

# Découverte et caractérisation d'un nouvel organe --- l'acrostyle --- dans les stylets des pucerons



Marilyne Uzest



BILL & MELINDA  
GATES foundation



UMR - BGPI  
Biologie et Génétique  
des Interactions Plante-Parasite



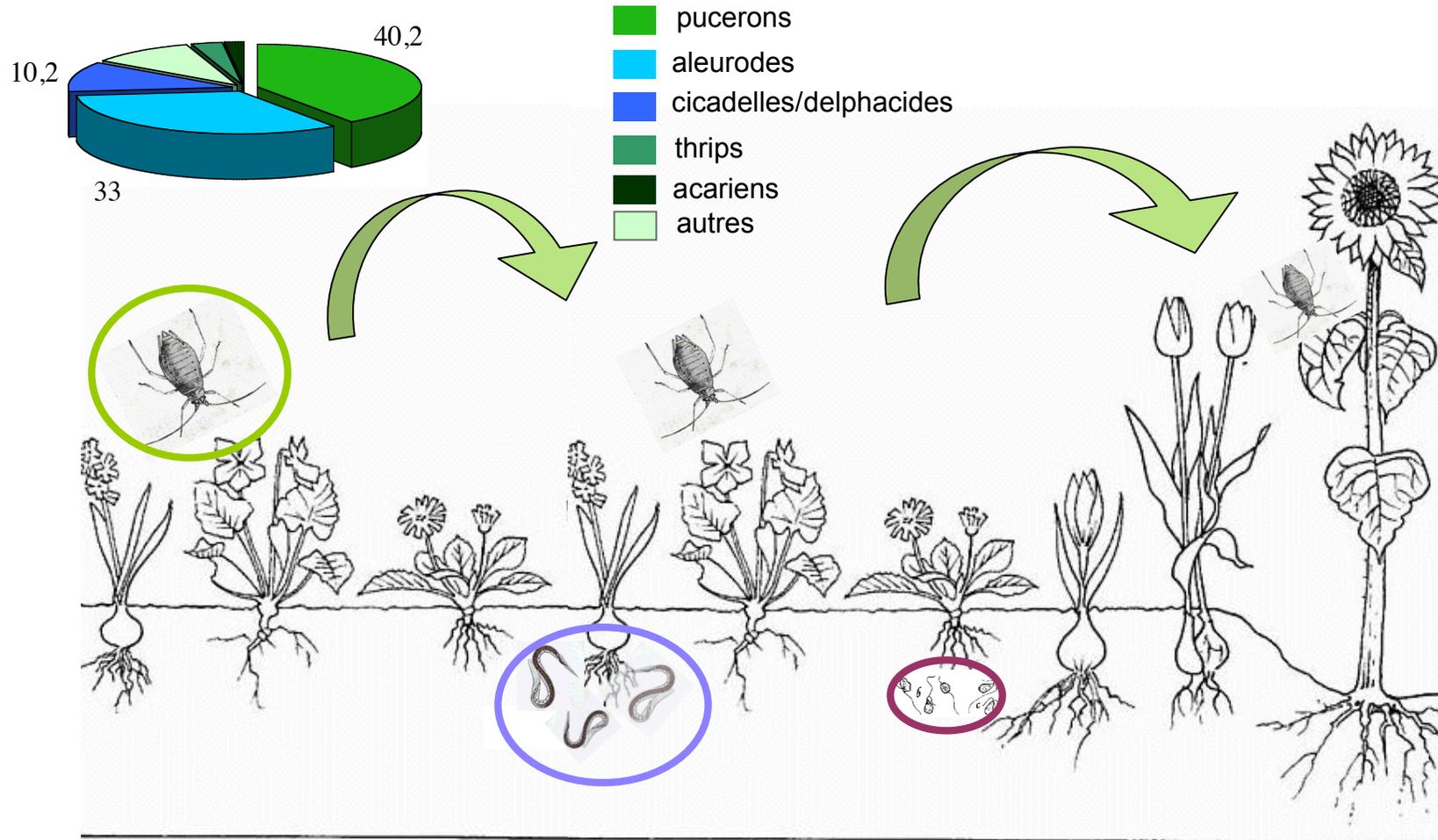
INRA



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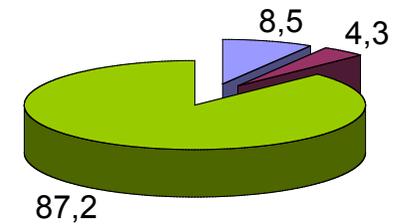
LA RECHERCHE AGRONOMIQUE  
POUR LE DÉVELOPPEMENT

# Transmission des virus de plante



## Vecteurs de virus de plante

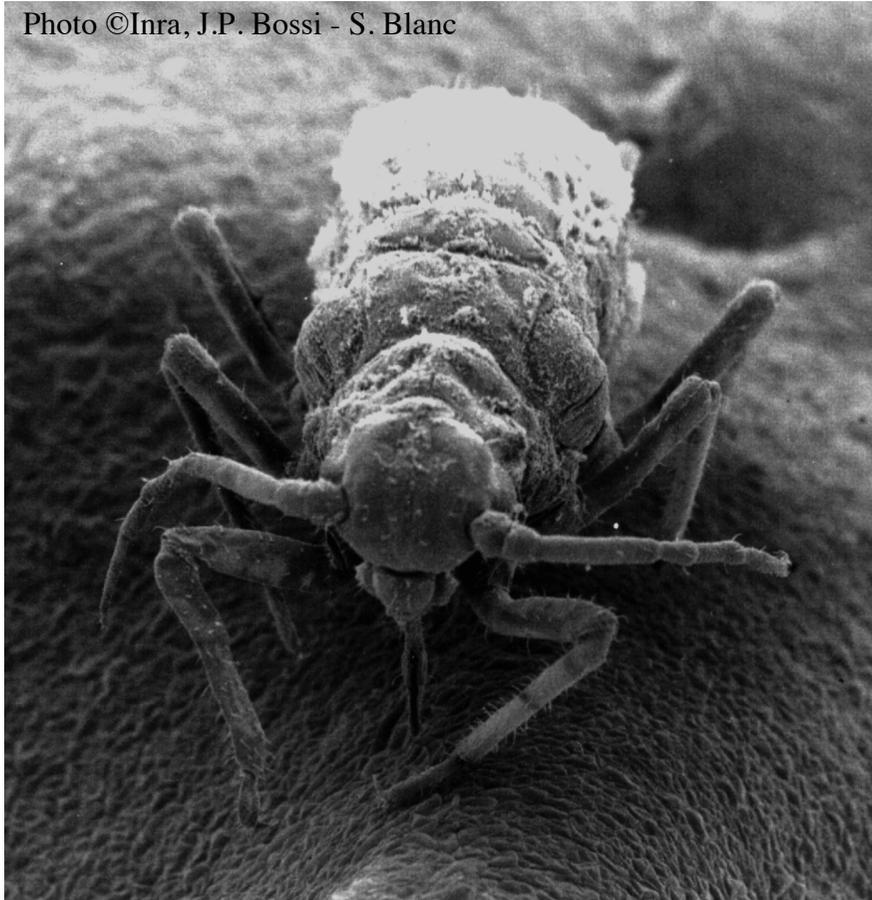
- nématodes
- plasmodiophoromycètes
- arthropodes



