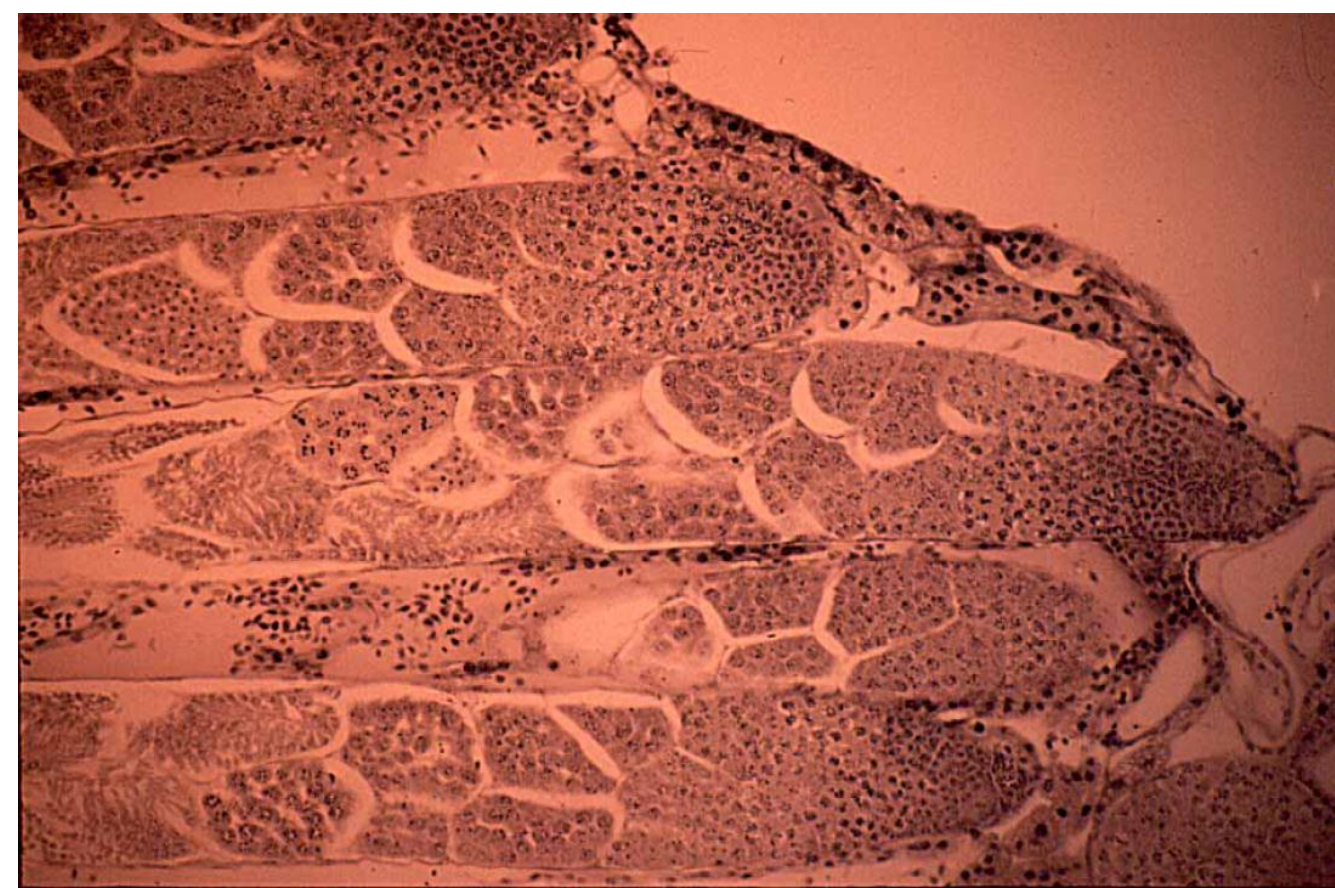
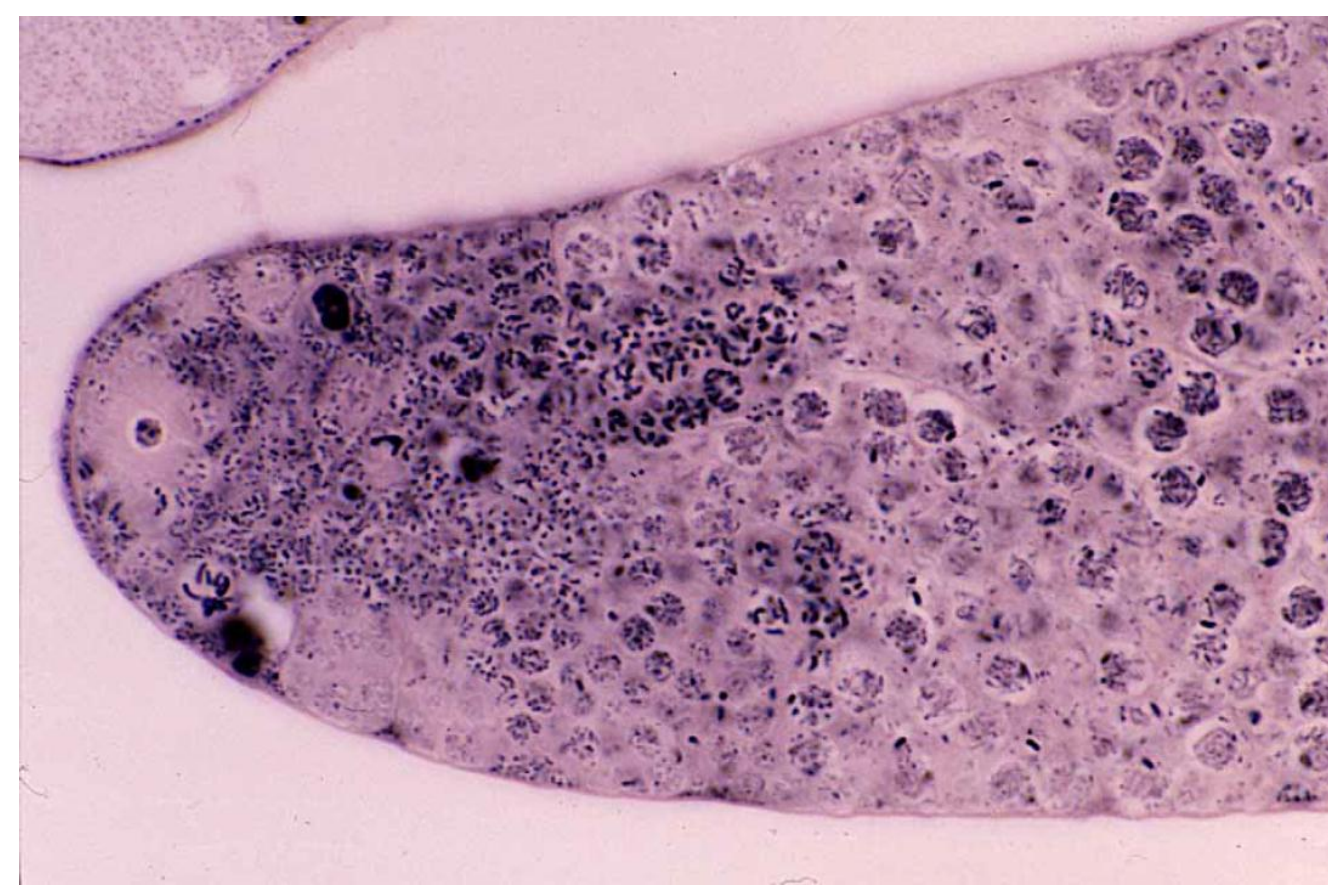


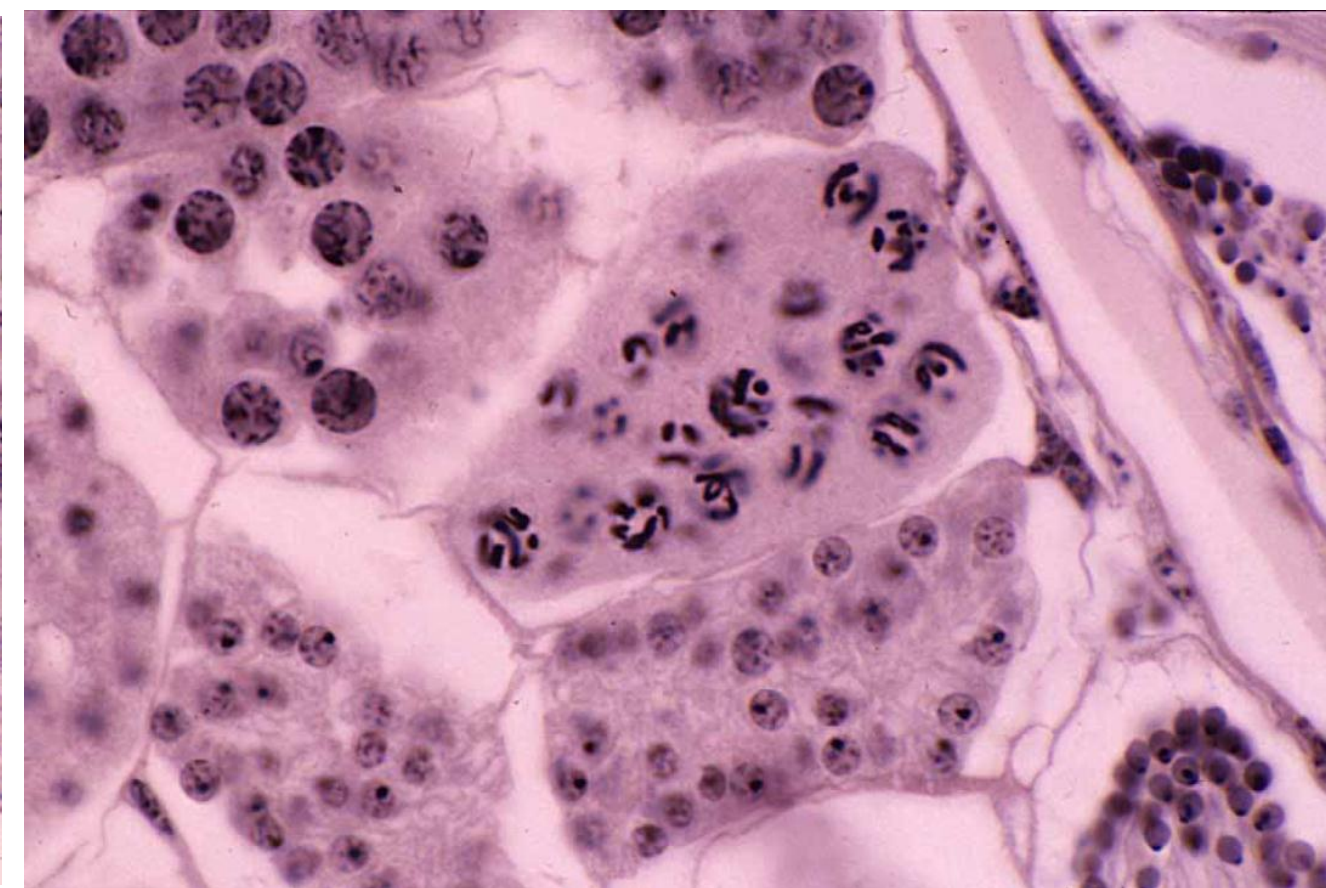
ESPERMATOGÉNESE



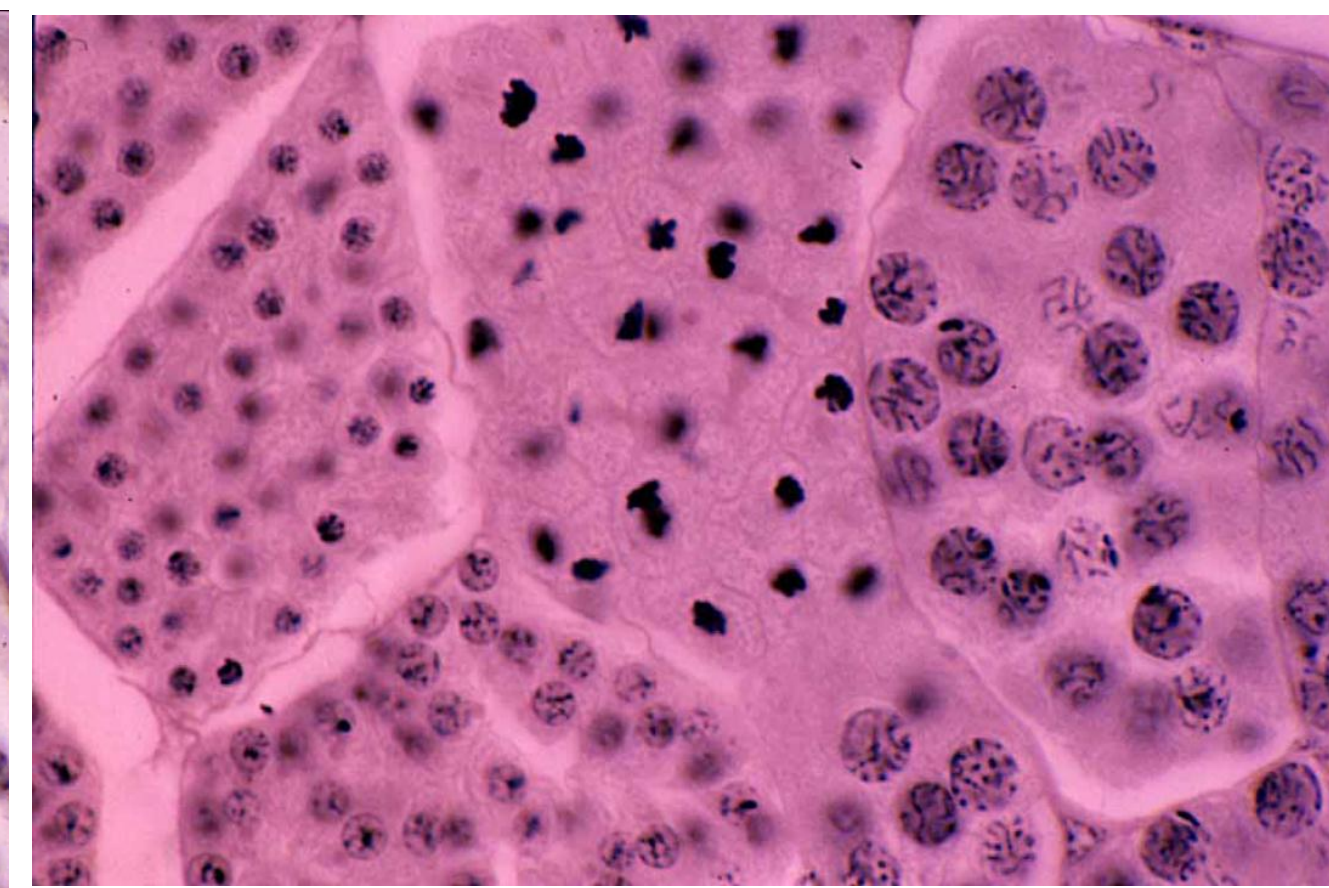
Ductos espermáticos do gafanhoto
(Orthoptera: Acrididae)



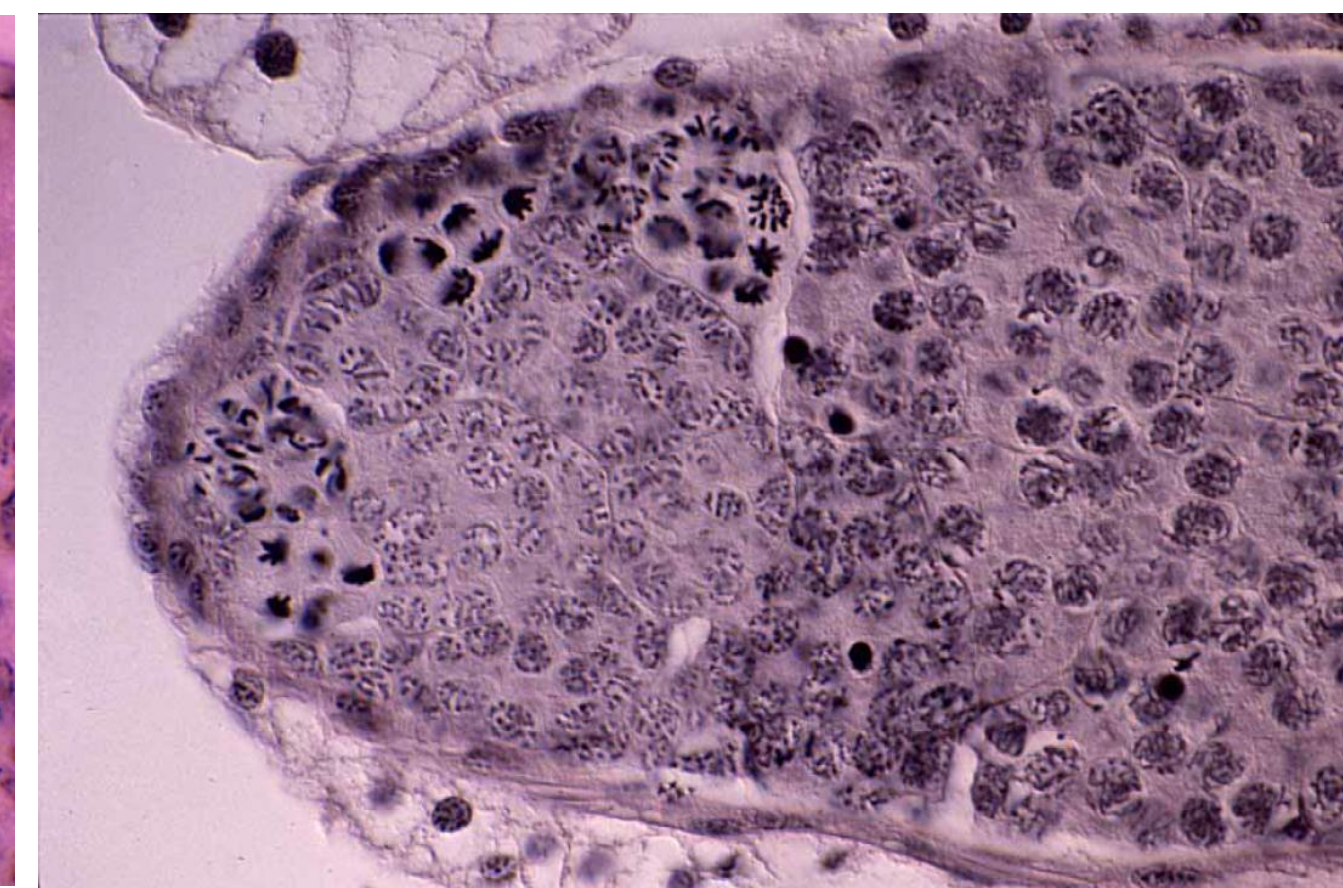
Ápice do ducto espermáticos do
gafanhoto



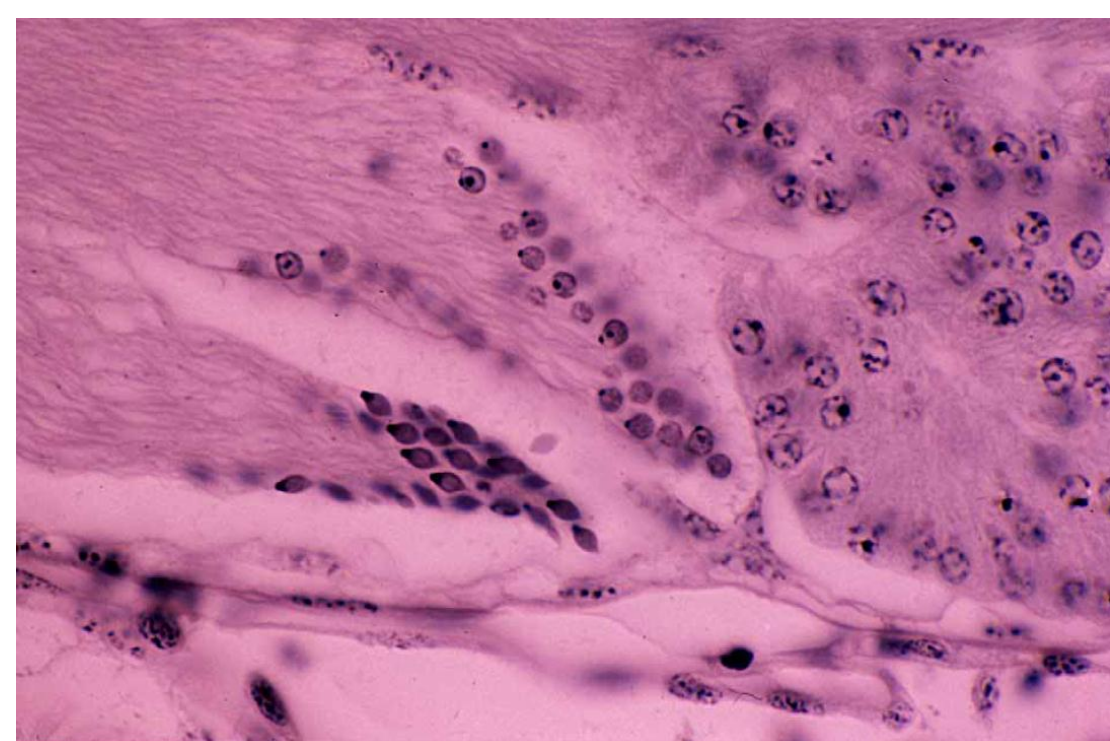
Cistos no ducto espermáticos do
gafanhoto



