



Mycopathologia 2020: Legacy and Change to Remain Relevant for Content, Creation, and Communication

Jean-Philippe Bouchara · Sanjay H. Chotirmall · Ferry Hagen · Vishnu Chaturvedi

Published online: 11 March 2021

© The Author(s), under exclusive licence to Springer Nature B.V. part of Springer Nature 2021

Abstract The 2020 COVID-19 pandemic had a profound impact on the publishing landscape. The ‘pre-peer-review’ publication model is likely to become common as a lag in publishing is not acceptable in a pandemic or other time! *Mycopathologia* is well placed to adopt such changes with its improved editorial processes, article formats, author engagements, and published articles’ access and citation. *Mycopathologia* had an improved journal impact factor and article downloads in 2018–2019. A limited sampling suggested a slight decrease in the total submissions in 2019 (352 articles) compared to 2018 (371 articles). However, the acceptance rate

improved to 30% in 2019 from 19% in 2018. Nearly half of all submissions in 2019 were rejected before peer-review or transferred to other Springer Nature journals. The published articles were contributed from 34 different countries, with authors from China, the USA, and Brazil among the top three contributors. An enhanced editorial oversight allowed peer-reviewers to focus on fewer articles that were well-matched to their expertise, which led to lower rejection rates post-peer-review. The introduction of *Mycopathologia*GENOME and *Mycopathologia*IMAGE article types received a good reception with notable downloads and citations.

The authors are Executive editors (JPB, FH, SHC) and Editor-in-Chief (VC) of *Mycopathologia*.

J.-P. Bouchara
Host-Pathogen Interaction Study Group, EA, 3142, UNIV Angers, UNIV Brest, Université Bretagne-Loire, Rennes, France

S. H. Chotirmall
Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore

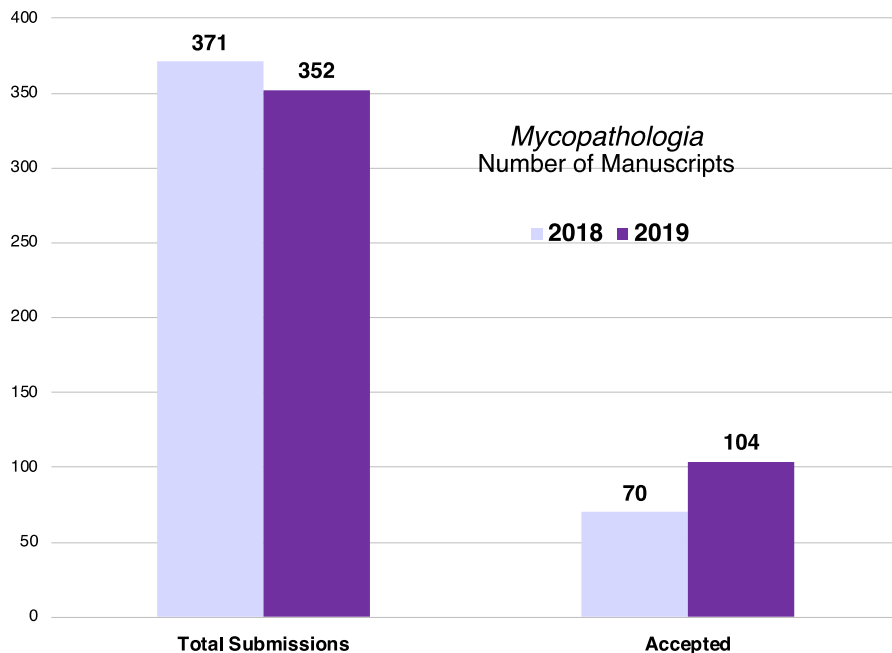
F. Hagen
Department of Medical Mycology, Westerdijk Fungal Biodiversity Institute, Utrecht, The Netherlands

V. Chaturvedi (✉)
Mycology Laboratory, Wadsworth Center, New York State Department of Health, Albany, NY, USA
e-mail: eic@mycopathologia.net

