal, or citations to or by other journals focused on laboratory animals. The impact factor of the journals is probably also negatively affected by inclusion of case reports in both journals. These articles, despite potential interest and value to our field, are generally unusual occurrences or reflect specific situations and hence case reports are not often cited. Publication of case reports benefits the AALAS membership, yet also increases the denominator disproportionally in the impact factor calculation. Thus, the most highly cited articles in the journals tend to be overviews or applied science (Tables 1 and 2).

As opposed to impact factor, a more relevant indicator of the value of the AALAS publications is perhaps how useful the publications are to the community. A potential measure of both interest

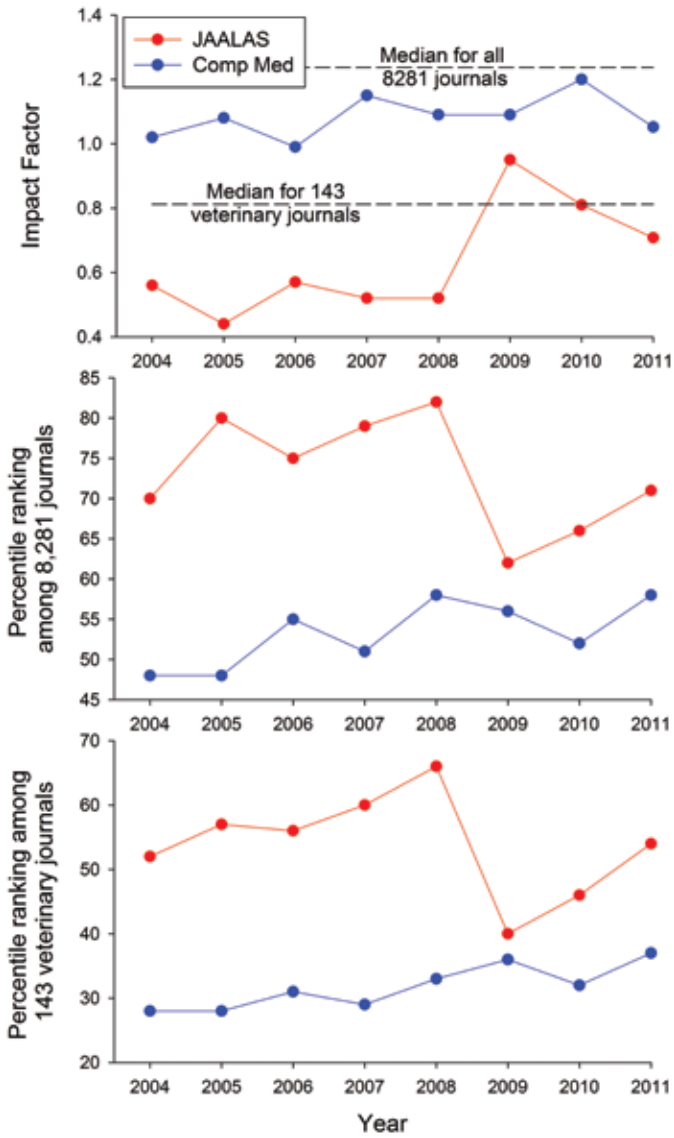

Figure 1. Impact factors and percentile rank of AALAS journals, 2004 through 2011.

Table 1. Top 10 cited articles in *Comparative Medicine*[*]

Article	Publication year	Number of citations
Mansfield K. 2003. Marmoset models commonly used in biomedical research. Comp Med **53:**383–392.	2003	58
Dyson MC, Alloosh M, Vuchetich JP, Mokelke EA, Sturek M. 2006. Components of metabolic syndrome and coronary artery disease in female Ossabaw swine fed excess atherogenic diet. Comp Med **56:**35–45.	2006	56
Parker JM, Mikaelian I, Hahn N, Diggs HE. 2002. Clinical diagnosis and treatment of epidermal chytridiomycosis in African clawed frogs (*Xenopus tropicalis*). Comp Med **52:**265–268.	2002	54
Abbott DH, Barnett DK, Colman RJ, Yamamoto ME, Schultz-Darken NJ. 2003. Aspects of common marmoset basic biology and life history important for biomedical research. Comp Med **53:**339–350.	2003	53
Garner JP, Weisker SM, Dufour B, Mench JA. 2004. Barbering (fur and whisker trimming) by laboratory mice as a model of human trichotillomania and obsessive-compulsive spectrum disorders. Comp Med **54:**216–224.	2004	50
Hsu CC, Riley LK, Wills HM, Livingston RS. 2006. Persistent infection with and serologic cross-reactivity of three novel murine noroviruses. Comp Med **56:**247–251.	2006	50
Kobaek-Larsen M, Thorup I, Diederichsen A, Fenger C, Hoitinga MR. 2000. Review of colorectal cancer and its metastases in rodent models: comparative aspects with those in humans. Comp Med **50:**16–26.	2000	48
Besselsen DG, Wagner AM, Loganbill JK. 2000. Effect of mouse strain and age on detection of mouse parvovirus 1 by use of serologic testing and polymerase chain reaction analysis. Comp Med **50:**498–502.	2000	47
Arras M, Autenried P, Rettich A, Spaeni D, Rülicke T. 2001. Optimization of intraperitoneal injection anesthesia in mice: drugs, dosages, adverse effects, and anesthesia depth. Comp Med **51:**443–456.	2001	46
Whary MT, Fox JG. 2004. Natural and experimental *Helicobacter* infections. Comp Med **54:**128–158.	2004	46

[*]Data collected from Web of Knowledge on 14 July 2012.