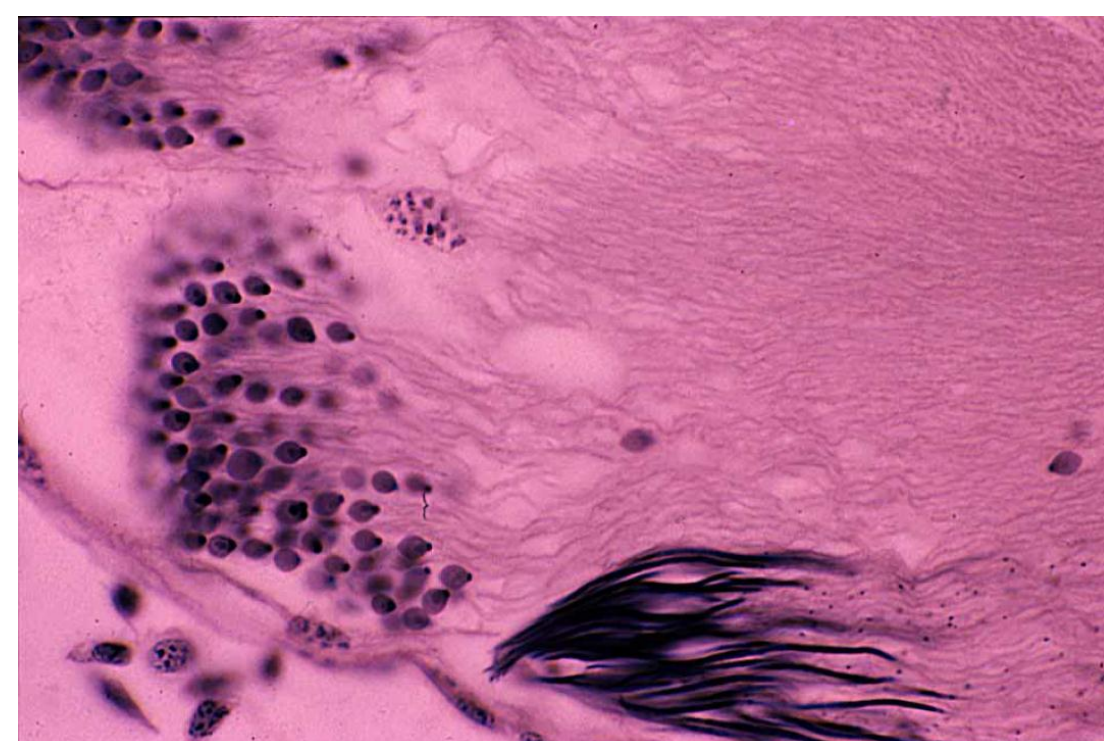
Cistos no ducto espermáticos do
gafanhoto



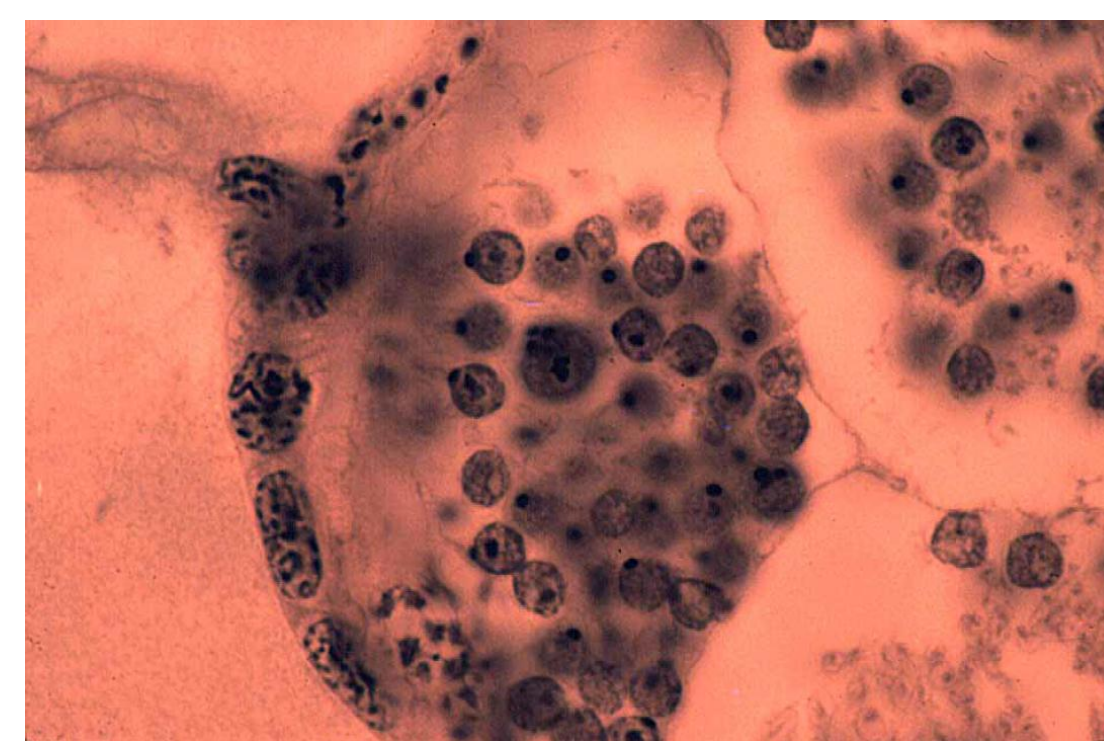
Cistos spermatogoniais do gafanhoto



Feixes de espermátides do
gafanhoto



Feixes de espermátides do
gafanhoto



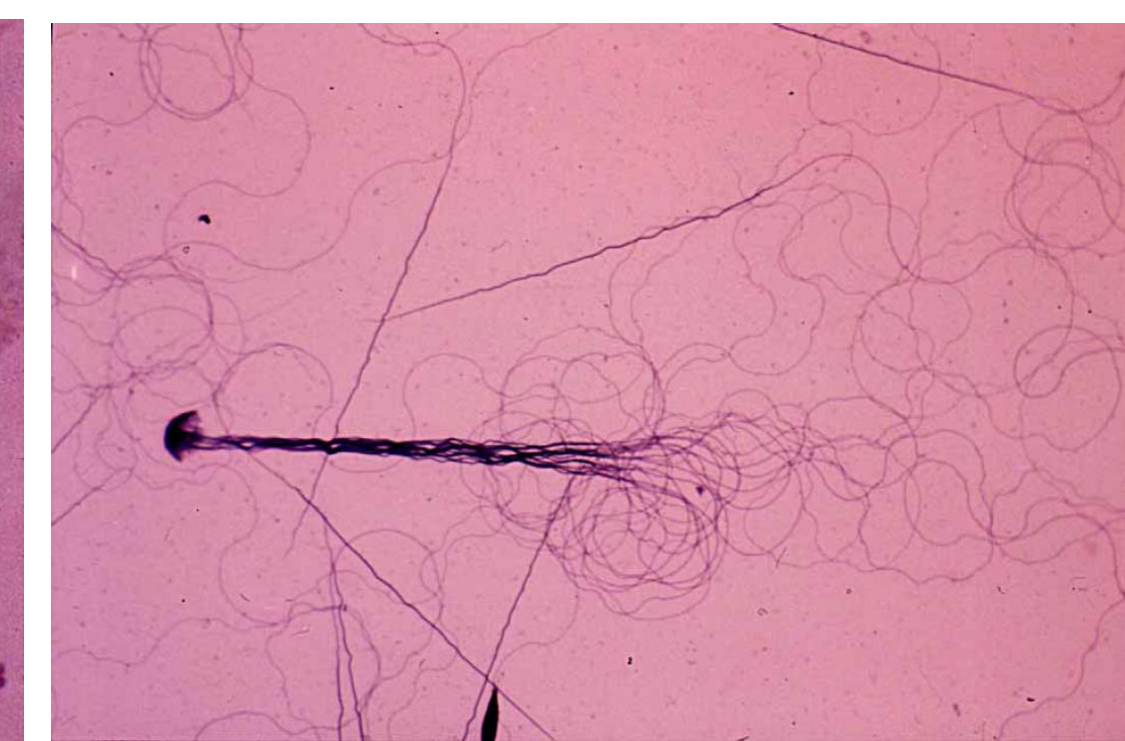
Espermátides do gafanhoto
com 1, 2 e 4 axonemas



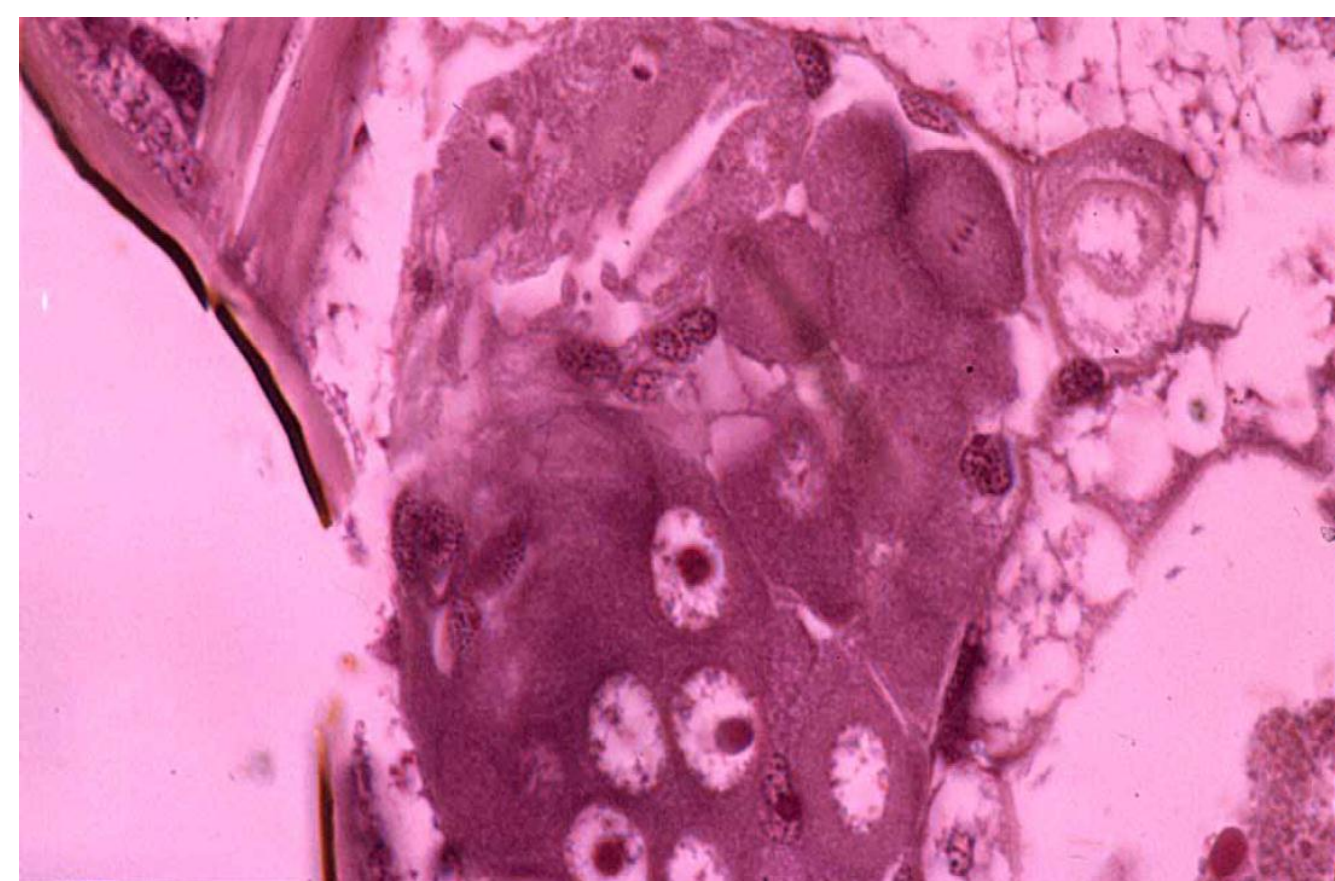
Preparação de espermatócitos
primários do gafanhoto na fase
de diacinese



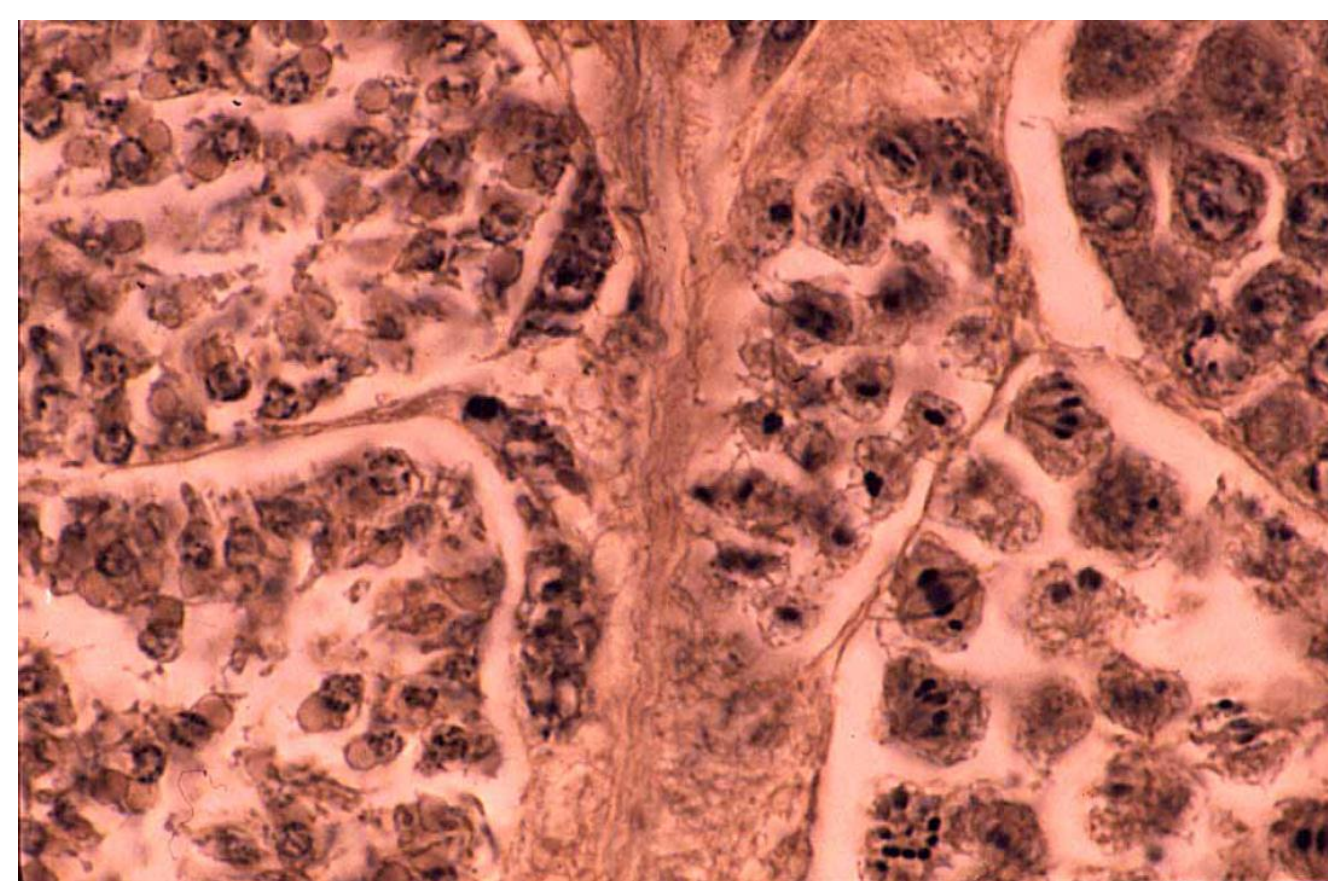
Preparação de espermatócitos
primários do gafanhoto na fase
de metafase I



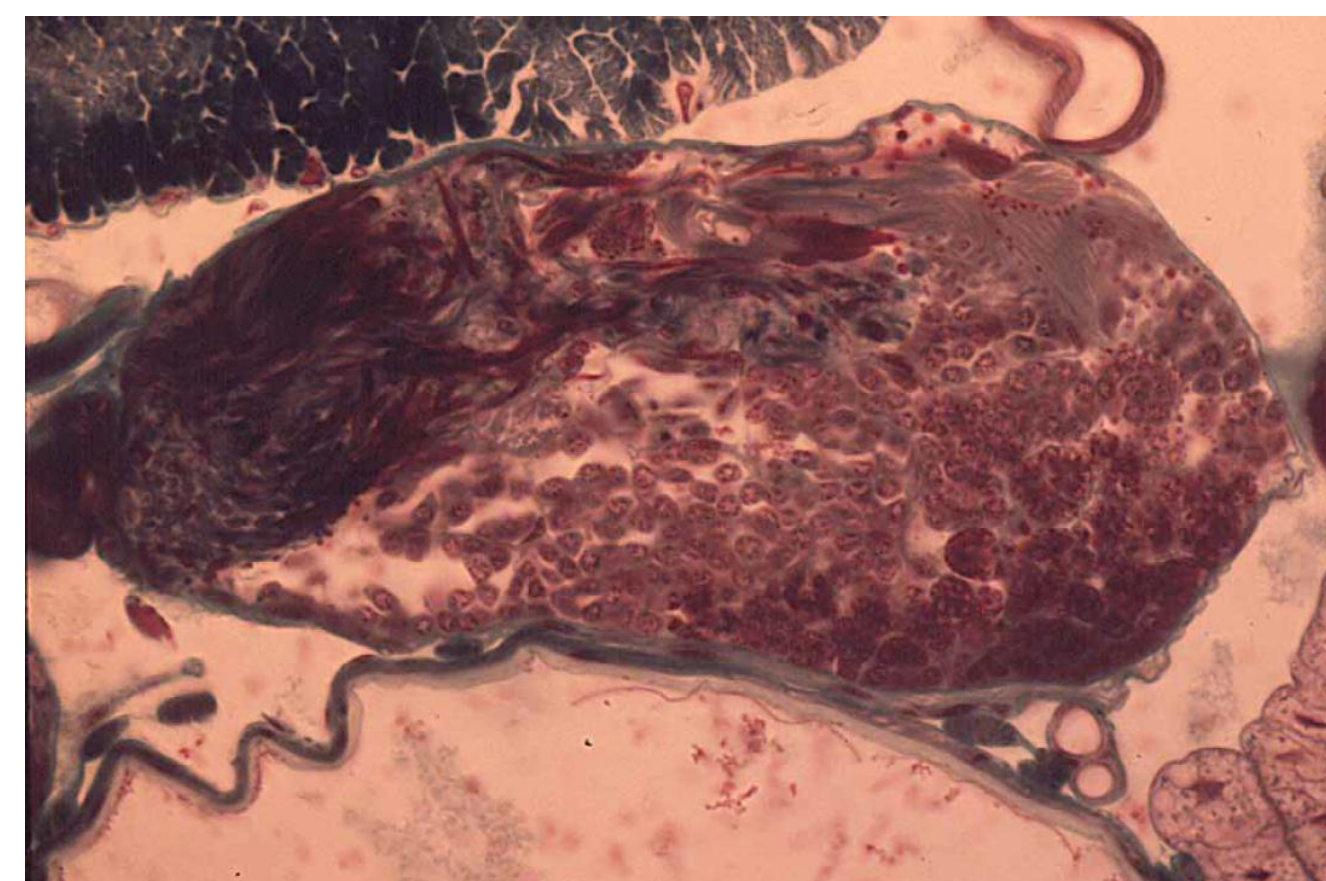
Feixes de espermatozoides do
gafanhoto



A espermatogénese na espécie
Hebrus pusillus (Hemiptera: Hebridae)



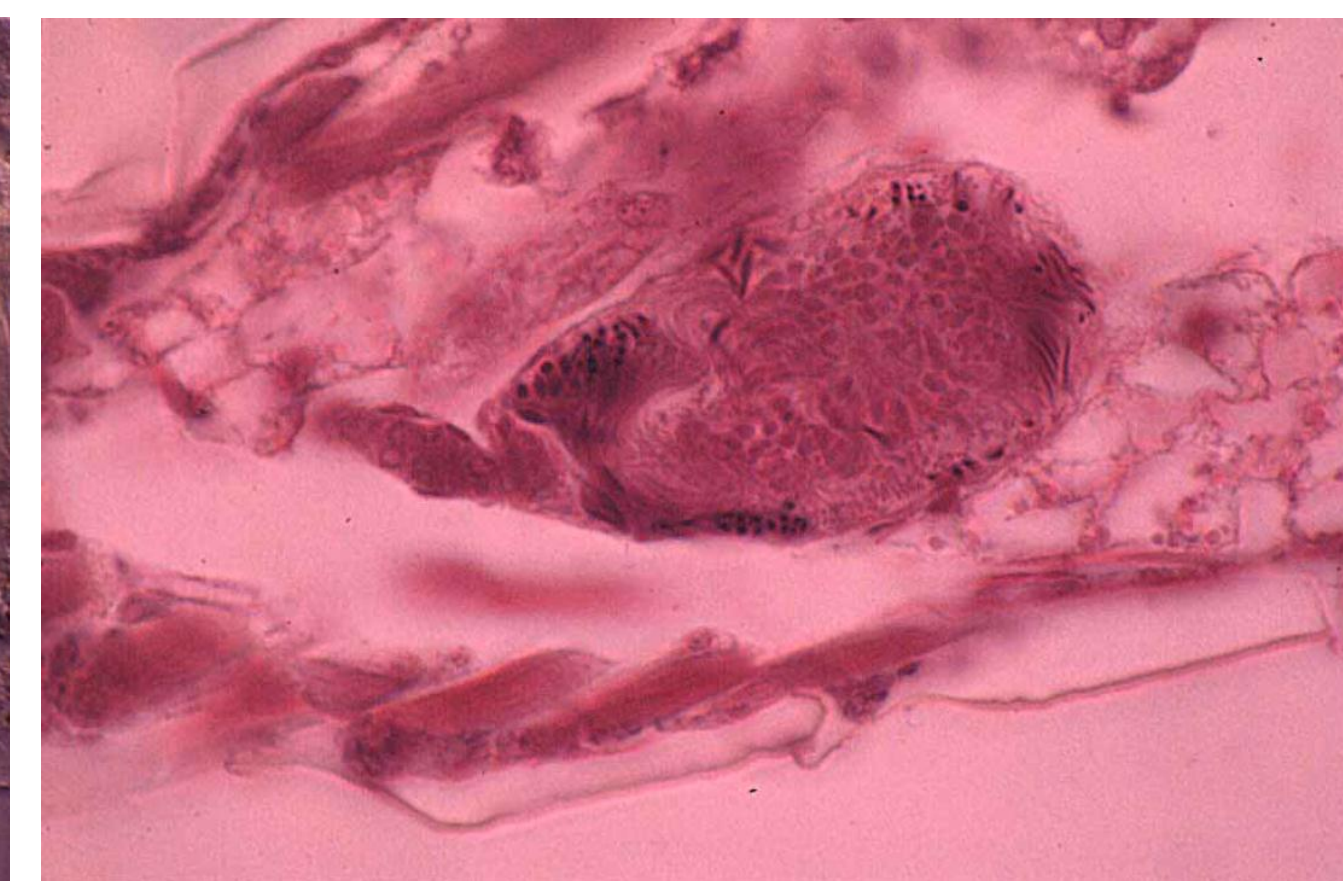
Testículo da espécie *Anasa tristis*
(Hemiptera: Coreidae)



Testículo de um frigânio (Trichoptera)



Pupa jovem de *Parthenothrips*
dracaenae (Thysanoptera: Thripidae),
onde se veem dois testículos



