Biological Notes of *Tinea translucens* Meyrick (Tineidae, Tineinae) in Korea

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Abstract

A casemaking clothes moth, Tinea translucens Meyrick (Lepidoptera, Tineidae, Tineinae) had been treated as Tinea pellionella Linne at The Korean Journal of Zoology, 1968, Nomia Animalium Koreanorum (2) Insecta in Korea. And then this species is briefly reviewed at Illustrated Flora & Fauna of Korea vol. 27 Insecta (IX) in 1983 by Park. But collecting site and biological information of this species has been not known from Korea up to date. The specimen has not found at UIB(University of Incheon, Department of Biology), CIS(Center for Insect Systematics), and NIAST(National Institute of Agricultural Science and Technology). It has been reported as example of cloth's damage in the website or any publications but distribution of this species in Korea was not known exactly. At last year, we found that some tineid larvae feed a deer's hair in Seodaemun Museum of Natural History, collected this species, and have reared continuously. And then we dissected dried specimen and compare with similar species. In that result, it was identified as Tinea translucens. Through the rearing in laboratory, we report some biological informations with the genital characters.

1. Rearing & Material examined

Fig. 1. Rearing case

Rearing.

-Rearing of Tinea translucens in the laboratory is extremely simple.

Collecting site.
- Seodaemun Museum of Natural History

Method.
-Our culture are set up in transparent plastic boxes with tight-fitting libs. The boxes must be sealed with adhensive tape to prevent the escape of newly hatched larvae because they are very small (3~4mm).

Food.
-The food provided is only deer's hair at collecting site.

Temperature.
-The larvae and pupa is reared in normal temperature (about 18~20℃).

Material examined

- Adult (♂: 21exs, ♀: 10exs), Pupa (♂: 1ex, ♀: 2exs), Larvae (5exs).

2. Larvae & Pupa period

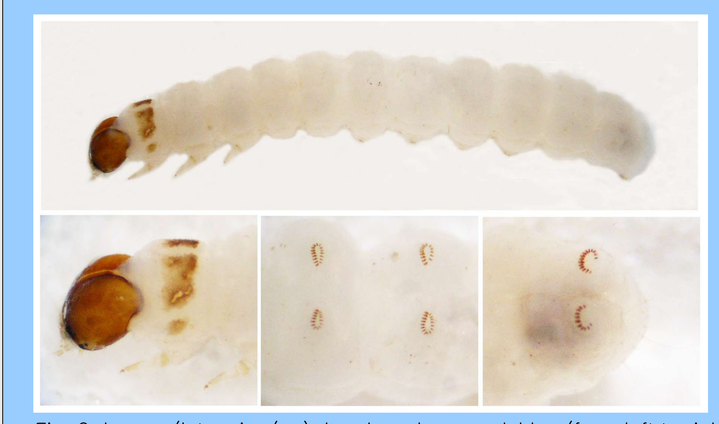

Fig. 2. Larvae (later view(up), head, proleg, caudal leg (from left to right)

Larvae character
- length: 8~8.5mm
- proleg: 4 pairs
- caudal leg: 1 pair

Pupa cahracter
- length: 5mm; dorsal spine
- wing is seperated from abdomen
- elongated wing

Fig. 3. Pupa (dorsal, lateral, ventral view)

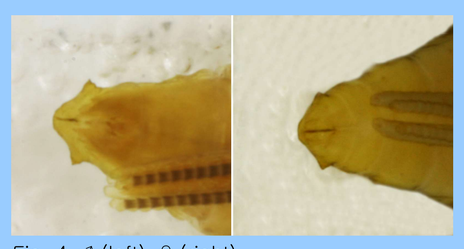

Fig. 4. ♂ (left), ♀ (right)

3. Ecology & Adult

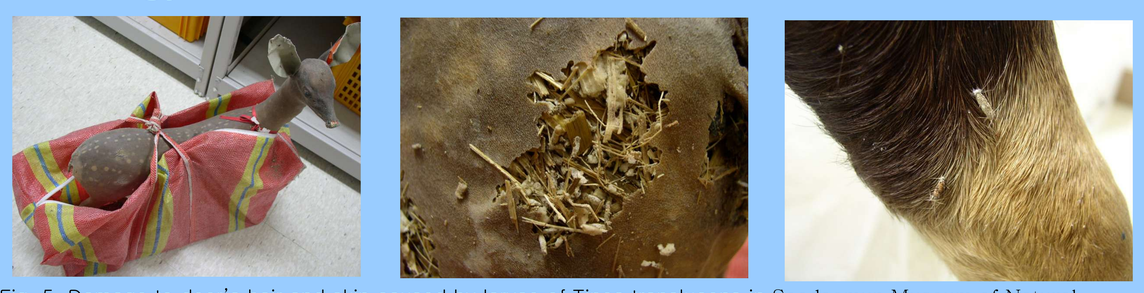

Fig. 5. Damage to deer's hair and skin caused by larvae of Tinea translucens in Seodaemun Museum of Natural History)

Adult.
- length: ♂, 9-14mm, ♀, 11-80mm
- Head light ochre, Maxillary palpus whitish, Labial palpus ochreous white
- Antenna greyish brown, four-fifths length of forewing
- Forewing (ochreous, Discal and plical spots small, elongate, dark grey),
- Hindwing (ochreous white with a slight grey tint)

Circumstance.
- There are no records of translucens being found (except as an adult) in non-domestic circumstances.

