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**Datasheet for the decision
of 14 July 2022**

Case Number: T 0456/19 - 3.3.02

Application Number: 13730585.0

Publication Number: 2866567

IPC: A01N63/00, A01K67/033,
A01P7/02, A01P7/04

Language of the proceedings: EN

Title of invention:

COMPOSITION COMPRISING ARTHROPODS AND ASTIGMATID MITE EGGS

Patent Proprietor:

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Opponent:

Koppert B.V.

Headword:

Relevant legal provisions:

EPC Art. 56
RPBA 2020 Art. 13(2)

Keyword:

Inventive step
Amendment after summons

Decisions cited:

Catchword:



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Case Number: T 0456/19 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 14 July 2022

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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
3 December 2018 concerning maintenance of the
European Patent No. 2866567 in amended form.

Composition of the Board:

Chairman	M. O. Müller
Members:	S. Bertrand
	R. Romandini

Summary of Facts and Submissions

- I. The appeal by the opponent ("appellant") lies from the opposition division's interlocutory decision that European patent No. 2 866 567, in amended form in accordance with auxiliary request 1 comprising the set of claims filed during the oral proceedings on 19 October 2018, met the requirements of the EPC.
- II. Independent claims 1 and 4 of auxiliary request 1 held allowable by the opposition division read as follows:
- "1. Use of astigmatid mite eggs as a nutrient source for a population of arthropod biological control agents, characterized in that said nutrient source does not contain larvae, nymphs and adult astigmatid mites."*
- "4. A biological control composition comprising:*
- at least one population of arthropod biological control agents,*
 - a nutrient source comprising astigmatid mite eggs, characterized in that said nutrient source does not contain larvae, nymphs and adult astigmatid mites,*
 - optionally, a support and/or dissemination substrate."*
- III. The following documents are referred to in the present decision:

D3

WO 2008/015393 A2

D6 Supplementary data filed by the patent
 proprietors ("respondents") before the
 opposition division
A017 Experiments filed by the respondents on
 27 May 2022

- IV. The opposition division's conclusions included that the subject-matter of the claims in accordance with auxiliary request 1 involved an inventive step in view of D3 as the closest prior art alone (Article 56 EPC).
- V. After the statement of grounds of appeal and the reply thereto had been filed, the parties were summoned to attend oral proceedings.
- VI. In a further letter dated 16 December 2021, the respondents submitted claim sets of auxiliary requests 1 to 4.
- VII. Thereafter, the board issued a communication pursuant to Article 15(1) RPBA 2020 in preparation for the oral proceedings scheduled in accordance with the parties' requests.
- VIII. In a subsequent letter dated 27 May 2022 the patent proprietor submitted new technical data (denoted A017).
- IX. Oral proceedings before the board were held by videoconference on 14 July 2022 in the presence of the appellant and respondents.
- X. The parties' relevant requests are as follows:

The appellant requested that:

- the decision under appeal be set aside and that the patent be revoked in its entirety, and

- auxiliary requests 3 and 4 not be admitted into the proceedings.

The respondents requested:

- as the main request, that the appeal be dismissed, implying that the patent be maintained on the basis of the request held allowable by the opposition division ("auxiliary request 1" comprising the set of claims filed during the oral proceedings on 19 October 2018),
- alternatively, that the patent be maintained in amended form on the basis of one of the sets of claims of auxiliary requests 1 to 4 submitted on 16 December 2021.

XI. The appellant's case, where relevant to the present decision, may be summarised as follows:

Main request and auxiliary requests 1 and 2 - inventive step

- The subject-matter of claims 1 and 4 did not involve an inventive step in view of D3 as the closest prior art. D3 disclosed the use of less-hairy astigmatid mites as a nutrient source for predator mites as biological control agents.
- The distinguishing feature of claims 1 and 4 of the main request was that astigmatid mite eggs did not contain larvae, nymphs and adult astigmatid mites.
- There was no comparative data showing that the nutrient source according to claims 1 and 4 of the main request was improved over the nutrient source of D3.

- The technical problem was the provision of an alternative nutrient source for arthropod biological control agents.
- The solution proposed by claims 1 and 4 of the main request was obvious in view of D3.

