INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY

ICSP MATTERS

Mousavi and Young, *Int. J. Syst. Evol. Microbiol.* 2024;74:006276

DOI 10.1099/ijsem.0.006276

MICROBIOLOGY SOCIETY

International Committee on Systematics of Prokaryotes Subcommittee on the Taxonomy of Rhizobia and Agrobacteria: Minutes of the closed annual meeting, videoconference on 2 October 2023, followed by online discussion until 31 December 2023

Seyed Abdollah Mousavi[1,*] and J. Peter W. Young[2]

MEETING BY VIDEOCONFERENCE

Minute 1. Call to order

The annual Subcommittee meeting by videoconference was called to order by Peter Young at 11.06 UTC on 2 October 2023.

Minute 2. Record of attendance

Present (14): J. Peter W. Young (University of York, UK, Chairperson), Seyed Abdollah Mousavi (University of Turku, Finland, Secretary), Julie Ardley (Murdoch University, Perth, Australia), George Colin diCenzo (Queen's University, Canada), Nemanja Kuzmanović (Julius Kühn-Institut, Braunschweig, Germany), Florent Lassalle (Imperial College, St Mary's Hospital, London, UK), Esperanza Martinez-Romero (UNAM, Cuernavaca, Morelos, Mexico), Lionel Moulin (IRD, Montpellier, France), Praveen Rahi (National Centre for Cell Science, India), Tomasz Stępkowski (University of Life Sciences, Warsaw, Poland), Chang-Fu Tian (China Agricultural University, Beijing, PR China), Gehong Wei (Northwest A&F University, Yangling, Shaanxi, PR China), Anne Willems (University of Gent, Belgium), and Jerri Edson Zilli (Embrapa Agrobiologia, Seropédica, Rio de Janeiro, Brazil).

Apologies for absence (2): Joanna Puławska (The National Institute of Horticultural Research, Skierniewice, Poland) and Mariangela Hungria da Cunha (Embrapa Soja, Brazil).

Minute 3. Approval of the agenda

The agenda was sent to Subcommittee members prior to the meeting for their input and the final version of agenda was approved.

Minute 4. Subcommittee publications

The minutes of our previous meeting (2022) have been published [1].

Minute 5. Chairperson and Secretary elections

Prof. J. Peter W. Young was reappointed as the Chairperson of the Subcommittee and Dr. Seyed Abdollah Mousavi was reappointed as Secretary to serve for a 3-year term starting on 1 September 2023. There was no opposition among members and regular members validated these nominations by their unanimous votes. S.A. Mousavi, as the current Secretary, will inform the Secretary of the International Committee on Systematics of Prokaryotes (ICSP) subcommittees of this resolution.

Minute 6. Response to letter from ICSP Secretary for Subcommittees

The Executive Board of the ICSP (EB-ICSP) asked us, in a letter from the Secretary for Subcommittees, Professor Stephen On, dated 26 September 2023 and Minute 9 of EB-ICSP meeting on 31 August 2023 (www.the-icsp.org/images/minutes/20230928_EB-ICSP_Meeting-20230831%20-%20Minutes.pdf), to clarify some aspects of Minute 10 of the 2022 Subcommittee meeting [1]. After discussion, the following statements were approved.

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Keywords: agrobacteria; International Subcommittee on Taxonomy; rhizobia.
Abbreviations: ICSP, International Committee on Systematics of Prokaryotes; IJSEM, *International Journal of Systematic and Evolutionary Microbiology*; INCP, International Code of Nomenclature of Prokaryotes; NCBI, National Center for Biotechnology Information.

Firstly, the statement that 'The International Committee on Systematics of Prokaryotes (ICSP) declined the suggestion of allowing species to be described based on genome sequences without cultures' should have been worded more precisely as 'The ICSP rejected a proposal to emend the International Code of Nomenclature of Prokaryotes (ICNP) to allow for DNA sequence data to be type material for taxa with a validly published name'. This emphasizes that the ICNP only regulates which names have claim to recognition under its rules. Researchers are free to describe new microbial taxa and to propose names for them, even if the criteria are not met for these names to be validly published. Such 'effectively published' names are not regulated by the ICNP, though the ICSP would prefer authors to use the *Candidatus* format. A recent development is that such names are recognized in 'Candidatus Lists' in the *International Journal of Systematic and Evolutionary Microbiology* (IJSEM), although we note that this is no guarantee of stability because the ICNP does not provide any mechanism to establish the priority of *Candidatus* names.