Introduction

The 2020 COVID-19 pandemic had devastating effects on science, society, and the planet [1]. The unprecedented upheavals have not receded yet, but the good news about the vaccines is providing the first sign of hope for 2021. COVID-19 caused sudden, unplanned, and prolonged interruption in the scientific enterprise. However, out of urgency and necessity, scientists, physicians, and public health professionals made major scientific advances on COVID-19 and SARS-CoV-2. They shared the progress at record speed via the pre-print deposits [2–4]. The ‘pre-peer-review’ explosion in scientific literature has changed the publishing landscape. There is near consensus about its overall benefits with scope for self-correction

Fig. 1 *Mycopathologia* aggregate editorial process for manuscripts submitted in 2018–2019



or peer-reviewed correction as follow-up steps [5–7]. The SARS-CoV-2 and COVID-19 pre-print publications are continuing to appear at a staggering pace, which leads to the need for new platforms to keep up with the aggregation and analysis challenges [8]. The much-debated and sometimes doubted future of the peer-reviewed scientific journal remains strong even after this pandemic experience [9, 10]. The immediate lesson for us in *Mycopathologia* is to explore options to present pre-peer-review versions of the manuscript because a lag in publishing is not acceptable in a pandemic or other time! We are working on implementing pre-peer-review articles on the *Mycopathologia*/Springer Nature website soon. This write-up also presents an update on the journal's status since we made notable changes on the occasion of the eightieth anniversary of *Mycopathologia* [11]. We detail progress in editorial processes, article formats, author engagements, and published articles' access and citation.

Mycopathologia had an improved journal impact factor (JIF) in 2018–2019. Like other scientists, we do not consider JIF to be an accurate indicator of a

journal's quality and especially, the quality of the individual articles published in *Mycopathologia*. We would also want to restrain ourselves from any activity that gives the impression of gaming this flawed ranking system [12–14]! However, our authors and readers have little choice but to depend upon this single metric to assure the quality of the peer-review they receive and the likely future impact of their work [15, 16]. JIF's role has become too important for decisions concerning academic careers and rewards thereof [17]. While great minds work to improve or replace the JIF, we hope that *Mycopathologia* will continue to have relevant JIF vis-a-vis peer journals to continue to attract valued authors and readers from our target community [18].

We summarize in Fig. 1 the overall copy flow and editorial outcomes for the manuscripts submitted in 2018–2019. There was a slight decrease in the total submission in 2019 (352 articles) compared to 2018 (371 articles). However, the acceptance rate improved to 30% in 2019 from 19% in 2018. A clue to this difference lies in the way we handled the rejections in the two years. Nearly half of all submissions in 2019