Table 2. Top 9 cited articles in *JAALAS*[*]

Article	Publication year	Number of citations
Portfors CV. 2007. Types and functions of ultrasonic vocalizations in laboratory rats and mice. J Am Assoc Lab Anim Sci **46:**28–34.	2007	65
Perdue KA, Green KY, Copeland M, Barron E, Mandel M, Faucette LJ, Williams EM, Sosnovtsev SV, Elkins WR, Ward JM. 2007. Naturally occurring murine norovirus infection in a large research institution. J Am Assoc Lab Anim Sci **46:**39–45.	2007	20
Turner JG, Bauer CA, Rybak LP. 2007. Noise in animal facilities: why it matters. J Am Assoc Lab Anim Sci **46:**10–13.	2007	13
Probst RJ, Lim JM, Bird DN, Pole GL, Sato AK, Claybaugh JR. 2006. Gender differences in the blood volume of conscious Sprague–Dawley rats. J Am Assoc Lab Anim Sci **45:**49–52.	2006	13
Coleman K, Pranger L, Adriane M, Lambeth SP, Perlman JE, Thiele E, Schapiro SJ. 2008. Training rhesus macaques for venipuncture using positive reinforcement techniques: a comparison with chimpanzees J Am Assoc Lab Anim Sci **47:**37–41.	2008	13
Saha DC, Saha AC, Malik G, Astiz ME, Rackow EC. 2007. Comparison of cardiovascular effects of tiletamine-zolazepam, pentobarbital, and ketamine-xylazine in male rats. J Am Assoc Lab Anim Sci **46:**74–80.	2007	13
Altholtz LY, Fowler KA, Badura LL, Kovacs MS. 2006. Comparison of the stress response in rats to repeated isoflurane or CO_2:O_2 anesthesia used for restraint during serial blood collection via the jugular vein. J Am Assoc Lab Anim Sci **45:**17–22.	2006	12
Reid H, Hydock, DS. 2007. Doxorubicin cardiotoxicity in the rat: an in vivo characterization J Am Assoc Lab Anim Sci **46:**20–32.	2007	12
Abatan OI, Welch KB, Nemzek JA. 2008. Evaluation of saphenous venipuncture and modified tail-clip blood collection in mice. J Am Assoc Lab Anim Sci **47:**8–15.	2008	12

[*]Data collected from Web of Knowledge on 14 July 2012.

and perhaps utility is the number of times publications are downloaded. As can be seen from Tables 4 and 5, numerous articles in both *CM* and *JAALAS* were downloaded from PubMed hundreds of times in 2011. These numbers are particularly impressive in that many of the articles listed were published in 2009 or earlier, documenting durable interest in this work. Because we cannot obtain similar data for other journals, the relative magnitude of this number of downloads is hard to assess. Nonetheless, this apparently large number of downloads suggests widespread interest in and sustained value of many of the manuscripts published in the AALAS journals. The ability of interested AALAS members to have rapid access to articles in the journals is being bolstered by

Table 3. Top journals in 2011 that

	Cited Comp Med manuscripts	Were cited in Comp Med	Cited JAALAS manuscripts	Were cited in JAALAS
1	JAALAS	Comp Med	JAALAS	Lab Animal-UK
2	PLoS One	J Virology	Comp Med	JAALAS
3	Comp Med	Lab Anim Sci	PLoS One	Comp Med
4	J Med Primatology * Lab Animal*	JAALAS	J Med Primatology	Lab Anim Sci
5	Vet Pathology	Bone	Lab Anim-UK* Lab Animal* Behav Brain Res*	CTLAS
6	J Appl Physiol	J Periodontology	Methods Cell Biol	JAVMA
7	Lab Animal-UK* Brain Res*	Vet Pathology* J Med Primatology*	Appl Anim Behav Sci	Anesth Analges
8	Immunogenetics			Physiol Behav

*, tied

Table 4. Top 10 *Comparative Medicine* Articles downloaded from PubMed Central in 2011