Secondly, Minute 10 discusses the SeqCode, which aims to provide a stable nomenclature, with recognition of priority, for taxa that are represented by genome sequences. The minute reflects the discussion that took place. The statement that 'We thus, believe that the SeqCode is a good initiative to support' is a summary of the individual views expressed by the majority of Subcommittee members, but is not a formal recommendation by the Subcommittee. The Subcommittee does not make ICSP policy and the minute must not be interpreted as a statement of the ICSP position.

Minute 7. Subcommittee website and blog

The subcommittee website (https://sites.google.com/view/taxonomyagrorhizo/) and blog (https://sites.google.com/view/taxonomyagrorhizo/home/blog) were recently updated by S.A. Mousavi. However, we were informed by C.F. Tian that our website is inaccessible in China. As a result, we are considering transferring our website to a host that is accessible in China and this task will be undertaken by F. Lassalle. As mentioned in the 2021 Subcommittee meeting minutes, the views expressed on the Subcommittee blog do not need to align with the official decisions made by our Subcommittee [2]. We thus, encourage all the members to publish to their opinions and comments on the Subcommittee blog.

Minute 8. Nagoya protocol

As mentioned in Minute 15 of EB-ICSP meeting on 31 August 2023 (www.the-icsp.org/images/minutes/20230928_EB-ICSP_Meeting-20230831%20-%20Minutes.pdf), there is now a working group in India and some progress has been made in discussion with Indian government to address the accessibility of type strains in India. According to information provided by P. Rahi, there might be improvements in the accessibility of Indian strains starting next year. In the case of Brazil, no significant progress has been made since our previous Subcommittee meeting in 2022. So, in practice, new species names cannot be validated. Although they are trying to establish cooperation with some international culture collections to deposit the strains of new species isolated in Brazil, it remains uncertain whether the strains will be freely accessible through those culture collections, and whether the proposed terms of the Material Transfer Agreement will align with the requirements and expectations of the ICSP. Nonetheless, this endeavour could be considered as a progressive step toward validation of Brazilian strains by the ICSP. Moreover, we discussed the new restrictions on the availability of type strains isolated in France (Minute 6 of EB-ICSP meeting on 31 August 2023; www.the-icsp.org/images/minutes/20230928_EB-ICSP_Meeting-20230831%20-%20Minutes.pdf)). Based on the information provided by P. Rahi, it appears that there is no restriction on the accessibility of the strains already deposited in a culture collection and described. The primary concern rises when individuals outside of France want to describe a new species based on a type strain isolated in France; in this case, they are required to make a declaration with the French National competent authority.

Minute 9. New species and genera since the last meeting

As in previous years, we are continuing to compile a list of species and genera that have been described since our last meeting. We discussed which species and genera should be covered by our Subcommittee. As we decided last year, we provide not only the list for the genera which possess species that can either form nodules or induce tumours, but also the neighbouring genera that currently do not accommodate any species of rhizobia or agrobacteria but might do so in future (Table 1).

Action Point 9.1 All Subcommittee members are encouraged to notify the secretary of the genus/genera that they intend to cover and to prepare their contribution for the list of new species/genera by the end of the year 2023. The secretary produces a spreadsheet to which members can add species in the genus of their interest.

Minute 10. Revision of the genus *Rhizobium* and following up the progress in resolution of Action Point 8.1 (Minute 8) of our previous meeting (2022)

We discussed the recent paper published by Ma *et al.* [3], who reported an extensive genome-based taxonomic revision of the family *Rhizobiaceae* with proposals at two levels (species and genus) that will presumably be submitted to the IJSEM for validation. The research and results cover much of the ground of Action Point 8.1 (Minute 8) of our previous meeting [1], which was implemented by P. Young, G.C. diCenzo and N. Kuzmanović. These Subcommittee members have not yet published their results because they were awaiting the paper by Ma *et al.* [3], but they believe that the genus *Rhizobium* still requires revision

Table 1. Novel taxa described since the last meeting of the Subcommittee

The names indicated in inverted commas have been proposed in effective publications, but have not yet been validated by publication in a validation list in the IJSEM.