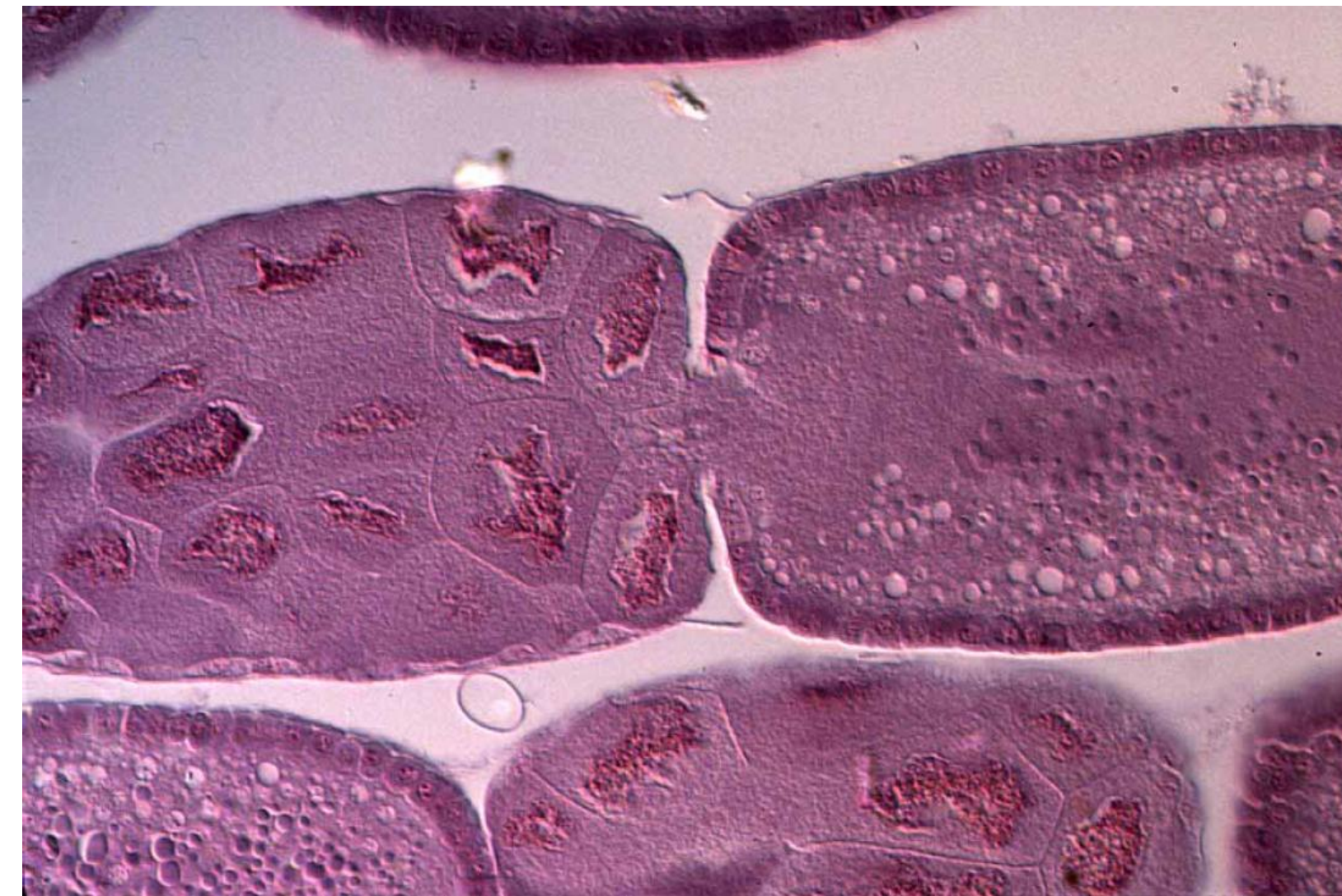
Pupa madura de *Frankliniella fusca*
(Thysanoptera: Thripidae), onde se
aprecia um testículo

O DESENVOLVIMENTO NOS INVERTEBRADOS

OOGÉNESE



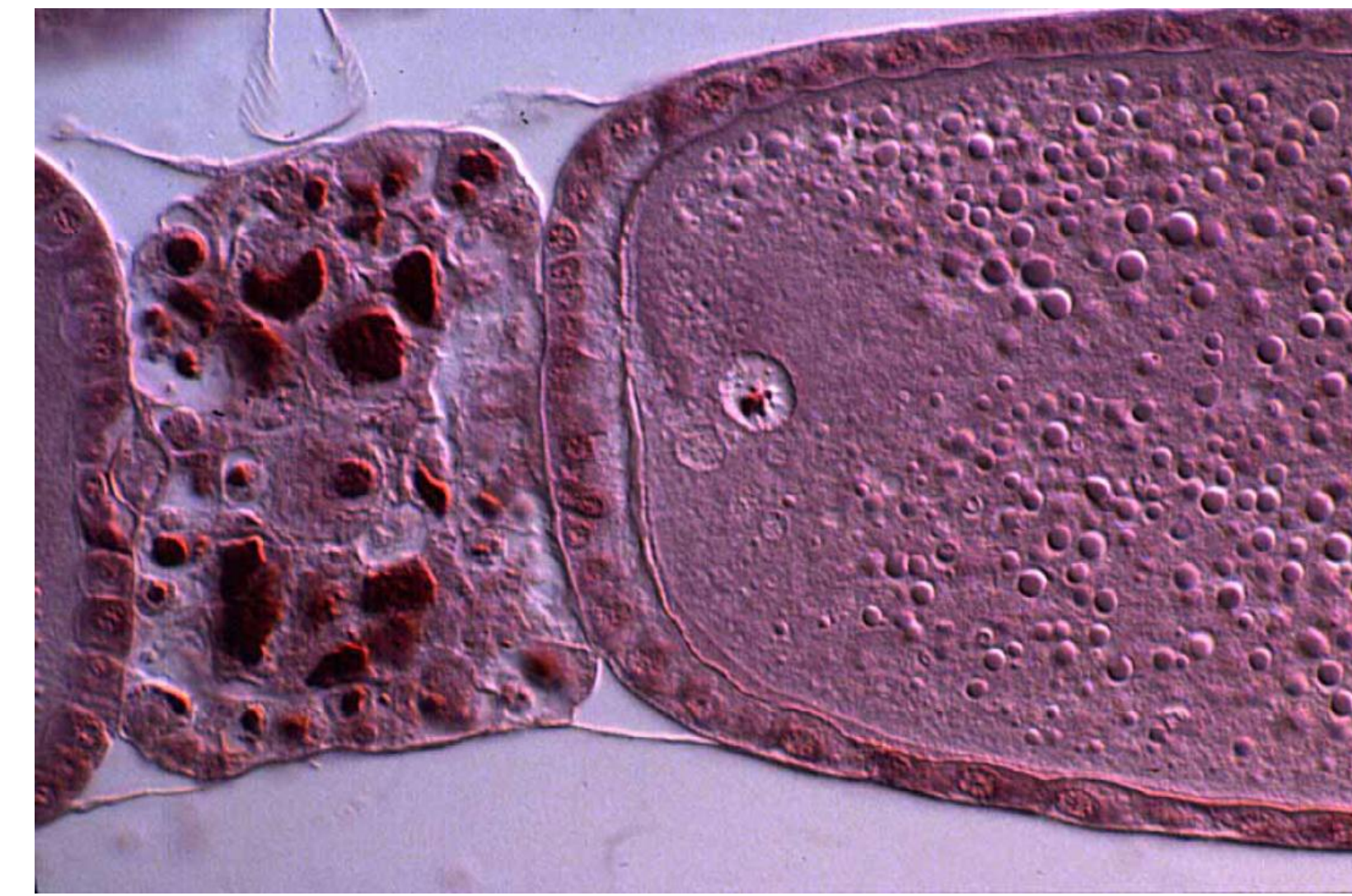
Ovariólos da abelha-de-mel (*Apis mellifera*)
(Hymenoptera: Apidae)



Ovariólo da abelha-de-mel



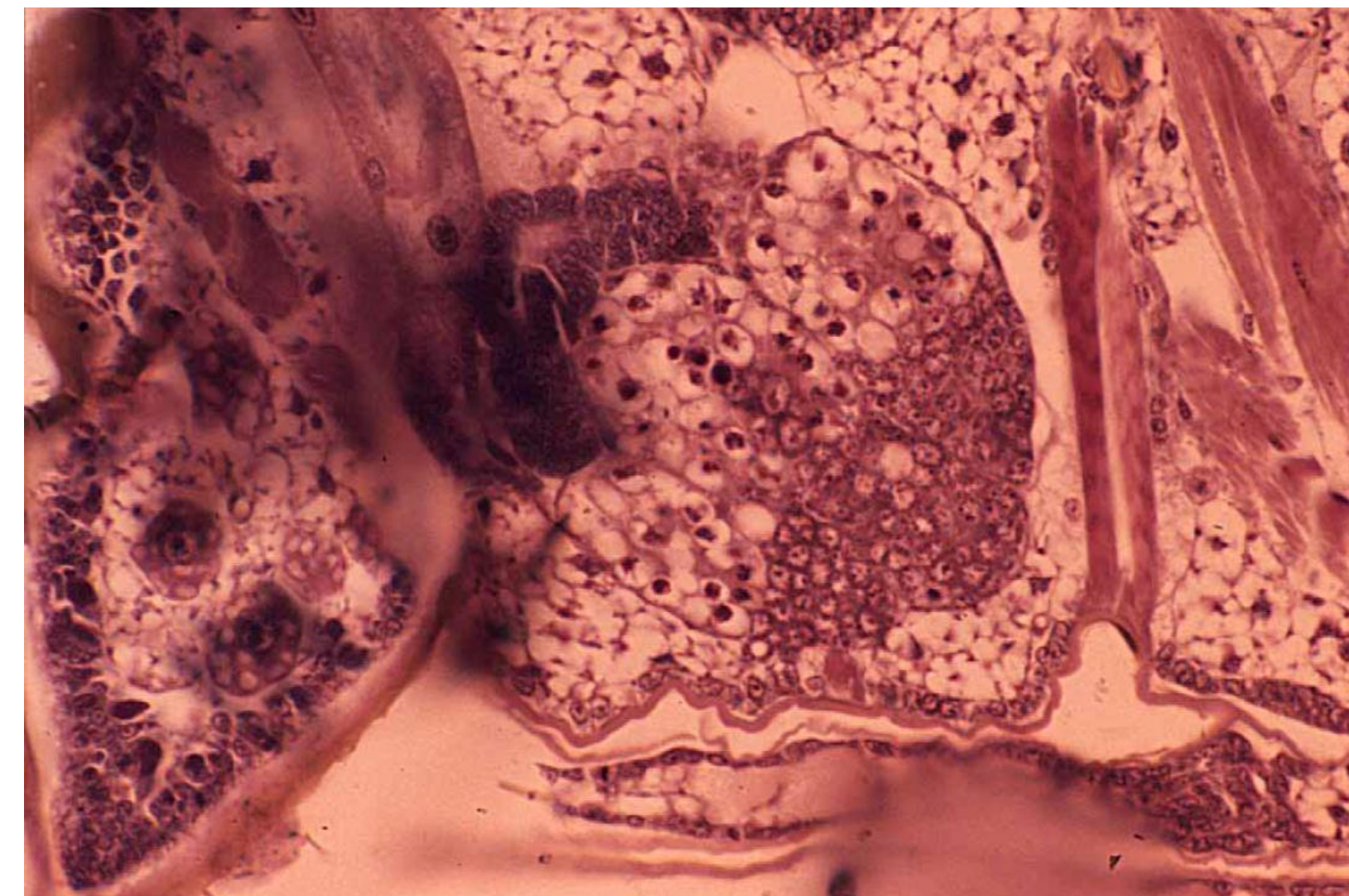
Ovariólo da abelha-de-mel



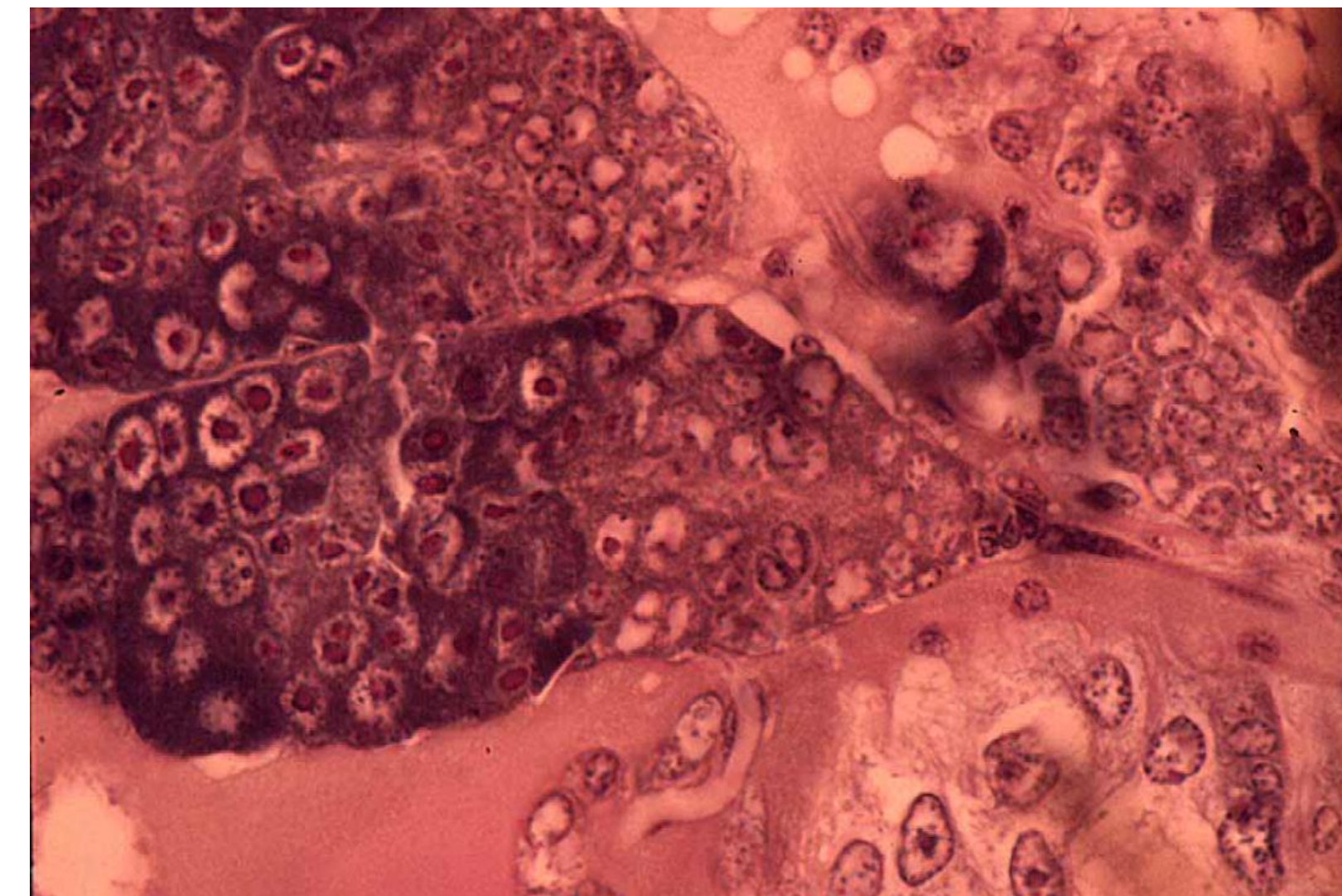
Ovariólo da abelha-de-mel



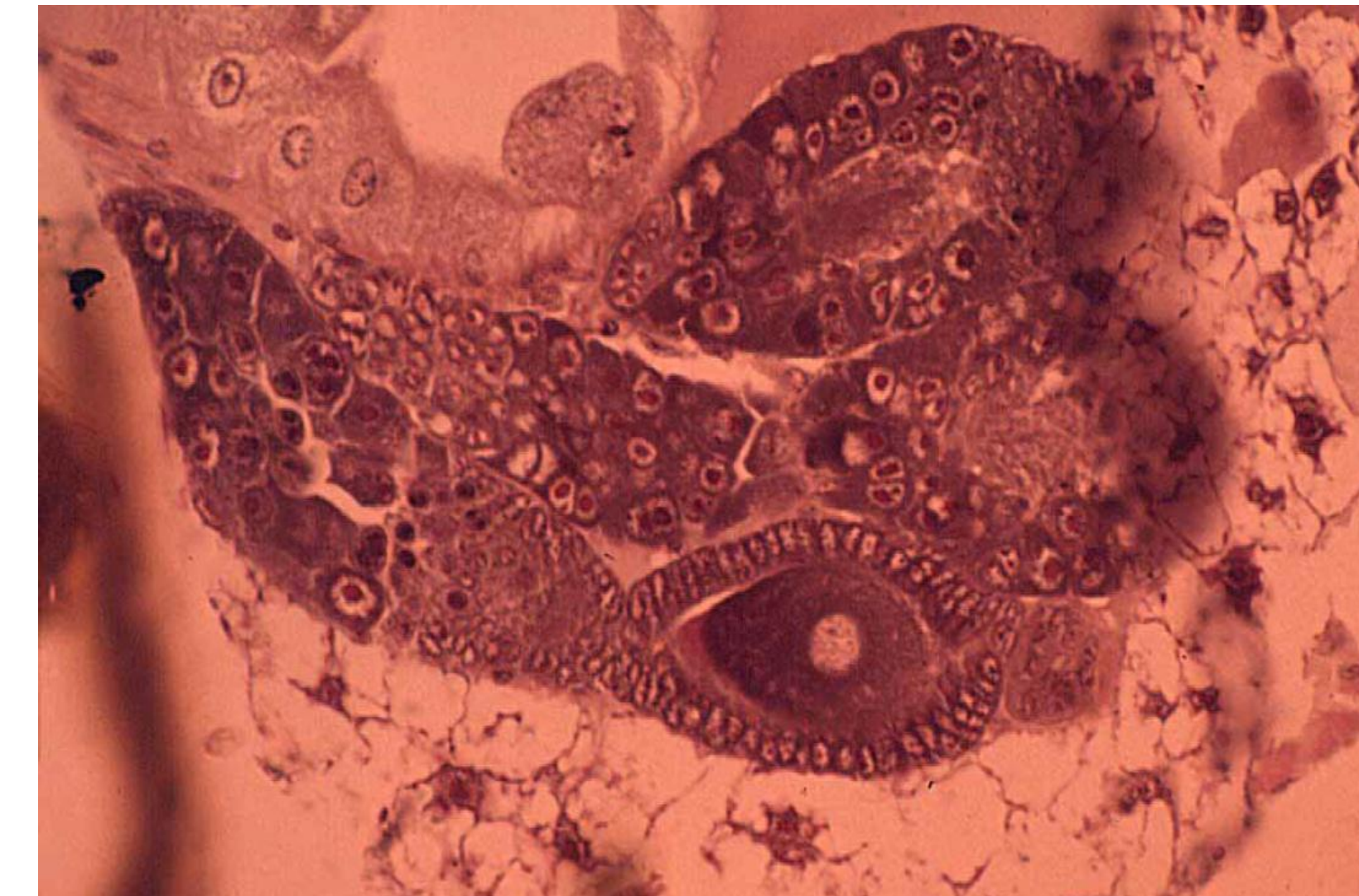
Ovariólo da abelha-de-mel



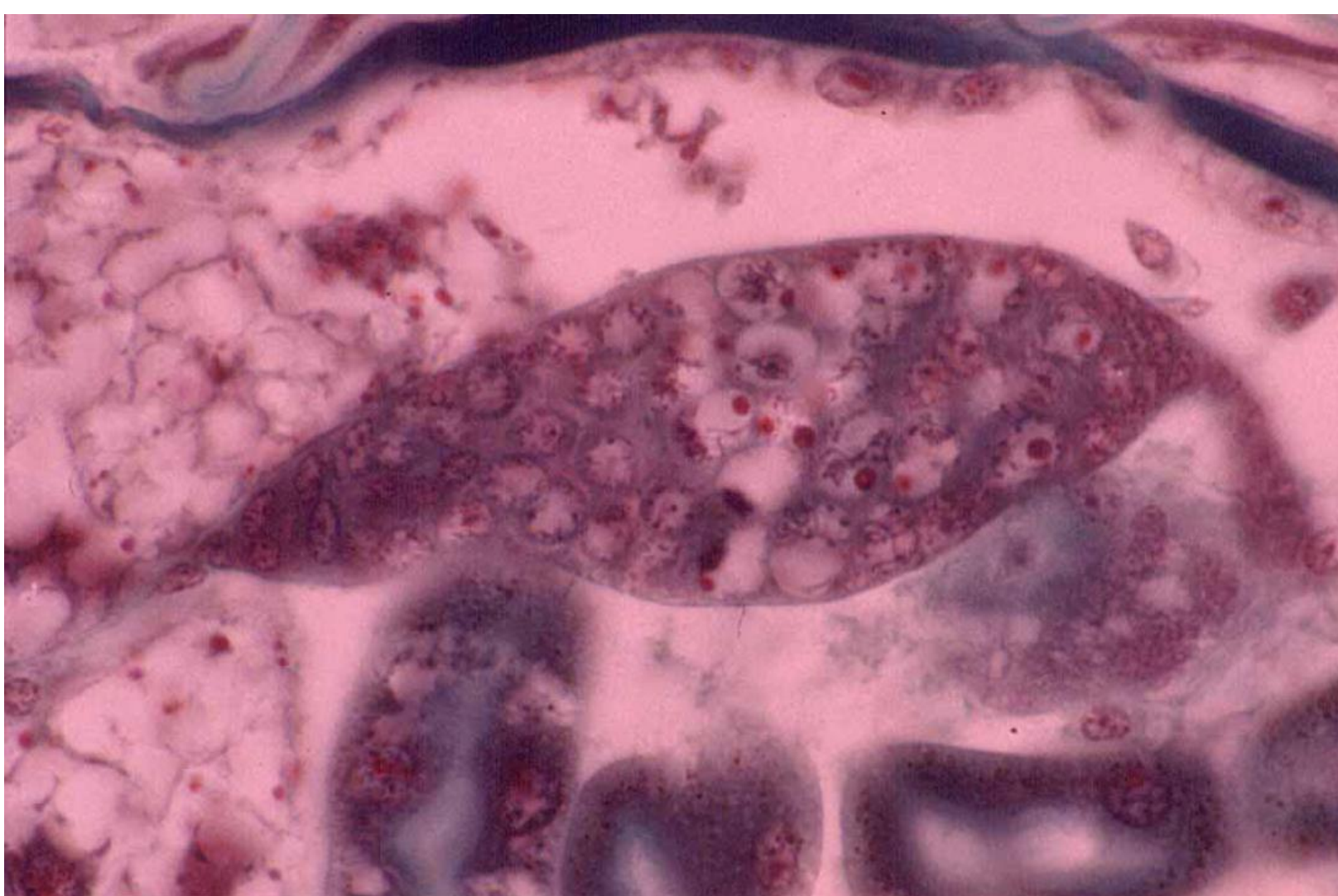
Ovário rudimentar na fase larvar V da espécie
Hebrus pusillus (Hemiptera: Hebridae)