Auxiliary requests 3 and 4 - admittance

- There were no procedural developments between the filing by the respondents of the reply to the grounds of appeal and their submissions of 16 December 2021 that would justify the filing of auxiliary requests 3 and 4.
- Auxiliary requests 3 and 4 under Article 13(2) RPBA 2020 should not be admitted into the appeal proceedings.

XII. The respondents' case, where relevant to the present decision, may be summarised as follows:

Main request and auxiliary requests 1 and 2 - inventive step

- D3 was the closest prior art.
- The distinguishing feature of claims 1 and 4 of the main request was that astigmatid mite eggs did not contain larvae, nymphs and adult astigmatid mites.
- In view of the examples of the patent, and the data of D6 and A017, the technical problem was the provision of an alimentary source for predator mites that was improved in a global manner, i.e. as

regards the health, growth, fecundity and survival rate of the predator mites.

- The solution proposed by claims 1 and 4 of the main request was not obvious in view of D3. D3 made the choice to find less-hairy prey mite species and taught away from using mite eggs as a nutrient source.

Auxiliary requests 3 and 4 - admittance

- The claim sets in accordance with auxiliary requests 3 and 4 essentially corresponded to auxiliary requests 3 and 4 filed during the proceedings before the opposition division. Therefore no delay of proceedings was to be expected.
- Auxiliary requests 3 and 4 should be admitted into the appeal proceedings.

Reasons for the Decision

Main request (claims 1-14 of "auxiliary request 1" filed on 16 December 2021)

1. Technical background

The invention disclosed in the patent concerns the use of biological control agents for controlling pests in crops (paragraph [0004] of the patent). Such biological control agents may be e.g. arthropods which consist of predator mites that kill the pest. With this approach, it is necessary to introduce the living biological control agent in a sufficient number to achieve the required effect. The number of biological control

agents is adjusted (increased) by controlling the diet when rearing the biological control agents (paragraph [0006] of the patent).

As set out above (II, *supra*), claims 1 and 4 of the main request relate to the use of astigmatid mite eggs as a nutrient source for a population of arthropod biological control agents, and to a biological control composition comprising arthropod biological control agents and astigmatid mite eggs. Claims 1 and 4 of the main request are characterised in that the astigmatid mite eggs act as a nutrient source for the biological control agent and do not contain larvae, nymphs and adult astigmatid mites.

2. Inventive step

2.1 The appellant submitted that the subject-matter of claims 1 and 4 of the main request did not involve an inventive step in view of D3 as the closest prior art alone.

2.2 Aim of the patent

The purpose of the invention described in the patent is to provide an improved method for rearing biological control agents by selecting an appropriate nutrient source (paragraph [0015] of the patent). The nutrient source in the patent consists exclusively of astigmatid mite eggs (paragraph [0017]).

2.3 Closest prior art

D3 relates to the use of predator mites as biological control agents for reducing damage to crops by insect pests (page 1, lines 1-3 of D3). The nutrient source for the predator mites in D3 is a prey mite that has to be less hairy than the juvenile and adult forms of

astigmatid mites (second paragraph on page 3). In the examples of D3, the prey mite is *Thyreophagus entomophagus*, an astigmatid mite, which is a better prey for predator mites than known prey mites. The reason is that the predator mites can feed on the eggs, juveniles and adults of these prey mites (third paragraph on page 7).

In view of the above, D3 belongs to the same technical field and has the same objective as the opposed patent. D3 thus constitutes a suitable closest prior-art document in the assessment of the inventive step of the subject-matter of claims 1 and 4 of the main request.

2.4 Distinguishing feature

The distinguishing feature of the subject-matter of claims 1 and 4 of the main request over the disclosure of D3 is that astigmatid mite eggs not containing any larvae, nymphs and adult astigmatid mites are used or present as the nutrient source of the biological control agent (or predator mites in the terms of D3).

2.5 Effect achieved by the distinguishing feature and objective technical problem

The respondents submitted that the examples of the patent, as well as the technical data provided in D6 and A017, showed that using astigmatid mite eggs as the nutrient source in the absence of larvae, nymphs and adult astigmatid mites provided benefits in relation to the health, growth, fecundity and survival of arthropod biological control agents. The technical problem was the provision of an alimentary source for predator mites that was improved in a global manner, i.e. as regards the health, growth, fecundity and survival rate of the predator mites.

The board does not agree.