Species and nomenclatural type strain	Origin	Type strain genome (NCBI assembly accession)	Symbiosis /pathogenesis genes	Plant tests	Reference
***'Affinirhizobium'* gen. nov.**					[3]
'Affinirhizobium helianthi' comb. nov. CGMCC 1.12192^T (=KCTC 23879^T=Xi19^T)	–	Ga0196674*	–	–	[3]
'Affinirhizobium rhizoryzae' comb. nov. J3-AN59^T (=ACCC 05916^T=DSM 19478^T)	–	GCF_011046895.1	–	–	[3]
'Affinirhizobium pseudoryzae' comb. nov. J3-A127^T (=ACCC 10380^T=KCTC 23294^T)	–	GCF_011046245.1	–	–	[3]
Agrobacterium					
Agrobacterium cucumeris CFBP 8997^T (=LMG 32451^T=O132^T)	Crazy (hairy) roots of *Cucumis sativus*, Poland	GCF_030036535.1	Ri plasmid	Hairy root+	[7]
Agrobacterium divergens CECT 30347^T (=LMG 31531^T=R-31762^T)	Soil, Belgium	SRR21755520*	Ti/Ri plasmid-	Tum-	[10]
'Agrobacterium oryzihabitans' comb. nov. ACCC 60121^T (=JCM 32903^T=M15^T)	–	GCF_010669145.1	–	–	[3]
***'Alirhizobium'* gen. nov.**					
'Alirhizobium cellulosilyticum' comb. nov. ALA10B2^T (=DSM 18291^T=LMG 23642^T)	–	Ga0196647*	–	–	[3]
***'Allopararhizobium'* gen. nov.**					[3]
'Allopararhizobium mangrovi' comb. nov. BGMRC 6574^T (=CGMCC 1.16783^T=KCTC 72636^T)	–	GCF_006516965.1	–	–	[3]
Allorhizobium					
Allorhizobium sonneratiae BGMRC 0089^T (=DSM 100171^T=MCCC 1K04805^T)	Root of *Sonneratia apetala*, China	GCF_023700755.1	–	–	[11]
Bradyrhizobium					
Bradyrhizobium commune BDV5040^T (=CFBP 9110^T=LMG 32898^T)	Nodules of *Bossiaea ensata*, Australia	GCF_015624505.1	*nodA*	Nod+	[12]
'Bradyrhizobium prioritasuperba' BL16A^T (=DSM 112479^T= NCTC 14602^T)	Epilithic biofilm, Hawai'i, USA	GCF_032397745.1	*nodD2M*	–	[13]
'Bradyrhizobium roseus' S12-14-2^T (=JCM 34606^T=CGMCC 1.19422^T)	Freshwater sediment, China	GCF_030413175.1	*nod-, nifABDEHKNOQSTUVWXZ,*	–	[14]
Bradyrhizobium sediminis S2-20-1^T (=JCM 34605^T=CGMCC 1.19434^T)	Freshwater sediment, China	GCF_018736085.1	*nifABDEHKNOSTUVWXZ, nod-*	–	[15]
'Bradyrhizobium xenonodulans' 14AB^T (=LMG 31415^T=SARCC-753^T)	Root nodules of *Acacia dealbata* and *Acacia mearnsii*, South Africa	GCF_027594865.1	*nodA, nifD*	Nod+	[16]
Bradyrhizobium zhengyangense WYCCWR 13023^T (=GDMCC 1.3180^T=HAMBI 3760^T)	Root nodules of *Arachis hypogaea*, China	GCF_022012485.1	*nodC, nifH*	Nod+	[17]
Burkholderia					
'Burkholderia semiarida' CCRMBC74^T (=IBSBF 3371^T=CBAS 905^T)	Onion bulbs, Brazil	GCF_029268935.1	–	–	[18]
'Burkholderia sola' CCRMBC51^T (=IBSBF3370^T=CBAS 904^T)	Onion bulbs, Brazil	GCF_029268985.1	–	–	[18]
Devosia					