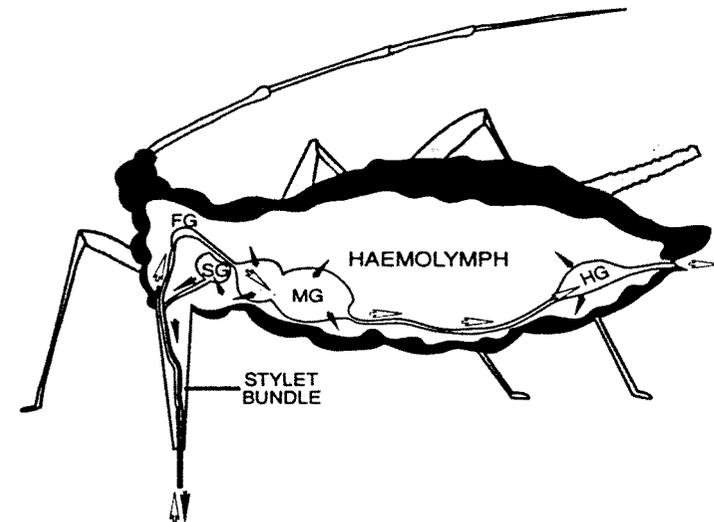
D'après Hogenhout, *et al.*, 2008

# Transmission des virus de plante

Photo ©Inra, J.P. Bossi - S. Blanc

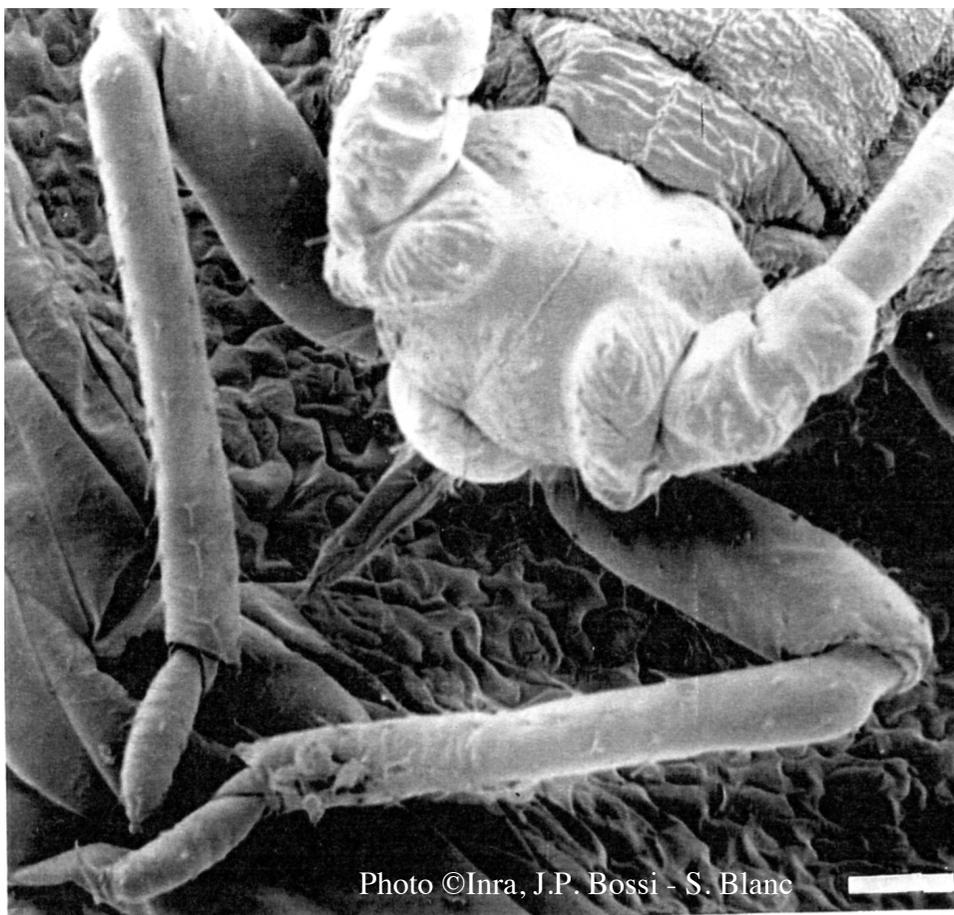


Transmission circulante

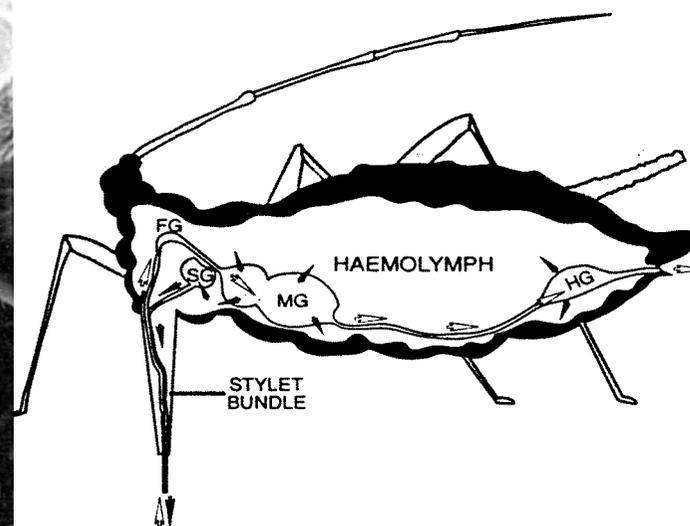


Transmission non circulante

# Transmission des virus de plante

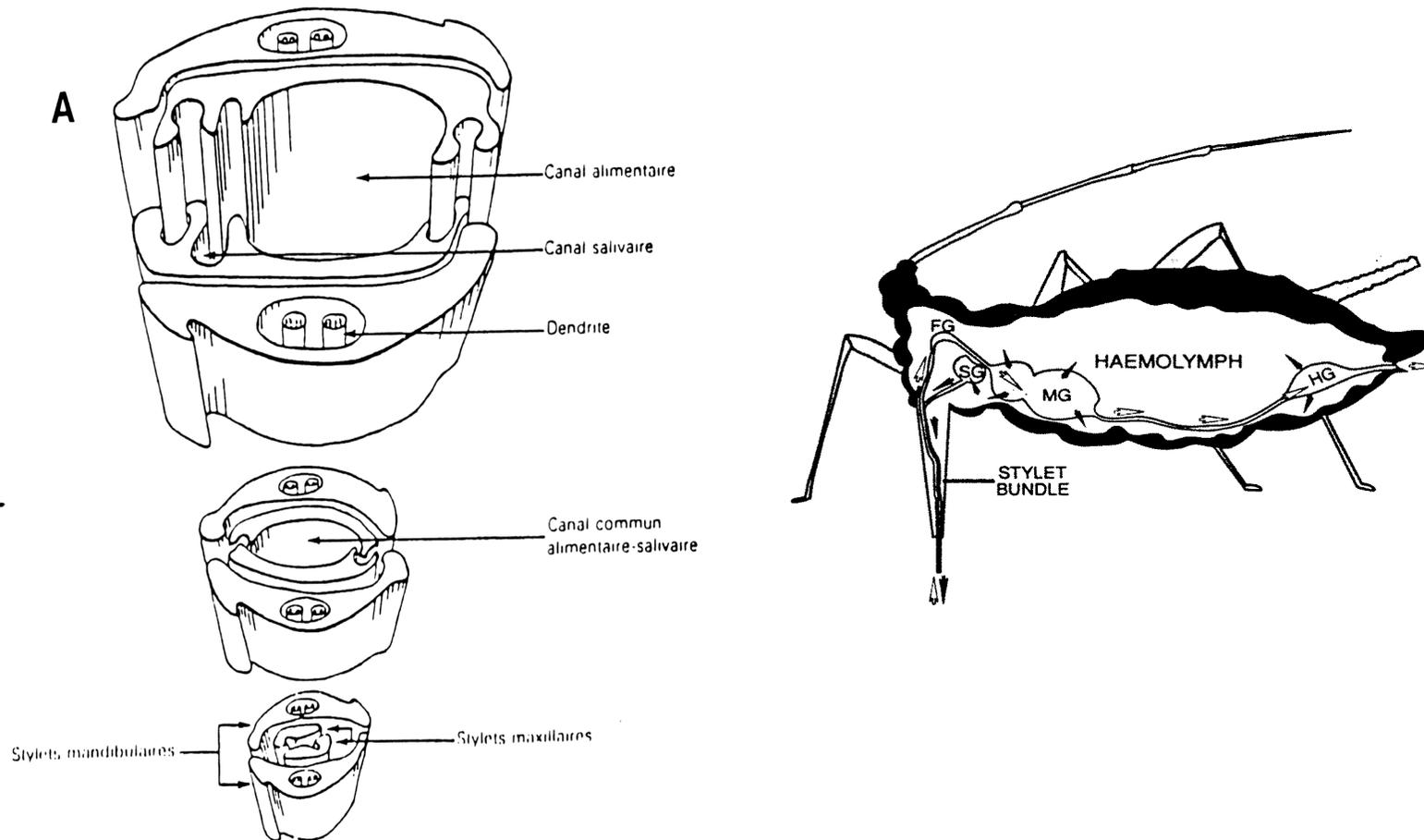


Transmission circulante



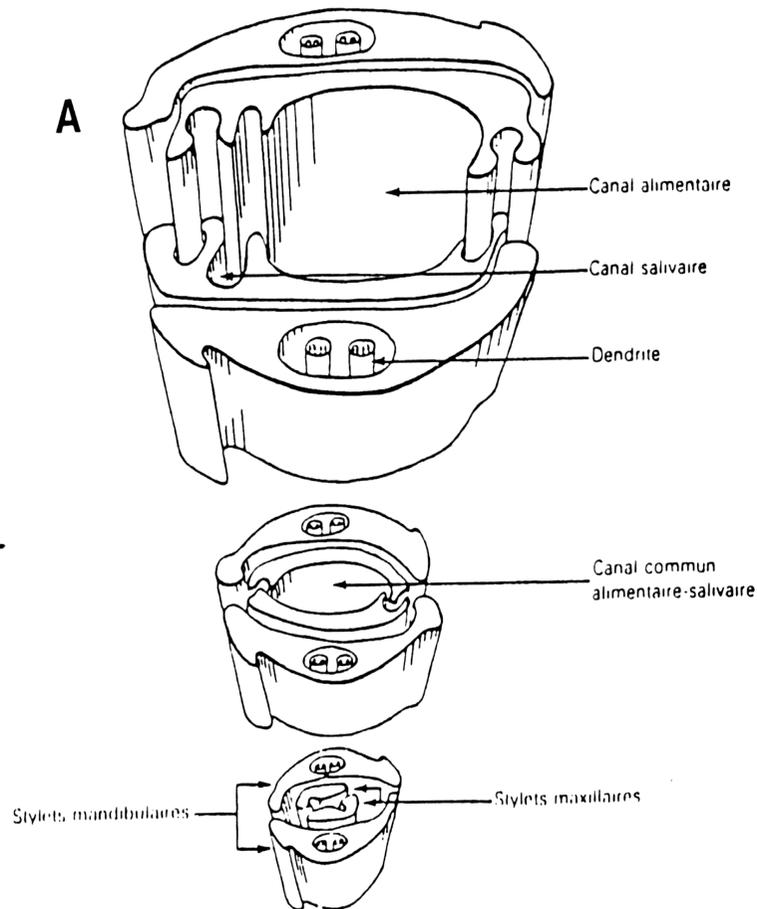
Transmission non circulante

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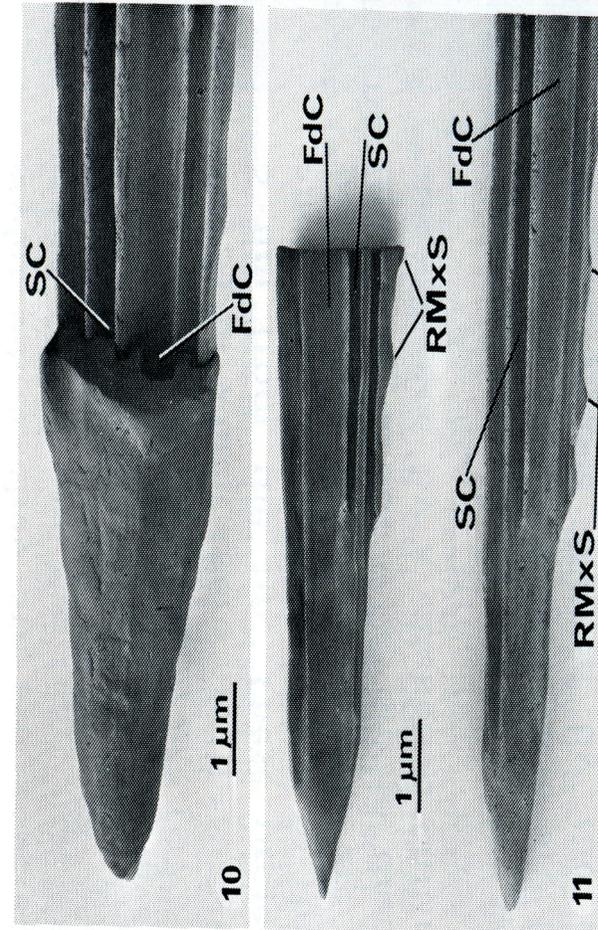