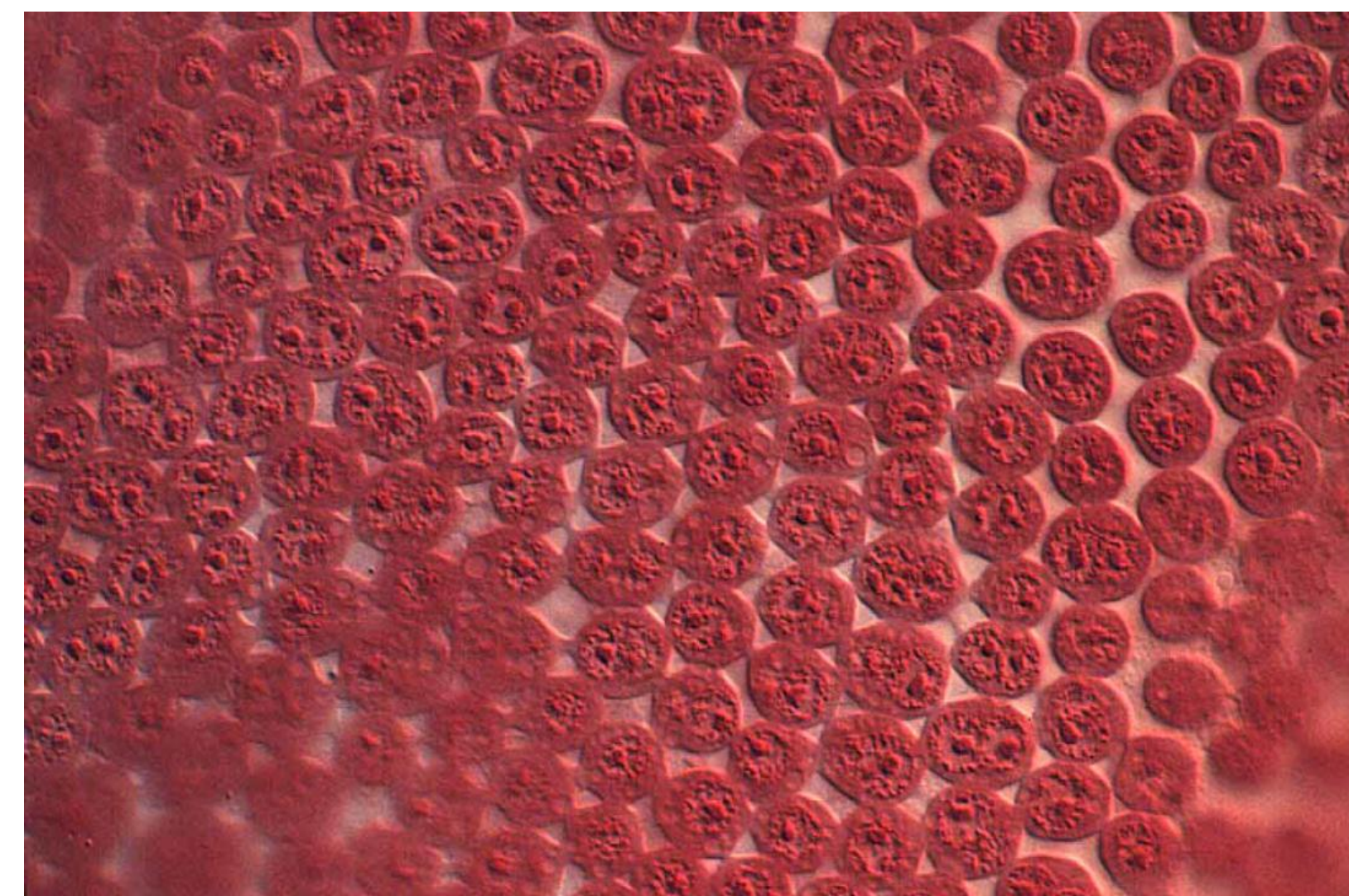
Ovário adulto da espécie *Hebrus pharate*
(Hemiptera: Hebridae)



Ovário adulto da espécie *Hebrus pharate*



Ovário rudimentar na fase larvar II da espécie
Haplothrips verbasci (Thysanoptera:
Phlaeothripidae)



Células foliculares do grilo
(Orthoptera: Gryllidae)



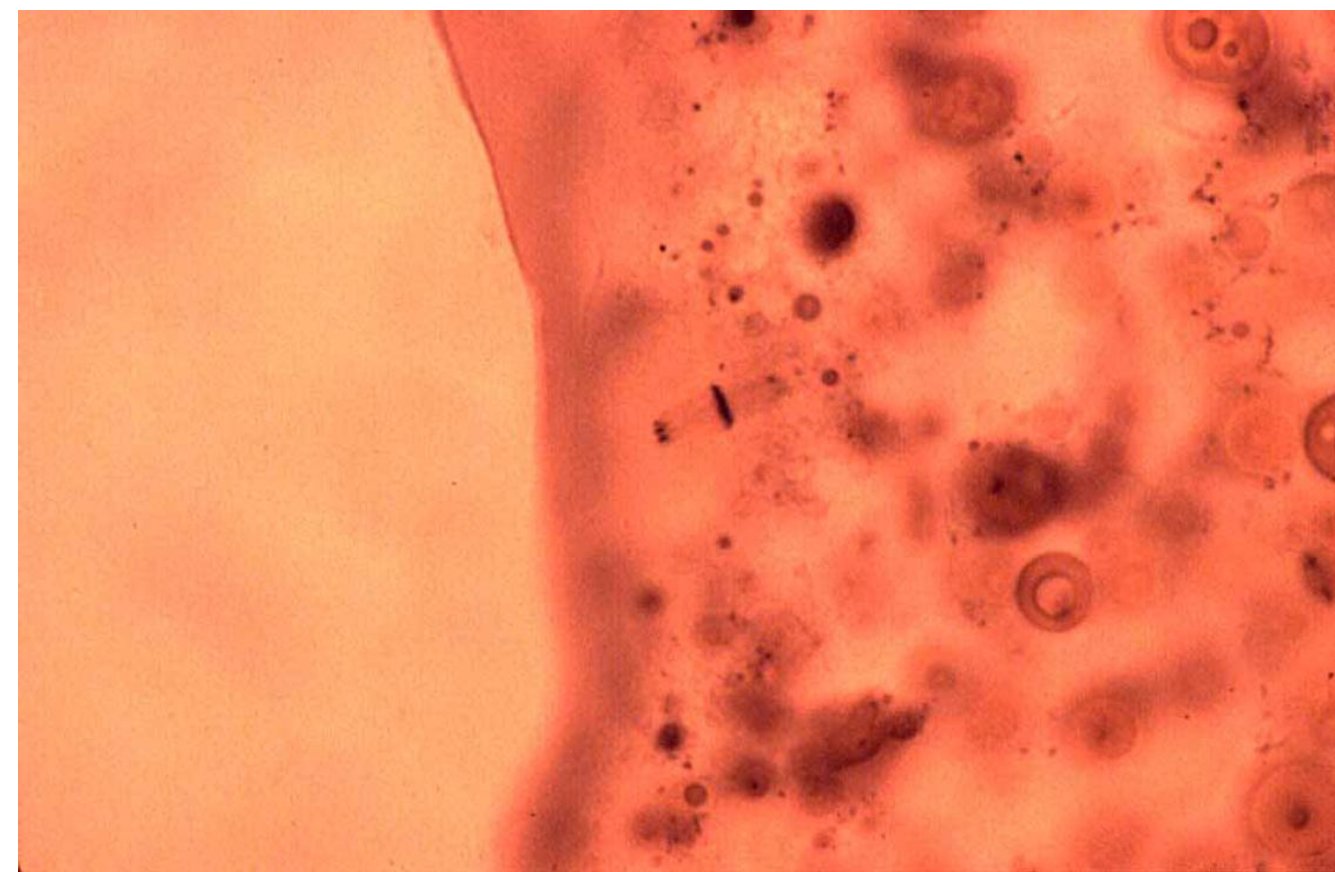
Ovariólo do grilo



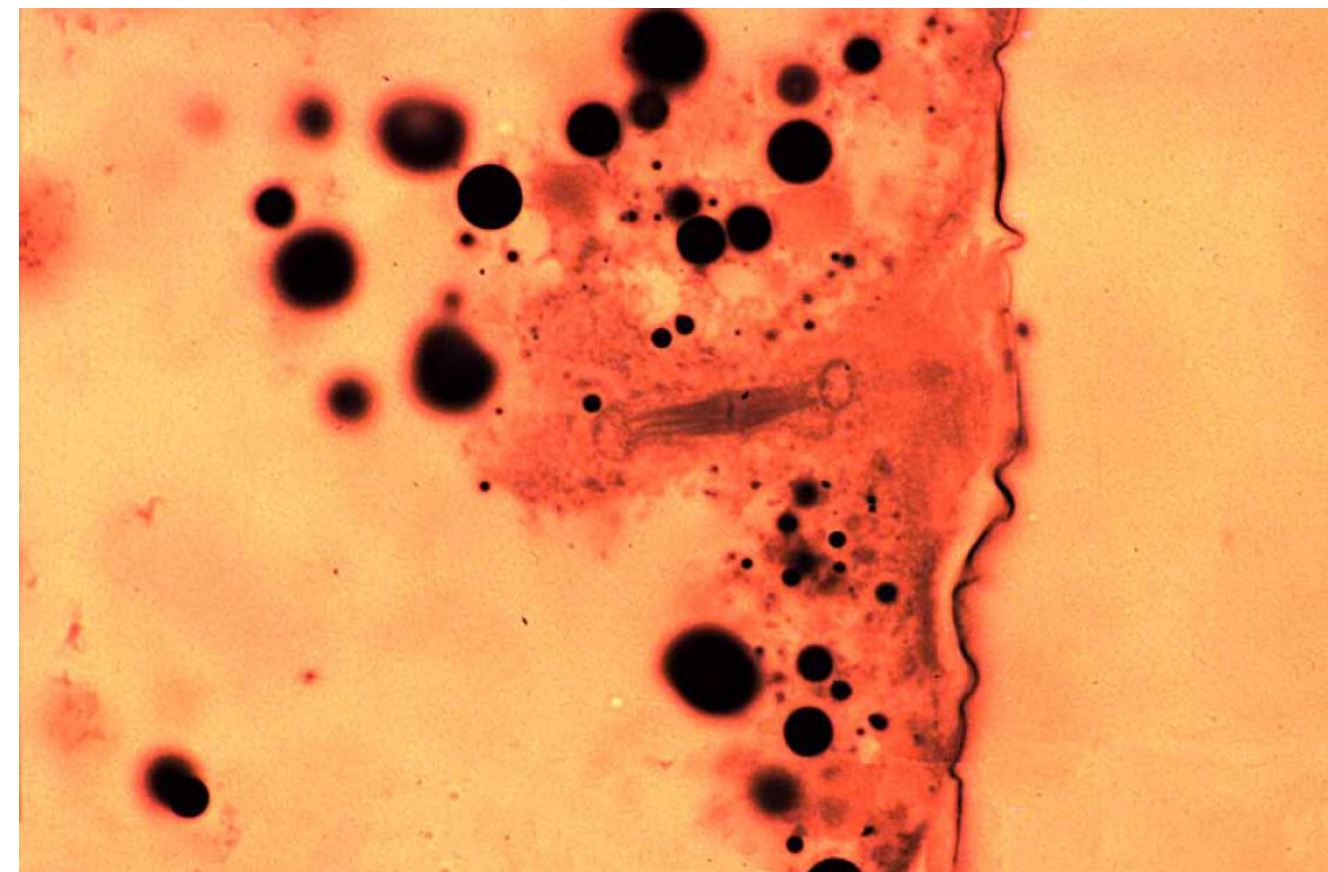
Ovariólo do grilo

O DESENVOLVIMENTO NOS INVERTEBRADOS

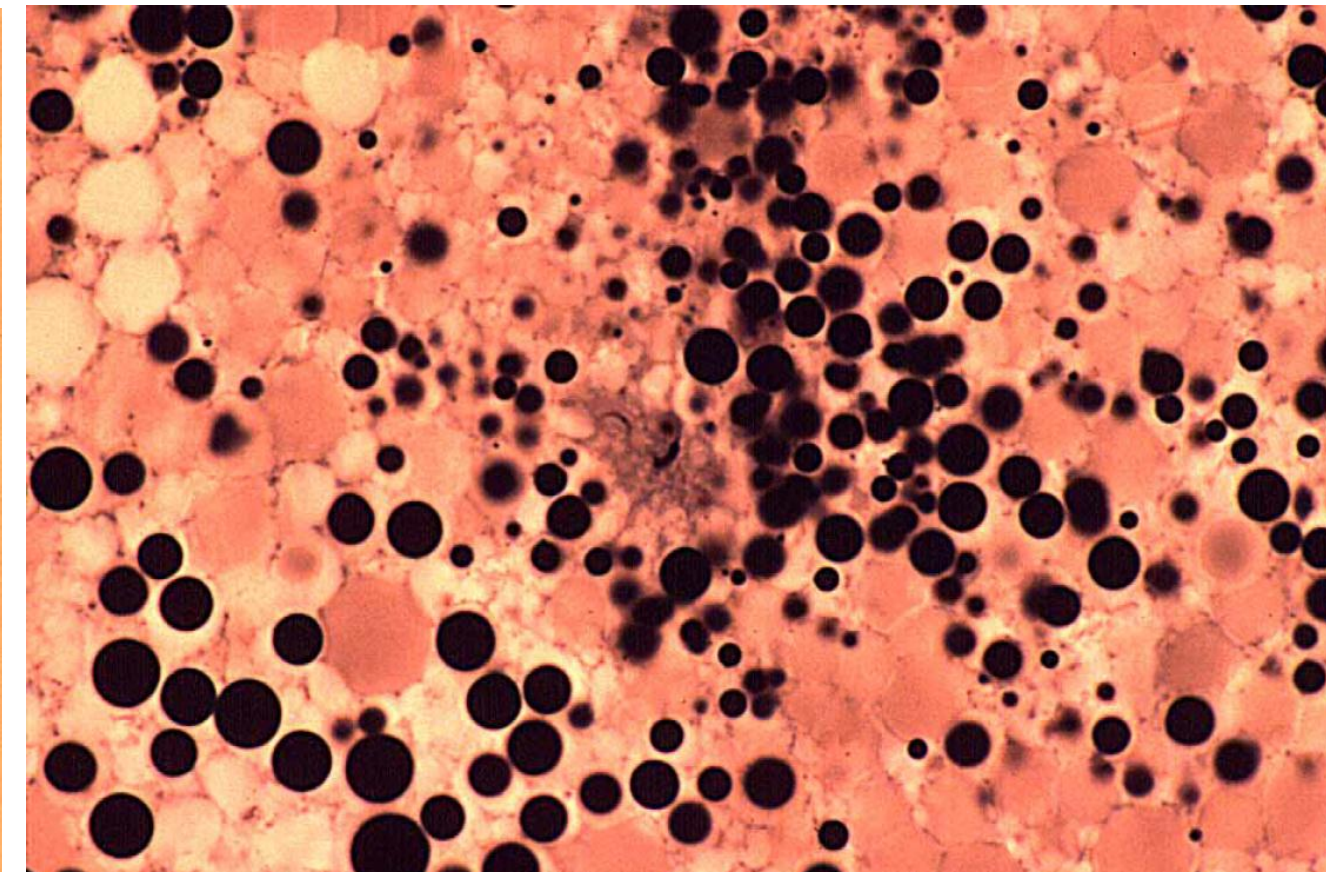
INÍCIO DA EMBRIOGÊNESE



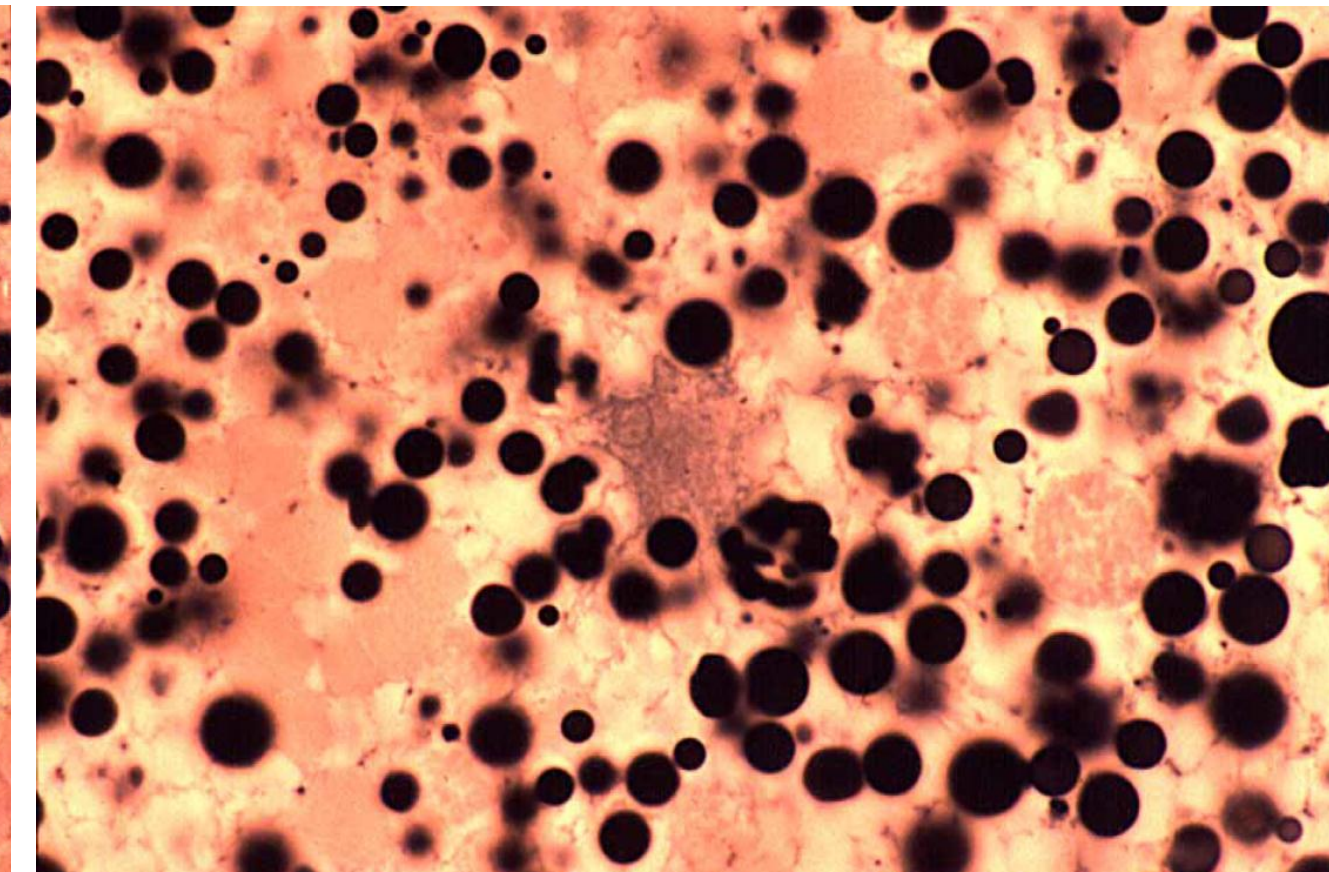
Fêmea da espécie *Lytta viridana*
(Coleoptera: Meloidae) em anafase I



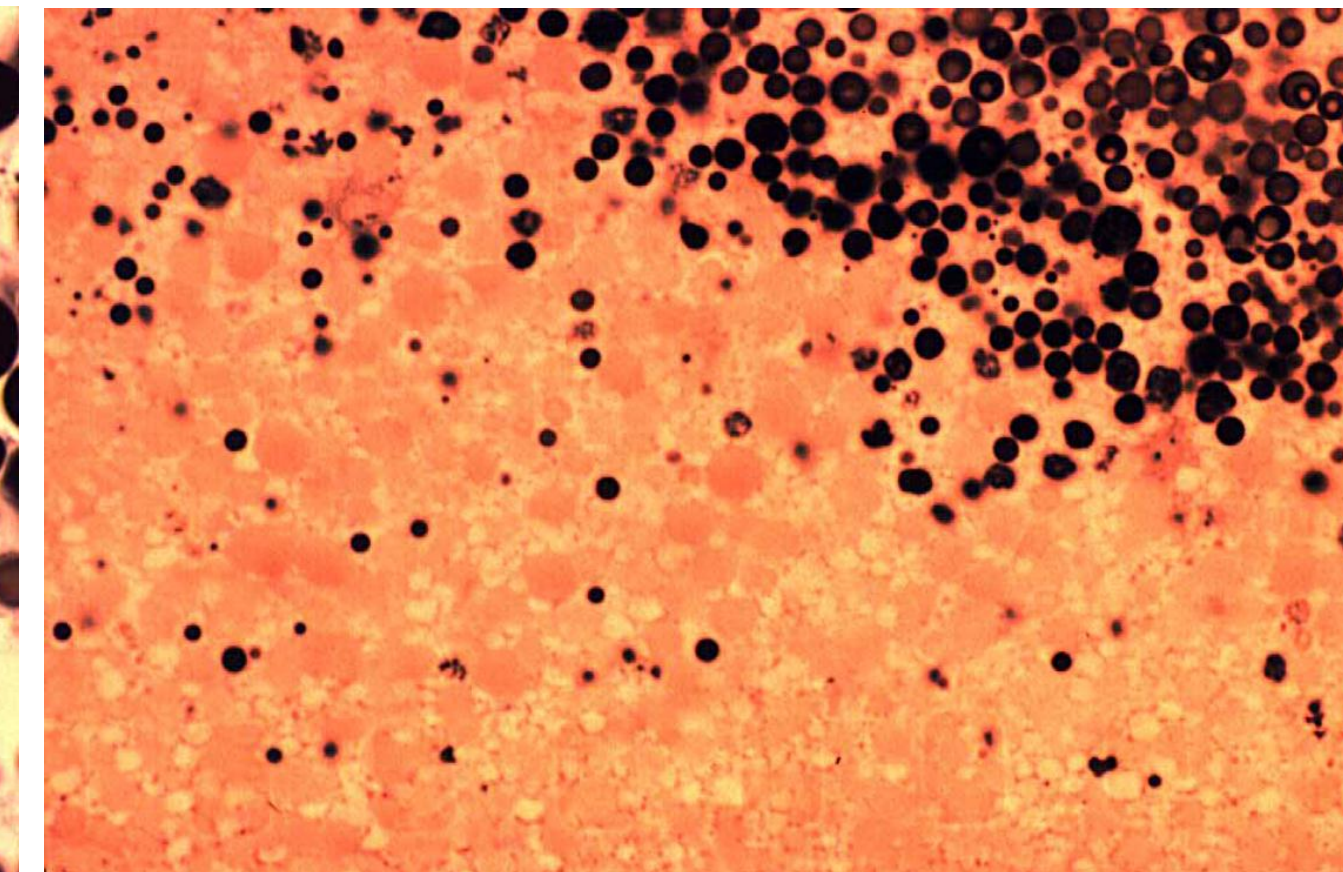
Fêmea da espécie *Lytta viridana*
em interfase II