Continued

Table 1. Continued

Species and nomenclatural type strain	Origin	Type strain genome (NCBI assembly accession)	Symbiosis /pathogenesis genes	Plant tests	Reference
Devosia ureilytica XJ19-45^T (=CGMCC 1.19388^T=KCTC 92263^T)	Water, China	GCF_024273205.1	–	–	[19]
***'Ectorhizobium'* gen. nov.**					[3]
'*Ectorhizobium quercum*' BDR2-2^T (=CFCC 16492^T=LMG 31717^T)	Bark of *Quercus acutissima*, China	GCF_026552795.1	*nod-, nif -*	–	[3]
Ensifer					
Ensifer canadensis T173^T (=LMG 32374^T=HAMBI 3766^T)	*Melilotus albus* root nodule, Canada	GCF_017488845.2	*nodABC, nifHDK*	Nod+, Fix-	[20]
'*Ensifer oleiphilus*' HO-A22^T (=VKM B-3646^T=KCTC 92427^T)	Oil field water, Russia	GCF_013371465.1	–	–	[21]
'*Fererhizobium*' gen. nov.					[22]
'Fererhizobium litorale' KMM 9576^T (=NRIC 0957^T)	Sandy sediment, Sea of Japan seashore, Russia	GCF_030028905.1	*nodABC- nifHDK-*	–	[22]
'*Ferranicluibacter*' gen. nov.					[23]
'Ferranicluibacter rubi' CCRU44^T (=CECT 30117^T=LMG 31822^T)	Stems of *Rubus ulmifolius*, Spain	GCF_011603255.1	*nod-, nif-*	–	[23]
'*Flavimaribacter*' gen. nov.					[24]
'Flavimaribacter sediminis' WL0058^T (=MCCC 1K06063^T=JCM 34659^T)	Marine sediment, China	GCF_019492055.1	–	–	[24]
'*Heterorhizobium*' gen. nov.					[3]
Heterorhizobium halophytocola comb. nov. YC6881^T (=DSM 21600^T=KACC 13775^T)	–	GCF_017873095.1	–	–	[3]
Mesorhizobium					
Mesorhizobium liriopis RP14^T (=KACC 22720^T=TBRC 16341^T)	Fermented fruit of *Liriope platyphylla,* Republic of Korea	GCF_024053505.1	*nod-, nif-*	–	[25]
Methylobacterium					
Methylobacterium planeticum corrig. CGMCC 1.17323^T (=NBRC 114056^T=YIM 132548^T)	–	GCF_008806345.1	–	–	[26]
'Metarhizobium' gen. nov.					[3]
'Metarhizobium album' comb. nov. NS-104^T (=CCTCC AB 2017250^T=KCTC 62327^T)	–	GCF_003122325.1	–	–	[3]
Microvirga					
Microvirga terrae R24^T (=KACC 21784^T=JCM 34259^T)	Soil, Republic of Korea	GCF_013307435.2	–	–	[27]
Neorhizobium					
'Neorhizobium deserti' comb. nov. SPY-1^T (=ACCC 61627^T=JCM 33732^T)	–	GCF_004358025.1	–	–	[3]
'*Neorhizobium populisoli*' comb. nov. XQZ8^T (=JCM 34442^T=GDMCC 1.2201^T)	–	GCF_019430945.1	–	–	[3]
'Neorhizobium terrae' comb. nov. NAU-18^T (=CCTCC AB 2018075^T=KCTC 62418^T)	–	GCF_003425685.1	–	–	[3]
Neorhizobium turbinariae NTR19^T (=JCM 35342^T=MCCC 1K07226^T)	Coral *Turbinaria peltate*, China	GCF_023223505.1	*nod-, nif-*	–	[28]
***'Paenirhizobium'* gen. nov.**					[3]
'Paenirhizobium daejeonense' comb. nov. L61^T (=DSM 17795^T=IAM 15042^T)	–	GCF_014280875.1	–	–	[3]