Taylor & Robertson, 1974

# Transmission des virus de plante

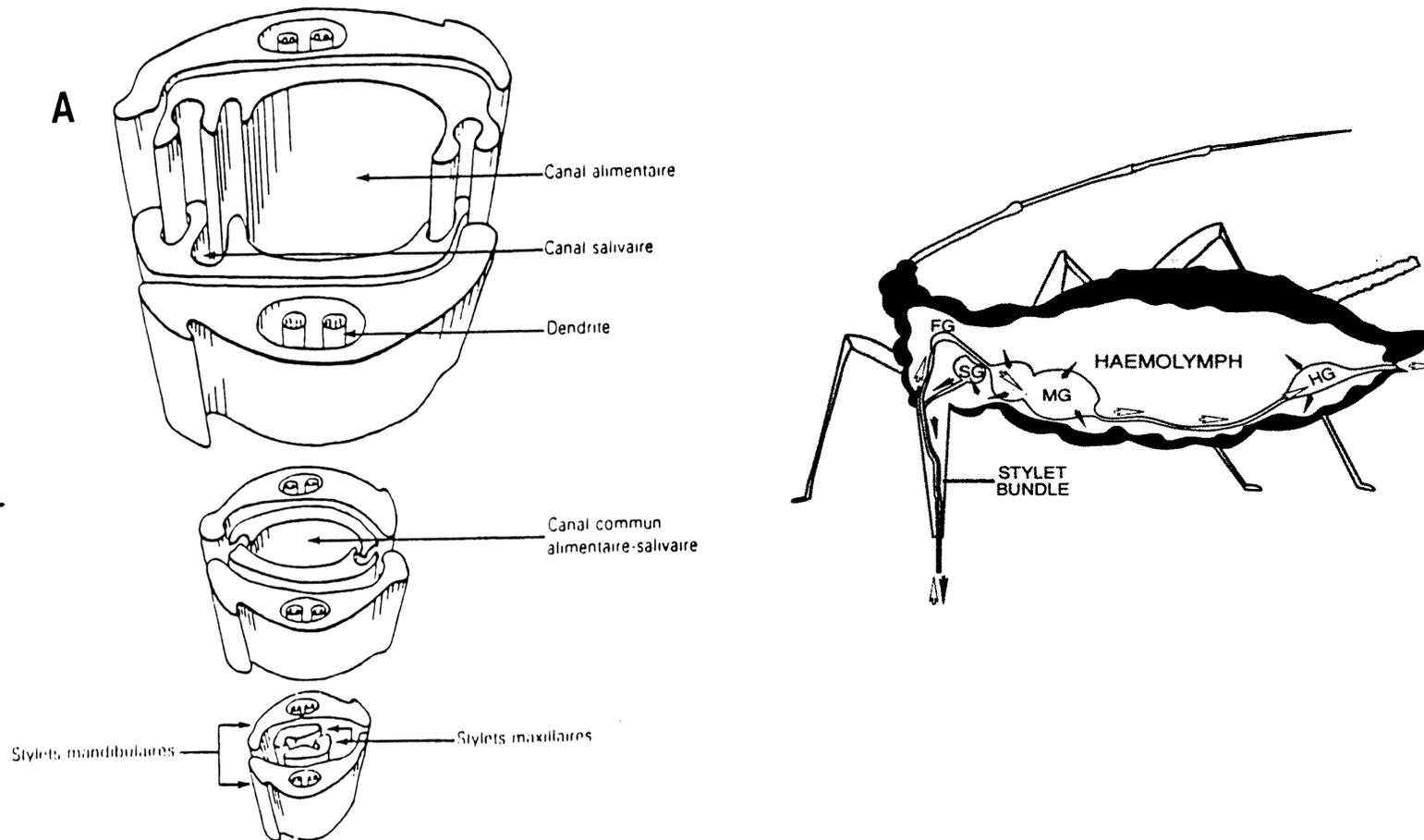


Taylor & Robertson, 1974



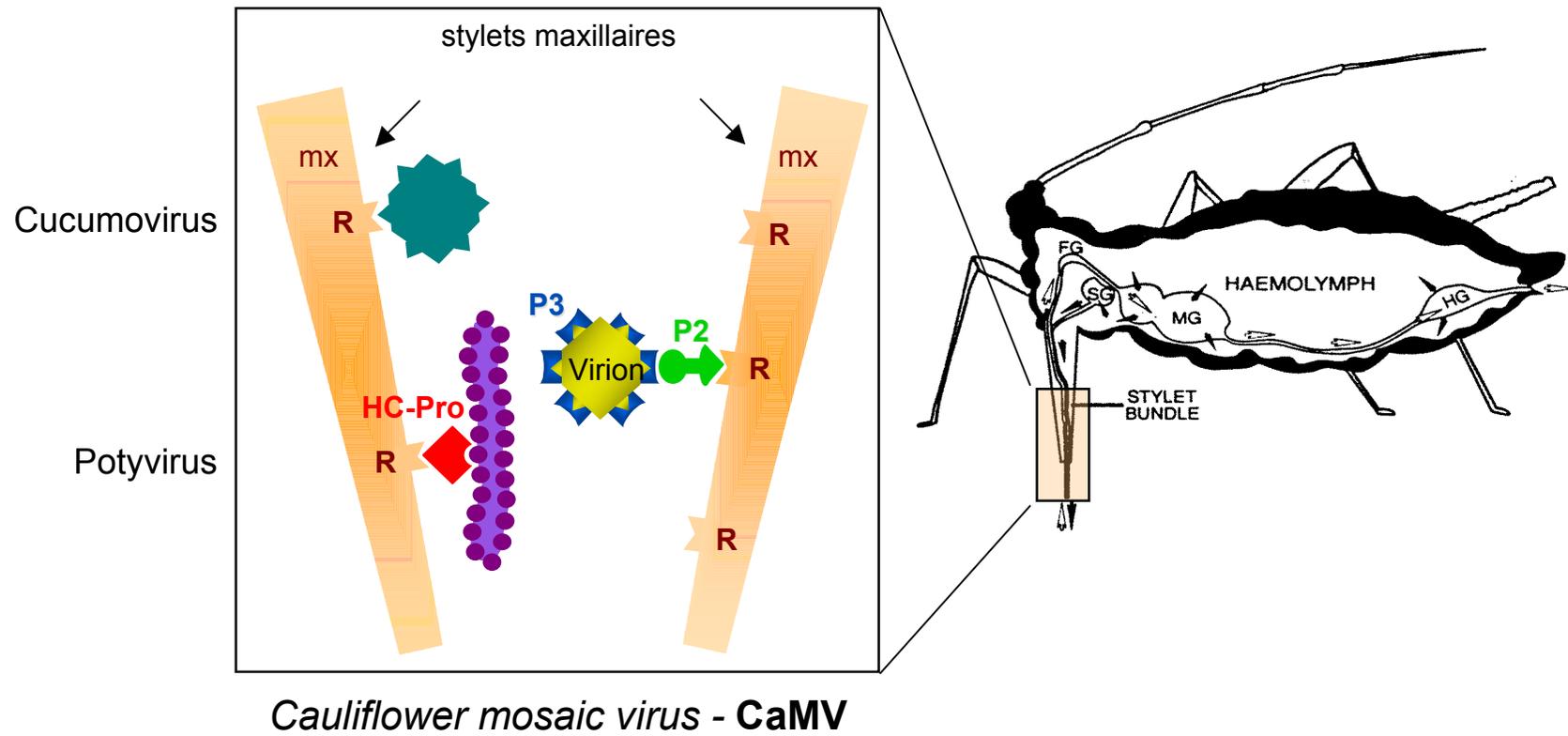
Forbes, 1977

# Localisation des récepteurs

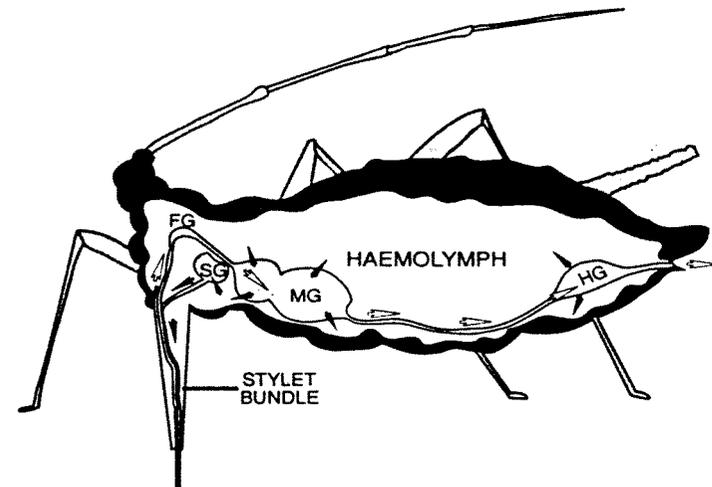
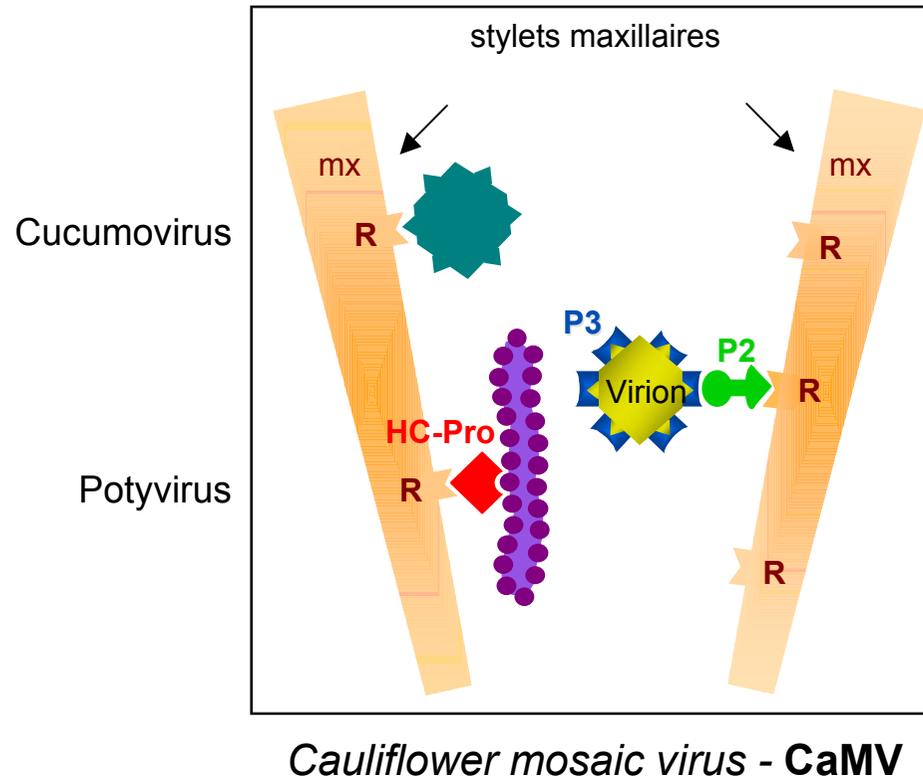


Taylor & Robertson, 1974

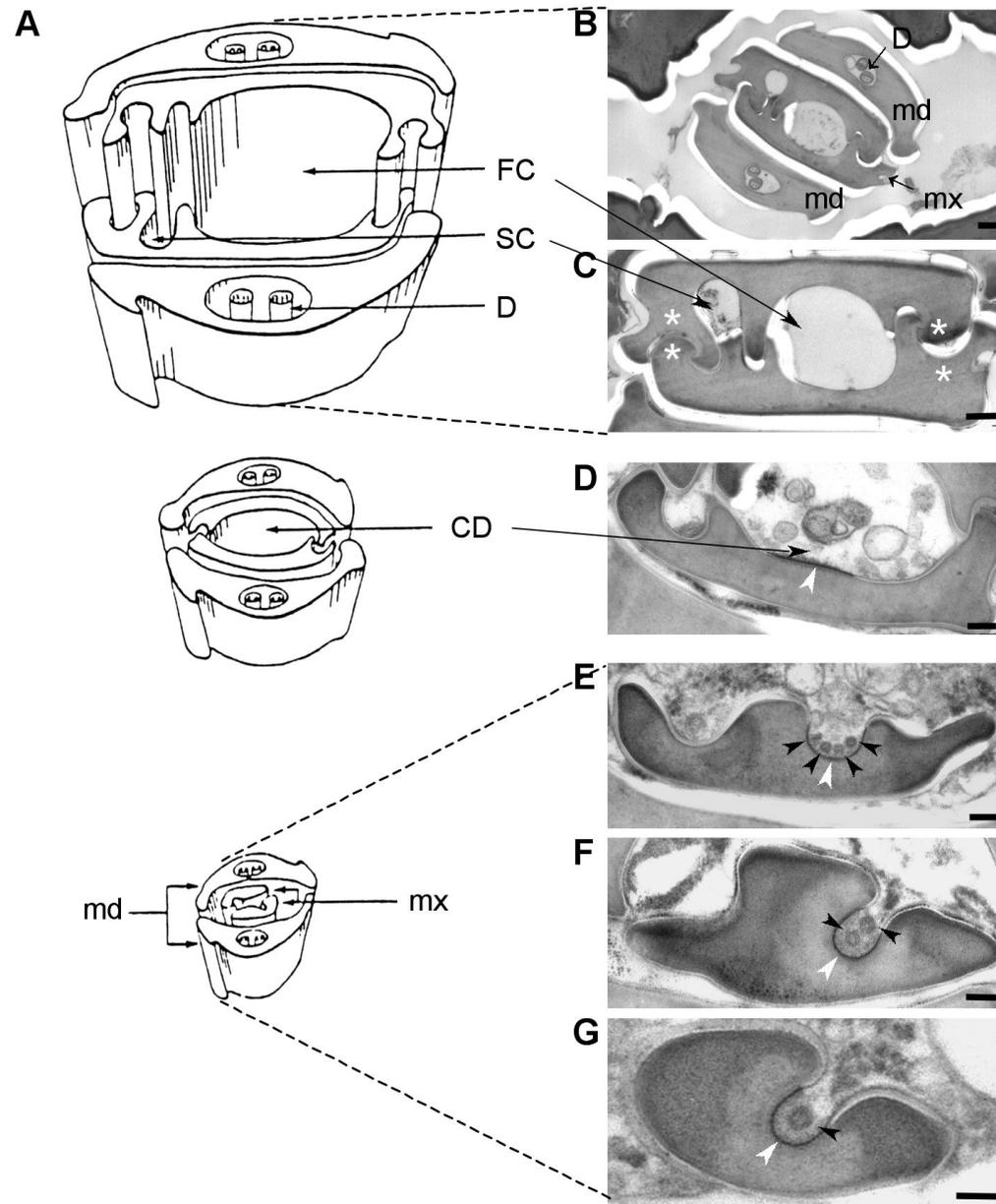