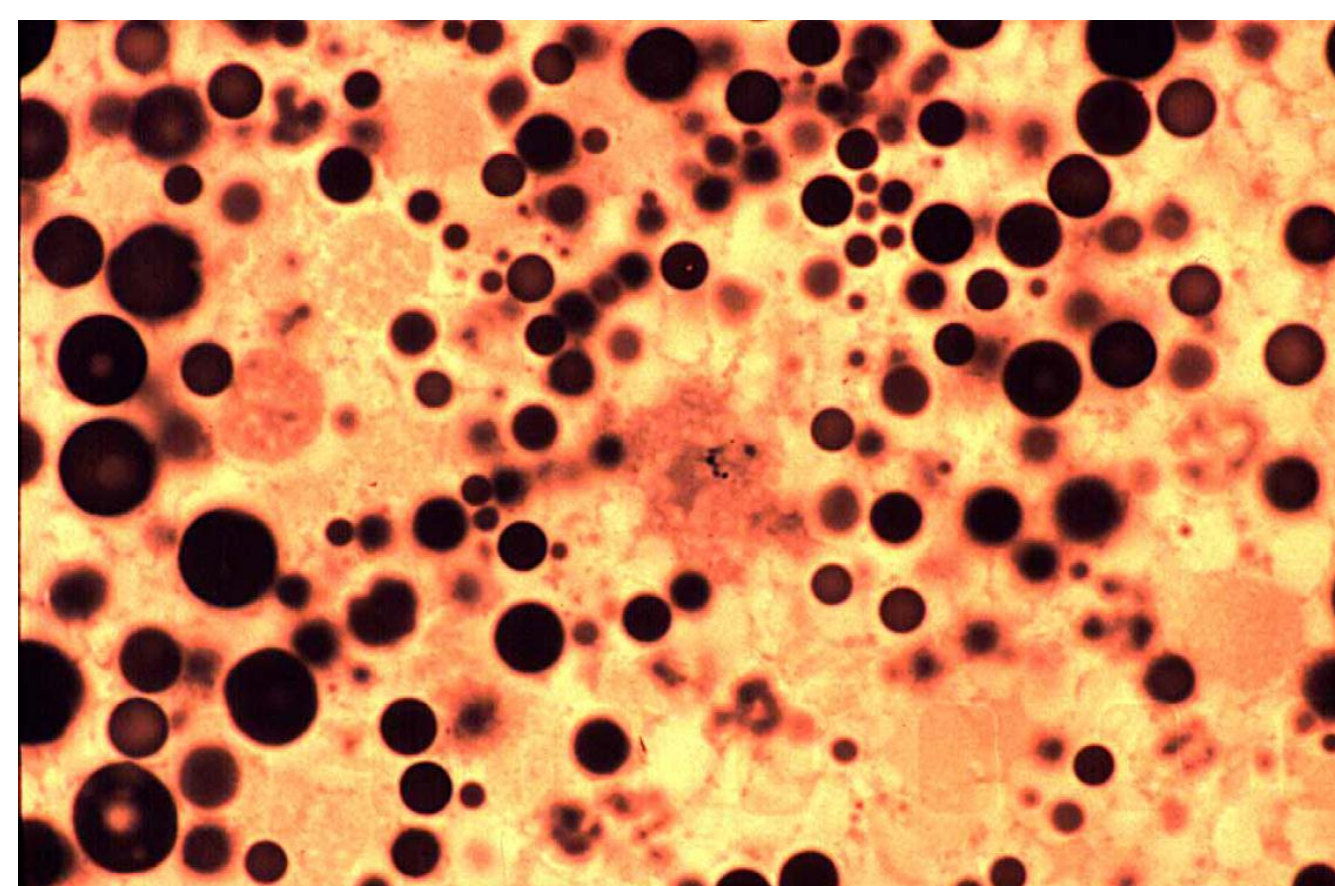
Espermatozoides da espécie *Lytta viridana* no vitelo



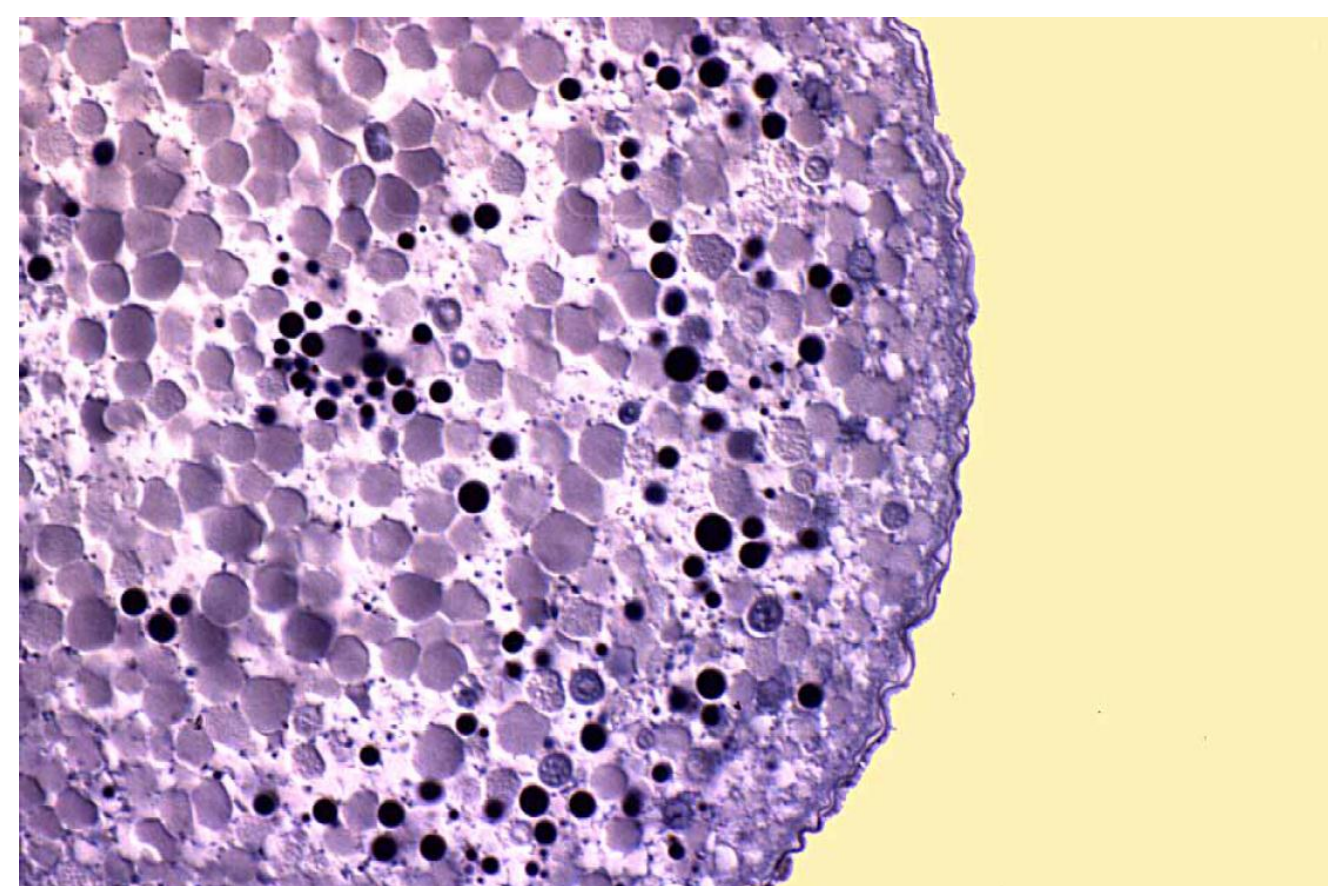
Pronúcleo e axonemas do macho da
espécie *Lytta viridana* no vitelo



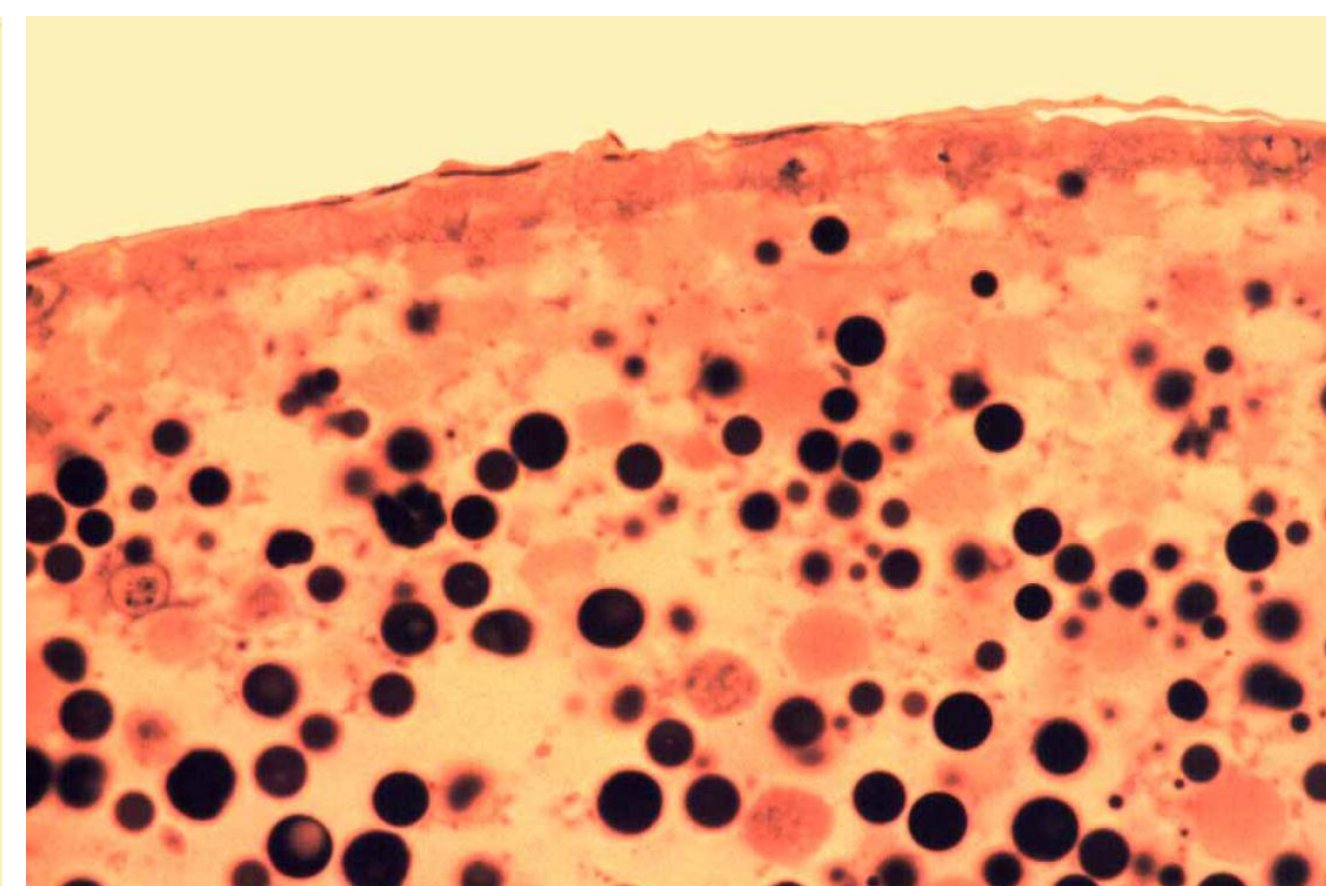
Energídios da espécie *Lytta viridana*
no vitelo



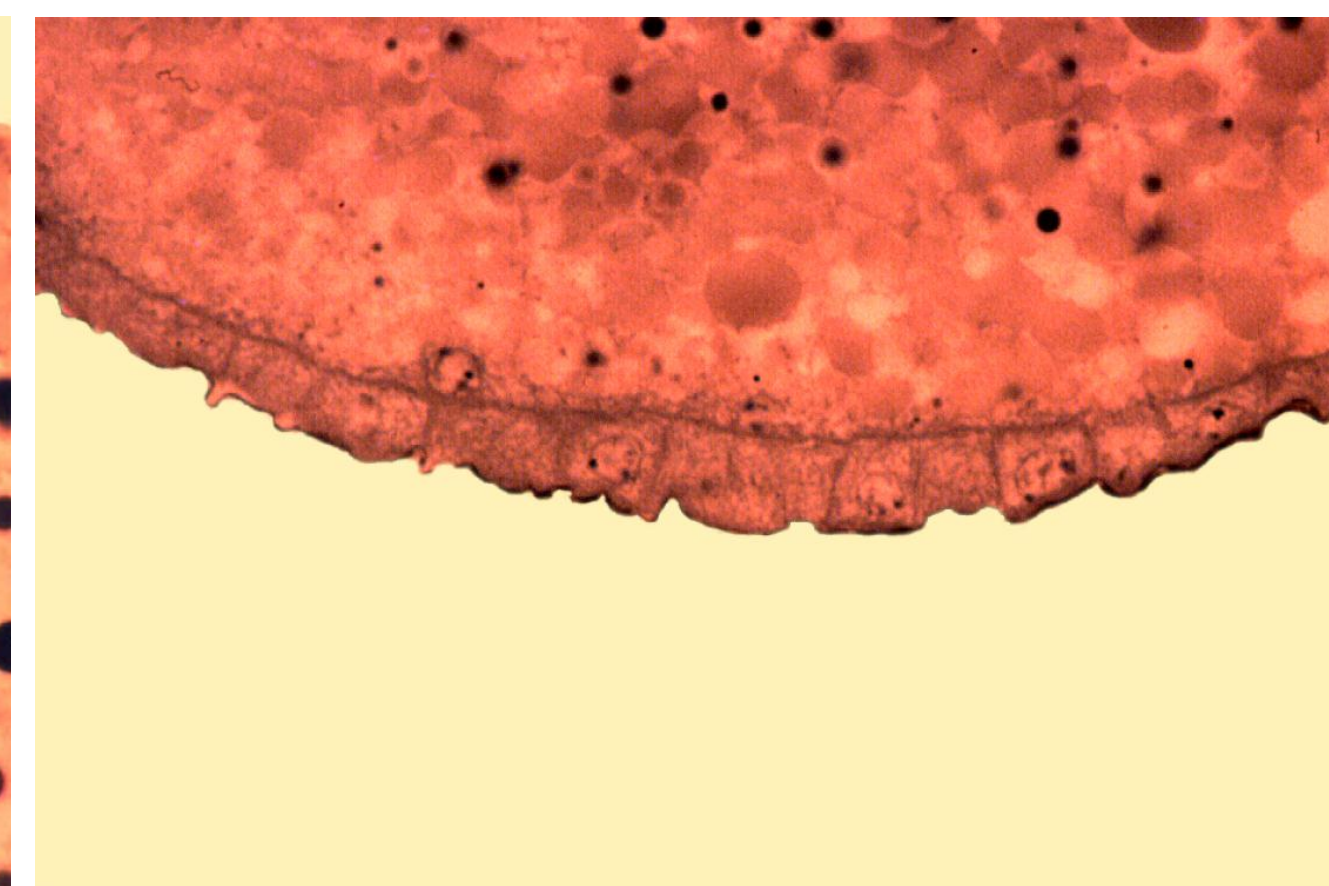
Energídios da espécie *Lytta viridana*
em metafase



Energídios da espécie *Lytta viridana*
próximos do periplasma



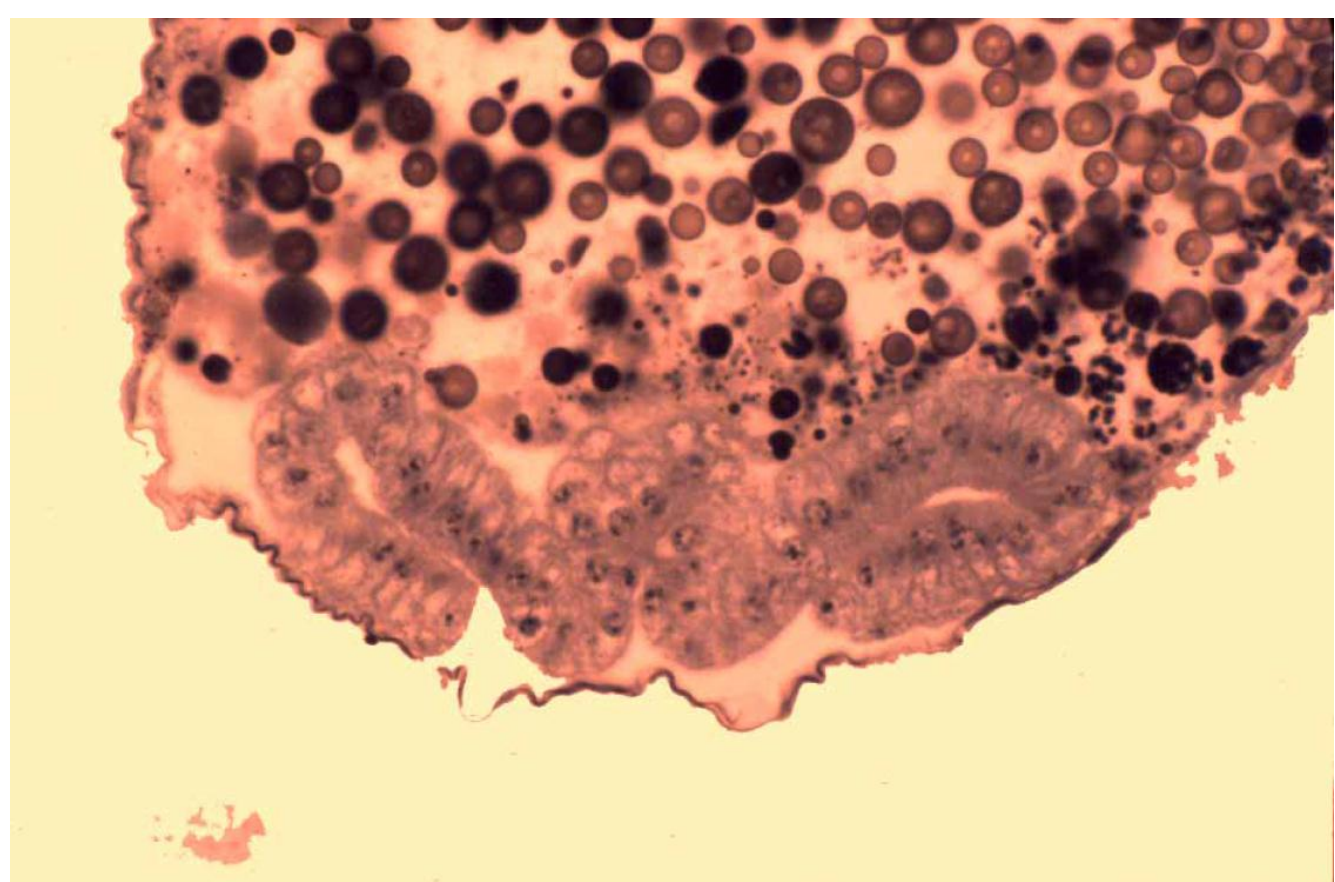
Preblastoderme da espécie *Lytta viridana* no início da clivagem