Continued

Table 1. Continued

Species and nomenclatural type strain	Origin	Type strain genome (NCBI assembly accession)	Symbiosis /pathogenesis genes	Plant tests	Reference
'Paenirhizobium naphthalenivorans' comb. nov. TSY03b^T (=KCTC 23252^T=NBRC 107585^T)	–	GCF_007992095.1	–	–	[3]
'Paenirhizobium selenitireducens' comb. nov. B1^T (=NRRL B-41997^T=LMG 24075^T)	–	GCF_000518785.1	–	–	[3]
Paraburkholderia					
'*Paraburkholderia adhaesiva*' GDMCC 1.2622^T (=NBRC 115282^T=ZD32-2^T)	Forest soils, China	GCF_021390575.1	*nodI*	–	[29]
'*Paraburkholderia busanensis*' KFCC11965P^T (=P39^T)	Pine soil, Republic of Korea	CP058248, CP058249*	*nodD2, nolAT*	–	[30]
'*Paraburkholderia flagellata*' 4D117^T (=GDMCC 1.2617^T=NBRC 115278^T)	Forest soils, China	GCF_021390645.1	*nodI*	–	[29]
Paraburkholderia tagetis KACC 22685^T (RG36^T=TBRC 15696^T)	Roots of *Tagetes patula*, Republic of Korea	GCF_022213065.1	*nodI*	–	[31]
Peteryoungia					
'Peteryoungia albertimagni' comb. nov. AOL15^T (=ATCC BAA-24^T)	–	GCF_000300855.1	–	–	[3]
'Peteryoungia glycinendophyticum' comb. nov. CL12^T (=KACC 21281^T=GDMCC 1.1597^T)	–	GCF_006443685.1	–	–	[3]
Rhizobium					
Rhizobium acaciae 1AS11^T (=ACCC 62388^T=DSM 113913^T)	Root nodule of *Acacia saligna*, Tunisia	GCF_025941625.1	*nod, nif*	Nod+, Fix+	[4]
'Rhizobium atlanticum' CNPSo 3490^T (=BR 15056^T)	Nodules of *Phaseolus vulgaris*, Brazil	GCF_030182485.1	*nod, nif*	Nod+, Fix+	[32]
'Rhizobium aureum' CNPSo 3968^T (=BR 15057^T)	Nodules of *Phaseolus vulgaris*, Brazil	GCF_030182495.1	*nolR, nifU, fixJL*	Nod-	[32]
Rhizobium beringeri SM51^T (=LMG 32895^T=DSM 115206^T)	Root nodule of *Trifolium repens*, Denmark	GCF_004306515.1	*nod, nif*	Nod+, Fix+	[5]
Rhizobium brockwellii CC275e^T (=HAMBI 13^T=ICMP 2163^T=LMG 6122^T=NZP 561^T=ATCC 35181^T)	Root nodule of *Trifiolium repens*, Australia	GCF_000769405.2	*nod, nif*	Nod+, Fix+	[5]
'Rhizobium centroccidentale' CNPSo 4062^T (=BR 15059^T)	Nodules of *Phaseolus vulgaris*, Brazil	GCF_030182565.1	*nolR, nifU*	Nod-	[32]
'Rhizobium cerradonense' CNPSo 3464^T (=BR15055^T)	Nodules of *Phaseolus vulgaris*, Brazil	GCF_030182455.1	*nod, nif*	Nod+, Fix+	[32]
Rhizobium croatiense 13T^T (=LMG 32397^T=HAMBI 3740^T)	Root nodule of *Phaseolus vulgaris*, Croatia	GCF_019793465.1	*nodC*	Nod+, Fix+	[33]
Rhizobium johnstonii 3841^T (=LMG 32736^T=DSM 114642^T)	Root nodule of *Pisum sativum*, UK	GCF_000009265.1	*nod, nif*	Nod+, Fix+	[5]
'Rhizobium pantanalense' CNPSo 4039^T (=BR 15058^T)	Nodules of *Phaseolus vulgaris*, Brazil	GCF_030182525.1	*nolR, nifU*	Nod-	[32]
Rhizobium redzepovicii 18T^T (=LMG 32398^T=HAMBI 3741^T)	Root nodule of *Phaseolus vulgaris*, Croatia	GCF_019793435.1	*nodC*	Nod+, Fix+	[33]
Rhizobium rhododendri rho-6.2^T (=DSM 110655^T=CFBP 9067^T)	Tumour on *Rhododendron*, Germany	GCF_007000325.2	Ti plasmid	Tum+	[6]
Rhizobium setariae KVB221^T (=KACC21713^T=NBRC 114644^T)†	Surface of *Setaria*, Republic of Korea	GCF_016722925.1	*nod-, nif-*	–	[34]