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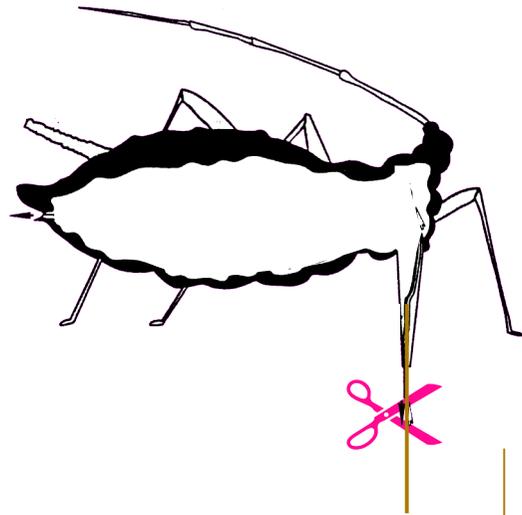
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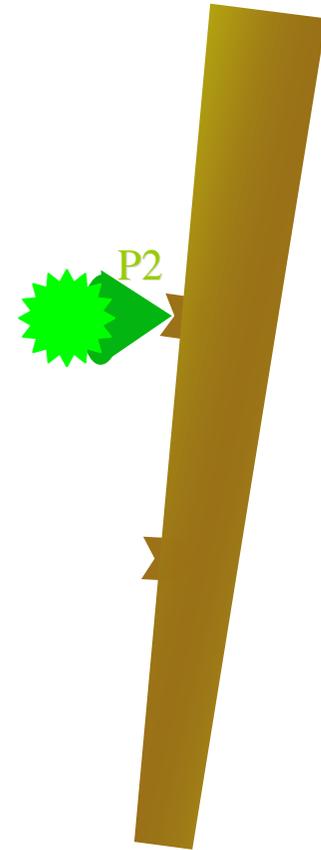
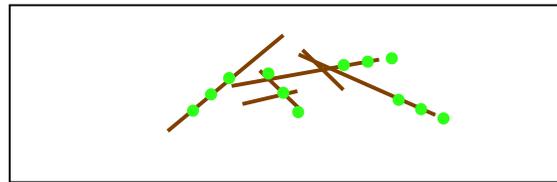
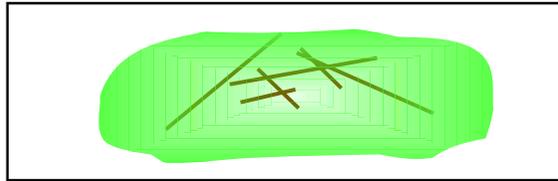
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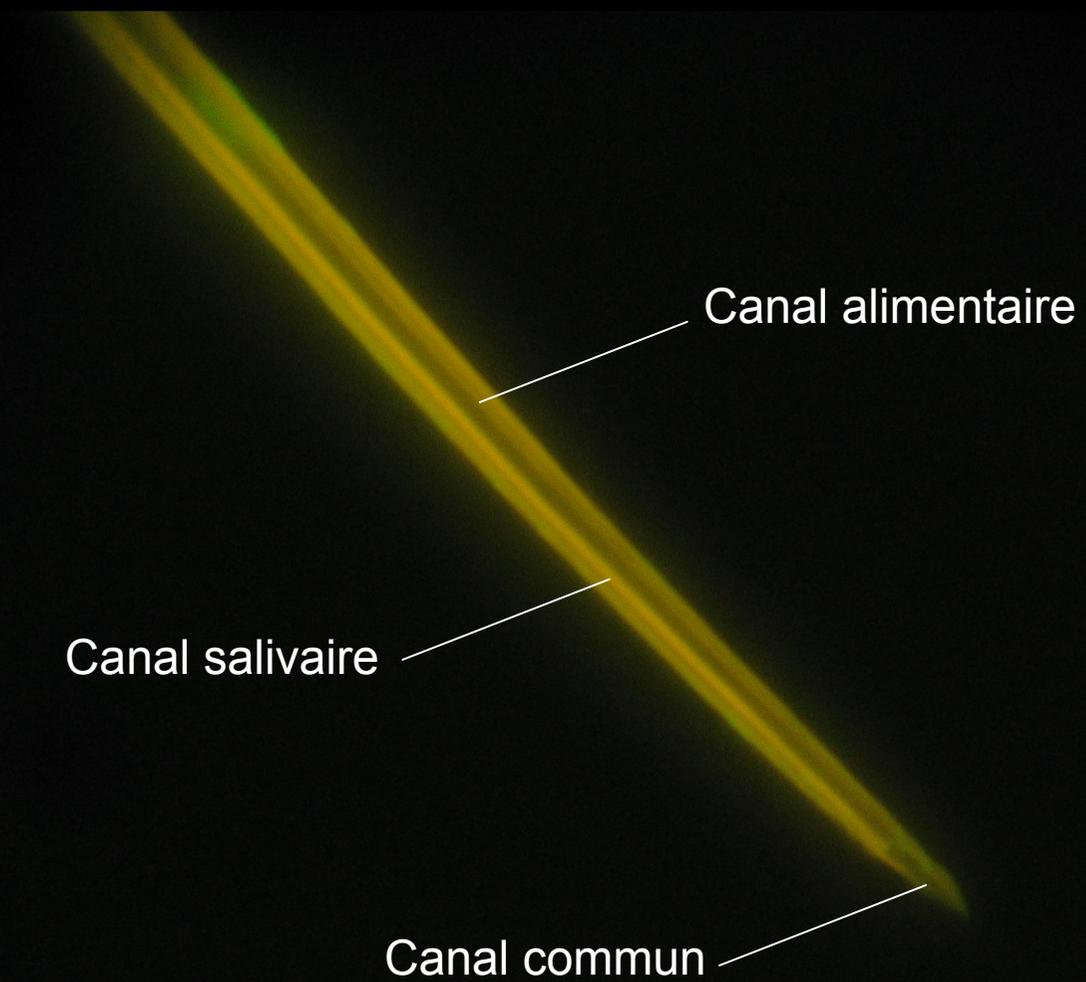