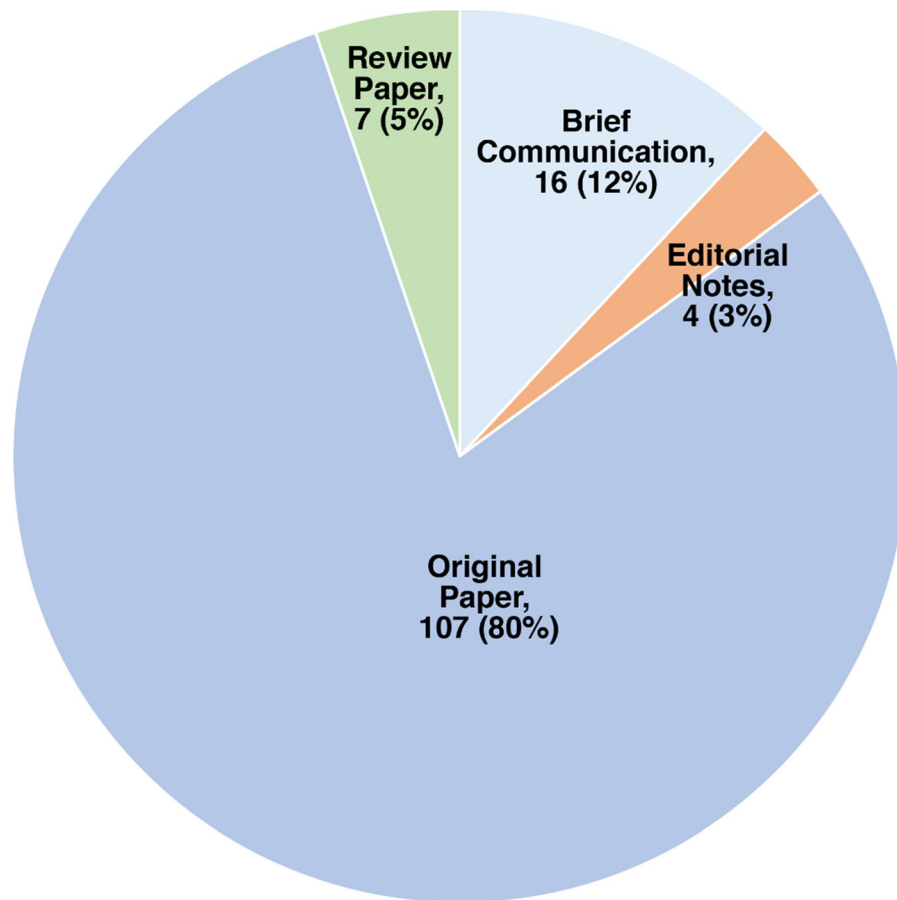


Fig. 2 Overview of *Mycopathologia* articles published in mid 2018–2019

were rejected before the peer-review or transferred to other Springer Nature journals. Only 10% of 2018 articles received editorial rejection without peer-review, and we transferred a majority to other journals. The enhanced editorial oversight at the beginning of the submission improved our decision process to match an article to the scope and priority of *Mycopathologia*. This editorial practice also provided an expedited decision for the authors. Last, our valued peer-reviewers had more time to devote to fewer articles that were well-matched to their expertise, which possibly kept the rejection rates low after completing the peer-review. Our esteemed peer-reviewers have remained pivotal to the mission of

Mycopathologia, and we humbly acknowledged their academic service in the last issue of 2020.

We restricted analysis of the articles to mid-2018–2019, as we only introduced changes at the end of 2018 [11, 19]. We only used a limited set of these publications to derive several helpful observations without inflating self-citations. From this limited analysis, we find most published manuscripts are categorized as original papers, while reviews and editorials make up less than 10% of published articles (Fig. 2). The published articles were contributed from 34 different countries, with authors from China (26 articles), the USA (17 articles), and Brazil (16 articles) among the top three contributors.

Table 1 Citations and downloads of new article types introduced in *Mycopathologia*

Article title	Article type	Scopus Citations	Google Scholar Citations	Downloads at Springer Nature
The high-quality complete genome sequence of the opportunistic fungal pathogen <i>Candida vulturna</i> CBS 14366T	MycopathologiaGENOME	2	2	1233
Invasive pulmonary aspergillosis due to <i>Aspergillus awamori</i> : Role of calcium oxalate crystal precipitation mimicking mucormycosis	MycopathologiaIMAGE		1	672
High-virulence cat-transmitted ocular sporotrichosis	MycopathologiaIMAGE	3	3	636
Deep dermatophytosis caused by <i>Trichophyton verrucosum</i> in an immunosuppressed patient: Successful outcome with terbinafine	MycopathologiaIMAGE		2	507
Localized cutaneous sporotrichosis on face in healthy Thai female	MycopathologiaIMAGE	1	1	498
Persistent hematogenous dissemination in pulmonary <i>P. jirovecii</i> infection	MycopathologiaIMAGE			414
Elbow malformation with osteoarthritis and bone destruction caused by chromoblastomycosis	MycopathologiaIMAGE	1	1	380
Mild paracoccidioidomycosis misdiagnosed as a subcutaneous mycosis	MycopathologiaIMAGE			275
Oral biopsy for early diagnosis of paracoccidioidomycosis	MycopathologiaIMAGE	1	1	274
Invasive <i>Candida tropicalis</i> infection caused by catheter biofilm in a patient with tongue cancer	MycopathologiaIMAGE	1	5	267
A case of chromoblastomycosis caused by <i>Fonsecaea pedrosoi</i> and investigation of the pathogenic fungi	MycopathologiaIMAGE			247
Whole-genome sequencing of an uncommon <i>Cryptococcus neoformans</i> MLST43 genotype isolated in Nigeria	MycopathologiaGENOME	1	1	222
A large deep skin ulcer as an initial manifestation of systemic cryptococcosis	MycopathologiaIMAGE	2	3	219
Canine fungal osteomyelitis	MycopathologiaIMAGE			196
Erythema multiforme associated with tinea of vellus hair caused by <i>Microsporum canis</i>	MycopathologiaIMAGE	1	1	186
Complete genome sequence of <i>Penicillium oxalicum</i> strain SGAir0226 isolated from outdoor tropical air in Singapore	MycopathologiaGENOME			185
Rare presentation of mucormycosis in aplastic anaemia: Isolated hepatic mucormycosis	MycopathologiaIMAGE	6	8	152
A fatal case of disseminated mucormycosis mimicking a malignancy	MycopathologiaIMAGE			147
Large aortic prosthesis fungal vegetation due to <i>Candida parapsilosis</i> : An uncommon presentation	MycopathologiaIMAGE			130
From the pharynx to the brain: A case of rapidly progressing mucormycosis	MycopathologiaIMAGE			98