Continued

Table 1. Continued

Species and nomenclatural type strain	Origin	Type strain genome (NCBI assembly accession)	Symbiosis /pathogenesis genes	Plant tests	Reference
Rhizobium terricola S-51^T (=KACC 19117^T=KEMB 9005-539^T=NBRC 112711^T)†	Soil, Republic of Korea	GCF_012927355.1	*nod-, nif-*	–	[35]
Shinella					
Shinella sedimenti B3.7^T (=MCCC 1K07163^T=LMG 32559^T)	Zhairuo Island sediment, China	GCF_022601905.1	–	–	[36]
Trinickia					
Trinickia acidisoli 4D114^T (=KCTC 82876^T=GDMCC 1.2131^T)	Forest soil, China	GCF_017315725.1	–	–	[37]
Trinickia mobilis DHG64^T (=KACC 21223^T=GDMCC 1.1282^T)	Forest soil, China	GCF_017315705.1	–	–	[37]
Trinickia terrae 7GSK02^T (=CGMCC 1.15432^T=KCTC 62468^T)	Forest soil, China	GCF_005144415.1	–	–	[38]
Trinickia violacea DHOD12^T (=LMG 30258^T=CGMCC 1.15436^T)	Forest soil, China	GCF_005280735.1	–	–	[38]

*We could not find an NCBI assembly accession for the genome of the type strain.
†The phylogenetic position of this species indicates that it would be better placed in a different genus.

beyond the changes proposed by Ma *et al.* [3]. Moreover, it appears that other genera (e.g. *Bradyrhizobium*, *Mesorhizobium* and *Methylobacterium*) also need revision. Some of our Subcommittee members are currently working on the revision of these genera.

Minute 11. other recent relevant publications in taxonomy

11.1 The main results of two recent papers [4, 5] were presented by P. Young. In these papers, four new species were described to accommodate strains that were previously assigned to the *Rhizobium leguminosarum* complex. It seems that more new species will be described from strains within the *R. leguminosarum* complex. It is worth noting that Young *et al.* [5] described the new species using only genomic data (without including laboratory-based phenotypic data), which demonstrates that genome sequences can satisfy all the requirements for describing a new species with a valid name, except for depositing and accessibility of the type strains in two culture collections. Furthermore, P. Young pointed out an issue with the National Center for Biotechnology Information (NCBI), as they have started to clean up the taxonomy of microbial genomes in their GenBank and RefSeq databases. They have calculated average nucleotide identity values of each genome against a panel of type strain genomes, but when the best matching type strain has a different species name from that currently assigned to the accession, NCBI staff have suppressed the accession. As a result, large numbers of high-quality genomes have been suppressed and are no longer readily available. P. Young has been in contact with the NCBI and the situation is being resolved, at least for some taxa of particular relevance to our Subcommittee.

11.2 Kuzmanović mentioned a new publication in the taxonomy of agrobacteria [6], which described the new species *Rhizobium rhododendri* within the distinct 'tumorigenes' clade of the genus *Rhizobium*.

Minute 12. The list of rhizobial symbiovars

Last year (Action Point 13.1 [1]), E. Martinez-Romero agreed to prepare a list of symbiovars, with a small group of Subcommittee members. The list of symbiovars in the genera *Bradyrhizobium*, *Ensifer*, *Mesorhizobium* and *Rhizobium* was prepared by E. Martinez-Romero and A. Peix, and uploaded in our Subcommittee blog (https://sites.google.com/view/taxonomyagrorhizo/home/blog). During our 2023 meeting, we discussed the symbiovar issue more deeply and concluded that it would be useful to publish new guidelines for describing novel symbiovars. Although these guidelines will have no formal authority, they could serve as recommendations for researchers who may describe new symbiovars in future. There is a need for rules governing nomenclature, minimal description and priority, as well as for a list of accepted symbiovars. These are similar to the requirements for a stable taxonomy, so Subcommittee members are well placed to establish a system, but we must point out that symbiovars are not governed by the ICNP and the regulation of symbiovar names is not part of our official duties as a Subcommittee of the ICSP. Nevertheless, the Subcommittee website (which is not an official ICSP website) is a convenient and appropriate place to maintain a public list of symbiovars and relevant guidance.

Action Point 12.1 E. Martinez-Romero, P. Young, M. Hungria da Cunha, A. Peix and S.A. Mousavi will write guidelines for the description of rhizobial symbiovars.

Minute 13. Next meeting

The Subcommittee agreed to hold the next meeting online in autumn 2024.

Minute 14. Adjournment of videoconference

The videoconference was adjourned at 13.25 UTC on 2 October 2023. As for our previous annual meetings, it was decided to continue the meeting online until 31 December 2023.

ONLINE

Minute 15. Additional recent publications

Puławska mentioned a new publication in the taxonomy of agrobacteria that describes new species *Agrobacterium cucumeris* including bacteria causing crazy roots [7].

Minute 16. Recent taxonomic revisions

The Subcommittee welcomed the revision of the *Rhizobiaceae* published by Kuzmanović *et al*. [8], and in particular endorsed the proposed new genus *Xaviernesmea* and the proposal to recognise *Sinorhizobium* and *Ensifer* as distinct genera. This paper proposes numerous other new combinations, and we recommend that all the proposed new names and combinations should be considered the correct names.

The Subcommittee also endorsed the revisions proposed by Rahi *et al*. [9], including the establishment of *Peteryoungia* gen. nov., and recommend that the proposed new names and combinations should be considered the correct names if they have been validly published. At present, the names that have been validated are *Peteryoungia* gen. nov., *P. ipomoeae* comb. nov., *Ciceribacter selenitireducens* comb. nov., and *C. naphthalenivorans* comb. nov.

Minute 17. Current membership

The 19 current members of our subcommittee are: Peter W. Young (University of York, UK, Chairperson), Seyed Abdollah Mousavi (University of Turku, Finland, Secretary), Julie Ardley (Murdoch University, Perth, Australia), George Colin diCenzo (Queen's University, Canada), Mariangela Hungria da Cunha (Embrapa Soja, Brazil), Nemanja Kuzmanović (Julius Kühn-Institut, Braunschweig, Germany), Florent Lassalle (Imperial College, St Mary's Hospital, London, UK), Esperanza Martinez-Romero (UNAM, Cuernavaca, Morelos, Mexico), Lionel Moulin (IRD, Montpellier, France), Alvaro Peix (Institute of Natural Resources and Agrobiology, Salamanca, Spain), Joanna Puławska (National Institute of Horticultural Research, Skierniewice, Poland), Praveen Rahi (National Centre for Cell Science, India), Emma T. Steenkamp (University of Pretoria, South Africa), Tomasz Stępkowski (University of Life Sciences, Warsaw, Poland), Chang-Fu Tian (China Agricultural University, Beijing, PR China), Pablo Vinuesa (UNAM, Mexico), Gehong Wei (Northwest A and F University, Yangling, Shaanxi, PR China), Anne Willems (University of Gent, Belgium), and Jerri Edson Zilli (Embrapa Agrobiologia, Seropédica, Rio de Janeiro, Brazil).

Minute 18. Closing

The online phase of this meeting was closed on 31 December 2023.

Funding information
The authors received no specific grant from any funding agency.

Conflicts of interest
The authors declare that there are no conflicts of interest.

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