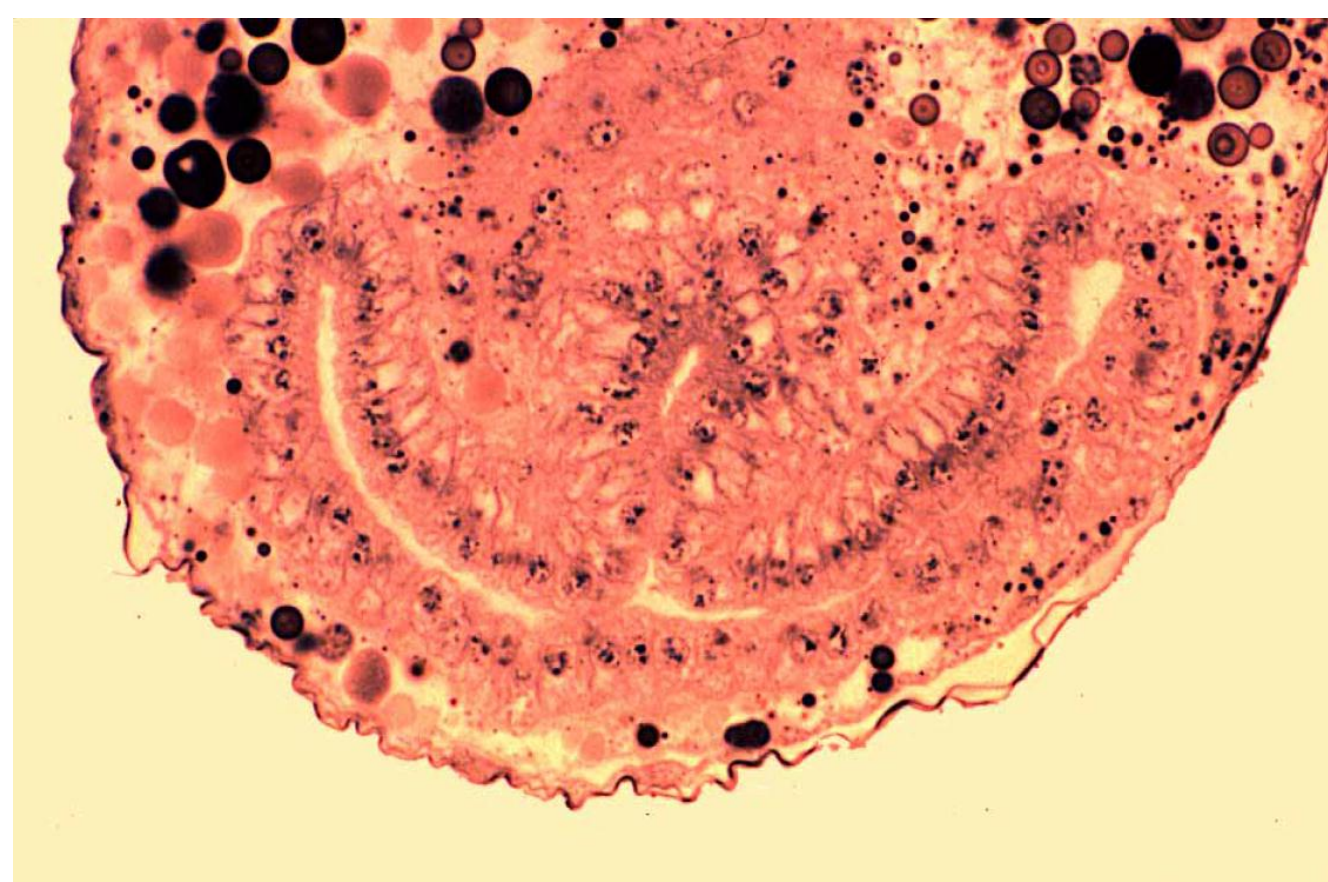
Blastoderme da espécie *Lytta viridana*



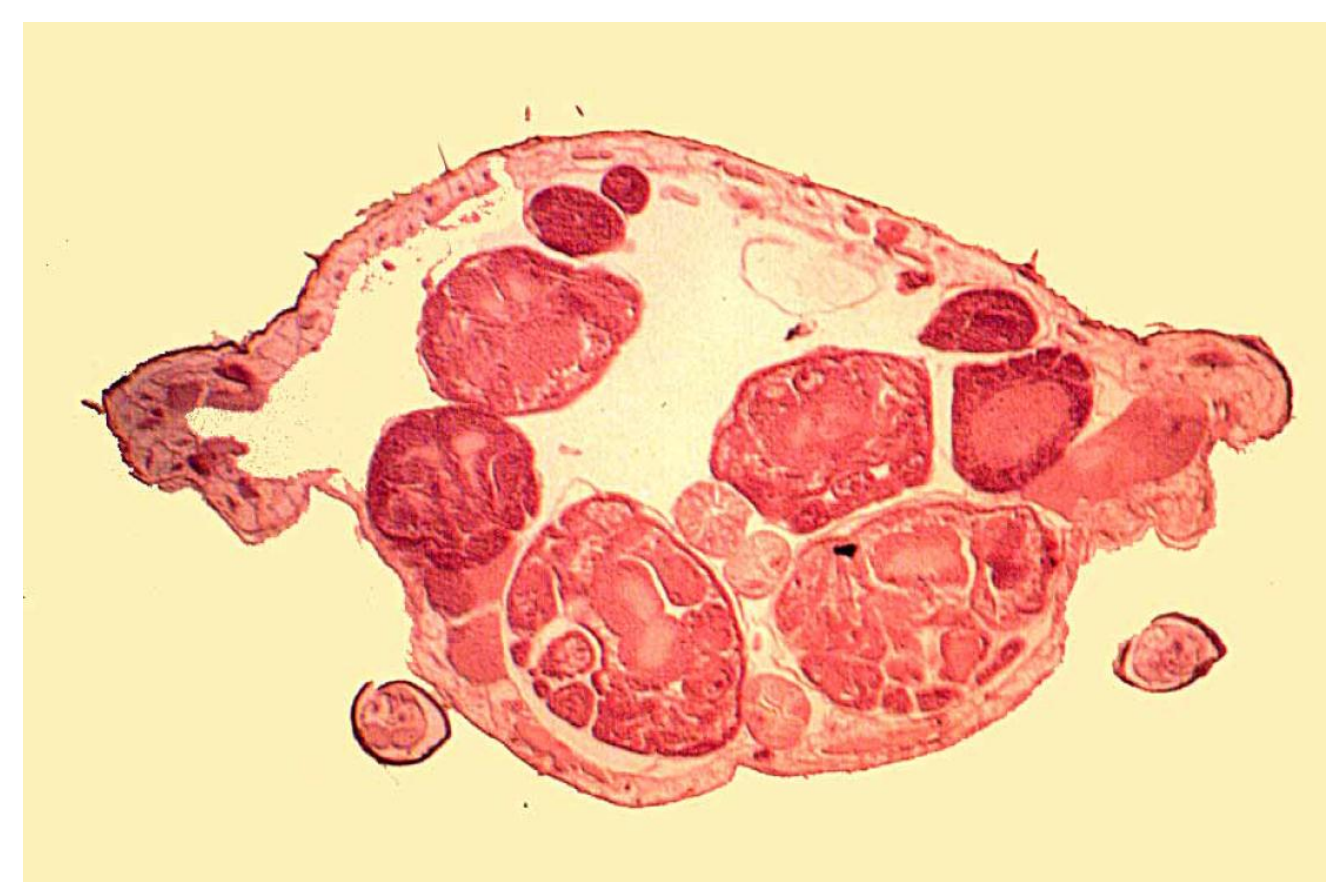
Banda germinal da espécie
Lytta viridana



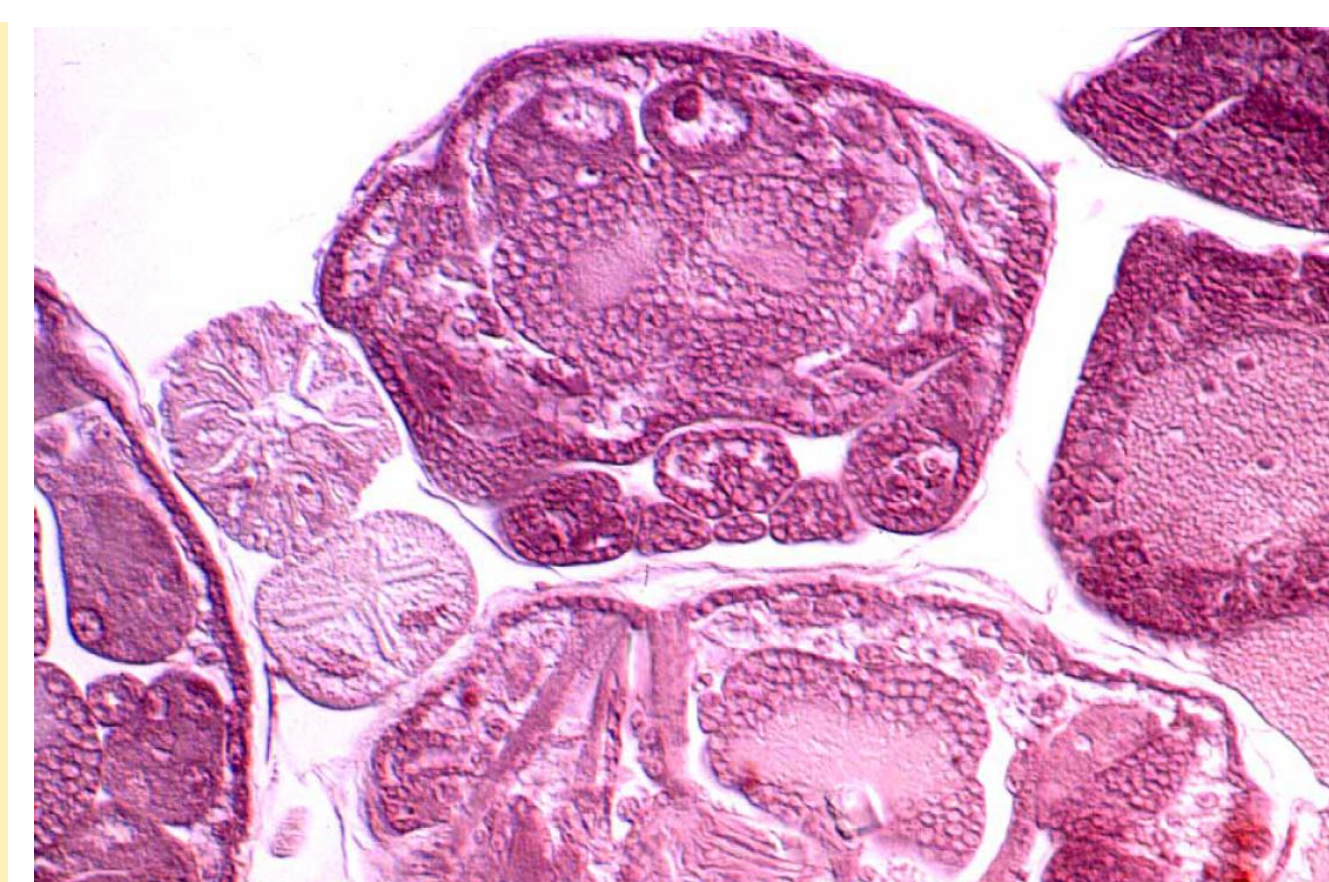
Banda germinal em gastrulação na
espécie *Lytta viridana*



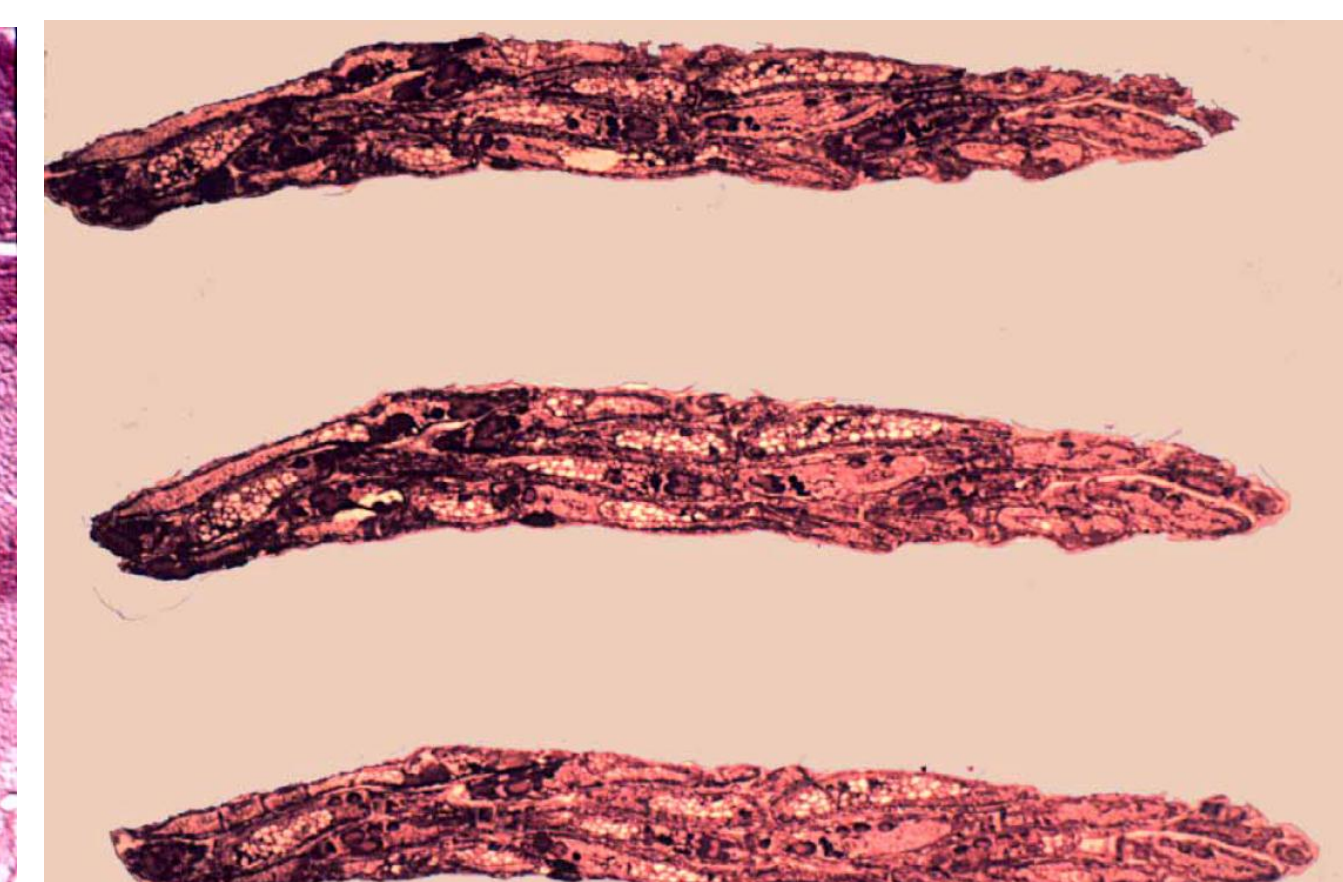
Ápice posterior da banda germinal em
gastrulação na espécie *Lytta viridana*



Abdômen de uma fêmea vivípara de
pulgão (Hemiptera: Aphididae) onde
se podem apreciar nove embriões



Abdômen de uma fêmea vivípara de
pulgão onde se podem apreciar as
estruturas de três embriões em
desenvolvimento



Larvas fêmea da espécie *Miastor*
sp. (Diptera: Cecidomyiidae), onde se
veem larvas em desenvolvimento
pedogenético

O DESENVOLVIMENTO NOS INVERTEBRADOS

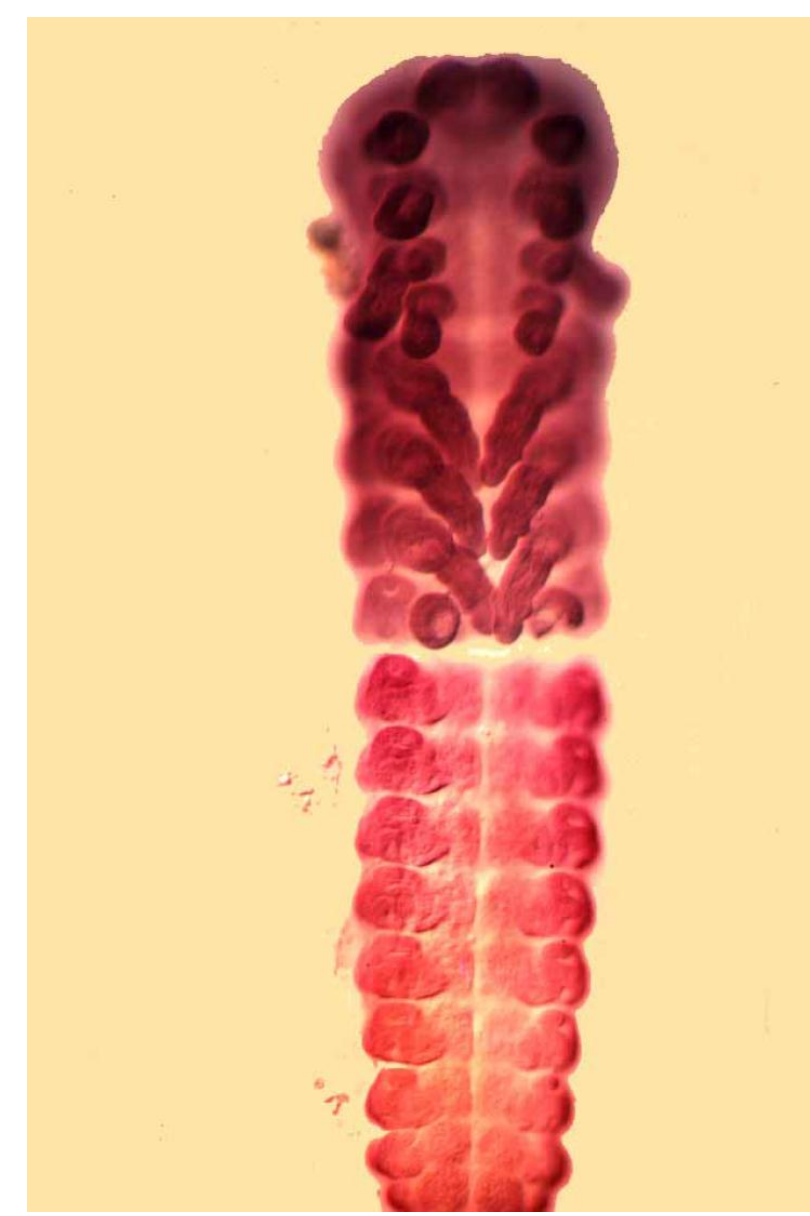
ORGANOGENESE



Embrião de *Lytta viridana* às 52h



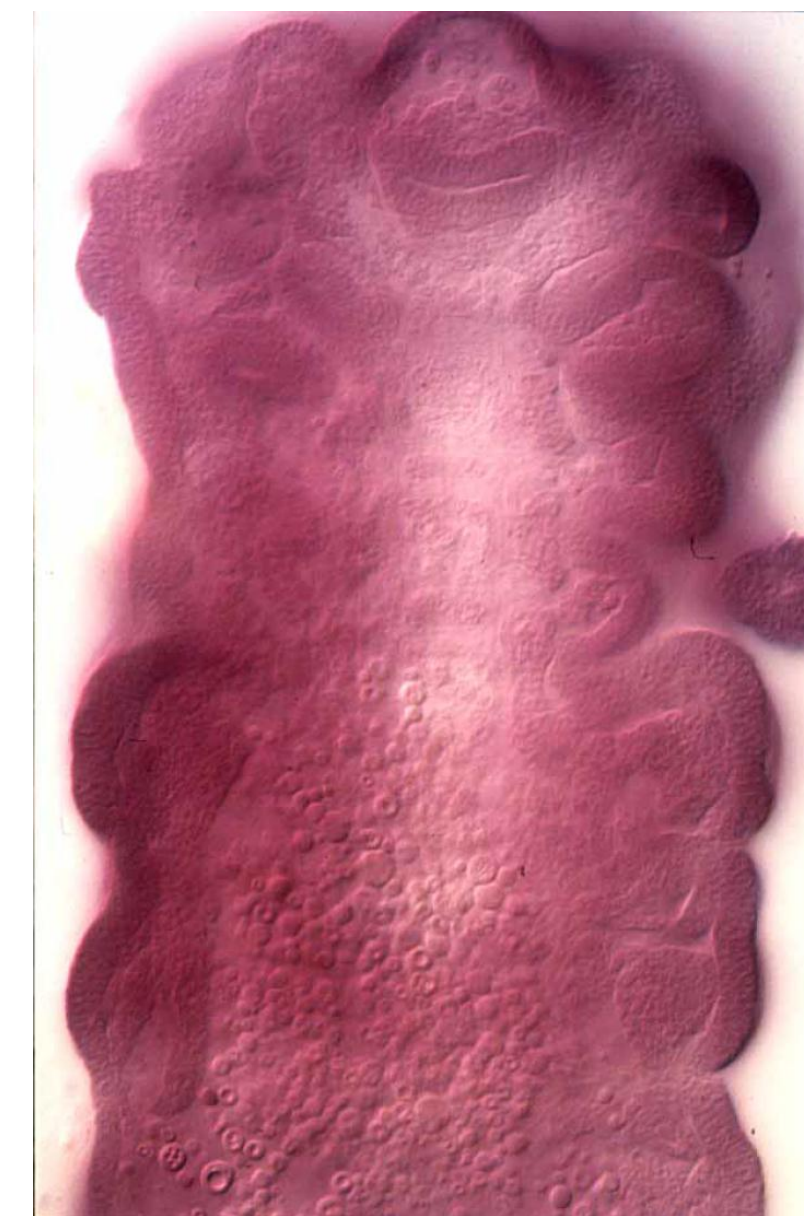
Embrião de *Lytta viridana* às 72h



Embrião de *Lytta viridana* às 88h



Embrião de *L. viridana* às 88h – neuroblastos em desenvolvimento



Embrião de *L. viridana* às 88h - estomodeu e neurópilo (SNC)



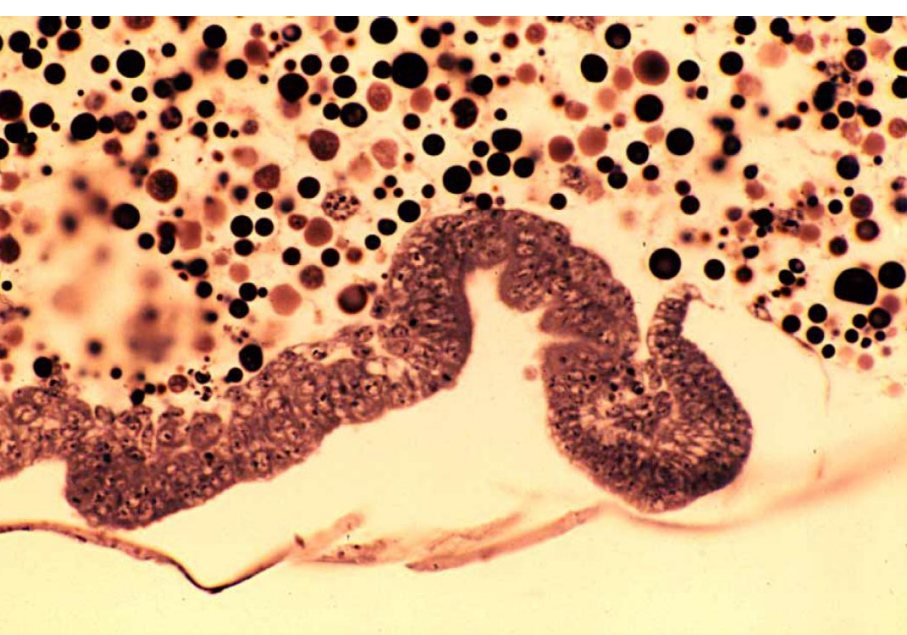
Embrião de *L. viridana* às 88h – neuroblastos abdominais



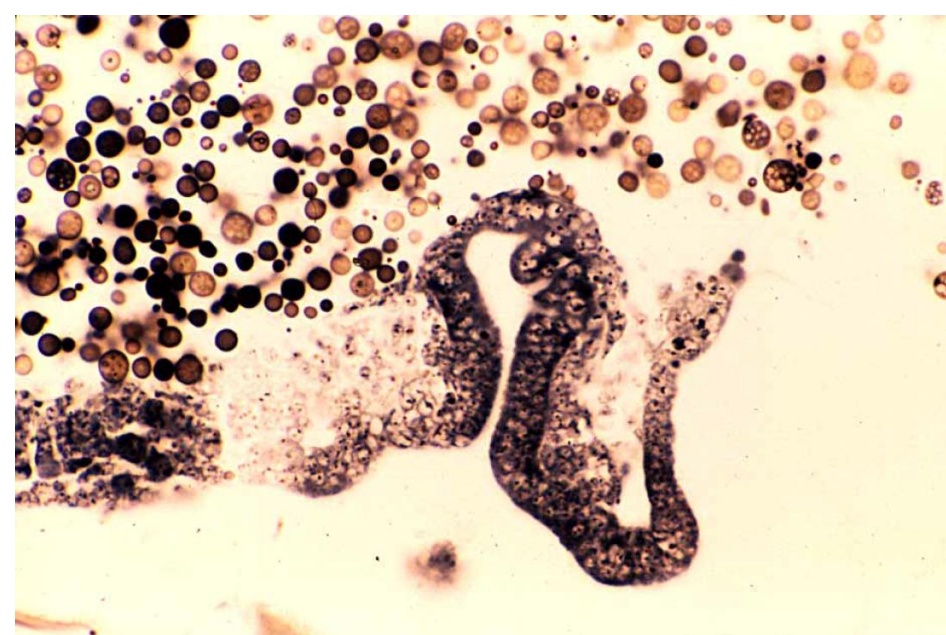
Embrião de *L. viridana* às 88h - proctodeu