# Tests d'interaction *in vitro* sur stylets

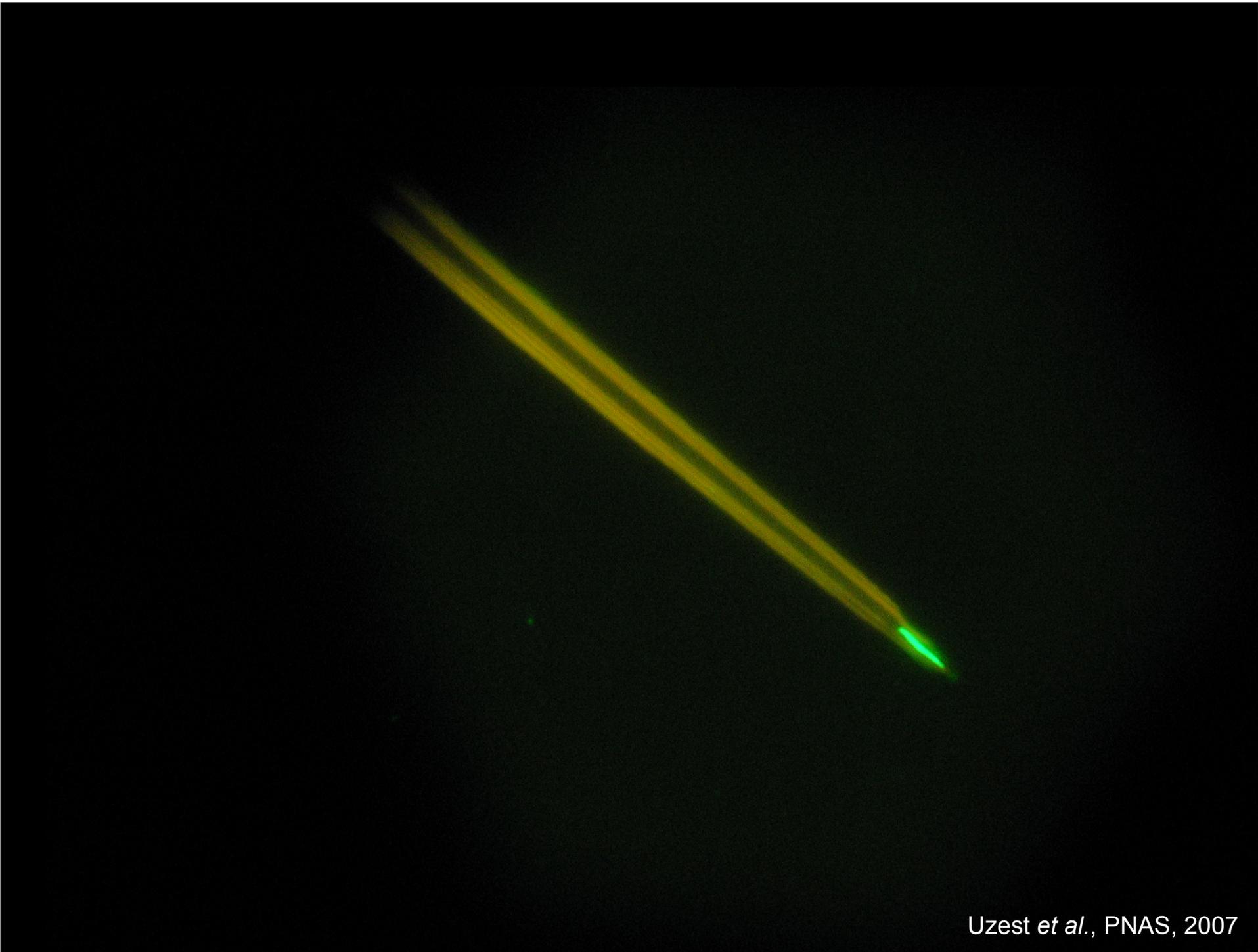


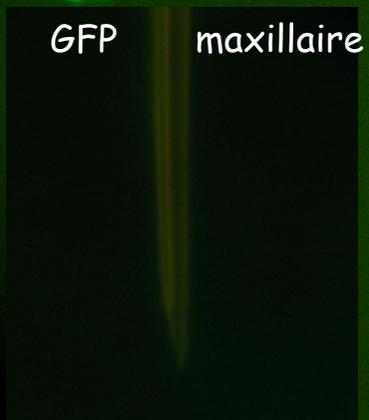
ma | mx | ma



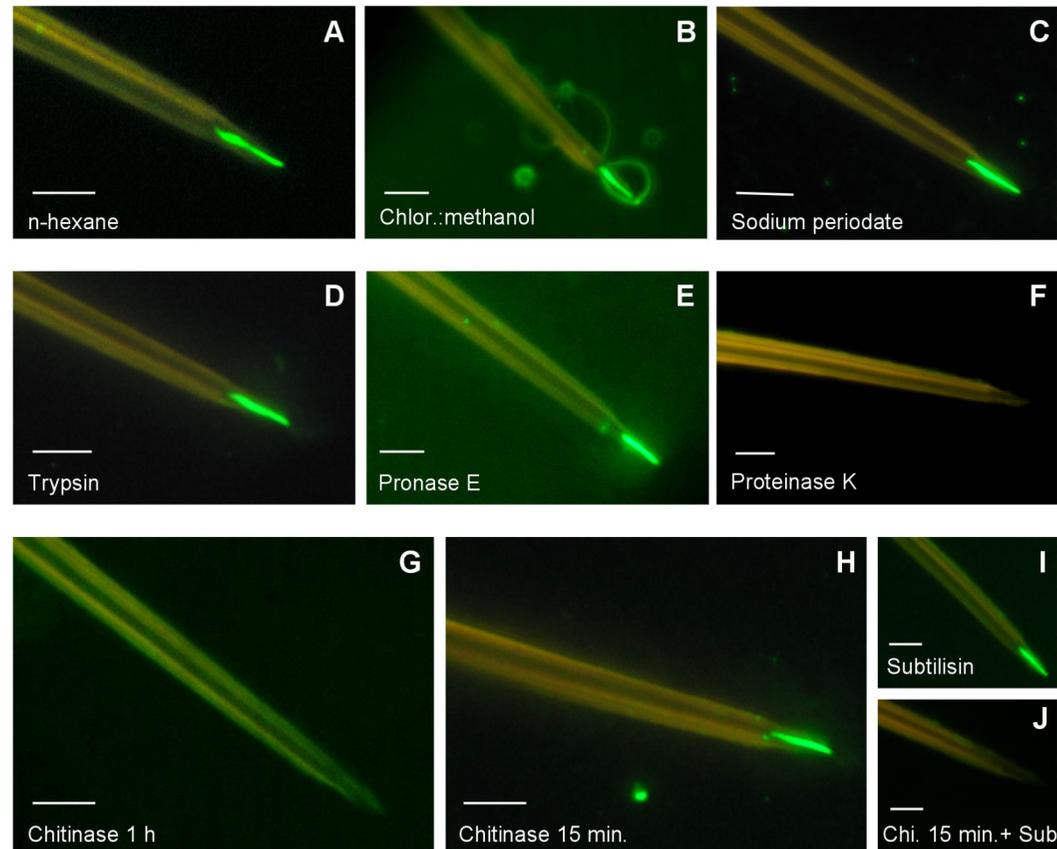


5  $\mu$ m





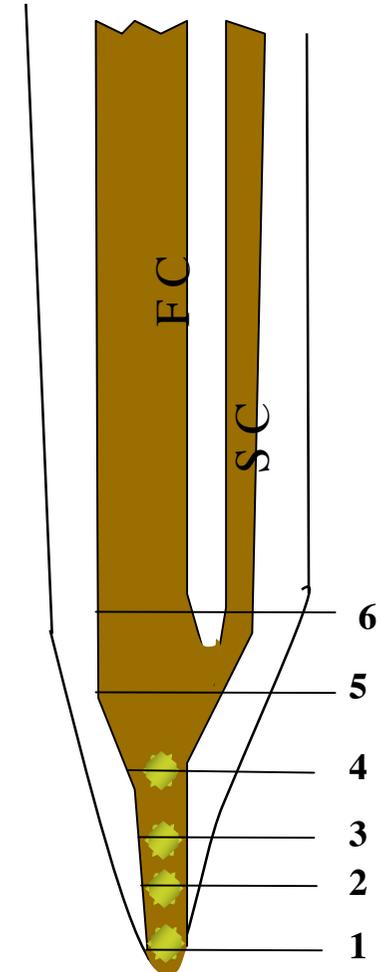
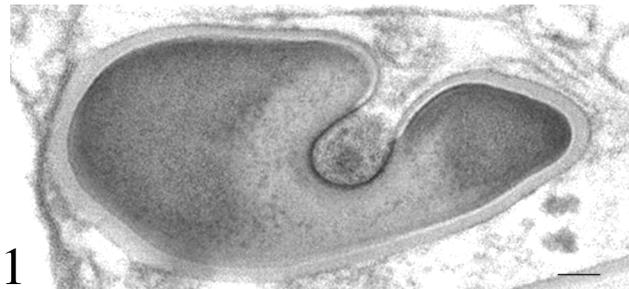
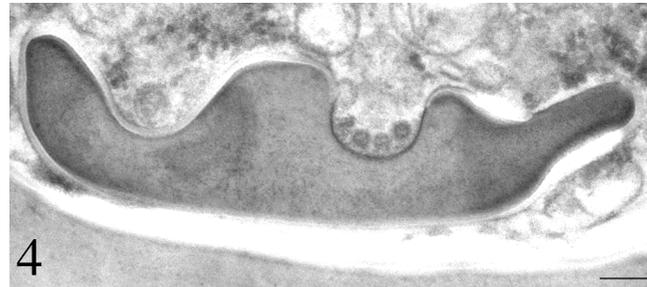
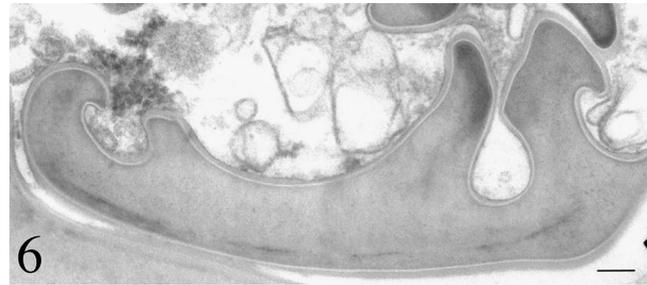
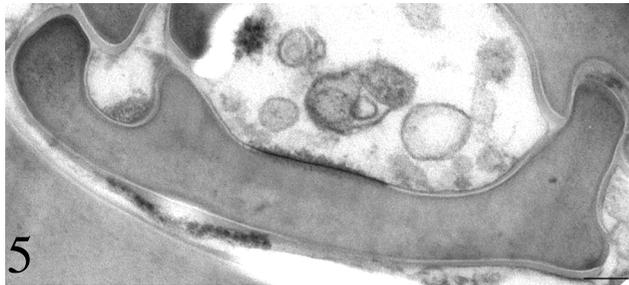
## Nature chimique - récepteur CaMV



↳ Récepteur = protéine non-glycosylée enfouie dans la chitine

↳ Récepteur localisé dans une zone très précise du canal commun

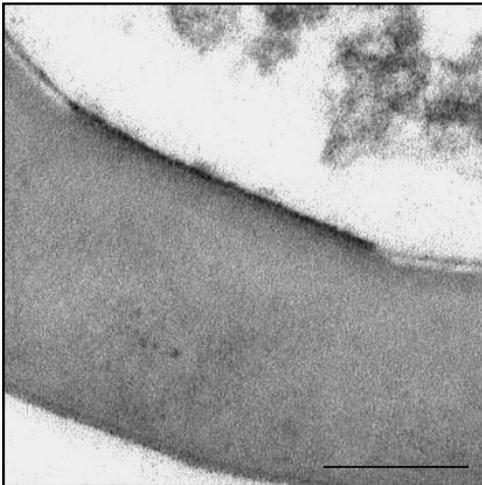
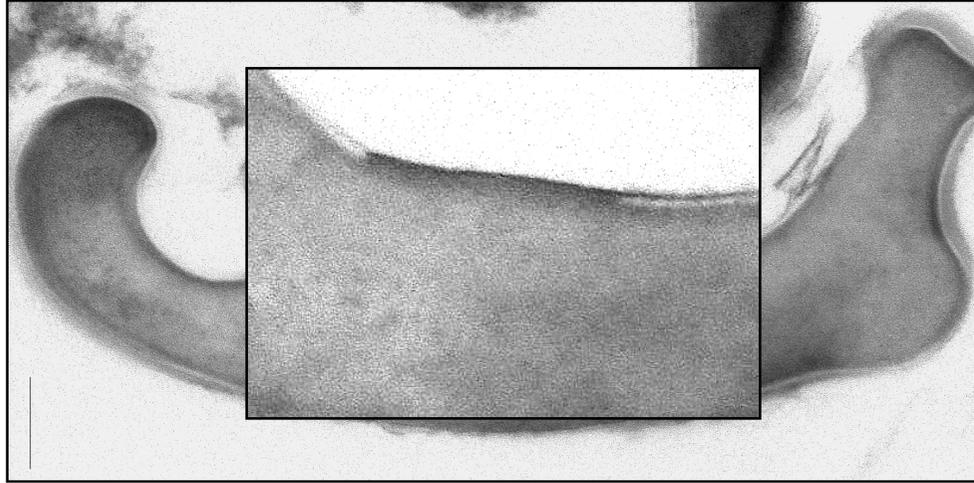
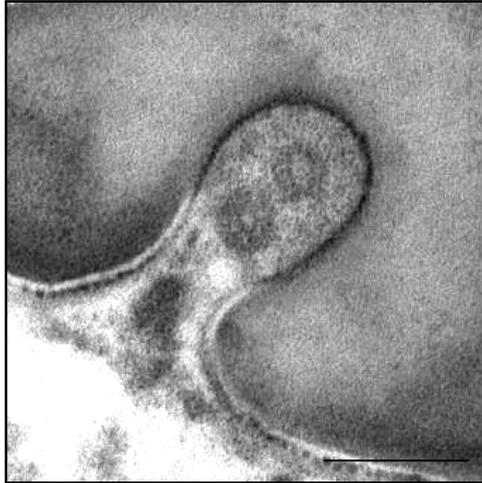
# Zone anatomique distincte ?



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**Zone dense présente chez les pucerons nourris sur plante saine**