The examples of the patent show that the number of predator mites (example 1) is higher when astigmatid mite eggs are the nutrient source in the absence of larvae, nymphs and adult astigmatid mites compared with a situation where a mixture of eggs, larvae, nymphs and adults of astigmatid mites is used as the nutrient source (paragraph [0079]). The fecundity of female mites (example 2, paragraph [0087]) and survival (example 3, paragraph [0095]) are also improved when astigmatid mite eggs are the nutrient source in the absence of larvae, nymphs and adult astigmatid mites in comparison with a mixture of eggs, larvae, nymphs and adults of astigmatid mites. There is however in the patent no comparative example with regard to the teaching of D3 and in particular to *Thyreophagus entomophagus*, the preferred prey mite used as the nutrient source in D3. This absence of any comparative example with regard to the teaching of D3 was not disputed by the patent proprietor. Hence, on the basis of the data present in the patent, it cannot be concluded that, compared with the disclosure in D3, the improvement referred to by the respondents was indeed obtained.

In D6, as submitted by the appellant, example 2 and figure 4 show a comparison of the fecundity of the predator mite *A. cucumeris* when fed with (i) *A. ovatus* eggs only and (ii) with all stages of *Thyreophagus entomophagus* (prey mite of D3). Feeding the predator mites with all stages of *Thyreophagus entomophagus* (see column to the right in figure 4 - in accordance with D3) provides a fecundity higher than feeding with *A. ovatus* eggs only (see column to the left in Figure 4 - in accordance with claims 1 and 4 of the main request). Thus this comparison shows that the nutrient

source according to claims 1 and 4 of the main request is not improved over the nutrient source of D3. This conclusion was not disputed by the respondents.

Finally, the experiments of A017 show fecundity tests of five predatory mites fed on three types of prey mites under the following three diet conditions: all stages of astigmatid prey mites, fresh eggs of astigmatid prey mites and sublethal eggs of astigmatid prey mites. As submitted by the appellant, figure 4 of A017 shows that the mean fecundity of *Typhlodromips montdorensis* (predator mites) fed with fresh eggs of *A. ovatus* (middle column of the set of three columns to the left of figure 4 - in accordance with claims 1 and 4 of the main request) or *C. lactis* (middle column of the set of three columns in the middle of figure 4 - in accordance with claims 1 and 4 of the main request) is decreased in comparison with feeding with all stages of *Thyreophagus entomophagus* (left column of the set of three columns to the right of figure 4 - in accordance with D3). Thus this comparison again shows that the nutrient source according to claims 1 and 4 of the main request is not improved over the nutrient source of D3. Once again, this was not disputed by the respondents.

Thus D6 and A017 show that the technical problem as formulated by the respondents is at least not solved over the whole scope of claims 1 and 4 of the main request.

In view of the above, the objective technical problem can at best be seen as the provision of an alternative nutrient source for arthropod biological control agents.

2.6 Obviousness

In line with the appellant's arguments, the claimed solution is obvious over D3 alone.

D3, first full paragraph on page 3, states that in conventional mass rearing systems predator mites tend to feed mainly on the eggs of the prey mites, since the juvenile and adult forms of most mites that are used as prey are quite hairy.

This is reconfirmed in D3, third paragraph of page 7, where it is stated that predator mites feed on the egg stages of mite hosts, since the juvenile and adult stages of many mite hosts are quite hairy.

D3 suggests using *Thyreophagus entomophagus*, since this is less hairy, so that predator mites can attack more stages of the mite's life cycle.

Consequently, the skilled person would deduce from D3 that either all stages of the fairly non-hairy *Thyreophagus entomophagus* or, in a conventional manner, the egg stages of other prey mites, are fed. The latter corresponds to the claimed solution. The claimed alternative is therefore known from D3 itself.

The skilled person reading D3 would thus arrive at the subject-matter of claim 1 or 4 of the main request in an obvious manner.

The respondents submitted that D3 expressed a preference for less-hairy prey mite species, and thus would deter the skilled person from using only eggs of astigmatid prey mites in the rearing of predator mites.

The Board does not find the respondents' submission convincing. As set out above, the objective technical problem is at best the provision of an alternative

nutrient source for arthropod biological control agents, not the provision of alternative agents with advantageous properties. In fact, as set out above, the properties of the claimed alternative agents, if anything, are disadvantageous. Hence the skilled person trying to solve the objective technical problem would not bother about whether the alternative disclosed in D3 of feeding eggs only is inferior to the invention suggested in D3, i.e. using all stages of *Thyreophagus entomophagus*.