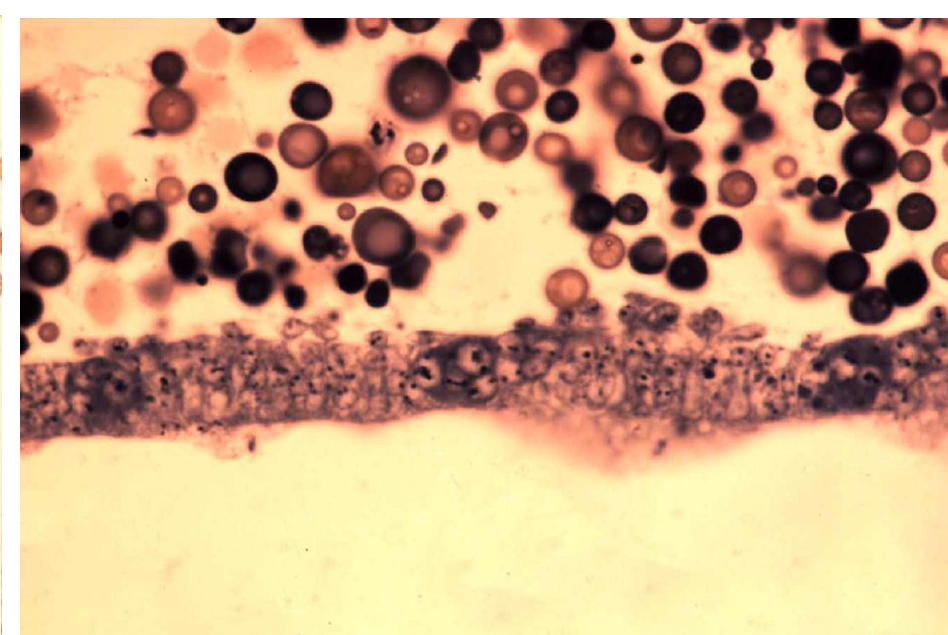
Embrião de *Lytta viridana* às 96h



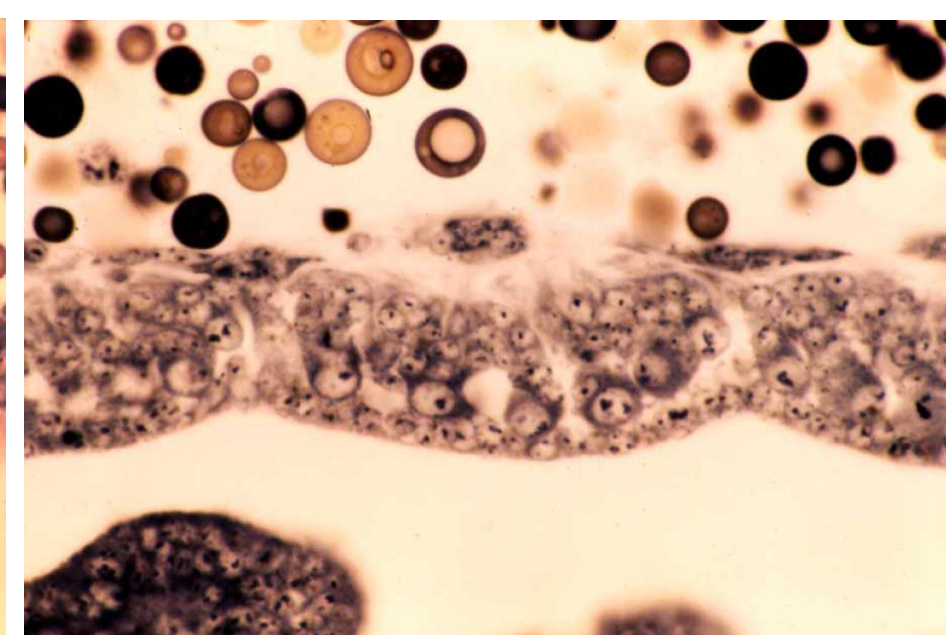
Estomodeu do embrião de *Lytta viridana* às 56h



Estomodeu do embrião de *Lytta viridana* às 72h



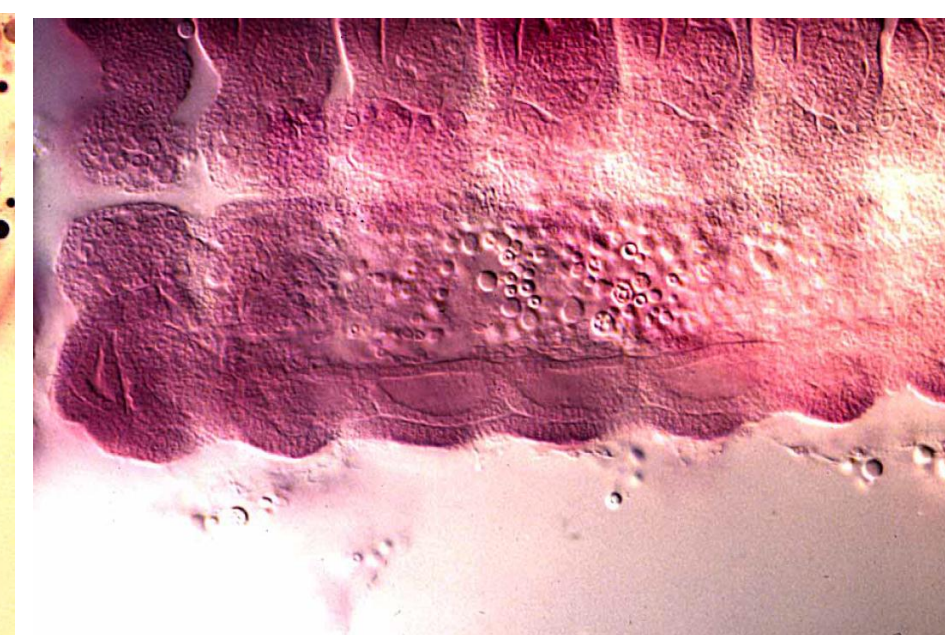
Embrião de *Lytta viridana* às 72h – neuroblastos precursores da linha média



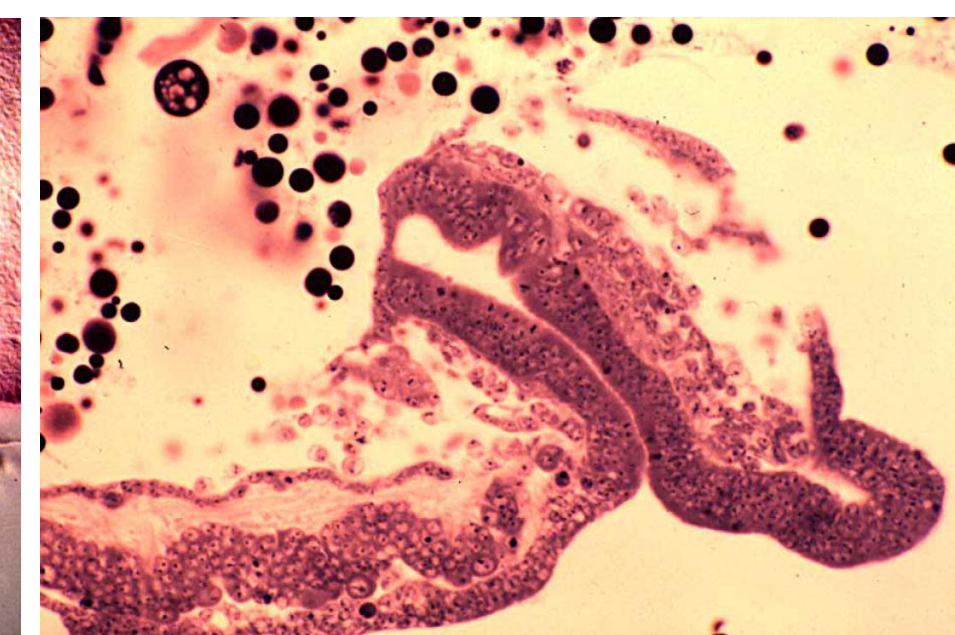
Embrião de *Lytta viridana* às 72h – neuroblastos e células estaminais neurais



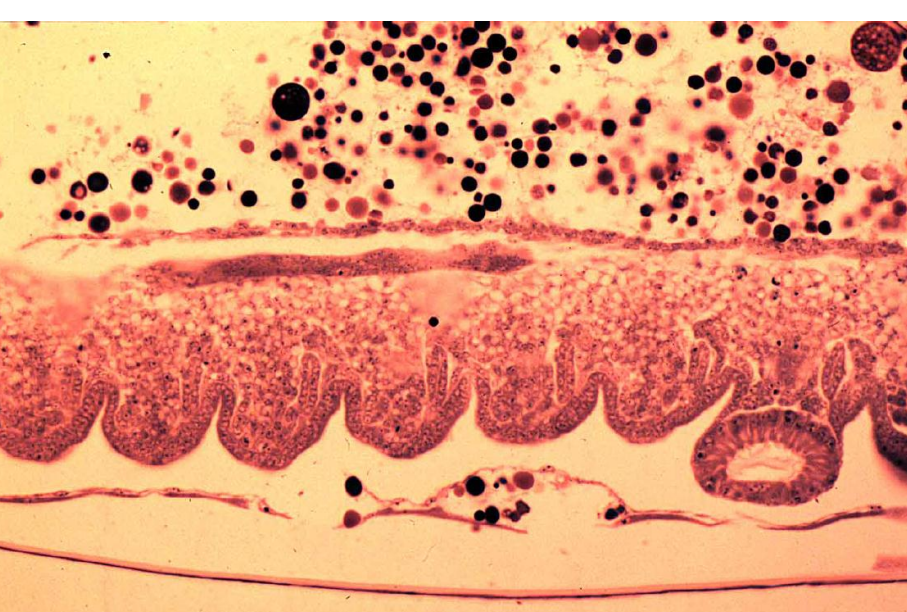
Protorax do embrião de *Lytta viridana* às 72h



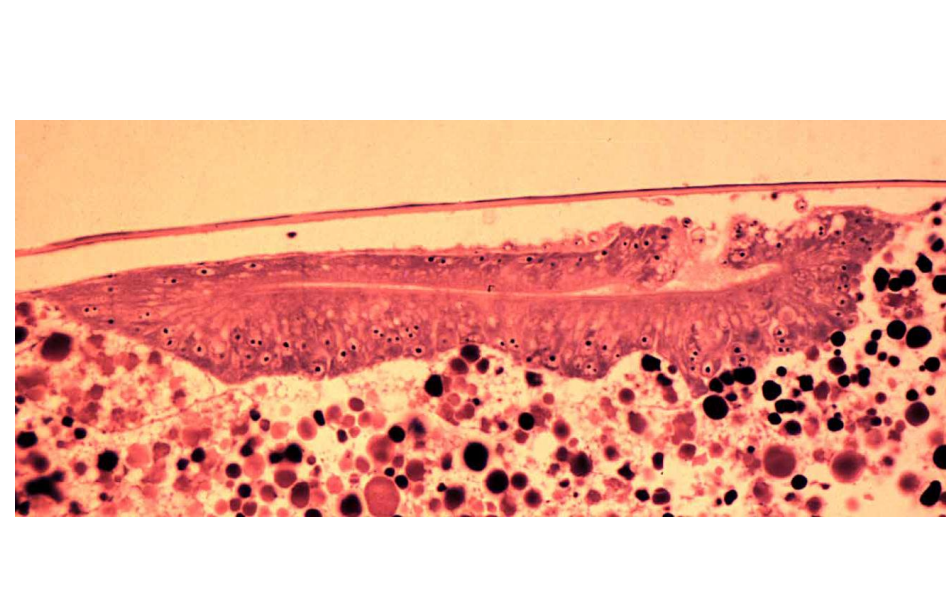
Embrião de *Lytta viridana* às 88h – sacos celômicos abdominais



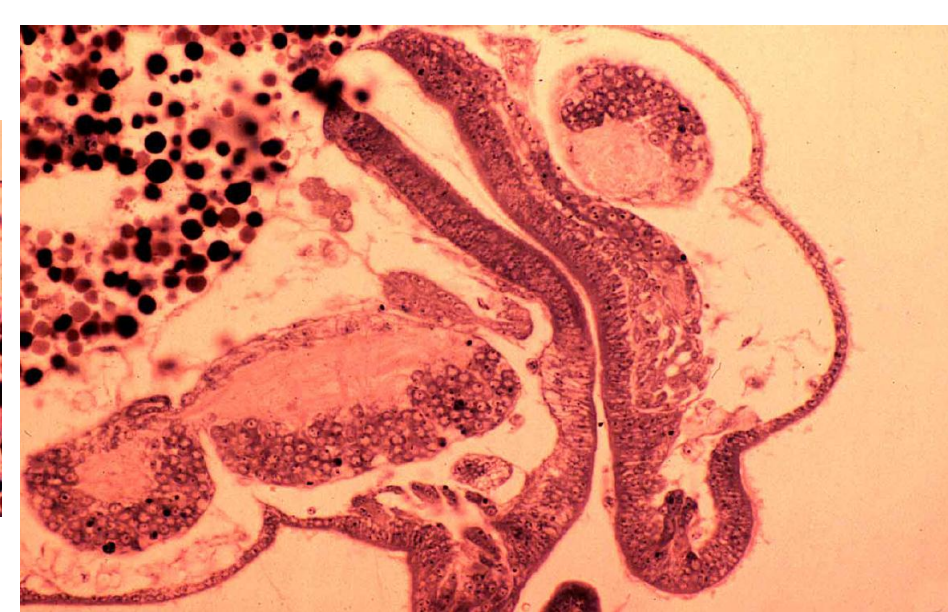
Estomodeu do embrião de *Lytta viridana* às 88h



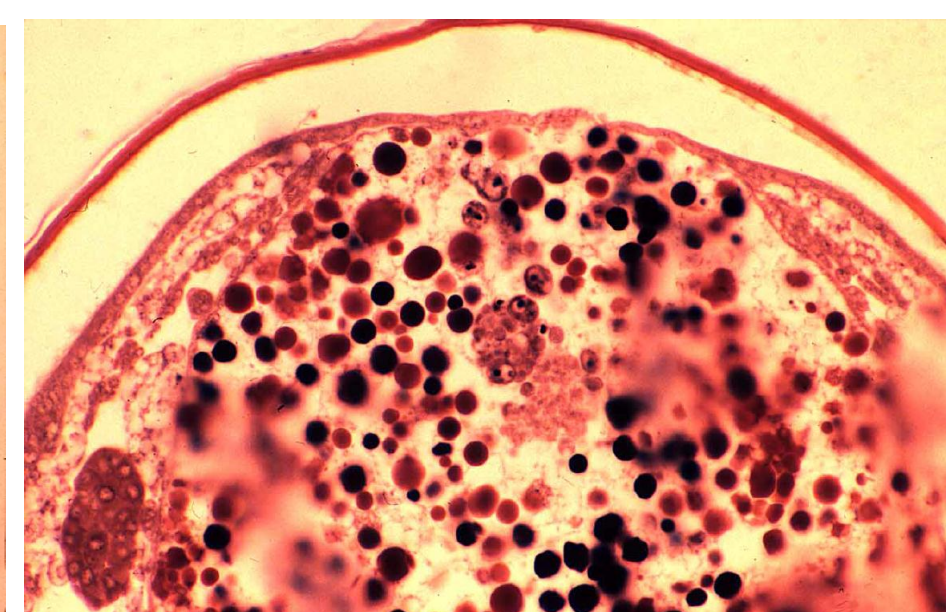
Crista genital do embrião de *Lytta viridana* às 96h



Órgão dorsal secundário do embrião de *Lytta viridana* às 120h



Estomodeu do embrião de *Lytta viridana* às 120h



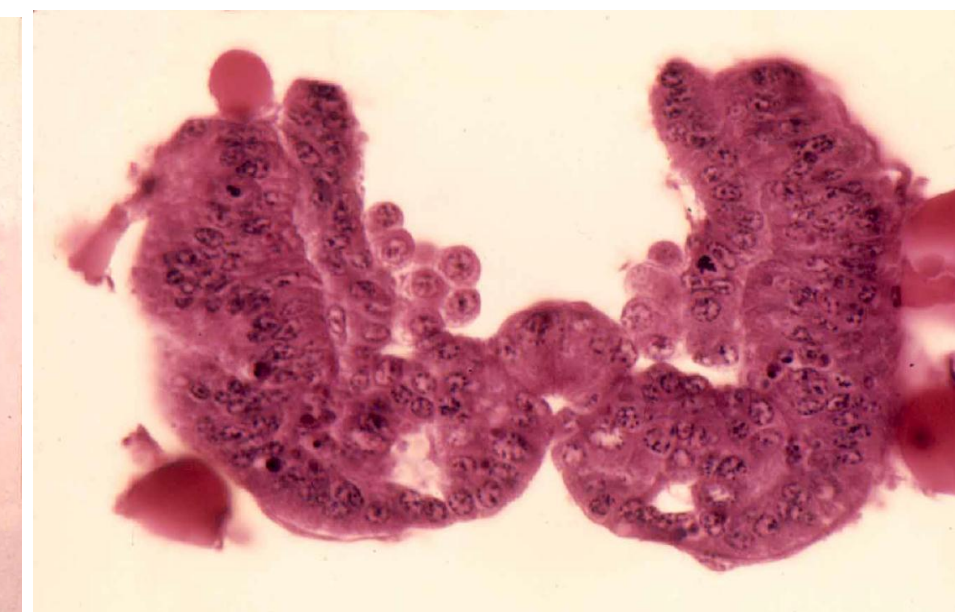
Embrião de *Lytta viridana* às 132h , mesmo antes do fecho dorsal



Primeiro segmento abdominal do embrião de *Lytta viridana* às 132h - pleuropódios



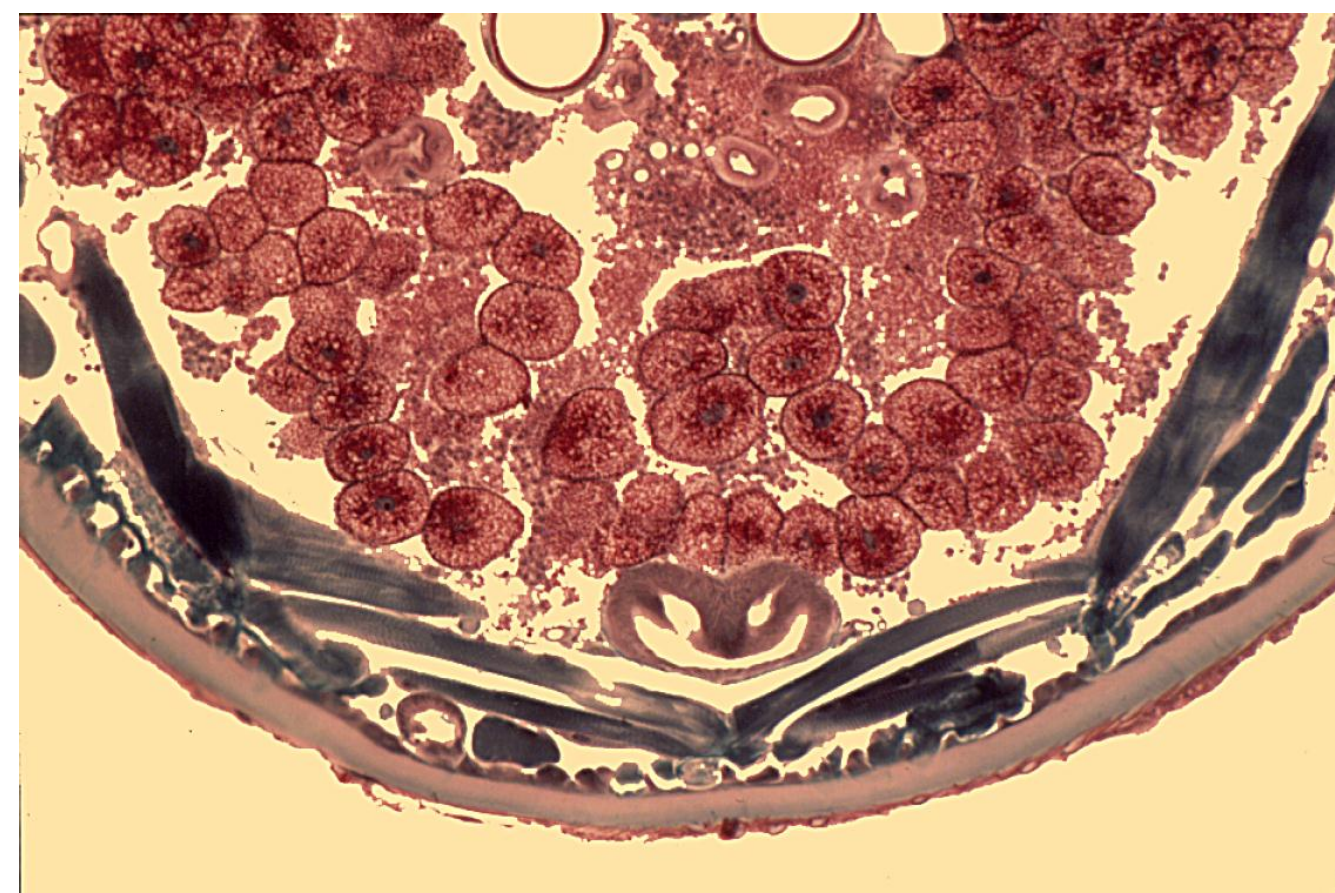
Embrião de *Gymnopsis* sp. (Diptera: Simuliidae) – cardioblastos no fecho dorsal



