Enterobacter aerogenes Hormaeche and Edwards 1960 (Approved Lists 1980) and Klebsiella mobilis Bascomb et al. 1971 (Approved Lists 1980) share the same nomenclatural type (ATCC 13048) on the Approved Lists and are homotypic synonyms, with consequences for the name Klebsiella mobilis Bascomb et al. 1971 (Approved Lists 1980)

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Abstract

Enterobacter aerogenes Hormaeche and Edwards 1960 (Approved Lists 1980) and Klebsiella mobilis Bascomb et al. 1971 (Approved Lists 1980) were placed on the Approved Lists of Bacterial Names and were based on the same nomenclatural type, ATCC 13048. Consequently they are to be treated as homotypic synonyms. However, the names of homotypic synonyms at the rank of species normally are based on the same epithet. Examination of the Rules of the International Code of Nomenclature of Bacteria in force at the time indicates that the epithet mobilis in Klebsiella mobilis Bascomb et al. 1971 (Approved Lists 1980) was illegitimate at the time the Approved Lists were published and according to the Rules of the current International Code of Nomenclature of Prokaryotes continues to be illegitimate.

The name Enterobacter aerogenes Hormaeche and Edwards 1960 (Approved Lists 1980) was created by Hormaeche and Edwards [1] for a taxon at the rank of species that had previously been known as ‘Aerobacter aerogenes’ [2]. In recognizing the fact that the non-motile strains of ‘Aerobacter aerogenes’ were members of the species Klebsiella pneumoniae (Schroeter 1886) Trevisan 1887, Hormaeche and Edwards [2] proposed that the genus ‘Aerobacter’ (Beijerinck 1900) be restricted to taxa that could be distinguished from the genus Klebsiella and retained the use of the name ‘Aerobacter aerogenes’ in a sense different to previous usage [2]. In realising that this solution was also not sensible they withdrew that proposal and made an alternative proposal to name the taxon Enterobacter aerogenes Hormaeche and Edwards1960 [1]. The Judicial Commission also rejected the genus name ‘Aerobacter’ Beijerinck 1900 in 1971 [3] and reference to the original Request for an Opinion [4] provides a useful summary on the problems associated with the name ‘Aerobacter aerogenes’. The names ‘Aerobacter’ Beijerinck 1900 and ‘Aerobacter aerogenes’ are also not validly published.

Bascomb et al. [5] published a study of 177 strains that included, among others, members of the genera Klebsiella and Enterobacter, coming to the conclusion that the three species of the genus Enterobacter they studied did not belong in one genus and that strains of Enterobacter aerogenes Hormaeche and Edwards 1960 (including the nomenclatural type deposited as NCTC 10006 as designated by Hormaeche and Edwards [1]) were more appropriately classified in the genus Klebsiella. Consequently, one might have expected Enterobacter aerogenes Hormaeche and Edwards 1960 to be transferred to the genus Klebsiella with the retention of the epithet aerogenes. However, the 1966 revision of the International Code of Nomenclature of Bacteria [6] in Rule 18b would not have permitted such an action since the name ‘Klebsiella aerogenes’ (Kruse) Taylor et al. 1956 was considered to be validly published at the time and it was therefore necessary to create a nomen novum, Klebsiella mobilis Bascomb et al. 1971 based on the same nomenclatural type (NCTC 10006, ATCC 13048) as Enterobacter aerogenes Hormaeche and Edwards 1960 to prevent the creation of a later homonym. Klebsiella mobilis Bascomb et al. 1971 and Enterobacter aerogenes Hormaeche and Edwards 1960 are homotypic synonyms [5].

With the publication of the Approved Lists [7, 8] the name ‘Klebsiella aerogenes’ (Kruse) Taylor et al. 1956 was not
Enterobacter aerogenes Hormaeche and Edwards 1960 is considered to be a member of the taxon Klebsiella pneumoniae subsp. pneumoniae [13].

**KLEBSIELLA AEROGENES (HORMAECH AND EDWARDS 1960) COMB. NOV.**

Non ‘Klebsiella aerogenes’ (Kruse) Taylor et al. 1956.

**Synonyms:**
Homotypic: Enterobacter aerogenes Hormaeche and Edwards 1960 (basonym); Klebsiella mobilis Bascomb et al. 1971 (Approved Lists 1980) in which the epithet mobilis is illegitimate and is to be replaced by the epithet aerogenes.

The properties are as given in Bascomb et al. [5] for Klebsiella mobilis. The G+C content determined by whole-genome sequencing of the DNA of the strain held in the Korean Collection for Type Cultures as KCTC 2190T is 54.8 mol% [14]. The genome sequence of this strain has been deposited in the GenBank database under the accession number CP002824. The 16S rRNA gene sequence as determined by Harada et al. [15] for JCM 1235T has been deposited in the GenBank database under the accession number AB004750 and that extracted from the genome sequence CP002824: 220899–221642 as NR_102493. The fatty acid composition is given in the supplementary data to Saha et al. [16] under Enterobacter aerogenes ATCC 13048T, but are given here since supplementary data is not an effective publication (percentage composition rounded to one decimal place and given as a guide to the relative concentrations only); C_{14:0} (1.5 %), C_{16:0} (9.4%), C_{14:0} 2-OH (1.0 %), C_{16:0} (30.7 %), C_{17:0} CYCLO (8.2 %), C_{19:0} CYCLO Y (1.2 %), C_{14:0} 3-OH/iso-C_{16:0} I (probably C_{14:0} 3-OH) (8.7 %), C_{16:1}ω7c/C_{16:1}ω6c (probably C_{16:1}ω7c) (16.5 %), and C_{18:1}ω6c/C_{18:1}ω7c (probably 18:1 ω7c) (22.0 %).

The nomenclatural type for which evidence was presented that the deposits are available is NCTC 10006 = ATCC 13048T = DSM 30053T = JCM 1235T. Other deposits are also documented.

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**Conflicts of interest**
The author B.J.T. is employed by an organisation that commercially offers both taxonomic services as well as biological material to the scientific community. This may be perceived as a potential conflict of interest.

**References**


