

**A unique and unified name is needed for the novel coronavirus identified from Wuhan**

An outbreak of unusual pneumonia of unknown cause in Wuhan, China was first reported in December, 2019. By 5 January, 2020, Chinese scientists had quickly identified the causative agent as a new type of coronavirus (CoV) belonging to the *Betacoronavirus* genus of the *Coronaviridae* family that also includes severe acute respiratory syndrome (SARS)-CoV and Middle East respiratory syndrome (MERS)-CoV (Zhu et al., 2020; Zhou et al., 2020; Wu et al., 2020; Chen et al., 2020). On 12 January 2020, the World Health Organization (WHO) temporarily named the virus as **2019 novel coronavirus (2019-nCoV)** (WHO webpage). On 30 January, WHO recommended naming the disease as “2019-nCoV acute respiratory disease” (WHO webpage). On 8 February 2020, the China National Health Commission (CNHC) announced naming the disease as “**Novel Coronavirus Pneumonia**” (NCP) (CNHC webpage). On 11 February 2020, WHO renamed the disease as “**coronavirus disease 2019**” (COVID-19) (WHO webpage). On 7 February 2020, the Coronavirus Study Group (CSG) of the International Committee on Virus Taxonomy (ICTV) posted a manuscript at bioRxiv and suggested designating the novel coronavirus as “**severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)**” based on the phylogenetic analysis of related coronaviruses (Gorbalenya et al., 2020).

By 11 February 2020, the new coronavirus had caused more than 40,000 confirmed infections and more than 1000 deaths, mostly in mainland China, in spite of efforts by the Chinese government and its people to contain spread of the virus in past weeks. It goes without saying that the effects of the epidemic on all the aspects of Chinese life are devastating and, possibly, irreversible. Consequently, appropriately naming the virus and disease becomes a matter of importance to the Chinese people, in general, and virologists, in specific, and the issue has been fervently discussed and debated

among scientists with outcomes so far, as noted above. We fully agree that the new virus and SARS-CoV belong to the same virus species by classification. However, the consensus opinion of Chinese virologists is that none of the currently proposed names reflects the uniqueness and characteristics of the novel virus and that more consideration is needed for naming the virus. Based on the following reasons, we propose giving a unique and unified name to the new virus.

1. All proposed names are either too generic, or too similar, to previously well-known viruses, or contain an Arabic number. This makes it hard to remember or recognize, leading to a tendency among the general population and scientists alike to use a shorthand term such as “Wuhan coronavirus” or “Wuhan pneumonia”. This has, in fact, been the case since it was named as 2019-nCoV. This practice would, however, stigmatize and insult the people in Wuhan, who are still suffering from the outbreak.

2. The new virus has clinical, virological and epidemiological manifestations different from those of previously known coronaviruses, including SARS-CoV. Therefore, the name of the virus should be unique and characteristic to its identity. Phylogenetic analysis does show that the new virus and SARS-CoV, as well as many SARS-like-CoVs from bats and some intermediate hosts, belong to the same virus species (SARSr-CoV) (Guan et al., 2005; Ge et al., 2013; Zhou et al., 2020; Gorbalenya et al., 2020). Nonetheless, it is not appropriate to designate this new virus as SARS-CoV-2. First, if this new virus is named as SARS-CoV-2, then the previously known SARS-CoV should be renamed as SARS-CoV-1. This will lead bibliographic problems for the previous publications, and it is unnecessary. Second, the name SARS-CoV-2 does not reveal any apparent difference from SARS-CoV, thus misleading many into believing that it is just one type of SARS-CoV. This would, for example, lead many into thinking that the CFR of 2019-nCoV will increase to 10%, as it did for SARS, but this would cause worldwide panic and have a disastrous effect on the international economy. It might also be thought that a "SARS-CoV-2" epidemic will plateau by summer-time and be gone like the SARS virus. This may not be the case and may have adverse

effects on the implementation of the outbreak control activities.

3. The new virus is still evolving, and it is still too early to predict the outcome of the current outbreak. However, it is already clear that the infection of the new virus has diverse symptoms, from asymptomatic infection to severe pneumonia and even death. It has less case-fatality rate and higher transmissibility than SARS-CoV, indicating its clear difference from SARS-CoV. Again, therefore, it is not appropriate to designate the new virus as SARS-CoV-2 before we know more properties of the virus.

4. In consideration of the above reasoning and in view of the contagiousness and transmissibility of the new virus, we suggest proposing a unique and easy-to-use name for it, such as “**Transmissible acute respiratory coronavirus (TARS-CoV)**” (Jiang and Shi, 2020). Another choice is “**Human acute respiratory coronavirus (HARS-CoV)**”. In this way, the new coronavirus and SARS-CoV, as well as related bat SARS-like coronaviruses, would, together, comprise the biological species of SARS-CoV, which complies with the conventions of the classification and nomenclature of ICTV.

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