PROPOSAL FOR THE REJECTION OF THE BACTERIAL
GENERIC NAME GAFFKYA

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In our work (Kocur and Martinec, 1963) we investigated in detail the problem of the genus Gaffkya. It was concluded that the name Gaffkya should be rejected. We submit therefore, to the Judicial Commission, our proposal to place the generic name Gaffkya Trevisan among nomina rejicienda.

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(The following is a photostat copy of Kocur, M. and T. Martinec, 1963. Concerning the problem of the validity of the genus Gaffkya; Publ. Fac. Sci. Univ. J. E. Purkyně, Brno, K. 30; 444-446. The editor)

CONCERNING THE PROBLEM OF THE VALIDITY
OF THE GENUS GAFFKYA

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In the genus Gaffkya, there have hitherto been included cocci which form characteristic groupings of cells in the form of encapsulated tetrads in the host body and in special media. Another typical property of this genus is parasitism of its species.

There are two species included in the genus Gaffkya in the 7th ed. of Bergey's Manual: Gaffkya tetradena and Gaffkya homari. In 1960, Döbel and Niven (J. Bact. 79, 1960) were able to prove that Gaffkya homari did not belong into the genus Gaffkya. They recommended that the above species should be placed in the genus Pediococcus. There remained therefore only one species in the genus Gaffkya — Gaffkya tetradena.

The genus Gaffkya is one of the insufficiently defined genera and deserves revision. As has been mentioned, its description is based mainly on its formation of tetrads, capsules and its parasitism. A basic and convincing revision of the genus Gaffkya is to a certain extent complicated by the fact that the typical representative of the afore-mentioned genus — the species Gaffkya tetradena — does not exist in any of the laboratories of the world.

As we were able to make sure, the strains which are maintained under this name in some of the collections do not correspond as a rule to the description of this species. We succeeded in obtaining from various collections 6 strains designated as *Gaffkya tetragena*. The investigation of these strains proved that none of them corresponded to the description of *Gaffkya tetragena*. Two strains were identified as *Micrococcus luteus* and four as *Micrococcus varians*. It is interesting to note that those strains — with one exception — formed tetrads in microscopic preparations. As follows from the observations mentioned above, all of these six cases were incorrectly identified strains in which the formation of tetrads proved to be a misleading character to authors identifying them. Tetrads may be formed by a great number of micrococci as we were able to ascertain in our work (Kocur and Martinec: A taxonomic study of the genus *Micrococcus*, *Folia Fac. Sci. Natur. Univ. Purkynianae Brunensis* 3, 1962). The formation of capsules, either, is not typical only of *Gaffkya tetragena* and cannot therefore be used as a distinguishing character. This has been proved by a great number of works, especially recent ones, which show that even various strains of *Staphylococcus aureus* can produce capsules. E. g. Price and Kneeland (*J. Bact.* 71, 1956) found that the majority of staphylococci studied by them produced a capsular substance which could be demonstrated by the "Quellung" reaction. The amount of this capsular substance was especially large in mucoid strains. They were also able to observe an interesting fact, that coagulase- and mannitol-negative strains failed to produce capsules. A great number of other authors have investigated encapsulated strains of *S. aureus* (e. g. Gilbert: *J. Bact.* 21, 1931; Willey: *Canad. J. Microbiol.* 7, 1961; Lenhart et al.: *J. Bact.* 83, 1961 and others).

Parasitism is considered to be another characteristic property of the genus *Gaffkya*. While this property is of considerable importance in medical microbiology, it has no great significance in taxonomy, as it cannot be used as a suitable distinguishing character. If we intended, however, to take this property into account in spite of that, we should have to place *Gaffkya tetragena* in the genus *Staphylococcus*, as this genus includes species of a parasitic nature.

As the formation of tetrads, capsules and parasitism are no appropriate tests for distinguishing *Gaffkya tetragena* from other cocci, we have tried to find — by means of comparing this species with species of other genera — such differences as could be used to differentiate them. For purposes of comparison, *Staphylococcus aureus* had to be considered in the first place as it has a great number of characters in common with *Gaffkya tetragena*. For the same purpose, we used data given in the 7th ed. of *Bergey's Manual* (1957). However, we were able to compare only a few data, the description of *Gaffkya tetragena* being very insufficient. Those properties that could be compared agreed in the main in both of these species (form of cells, grouping, colonies, broth, glucose, lactose, glycerol, hydrolysis of starch, inability to utilize ammonium phosphate etc.). Differences were observed in gelatin liquefaction and nitrate reduction. Of course, even among *Staphylococcus aureus* strains there were found occasional strains failing to liquefy gelatin or to reduce nitrates.

All the data we have given constitute evidence in support of the invalidity of the genus *Gaffkya* and have lead us to the assumption that *Gaffky* (1883) probably isolated an atypical strain of *Staphylococcus aureus* rather than a new species. Therefore we recommend that the name *Gaffkya tetragena* be considered a probable synonym of the name *Staphylococcus aureus* Rosenbach. Further, we recommend that the generic name *Gaffkya* Trevisan be placed among nomina rejicienda.

BACTERIOLOGICAL NOMENCLATURE
AND TAXONOMY

We recommend that the following names be rejected as synonyms of Gaffkya tetragena (Gaffky) Trevisan:

Micrococcus tetragenus Gaffky 1883, 500

Merista tetragena Vuillemin 1913, 525

Merista septica Hueppe 1889, 170

Merismopedia tetragenus (sic) (Gaffky) Dyar 1895, 347

Sarcina tetragenus (Gaffky) Migula 1900, 225

Pediococcus tetragenus (Gaffky) Pribram 1933, 46

Staphylococcus tetragenus (Gaffky) Holland 1920, 224