2.7 The board concludes that the subject-matter of claims 1 and 4 does not involve an inventive step in view of D3 as the closest prior art.

3. Therefore the main request is not allowable.

Auxiliary requests 1 and 2 filed on 16 December 2021

4. Claims 1-14 of auxiliary request 1 correspond to claims 1-14 of the main request, except that the arthropod biological control agents "*are predators*" in claims 1, 4 and 14.

Claims 1-14 of auxiliary request 2 correspond to claims 1-14 of auxiliary request 1, except that the arthropod biological control agents are "*selected from mites or the class Insecta*" in claims 1, 4 and 14.

5. Inventive step of claims 1 and 4 of auxiliary requests 1 and 2

The additional features introduced in claims 1 and 4 of auxiliary request 1 (arthropod biological control agents are predators) and of auxiliary request 2 (the arthropod biological control agents are selected from mites or the class Insecta) are disclosed in D3, see

e.g. examples 1 and 3 referring to *Amblyseius swirskii*, i.e. a predator mite. This was neither disputed by the respondents during oral proceedings nor were any arguments submitted that the features added to claims 1 and 4 of auxiliary requests 1 and 4 in any way supported inventive step. Thus the reasons given for claims 1 and 4 of the main request apply to claims 1 and 4 of auxiliary requests 1 and 2. Consequently, the subject-matter of claims 1 and 4 of auxiliary requests 1 and 2 does not involve an inventive step in view of D3.

6. For these reasons, auxiliary requests 1 and 2 are not allowable.

Auxiliary requests 3 and 4 filed on 16 December 2021

7. On 16 December 2021, i.e. after the summons to attend oral proceedings, the proprietor submitted claim sets in accordance with auxiliary requests 3 and 4.

Claims 1-14 of auxiliary request 3 correspond to claims 1-14 of auxiliary request 1, except that the astigmatid mite eggs "are sub-lethal" in claims 1, 4, 7-9, 13 and 14.

Claims 1-14 of auxiliary request 4 are a combination of claims 1-14 of auxiliary request 2 and of auxiliary request 3.

- 7.1 The appellant requested that auxiliary requests 3 and 4 not be admitted into the appeal proceedings.
- 7.2 The admittance of these requests is subject to the criteria set out in Article 13(2) RPBA 2020, which apply to the case at hand in accordance with the transitional provisions set out in Article 25(1) RPBA

2020. Under Article 13(2) RPBA 2020 any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

7.3 According to the respondents, the claim sets in accordance with auxiliary requests 3 and 4 corresponded to auxiliary requests 3 and 4 filed during the proceedings before the opposition division, except that the last claim had been deleted and the term "and" replaced the term "or" in claims 1 and 4 as follows: "*contain larvae, nymphs ~~or~~ **and** adult astigmatid mites*". The claim sets in accordance with auxiliary requests 3 and 4 were known to the appellant. Therefore no delay of proceedings was to be expected.

7.4 The board does not agree.

According to Article 12(3) RPBA 2020 (similar provisions were contained in Article 12(2) RPBA 2007), the respondent must file its complete case with its reply to the grounds of appeal. In the reply to the grounds of appeal the respondents relied, as the sole request, on the claims found allowable by the opposition division (current main request). As set out above, auxiliary requests 3 and 4 were filed for the first time after the summons to attend oral proceedings. These requests thus constitute an amendment to the respondents' appeal case initially made. It is hence at the discretion of the board to admit or not admit these requests under Article 13(2) RPBA 2020. As set out above, this article requires that exceptional circumstances justified with cogent reasons by the party concerned exist.

No submissions were made by the appellant after the summons had issued. Thus there was no procedural development justifying the submission of auxiliary requests 3 and 4. No reason was apparent to the board, and neither was one cited by the respondents, as to why auxiliary requests 3 and 4 had not been filed with the reply to the grounds of appeal. There are thus no exceptional circumstances justifying the admittance of auxiliary requests 3 and 4.

For these reasons, the board decided in accordance with Article 13(2) RPBA 2020 not to admit auxiliary requests 3 and 4 into the appeal proceedings.

8. None of the respondent's requests is allowable and admissible.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated