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COEXISTENCE OF CEUTORHYNCHUS NAPI AND CEUTORHYNCHUS PALLIDACTYLUS IN OILSEED RAPE: IMPLICATIONS FOR INFESTATION ASSESSMENT AND PLANT DAMAGE EVALUATION

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Abstract: The stem weevil complex is among the most important groups of insect pests affecting oilseed rape crops, with *Ceutorhynchus napi* and *Ceutorhynchus pallidactylus* frequently occurring under field conditions. Since both species are generally monitored using the same trapping tools and are considered together in crop protection practice, their coexistence may influence infestation assessment at both crop and plant level. The aim of this study was to evaluate the coexistence of *C. napi* and *C. pallidactylus* in oilseed rape and to assess its implications for infestation assessment and protection measures.

Introduction

Oilseed rape (*Brassica napus* L.) is one of the most important field crops cultivated in Europe, due to its role in vegetable oil production and its value within crop rotation systems. Its productivity is strongly influenced by pest pressure, especially during spring. Among these, *C. napi* and *C. pallidactylus* are considered among the most important stem weevils associated with winter oilseed rape in Europe.

Material and method

Adult monitoring was carried out with yellow traps, using four traps per location, read at 7-day intervals. The number of *C. napi* and *C. pallidactylus* adults was recorded for each sampling date. The practical warning threshold considered in the study was 10 adults/trap for three consecutive days. Plant assessments were performed manually with a metric frame, through six frame-based evaluations in each crop, using 3 replications and 10 sampling points.



General crop monitoring was performed in the field, while in Place 2 drones were additionally used for crop surveillance and treatment application. Species identification was performed with a portable microscope in the field and confirmed in the laboratory (Fig.1).

Results and discussions

The seasonal monitoring carried out with yellow traps confirmed the presence of both *Ceutorhynchus napi* and *C. pallidactylus* in both study years and in both experimental places.

Conclusions

At plant level, coexistence was the main infestation pattern, with co-infested plants representing 64.8% of the assessed material. The dominant visible symptom was splitting towards the stem base, whereas galleries in petioles and damage in secondary branches were less frequent.

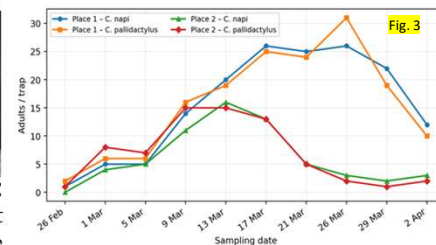
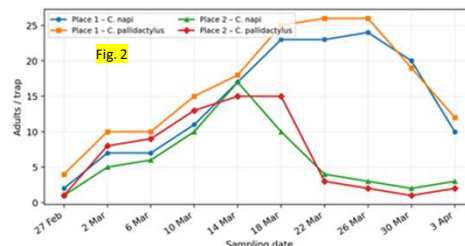
Although *C. pallidactylus* was slightly more abundant in yellow traps, *C. napi* was more strongly associated with persistent internal stem attack. These results show that trap monitoring should be complemented by direct plant assessment for a more accurate evaluation of stem weevil infestation in oilseed rape.

References (selective)

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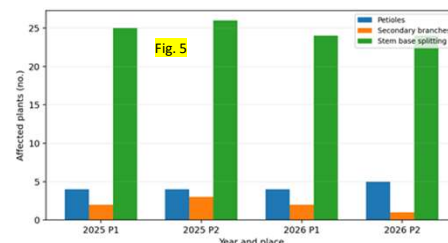
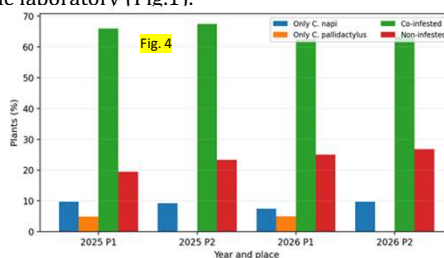
The dynamics of adult captures during 2025 are illustrated in Fig. 2. Both species showed a gradual increase in abundance from end of February to second half of March, followed by a decline towards the beginning of April. In Place 1, peak values reached 24 adults/trap for *C. napi* and 26 adults/trap for *C. pallidactylus*, while in Place 2 the maximum values were lower, namely 17 adults/trap for *C. napi* and 15 adults/trap for *C. pallidactylus*. The same general pattern was in 2026.

Seasonal dynamics of adult captures in 2025. The figure shows the weekly evolution of *C. napi* and *C. pallidactylus* in Place 1 and Place 2 from 27 February to 3 April; adult abundance increased progressively until mid-late March, with consistently higher values in Place 1



Seasonal dynamics of adult captures in 2026. The two species followed a similar seasonal pattern, with peak values recorded in mid and late March; trap catches remained markedly lower in Place 2 after treatment

The dominance of the co-infested category is also evident in Fig. 4, where the share of co-infested plants is clearly higher than that of the other infestation categories in both places and both years. The percentage values ranged from 62.5% to 67.4%, showing a relatively stable coexistence pattern. In contrast, the category "only *C. pallidactylus*" remained very low and was even absent in Place 2 in both years



The localization of plant damage is illustrated comparatively in Fig.5. This distribution of symptoms suggests that the visible field expression of infestation was concentrated mainly in the main stem rather than in petioles or secondary branches. At the same time, the values recorded for galleries in petioles and branch damage indicate that *C. pallidactylus* was also present in the damage complex, but with a less dominant contribution to the main visible symptomatology.