

Characterization of *Streptococcus suis* isolates collected from different animal species in the Czech Republic between 2018 and 2022

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Introduction

Streptococcus suis is important pathogen primarily associated with pigs. Here we present a description of 622 isolates collected from different animal species between 2018 and 2022.

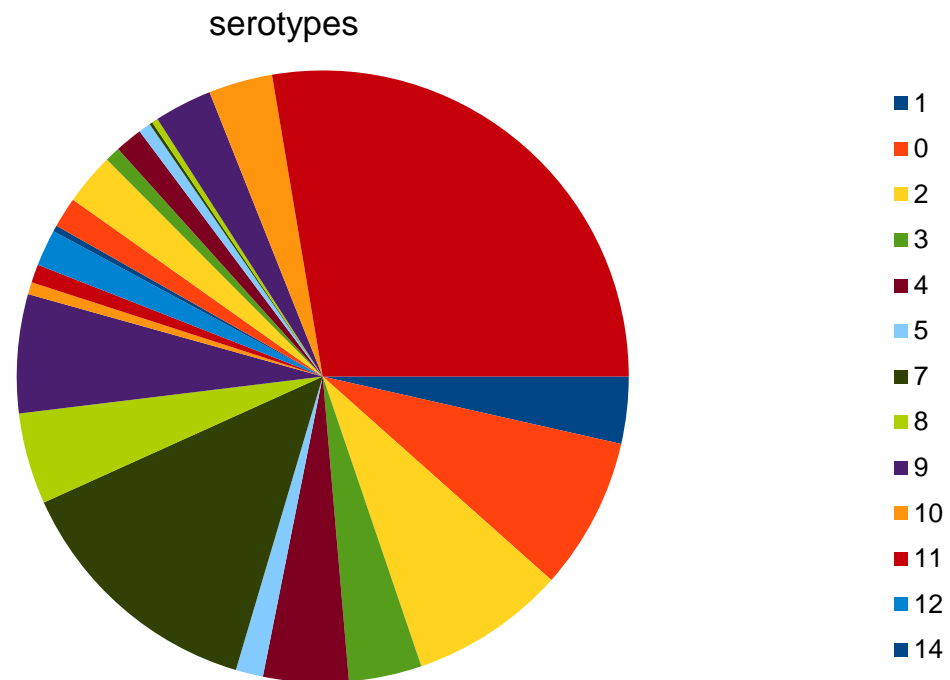
Materials and methods

Blood agar plates were used for primoculture (22-48 hours at 37°C) of sectional materials or swabs. Suspected *S. suis* colonies were tested using biochemical test, rapid slide latex agglutination, and MALDI-TOF. Serotyping by multiplex PCR method and PCR-MLST typing were performed on DNA prepared by the boiling method. All isolates untypeable by PCR were tested with the co-agglutination test using antisera prepared via the immunisation of rabbits with reference strains (Zouharová et al. 2022).

Results

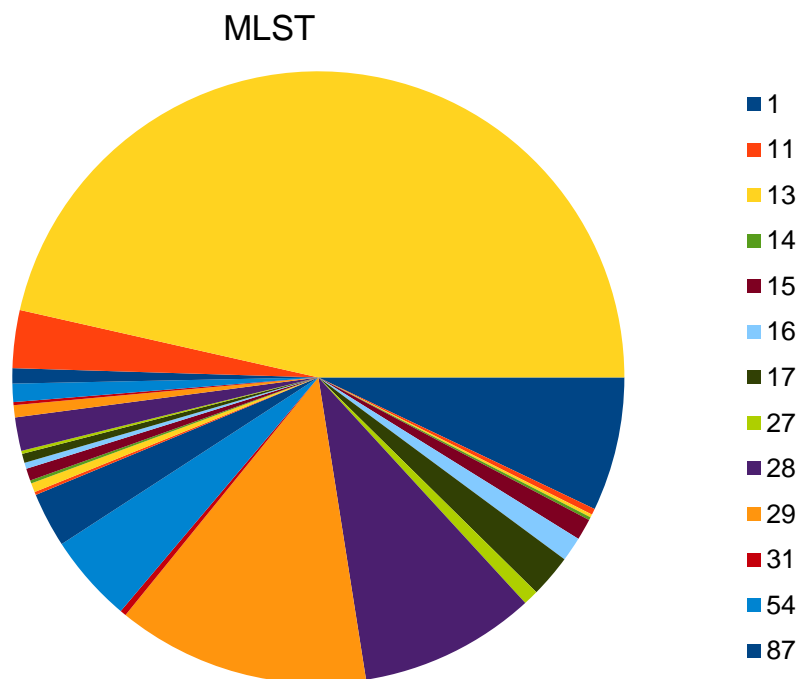
The vast majority of isolates were collected from pigs (597 isolates, 95.98%), followed by isolates from cattle (20 isolates, 3.21%), geese (3 isolates, 0.48%), a dog (1 isolate, 0.16%) and a parrot (1 isolate, 0.16%). 22 different serotypes, including the so-called Suis-like serotypes, were identified. The most prevalent were untypeable isolates followed by serotype 7 (Figure 1).

Figure 1: Serotypes of *S. suis* isolates collected in 2018-2022 in the Czech republic



Similar to serotypes, a wide spectrum of MLST types was identified, with the most prevalent being unknown sequence types (Figure 2).

Figure 2: Sequence types of *S. suis* isolates collected in 2018-2022 in the Czech republic



Discussion and Conclusion

Similar to other countries in Europe (Rieckmann et al. 2018), a wide diversity of *S. suis* isolates was found in the Czech Republic. Among clinically important serotypes, serotypes 2 and 7 were frequently detected in pathological material.

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References:

Zouharová, M. et al. Characterisation of *Streptococcus suis* Isolates in the Czech Republic Collected from Diseased Pigs in the Years 2018–2022. *Pathogens* 2023, 12, 5.

Rieckmann, K. et al. *Streptococcus suis* cps7: an emerging virulent sequence type (ST29) shows a distinct, IgM-determined pattern of bacterial survival in blood of piglets during the early adaptive immune response after weaning. *Vet Res.* 2018;49:48.