We introduced two new *Mycopathologia* article types in 2018–2019. MycopathologiaGENOME provided a succinct description of newly characterized

fungal genomes in a peer-reviewed format [20]. As the publication of the case reports is scrutinized among biomedical journals, we kept this article type with

Table 2 *Mycopathologia* articles with highest citations and downloads

Article title	Scopus citations	Google scholar citations	Number of downloads at Springer Nature	References
The curious case of “Case Report” of infections caused by human and animal fungal pathogens: An educational tool, an online archive, or a format in need of retooling	17	19	1092	[19]
Attack, defend and persist: How the fungal pathogen <i>Candida auris</i> was able to emerge globally in healthcare environments	16	21	4641	[21]
Talaromycosis (Penicilliosis) due to <i>Talaromyces (Penicillium) marneffeii</i> : Insights into the clinical trends of a major fungal disease 60 years after the discovery of the pathogen	11	14	689	[22]
Culture supernatants of <i>Lactobacillus gasseri</i> and <i>L. crispatus</i> inhibit <i>Candida albicans</i> biofilm formation and adhesion to HeLa cells	11	14	1039	[23]
Infections caused by <i>Fusarium</i> species in pediatric cancer patients and review of published literature	11	13	598	[24]
Antifungal activity of chitosan-coated poly(lactic-co-glycolic) acid nanoparticles containing amphotericin B	10	14	494	[25]
TR34/L98H mutation in CYP51A gene in <i>Aspergillus fumigatus</i> clinical isolates during posaconazole prophylaxis: First case in Korea	10	14	1017	[26]
Isavuconazole in a successful combination treatment of disseminated mucormycosis in a child with acute lymphoblastic leukaemia and generalized haemochromatosis: A case report and review of the literature	9	10	2731	[27]
Candidemia in adults at a tertiary hospital in China: Clinical characteristics, species distribution, resistance, and outcomes	8	11	475	[28]
Invasive pulmonary aspergillosis complicated by carbapenem-resistant <i>Pseudomonas aeruginosa</i> infection during pembrolizumab immunotherapy for metastatic lung adenocarcinoma: Case report and review of the literature	8	8	818	[29]

restrictions and introduced a new format, MycopathologiaIMAGE article type [19]. It appears both article types have received a good reception in a short period. They have high downloads at the Springer Nature website and gaining citations in different databases (Table 1). We list the articles with the highest Scopus and Google Scholar citations in Table 2. The highest article citations skew towards

reviews and editorials. Curiously, we found that most downloaded articles were a different mix to the highest cited ones with few overlaps (Table 3)! Please note the lists in Tables 1–3 are not entirely mutually exclusive despite introducing new article formats recently. Along with similar trends, we also found twenty-five articles in the sample set were not yet cited in the databases but were still attracting downloads. The