Food
- Feathers, wool, leather and fish-meal, hides and skins and other materials of animal origin
- Large larvae are able to eat hair as coarse as that of a human beard.

Fig. 6. Adult (right up: five instars, right down: head)

Egg
- hatched period : four to seven days (after an incubation)
- at temperatures between 21 and 32℃

Larvae
- developed satisfactorily at 21-32.5℃
- Larvae passed through five to twelve instars, five instars being observed in all larvae reared at 25℃ and the larger numbers of instars occured at the hightest non-lethal temperatures. The pupal period was found to be 10 days at 25℃.

Copulation
- Copulation (lasting about 30 minutes) was found to occur within 12 hours of emergence, oviposition beginning a day and a half later and continuing for about four days. Female were found to lay between eight and 83 eggs, larger females laying more eggs than small females.

Adult
- habit: avoid the bright light. taking a rest in the shade.
- Adult life-span were found to be in the range of three to seven days.
- Male were shorter-lived than females.

(by Cheema, 1956)

4. Identification (genitalia & wing venation)

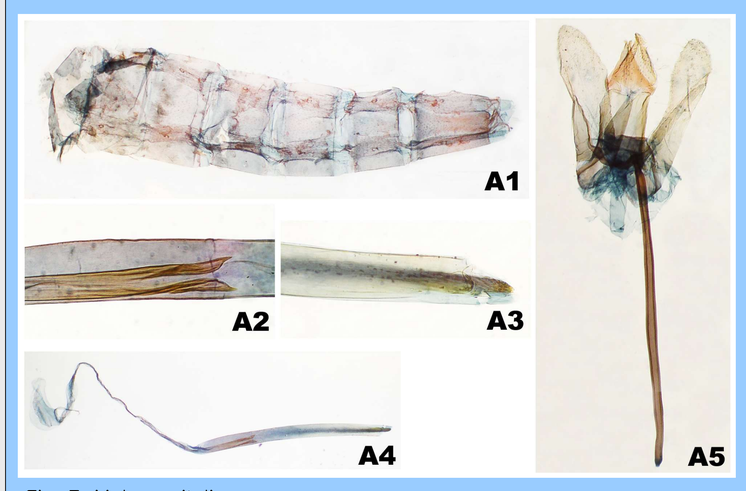

Fig. 7. Male genitalia
(1: abdomen, 2: cornuti, 3: tip of aedeagus, 4 aedeagus, 5: genitalia).

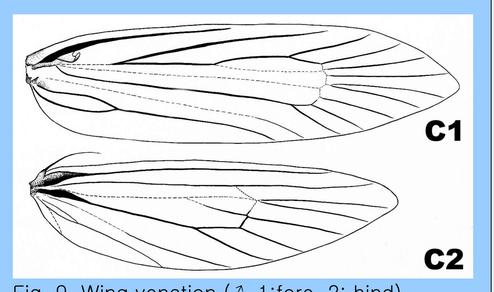

Fig. 9. Wing venation (♂, 1:fore, 2: hind)

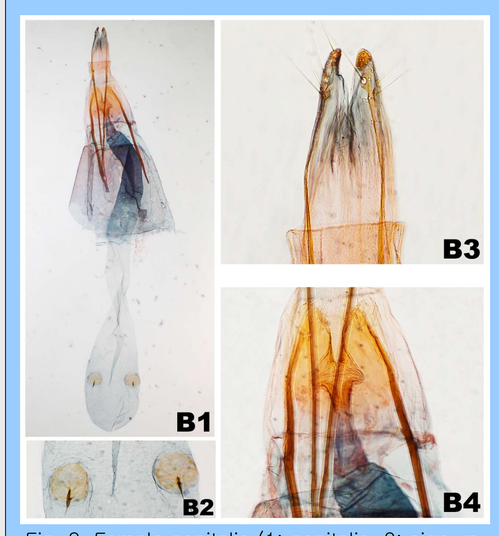

Fig. 8. Female genitalia (1: genitalia, 2: signum, papillae anales, vaginal plate)

Genetalia ♂.
- Saccus: elongate.
- Aedeagus elongate.
- Vesica: pair of distinctly blunt-tipped blade-shaped cornuti (at least four small).
-Terminal cornuti: elongate, in specimens from Japan, number of terminal cornuti often very large, frequently exceeding ten.

Genitalia ♀.
- Antrum: Posterior region of antrum with rhomboidal outline.
- Corpus bursae: two conspicuous needle-shaped signa (each arising from one side of a short, broad, blade-shaped base set in large, circular sclerotized base-plate).

5. Conclusion

1. They become generally known distribution in Korea, but actually recorded specimen is not anywhere. Also biology in Korea is not known. Through this report, We are known ecology and damage in Korea of T. translucens. And we reconfirmed that this species is T. translucens through anatomy of male, female genitalia and wing venation.
2. In view of the results so far achieved, a korean T. translucens is very simillar to japanese's, with only a few difference.

6. Reference

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