Ce n'est pas un dépôt de protéines virales

**Observation MEB des stylets maxillaires**

Chantal Cazevielle - Didier Cot

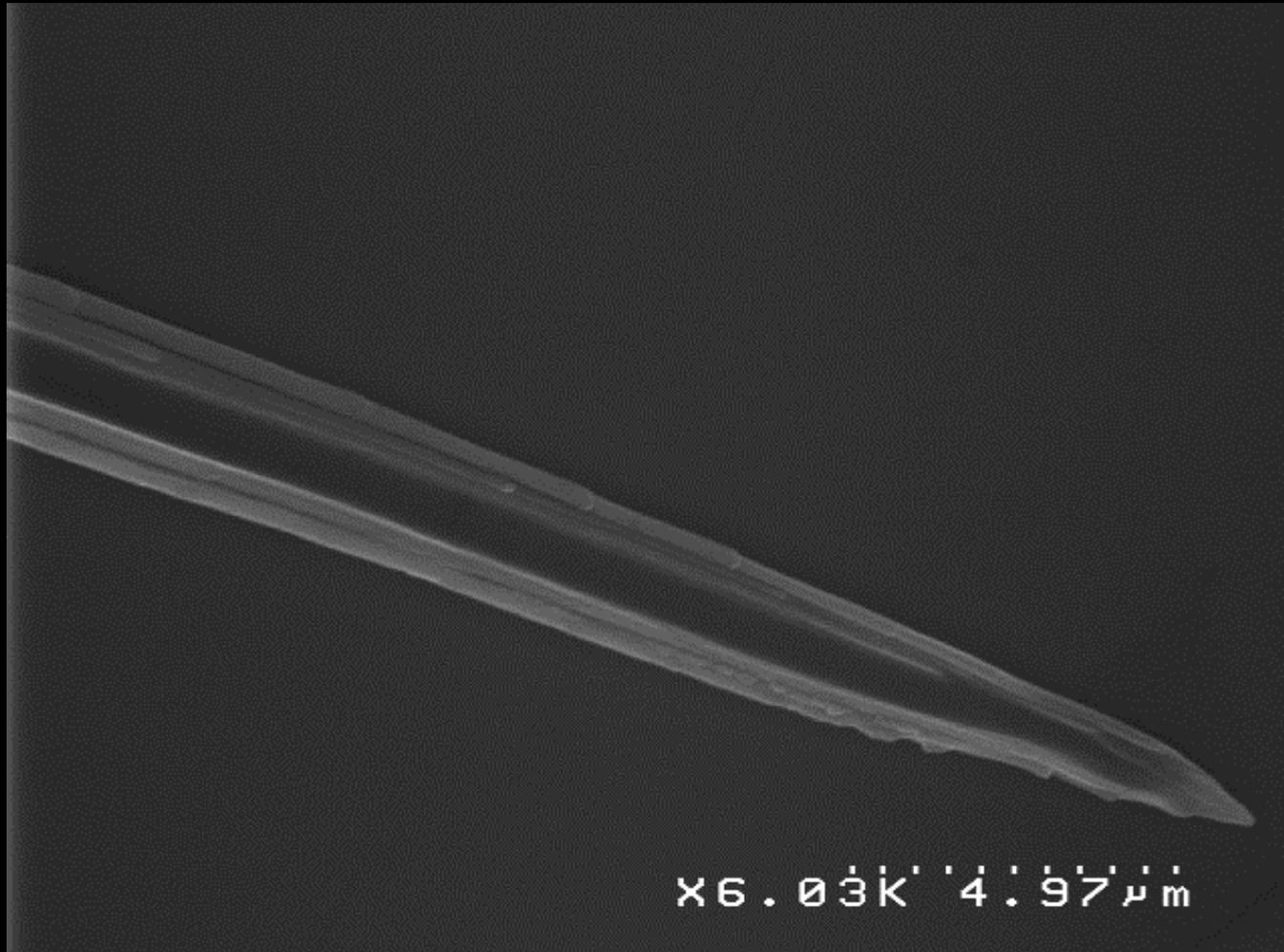


Centre Régional d'Imagerie Cellulaire

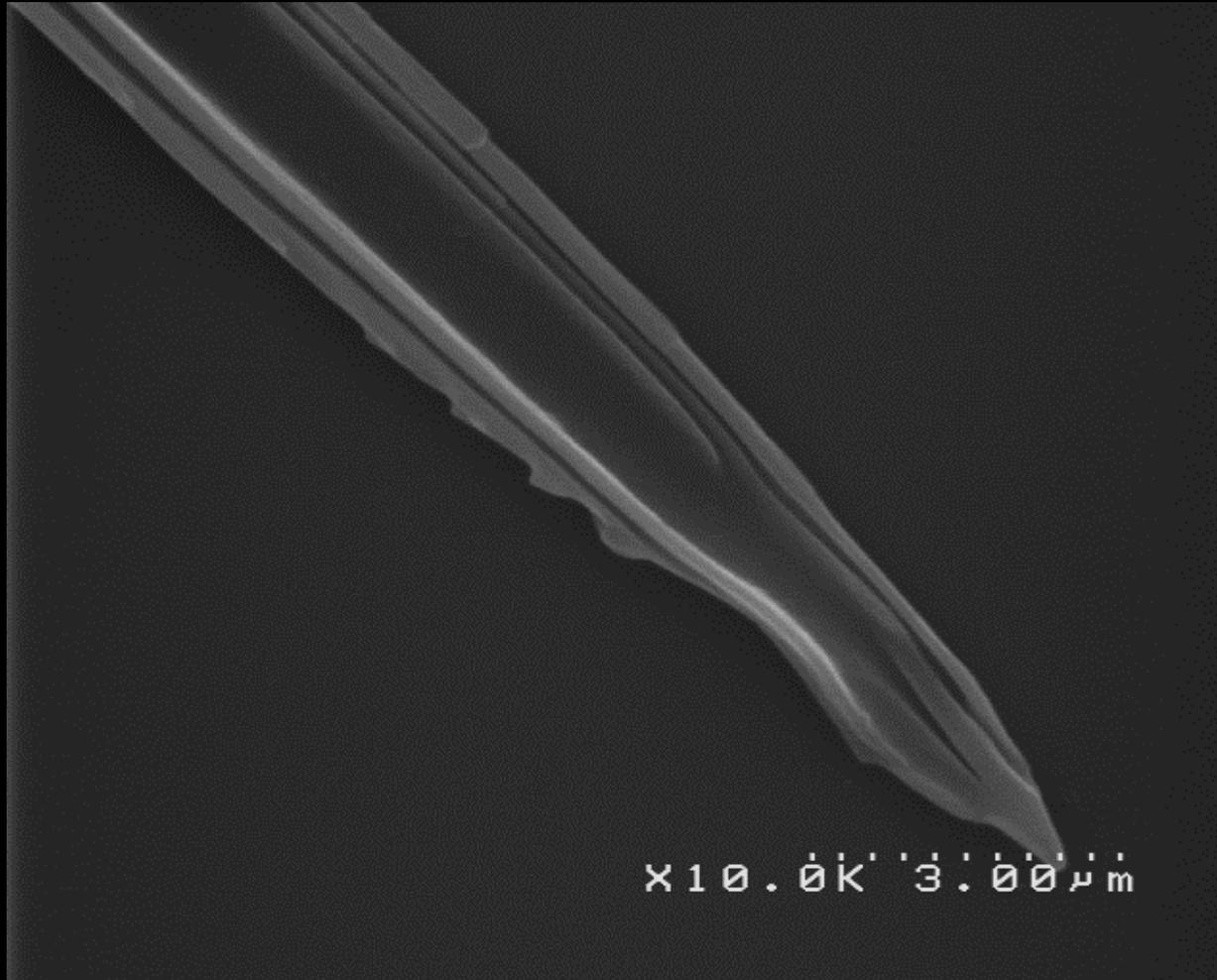


MONTPELLIER

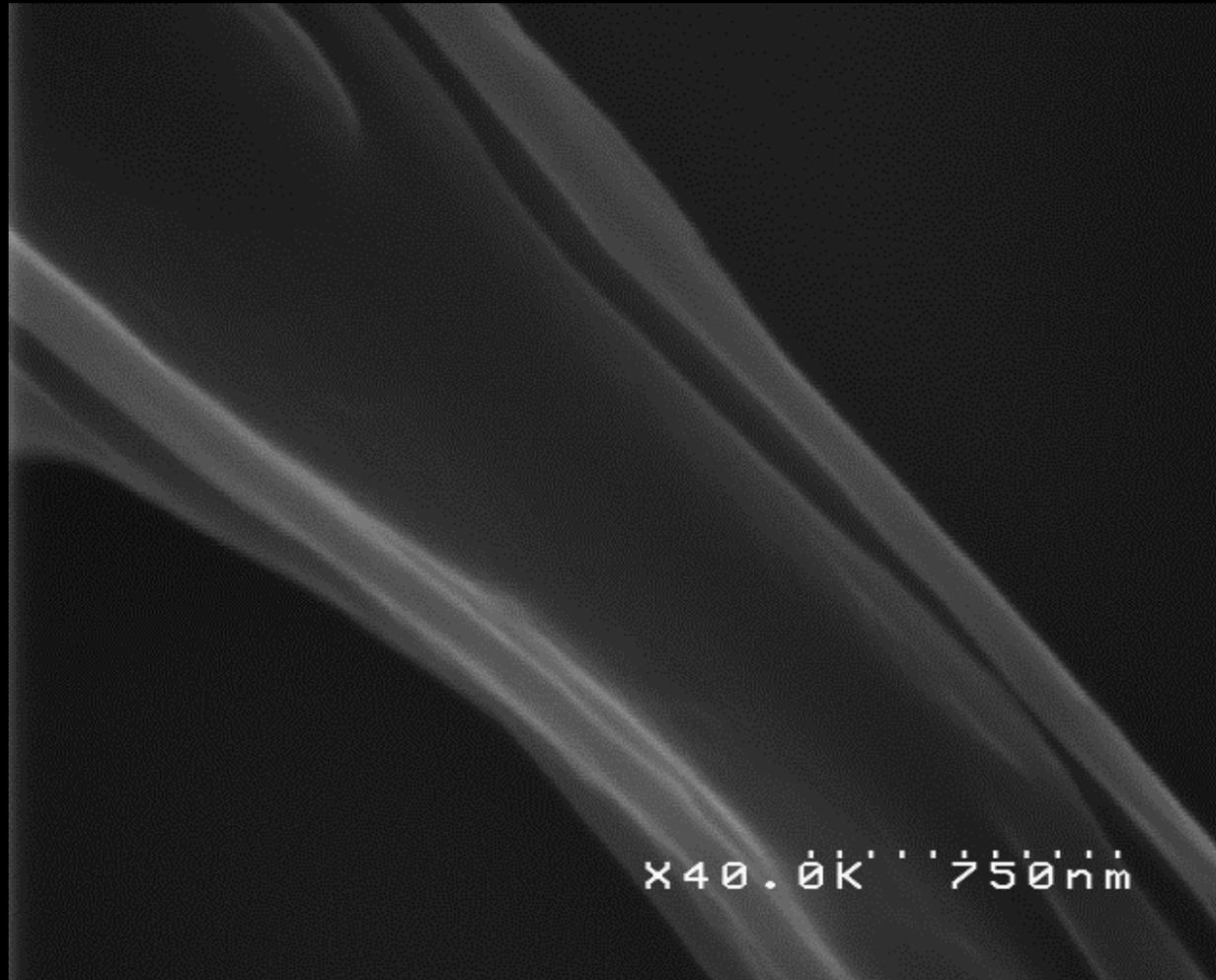
# Zone anatomique distincte ?