Table 3 *Mycopathologia* articles with the highest downloads

Table	Downloads at Springer Nature	Scopus Citations	Google Scholar Citations
Attack, defend and persist: How the fungal pathogen <i>Candida auris</i> was able to emerge globally in healthcare environments	4641	16	21
Isavuconazole in a successful combination treatment of disseminated mucormycosis in a child with acute lymphoblastic leukaemia and generalized haemochromatosis: A case report and review of the literature	2731	9	10
Eighty years of <i>Mycopathologia</i> : A retrospective analysis of progress made in understanding human and animal fungal pathogens	2212	7	8
New molecular markers distinguishing <i>Fonsecaea</i> agents of chromoblastomycosis	2086	3	4
The oomycete <i>Pythium oligandrum</i> can suppress and kill the causative agents of dermatophytosis	1834	6	7
Invasive fungal infection caused by <i>Exophiala dermatitidis</i> in a patient after lung transplantation: Case report and literature review	1626	5	5
Sixty years from Segretain's description: What have we learned and should Learn about the basic mycology of <i>Talaromyces marneffeii</i> ?	1238	1	4
<i>Candida glabrata</i> -induced refractory infectious arthritis: A case report and literature review	1236	1	1
Comparison of clinical features and prognostic factors of cryptococcal meningitis caused by <i>Cryptococcus neoformans</i> in patients with and without pulmonary nodules	1235	5	6
The high-quality complete genome sequence of the opportunistic fungal pathogen <i>Candida vulturna</i> CBS 14366T	1194	2	2

highest was 243, and the lowest downloads for an article being 126 (Table 4).

This very selective and incomplete bibliometric analysis has few lessons:

1. The niche and the legacy of *Mycopathologia* remain viable and relevant.
2. The new article types are serving the additional needs of our authors and audience.
3. JIF should not drive all decisions around journal selection and citations, as this one number never reflects the full value of peer-reviewed materials in *Mycopathologia*.

Where do we go with these lessons? We will introduce best practices identified by our peers in the publishing world. We will expand coverage and collaborate with colleagues, especially from countries not on the map in this overview. Besides pre-peer review, we will work to publish peer reviews alongside each published article in *Mycopathologia*. We will ensure a reasonable turnover of the manuscript from submission to decision. We will become more active on social media, hoping that our readers have not reached digital fatigue yet!

Table 4 *Mycopathologia* articles downloaded at Springer Nature without citations in the databases

Article title	Article type	Download at Springer Nature
A case of chromoblastomycosis caused by <i>Fonsecaea pedrosoi</i> and investigation of the pathogenic fungi	Review Paper	243
A fatal case of disseminated mucormycosis mimicking a malignancy	Original Paper	144
<i>Aspergillus terreus</i> causing probable invasive aspergillosis in a patient with cystic fibrosis	Original Paper	191
<i>Blastomyces dermatitidis</i> antibody and antigen detection: Comparison of four lysate antigens and antibodies prepared from human isolates from a blastomycosis outbreak	Original Paper	108
Canine fungal osteomyelitis	Original Paper	185
Case report: A case of chromoblastomycosis caused by <i>Fonsecaea pedrosoi</i> in Vietnam	Original Paper	229
Clinicopathological and radiological features of chronic rhinosinusitis with eosinophilic mucin in Chungcheong Province of Korea	Original Paper	148
Combined medical and surgical management of hepatic mucormycosis in an adult with acute myeloid leukemia: Case report and review of the literature	Original Paper	188
Disfiguring <i>Mucor irregularis</i> infection cured by amphotericin B and itraconazole: A case report and treatment experience	Original Paper	159
Early interaction of <i>Alternaria infectoria</i> conidia with macrophages	Original Paper	343
Effects of photodynamic inactivation on the growth and antifungal susceptibility of <i>Rhizopus oryzae</i>	Original Paper	187
Epidemiological, clinical and outcome aspects of patients with cryptococcosis caused by <i>Cryptococcus gattii</i> from a non-endemic area of Brazil	Original Paper	349
From the pharynx to the brain: A case of rapidly progressing mucormycosis	Original Paper	95
Large aortic prosthesis fungal vegetation due to <i>Candida parapsilosis</i> : An uncommon presentation	Original Paper	126
Mild paracoccidioidomycosis misdiagnosed as a subcutaneous mycosis	Original Paper	272
Notch signaling is required for dendritic cell maturation and T cell expansion in paracoccidioidomycosis	Original Paper	234
<i>Paracoccidioides brasiliensis</i> infection mimicking recurrent Hodgkin lymphoma: A case report and review of the literature	Original Paper	168
Persistent hematogenous dissemination in pulmonary <i>P. jirovecii</i> infection	Original Paper	412
Subcutaneous fungal infection caused by a non-sporulating strain of <i>Corynespora cassicola</i> successfully treated with terbinafine	Original Paper	117
Successful treatment of eczema-like mucormycosis in a child by combination of intravenous drip and percutaneous injection amphotericin B	Original Paper	164
Onychomycosis associated with superficial skin infection due to <i>Aspergillus sydowii</i> in an immunocompromised patient	Brief Communication	197
Fusariosis in a captive South American sea lion (<i>Otaria flavescens</i>): A case report	Brief Communication	232
Invasive rhinosinusitis caused by <i>Lasiodiplodia theobromae</i> in an allogeneic hematopoietic cell transplant recipient: Case report and review of literature	Brief Communication	138
Oral biopsy for early diagnosis of paracoccidioidomycosis	Brief Communication	269
Sarcoid-like paracoccidioidomycosis in a female urban dweller: Reviewing a rare clinical condition in Brazil	Brief Communication	126

Acknowledgements We thank Mycopathologia publishing editor Dr. Claudia Panuschka for valuable insights, analysis, and helpful critique of this editorial.

References

1. WHO. Naming the coronavirus disease (COVID-19) and the virus that causes it. Geneva: World Health Organization; 2020.
2. Eisen MB, Akhmanova A, Behrens TE, Weigel D. Peer review: publishing in the time of COVID-19. *Elife*. 2020;9:e57162.
3. Fraser N, Brierley L, Dey G, Polka JK, Pálffy M, Coates JA. Preprinting a pandemic: the role of preprints in the COVID-19 pandemic. *bioRxiv*. 2020.
4. Li G, Zhou Y, Ji J, Liu X, Jin Q, Zhang L. Surging publications on the COVID-19 pandemic. *Clin Microbiol Infect*. 2020.
5. Majumder MS, Mandl KD. Early in the epidemic: impact of preprints on global discourse about COVID-19 transmissibility. *The Lancet Global Health*. 2020;8(5):e627–30.
6. Malicki M, Costello J, Alperin JP, Maggio LA. From amazing work to I beg to differ-analysis of bioRxiv preprints that received one public comment till September 2019. *bioRxiv*. 2020.
7. Chiarelli A, Johnson R, Pinfield S, Richens E. Preprints and scholarly communication: an exploratory qualitative study of adoption, practices, drivers and barriers. *F1000Research*. 2019;8.
8. Trewartha A, Dagdelen J, Huo H, Cruse K, Wang Z, He T, et al. COVIDScholar: an automated COVID-19 research aggregation and analysis platform. *arXiv:2012.03891*. 2020.
9. Baffy G, Burns MM, Hoffmann B, Ramani S, Sabharwal S, Borus JF, et al. Scientific authors in a changing world of scholarly communication: what does the future hold? *Am J Med*. 2020;133(1):26–31.
10. Markovac J, Kleinman M, Englesbe M. Medical and scientific publishing: author, editor, and reviewer perspectives. Cambridge: Academic Press; 2017.
11. Chaturvedi V, Bouchara J-P, Hagen F, Alastruey-Izquierdo A, Badali H, Bocca AL, et al. Eighty years of *Mycopathologia*: a retrospective analysis of progress made in understanding human and animal fungal pathogens. *Mycopathologia*. 2018;183(6):859–77.
12. Ioannidis J, Boyack KW. Citation metrics for appraising scientists: misuse, gaming and proper use. *Med J Aust*. 2020;212(6):247–9.e1.
13. Csiszar A, Gingras Y, Power M, Wouters P, Griesemer JR, Kehm BM, et al. Gaming the metrics: Misconduct and manipulation in academic research. Cambridge: MIT Press; 2020.
14. Vairavan M, Prayle A, Davies P. You are what you read: bias, journal prestige and manipulation. *Arch Dis Child Educ Pract*. 2020. <https://doi.org/10.1136/archdischild-2020-320246>.
15. Gaston TE, Ounsworth F, Senders T, Ritchie S, Jones E. Factors affecting journal submission numbers: Impact factor and peer review reputation. *Learn Publ*. 2020;33(2):154–62.
16. Rowley J, Scaffi L, Sugden M, Gilbert A. Factors influencing researchers' journal selection decisions. *J Inf Sci*. 2020. <https://doi.org/10.1177/0165551520958591>.
17. McKiernan EC, Schimanski LA, Nieves CM, Matthias L, Niles MT, Alperin JP. Meta-research: use of the journal impact factor in academic review, promotion, and tenure evaluations. *ELife*. 2019;8:e47338.
18. Wouters P, Sugimoto CR, Larivière V, McVeigh ME, Pulverer B, de Rijcke S, et al. Rethinking impact factors: better ways to judge a journal. Berlin: Nature Publishing Group; 2019.
19. Bouchara J-P, Chaturvedi V. The curious case of “Case Report” of infections caused by human and animal fungal pathogens: an educational tool, an online archive, or a format in need of retooling. *Mycopathologia*. 2018;183(6):879–91.
20. Mac Aogáin M, Chaturvedi V, Chotirmall SH. MycopathologiaGENOMES: the new ‘Home’ for the publication of fungal genomes. *Mycopathologia*. 2019;184(5):551–4.
21. de Jong AW, Hagen F. Attack, defend and persist: how the fungal pathogen *Candida auris* was able to emerge globally in healthcare environments. *Mycopathologia*. 2019;184(3):353–65.
22. Cao C, Xi L, Chaturvedi V. Talaromycosis (Penicilliosis) due to *Talaromyces (Penicillium) marneffei*: Insights into the clinical trends of a major fungal disease 60 years after the discovery of the pathogen. *Mycopathologia*. 2019;184(6):709–20.
23. Matsuda Y, Cho O, Sugita T, Ogishima D, Takeda S. Culture supernatants of *Lactobacillus gasseri* and *L. crispatus* inhibit *Candida albicans* biofilm formation and adhesion to HeLa cells. *Mycopathologia*. 2018;183(4):691–700.
24. Arnoni MV, Paula CR, Auler ME, Simões CCN, Nakano S, Szesz MW, et al. Infections caused by *Fusarium* species in pediatric cancer patients and review of published literature. *Mycopathologia*. 2018;183(6):941–9.
25. Ludwig DB, de Camargo LEA, Khalil NM, Auler ME, Mainardes RM. Antifungal activity of chitosan-coated poly(lactic-co-glycolic) acid nanoparticles containing amphotericin B. *Mycopathologia*. 2018;183(4):659–68.
26. Lee H-J, Cho S-Y, Lee D-G, Park C, Chun H-S, Park Y-J. TR34/L98H mutation in CYP51A gene in *Aspergillus fumigatus* clinical isolates during posaconazole prophylaxis: first case in Korea. *Mycopathologia*. 2018;183(4):731–6.
27. Pomorska A, Malecka A, Jaworski R, Radon-Proskura J, Hare RK, Nielsen HV, et al. Isavuconazole in a successful combination treatment of disseminated mucormycosis in a child with acute lymphoblastic leukaemia and generalized haemochromatosis: a case report and review of the literature. *Mycopathologia*. 2019;184(1):81–8.
28. Lin S, Chen R, Zhu S, Wang H, Wang L, Zou J, et al. Candidemia in adults at a tertiary hospital in China: clinical characteristics, species distribution, resistance, and outcomes. *Mycopathologia*. 2018;183(4):679–89.
29. Oltolini C, Ripa M, Andolina A, Brioschi E, Cilla M, Petrella G, et al. Invasive pulmonary aspergillosis complicated by carbapenem-resistant *Pseudomonas aeruginosa* infection during pembrolizumab immunotherapy for metastatic lung adenocarcinoma: case report and review of the literature. *Mycopathologia*. 2019;184(1):181–5.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.