Article	Live in PMC	Downloads in 2011
Novak MA, Meyer JS. 2009. Alopecia: possible causes and treatments, particularly in captive nonhuman primates. Comp Med **59:**18–26.	8/1/2009	2681
Lelovas PP, Xanthos TT, Thoma SE, Lyritis GP, Dontas IA. 2008. The laboratory rat as an animal model for osteoporosis research. Comp Med **58:**424–430.	7/17/2009	1821
Cray C, Zaias J, Altman NH. 2009. Acute phase response in animals: a review. Comp Med **59:**517–526.	6/1/2010	1807
Li G, Liu X, Zhu H, Huang L, Liu Y, Ma C, Qin C. 2009. Insulin resistance in insulin-resistant and diabetic hamsters (*Mesocricetus auratus*) is associated with abnormal hepatic expression of genes involved in lipid and glucose metabolism. Comp Med **59:**449–458.	4/1/2010	1397
Elmore D, Eberle R. 2008. Monkey B virus (*Cercopithecine herpesvirus* 1). Comp Med **58:**11–21.	7/17/2009	1324
Karmarkar SW, Bottum KM, Tischkau SA. 2010. Considerations for the use of anesthetics in neurotoxicity studies. Comp Med **60:**256–262.	2/1/2011	1294
Lynch WJ, Nicholson KL, Dance ME, Morgan RW, Foley PL. 2010. Animal models of substance abuse and addiction: implications for science, animal welfare, and society. Comp Med **60:**177–188.	12/1/2010	1195
Pacharinsak C, Beitz A. 2008. Animal models of cancer pain. Comp Med **58:**220–233.	7/17/2009	1105
Sager M, Herten M, Ruchay S, Assheuer J, Kramer M, Jger M. 2009. The anatomy of the glenoid labrum: a comparison between human and dog. Comp Med **59:**465–475.	4/1/2010	961
Kodama Y, Matsuura M, Sano T, Nakahara Y, Ozaki K, Narama I, Matsuura T. 2011. Diabetes enhances dental caries and apical periodontitis in caries-susceptible WBN/KobSlc rats. Comp Med **61:**53–59.	8/1/2011	834

Table 5. Top 10 *JAALAS* Articles Downloaded from PubMed Central in 2011

Article	Live in PMC	Downloads in 2011
Duran-Struuck R, Dysko RC. 2009. Principles of bone marrow transplantation (BMT): providing optimal veterinary and husbandry care to irradiated mice in BMT studies. J Am Assoc Lab Anim Sci **48:**11–22.	7/1/2009	2349
Cray C, Rodriguez M, Zaias J, Altman NH. 2009. Effects of storage temperature and time on clinical biochemical parameters from rat serum. J Am Assoc Lab Anim Sci **48:**202–204.	9/1/2009	1938
Fernandez I, Pea A, Del Teso N, Prez V, Rodriguez-Cuesta J. 2009. Clinical biochemistry parameters in C57BL/6J mice after blood collection from the submandibular vein and retroorbital plexus. J Am Assoc Lab Anim Sci **49:**202–206.	9/1/2010	1903
Syversen E, Pineda FJ, Watson J. 2008. Temperature variations recorded during interinstitutional air shipments of laboratory mice. J Am Assoc Lab Anim Sci **47:**31–36.	6/12/2009	1546
Taylor DK, Mook DM. 2009. Isoflurane waste anesthetic gas concentrations associated with the open-drop method. J Am Assoc Lab Anim Sci **48:**61–64.	7/1/2009	1471
Atcha Z, Rourke C, Neo AHP, Goh CWH, Lim JSK, Aw CC, Browne ER, Pemberton DJ. 2010. Alternative method of oral dosing for rats. J Am Assoc Lab Anim Sci **49:**335–343.	11/1/2010	1315
He S, Atkinson C, Qiao F, Chen X, Tomlinson S. 2010. Ketamine–xylazine–acepromazine compared with isoflurane for anesthesia during liver transplantation in rodents. J Am Assoc Lab Anim Sci **49:**45–51.	7/1/2010	1295
Mook DM, Benjamin KA. 2008. Use of selamectin and moxidectin in the treatment of mouse fur mites. J Am Assoc Lab Anim Sci **47:**20–24.	6/12/2009	1269
Rosenbaum MD, VandeWoude S, Johnson TE. 2009. Effects of cage-change frequency and bedding volume on mice and their microenvironment. J Am Assoc Lab Anim Sci **48:**763–773.	5/1/2010	1232
Conroy CJ, Papenfuss T, Parker J, Hahn NE. Use of tricaine methanesulfonate (MS222) for euthanasia of reptiles. J Am Assoc Lab Anim Sci **48:**28–32	7/1/2009	1211

making pdf files of accepted articles available to members ahead of print. This new benefit has already been implemented for *CM* and implementation is in process for *JAALAS*. Furthermore, at 6 mo after publication, all articles published in the AALAS journals can be freely downloaded by the public from PubMed. In addition, we now send a final pdf of each article to the authors, who can then distribute copies at their discretion. Providing easy access to the information we publish is a key component of the scientific, educational, and public outreach goals of both the journals and the AALAS organization.

As always, we welcome any comments or suggestions regarding the journals and their continued development and improvement.

Reference

1. **Toth LA.** 2011. Editorial: AALAS journals reader survey. Comp Med **61:**200–203.