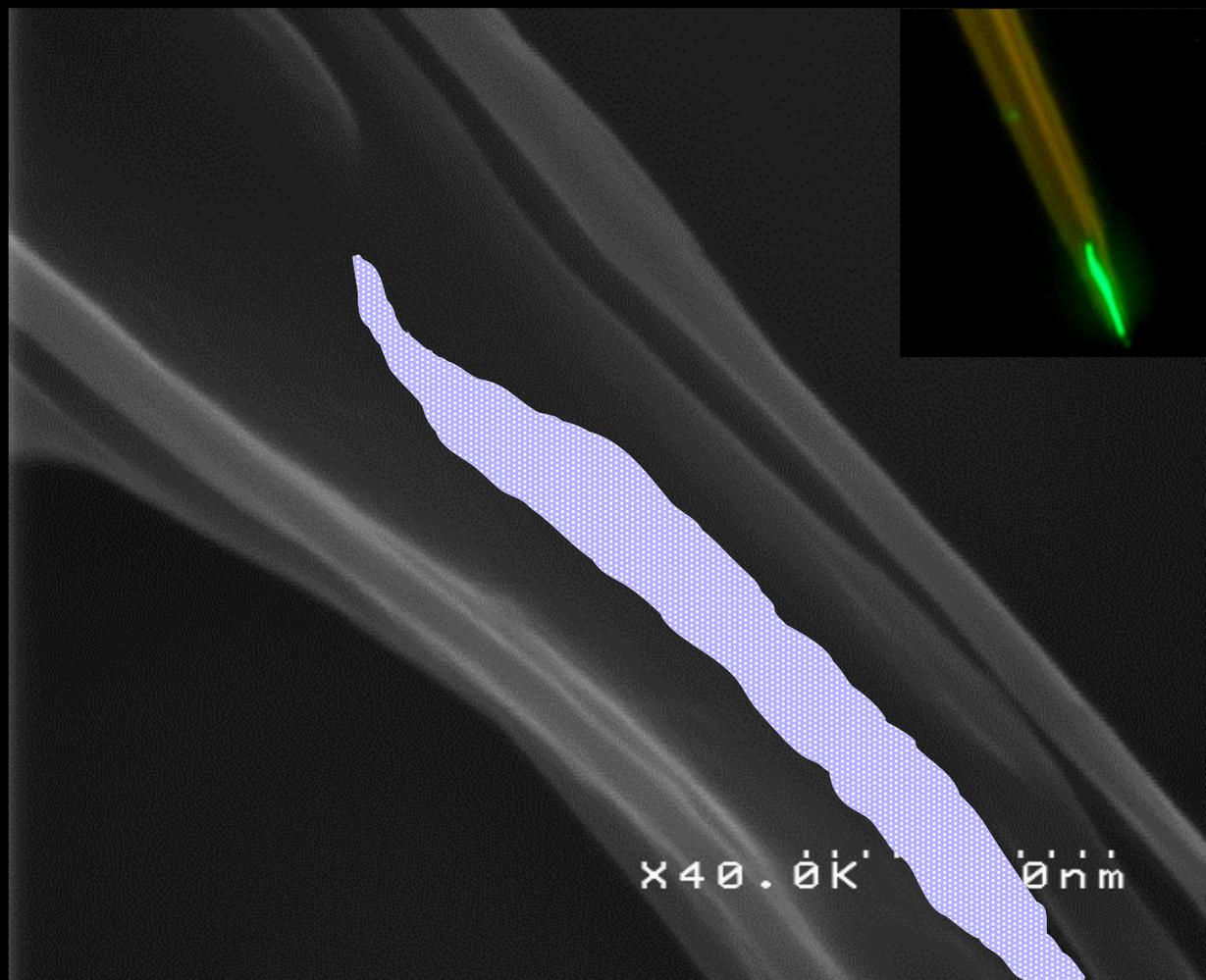
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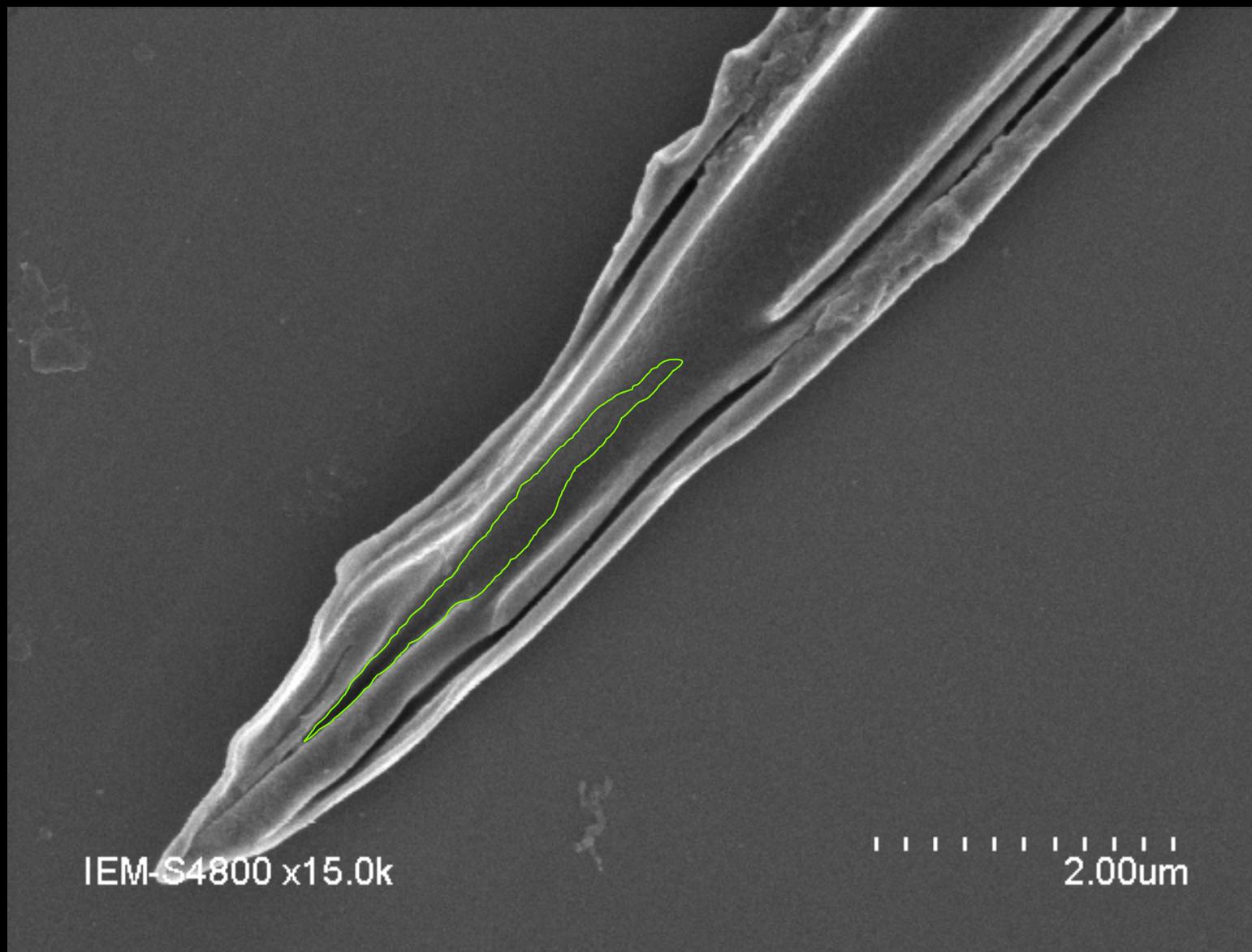
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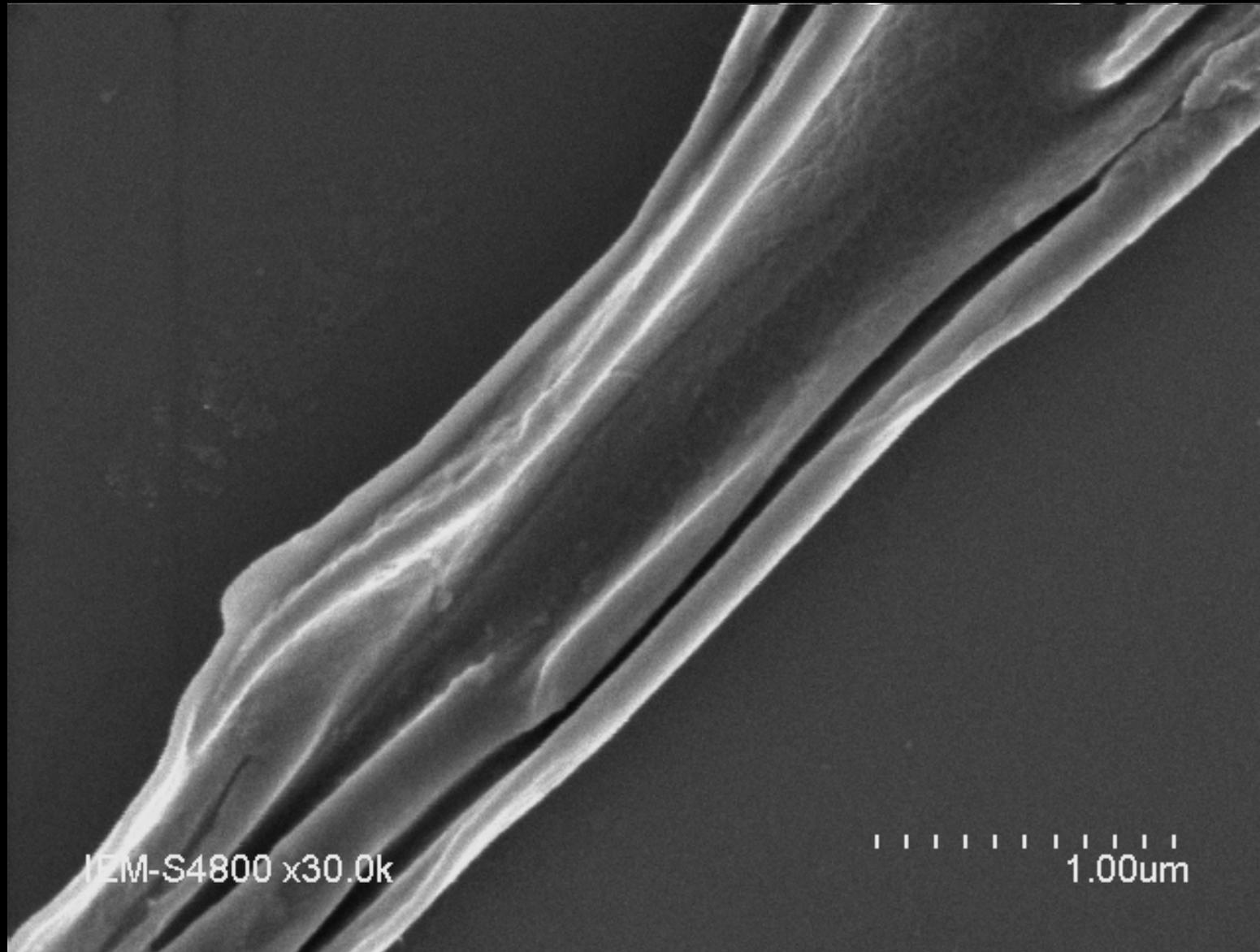
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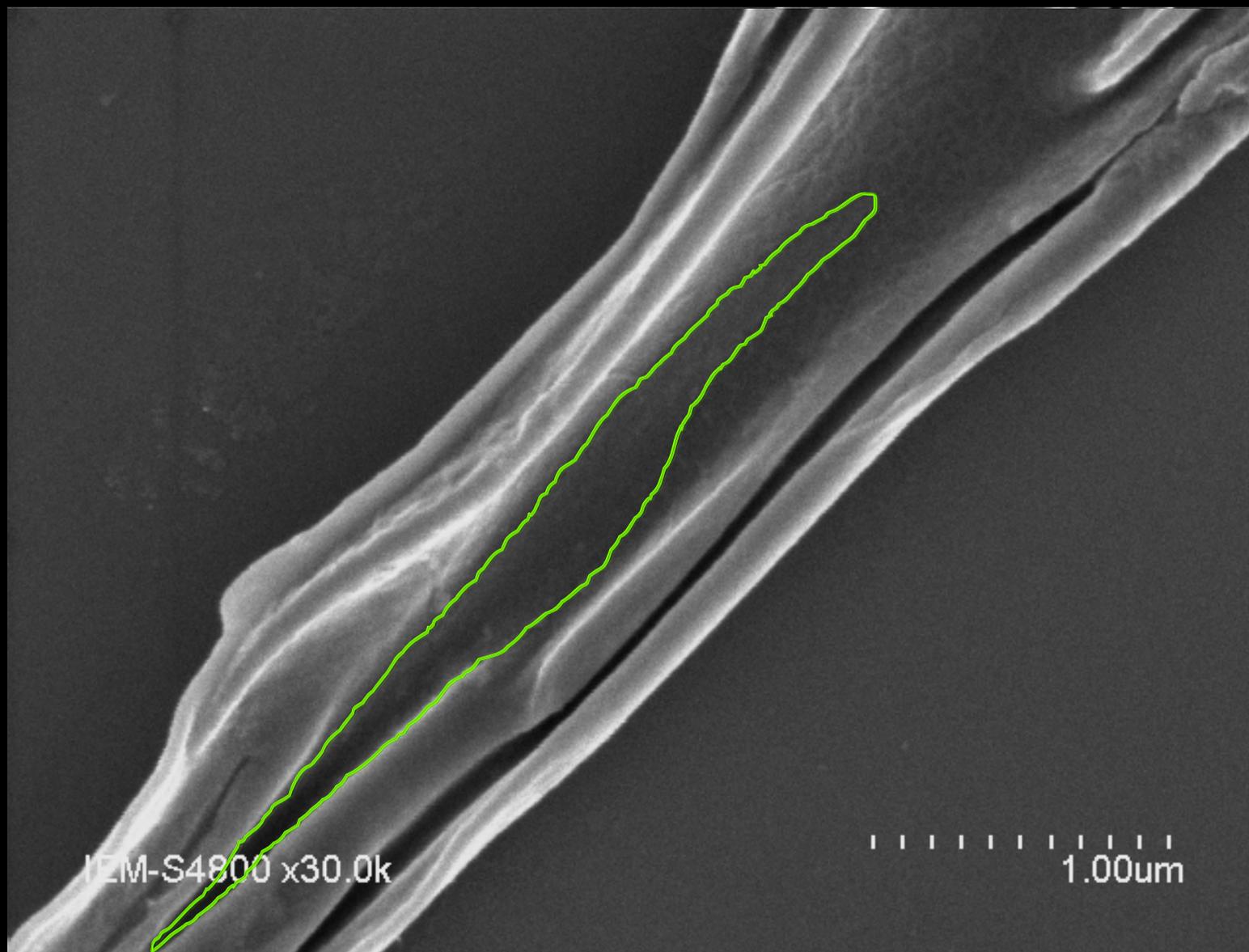
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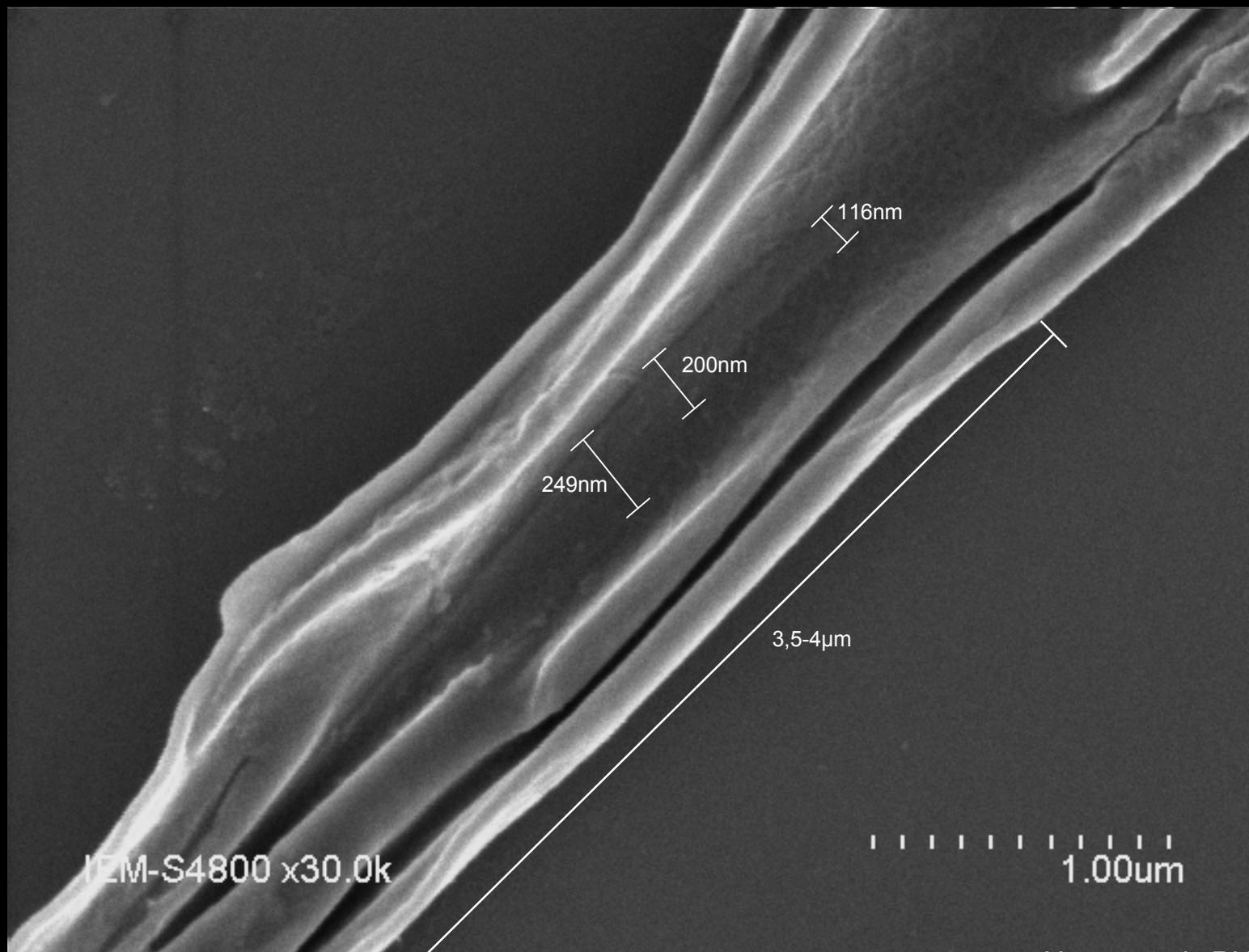
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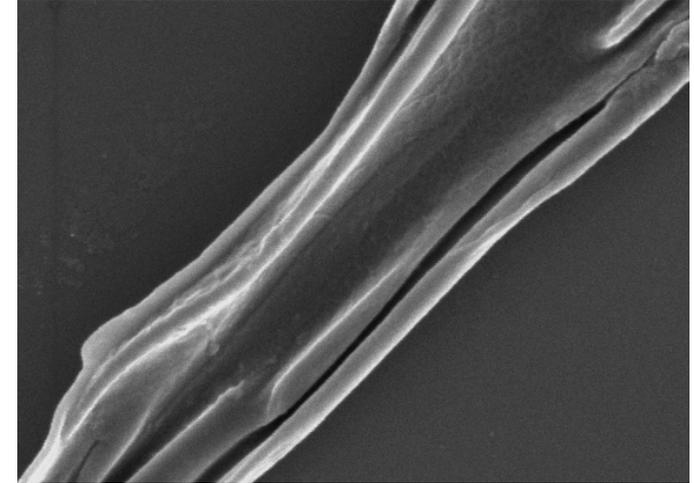
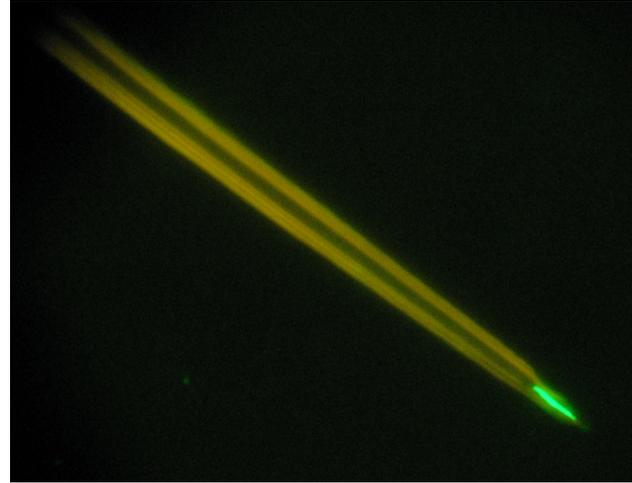
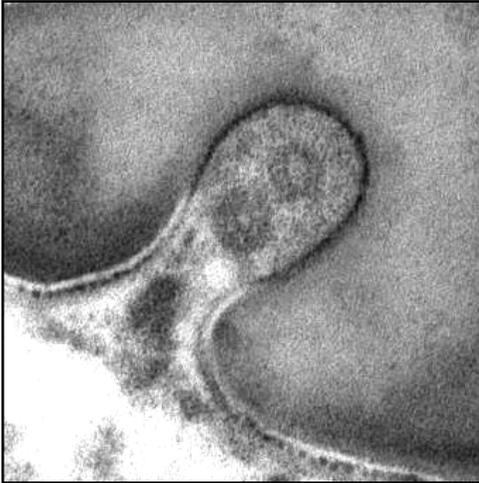
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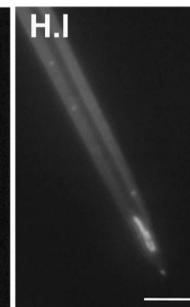
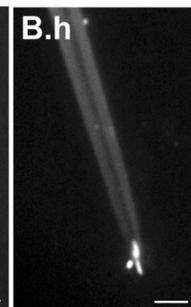
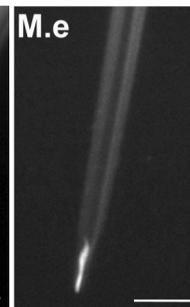
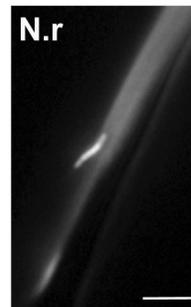
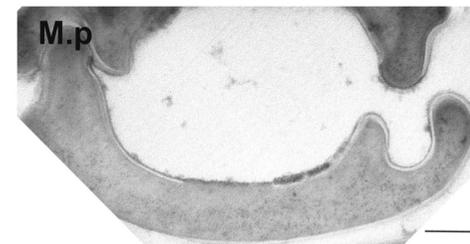
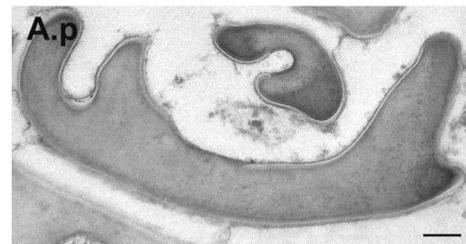
