

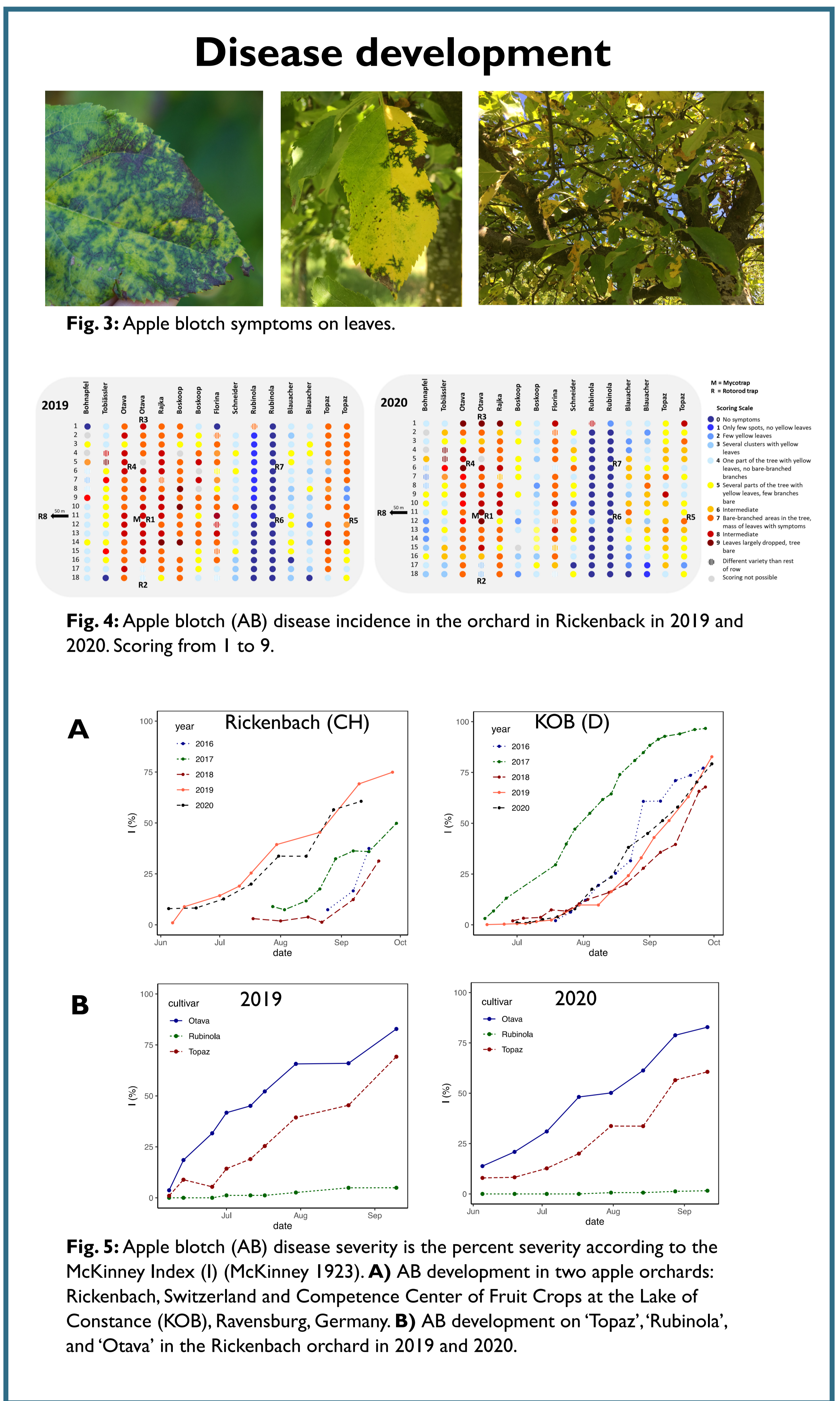
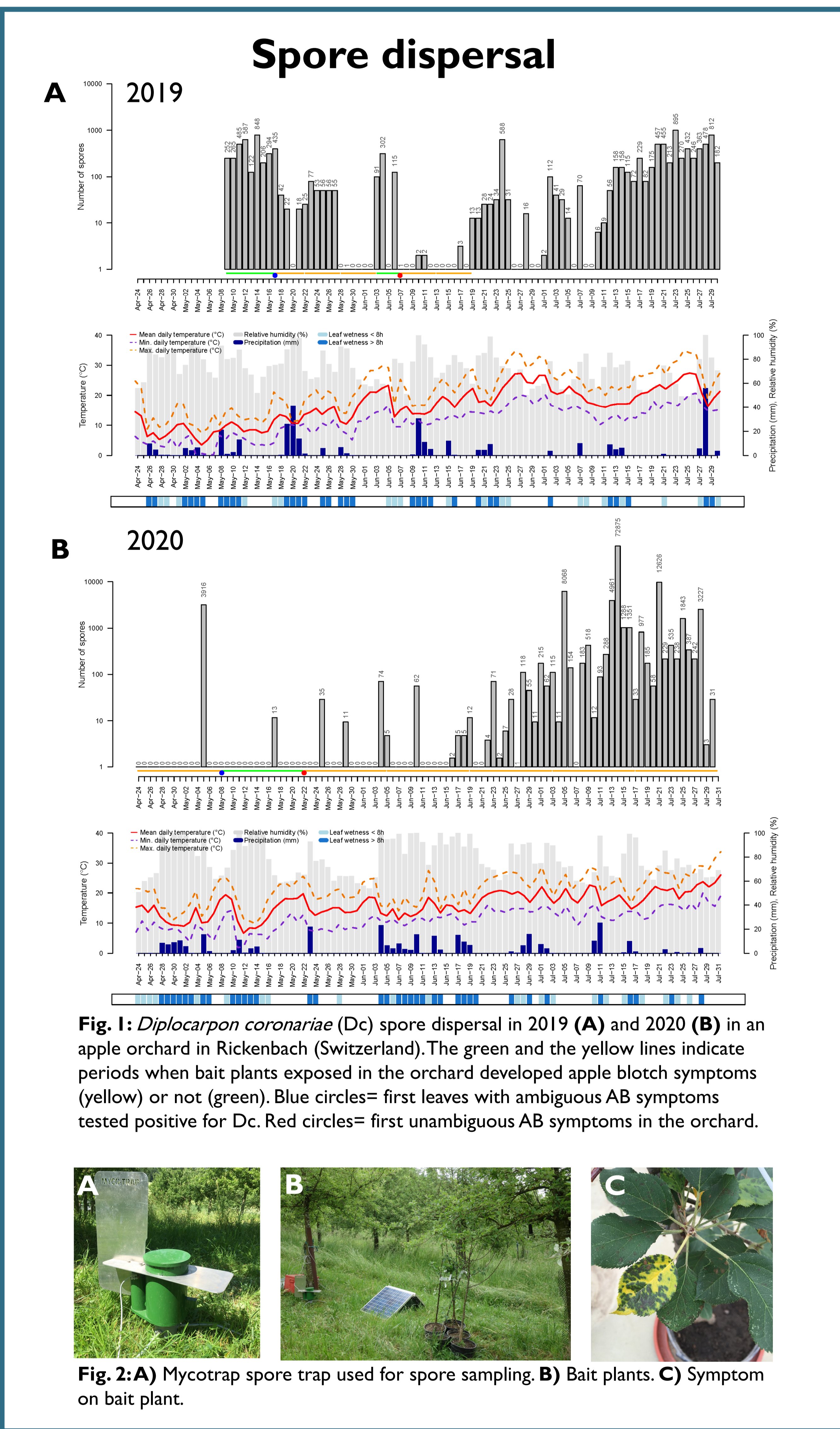
Spore dispersal and early infections of *Diplocarpon coronariae* causing apple blotch

Introduction

Apple blotch is a major disease of apple in Asia and recently emerged in Europe and the USA. It is caused by the fungus *Diplocarpon coronariae* (formerly: *Marssonina coronaria*; teleomorph: *Diplocarpon mali*) and leads to severe defoliation of apple trees in late summer resulting in reduced yield and fruit quality. Data on spore dispersal, time point of first infections and disease dynamics in Europe is still lacking but crucial to improve control methods.

Methods

- Spore dispersal was monitored using spore traps (Fig. 2A) and a new qPCR method to quantify daily spore numbers (Fig. 1)
- Infection periods were assessed using bait plants (Fig. 2B, C) replaced at weekly intervals
- Disease development was monitored by assessing AB incidence (Fig. 4) and severity (Fig. 5)



Results

- Spores were found as early as end of March
- First infected leaves were detected beginning of May
- The disease development varies according to the cultivar and the weather conditions during the season

Conclusions

- Few spores might be released in March, but primary infections start in late April or early May, depending on the weather conditions
- The results can help improve disease forecast models for AB and direct disease prevention in the field

References

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 McKinney, H. H., 1923. Influence of soil temperature and moisture on infection of wheat seedlings with *Helminthosporium sativum*. *J. Agric. Res.* 26:195-217.

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