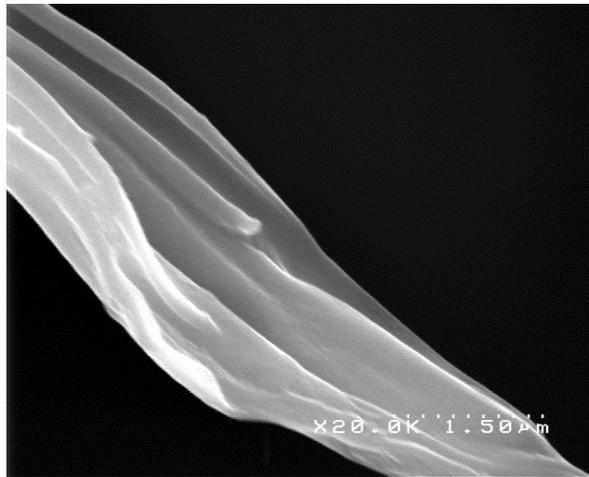
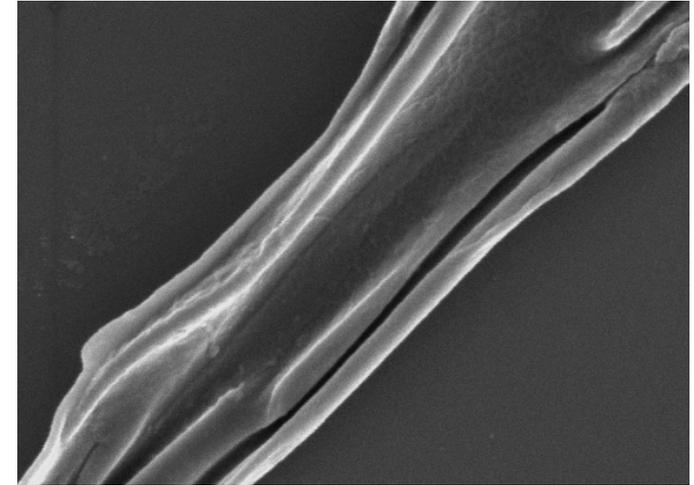
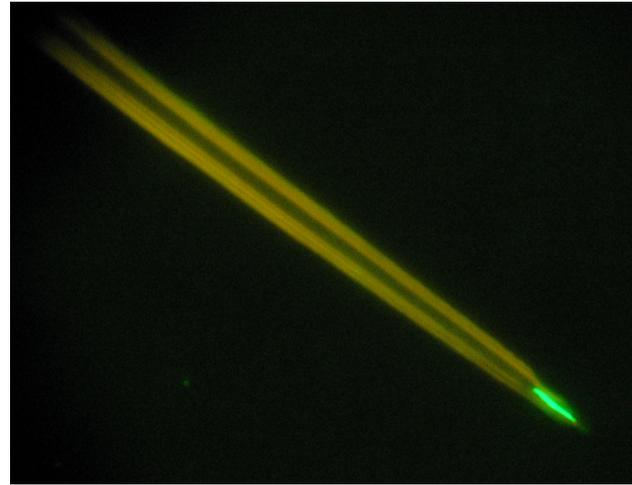
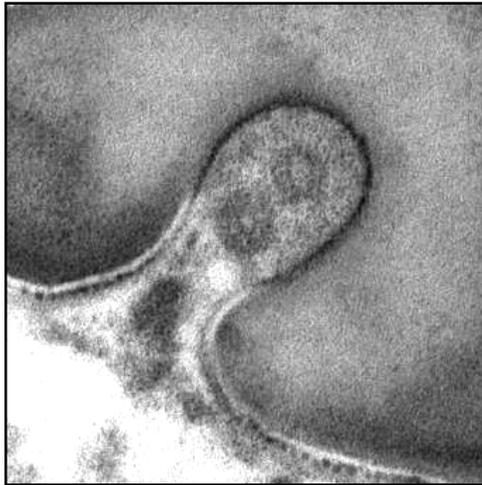
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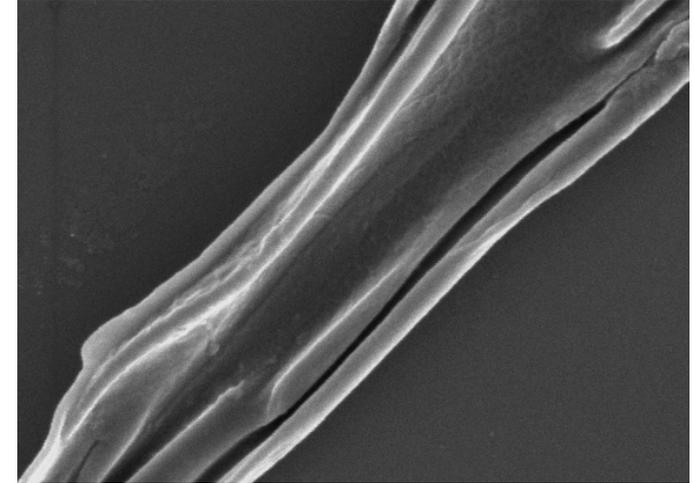
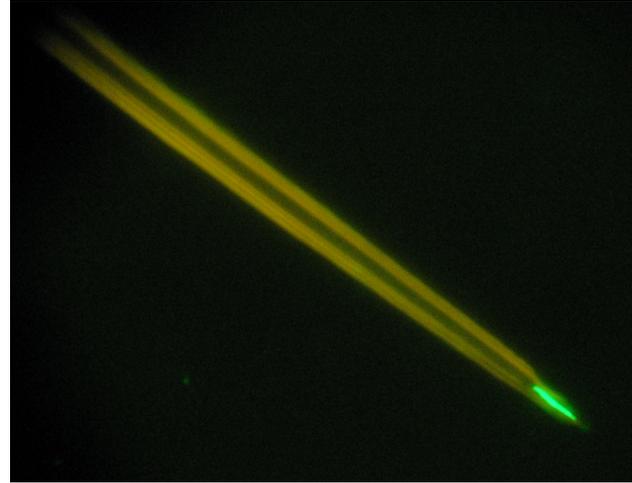
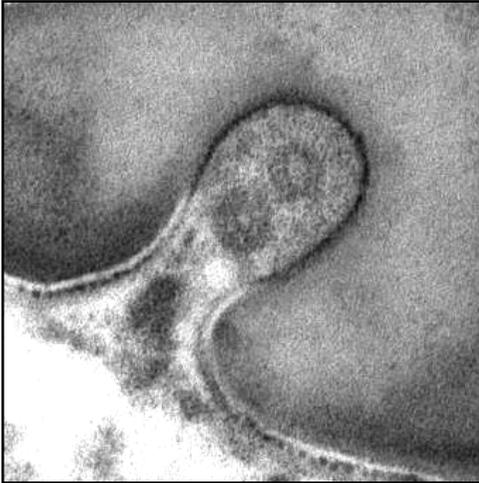
## Un nouvel organe - l'acrostyle



# Conclusions - perspectives



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Quel est le rôle intrinsèque de cet organe ?

Interactions plante/insecte

- composés de la plante (toxines, molécules coagulation...)
- composés salivaires (calcium-binding proteins, effecteurs ...)



# UN GRAND MERCI ...

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Photo ©Inra, Maurice Hullé

Martin DRUCKER

Elodie PIROLLES

Sophie LE BLAYE

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