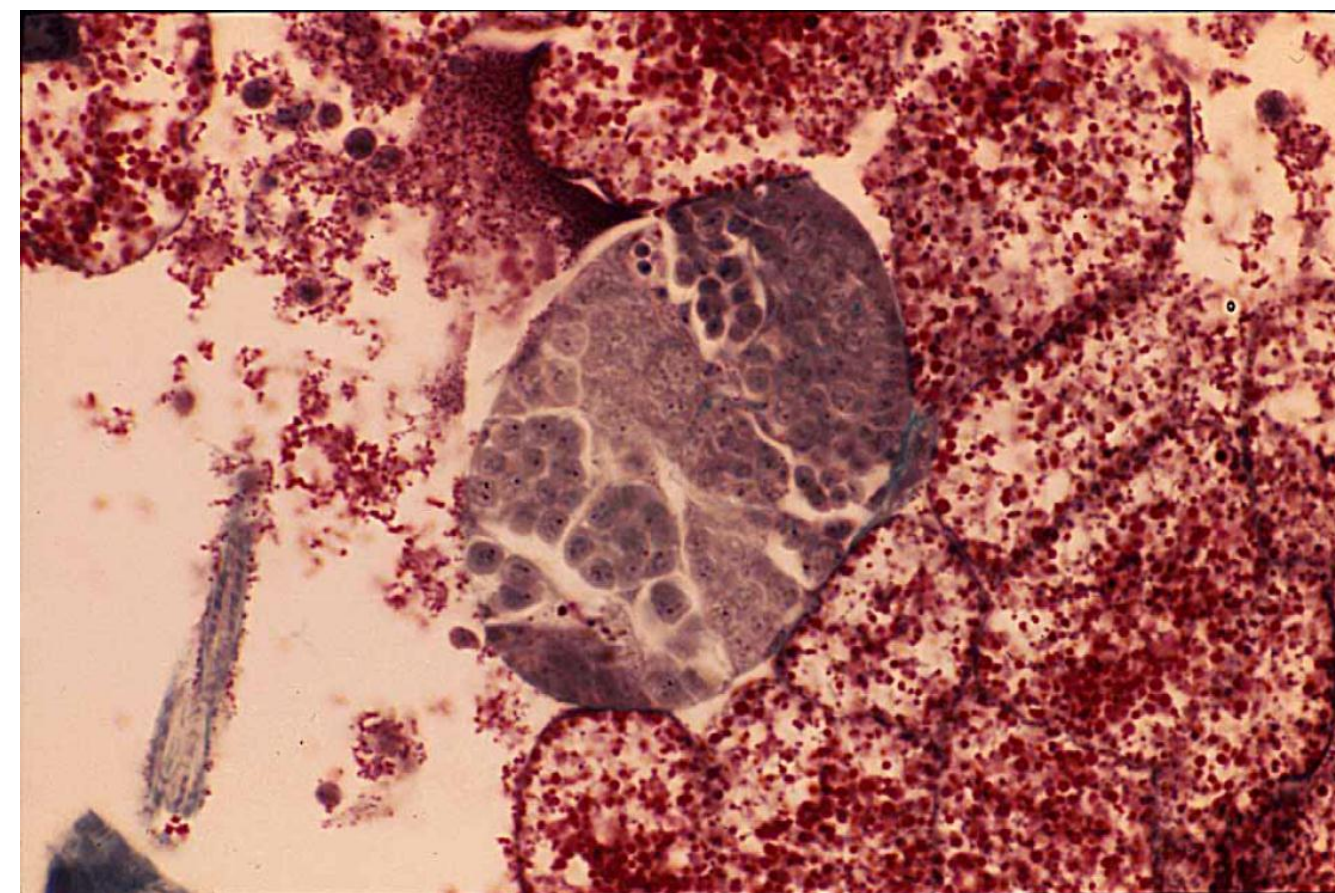
Abdômen do embrião de *Rhodnius prolixus* (Hemiptera: Reduviidae) – células estaminais, mesoderme e goteira neural

O DESENVOLVIMENTO NOS INVERTEBRADOS

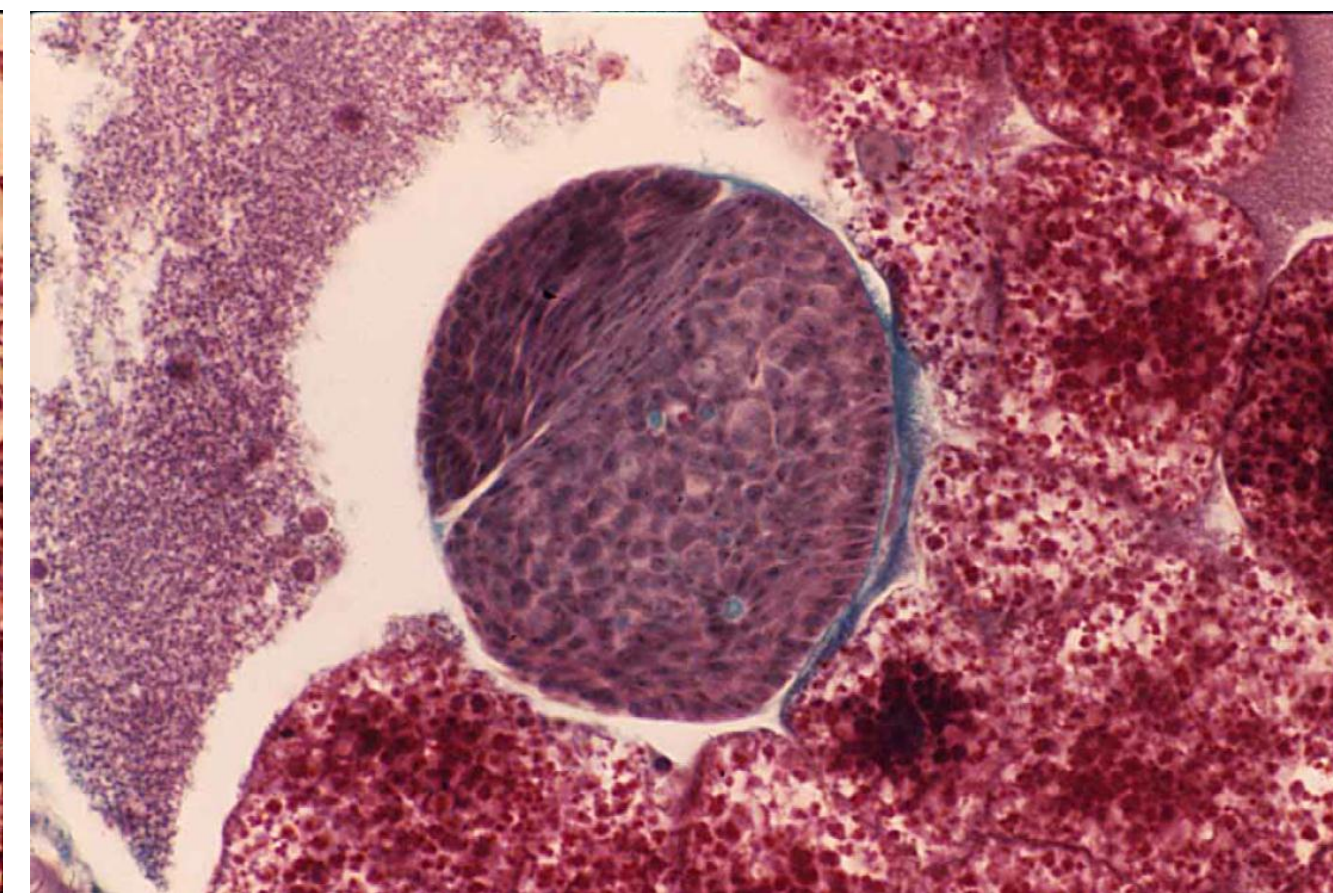
DISCOS IMAGINAIS



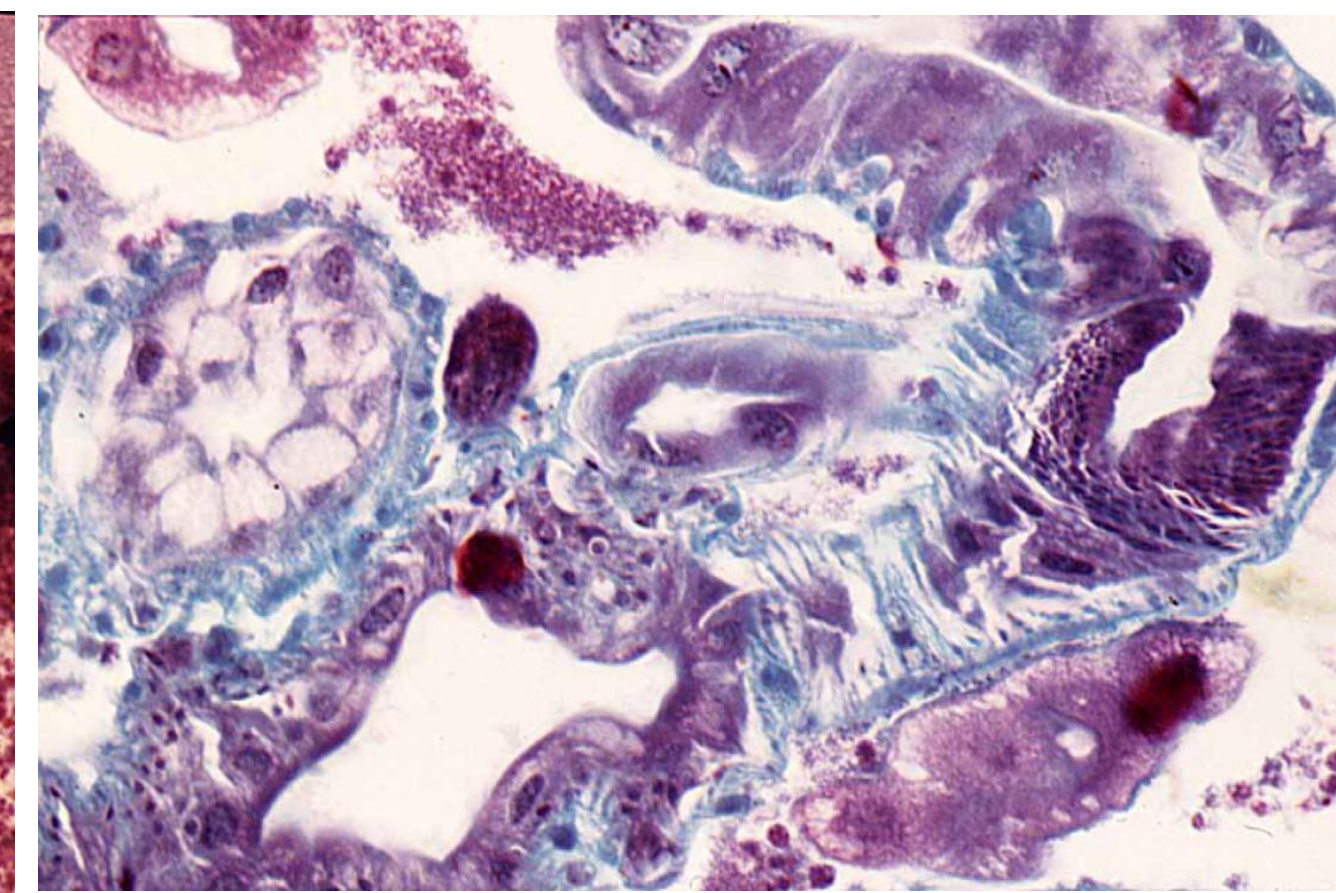
Disco genital na larva em fase III da *Musca domestica* (Diptera: Muscidae)



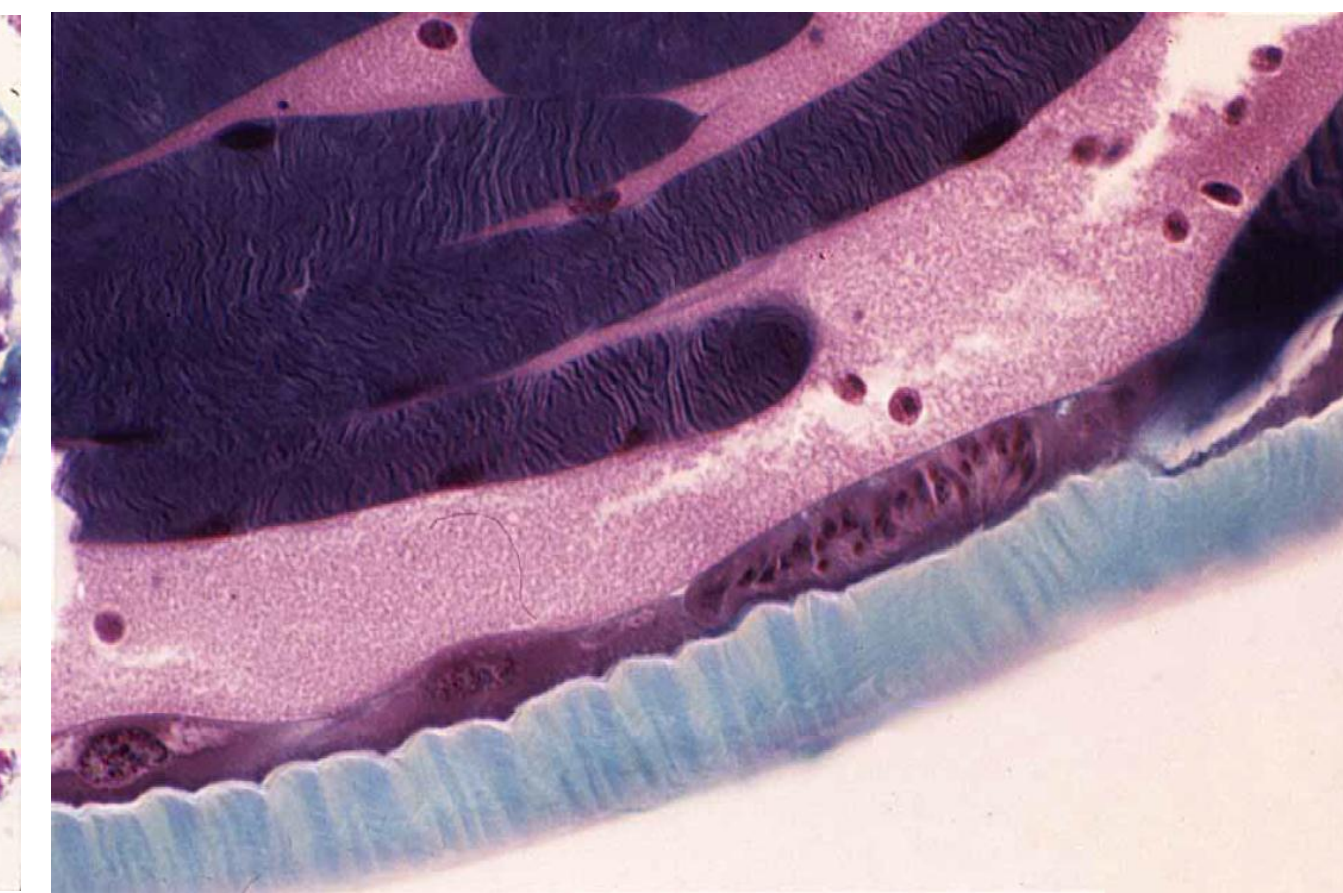
Testículo rudimentar na larva em fase III



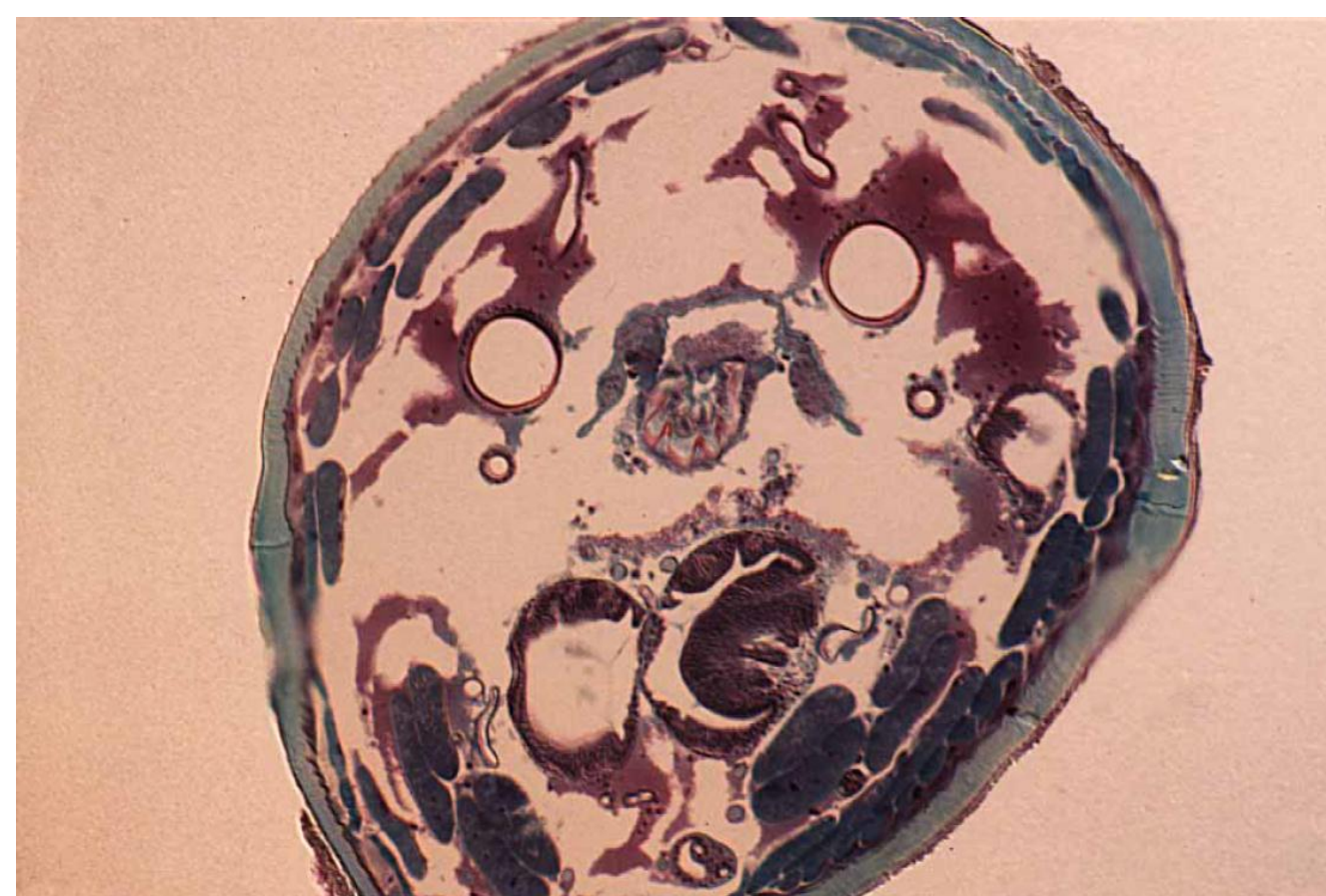
Ovário rudimentar na larva em fase III



Tubo digestivo anterior e médio na larva em fase III – ilhas imaginais do tubo digestivo médio



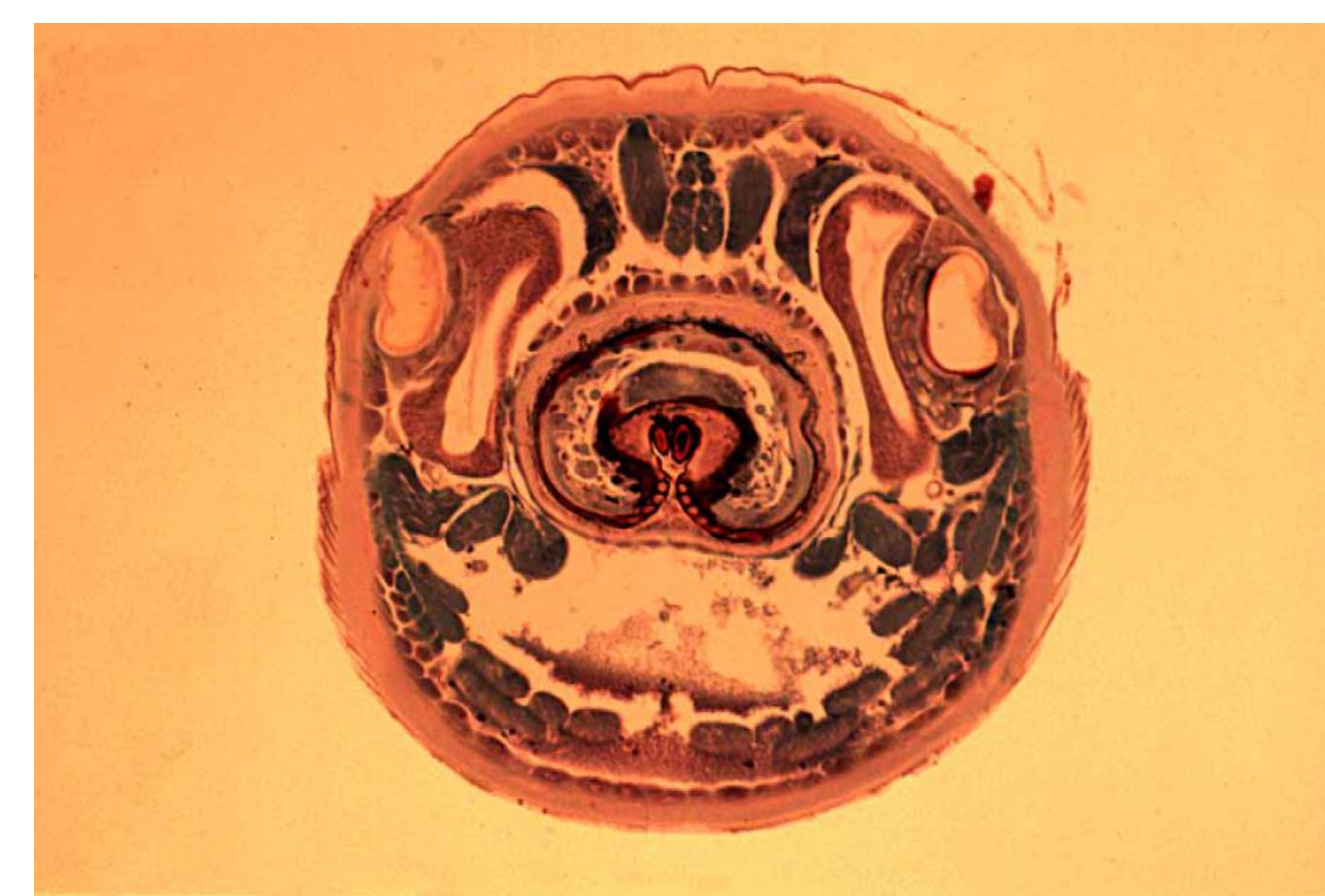
Histoblasto imaginal abdominal na larva em fase III



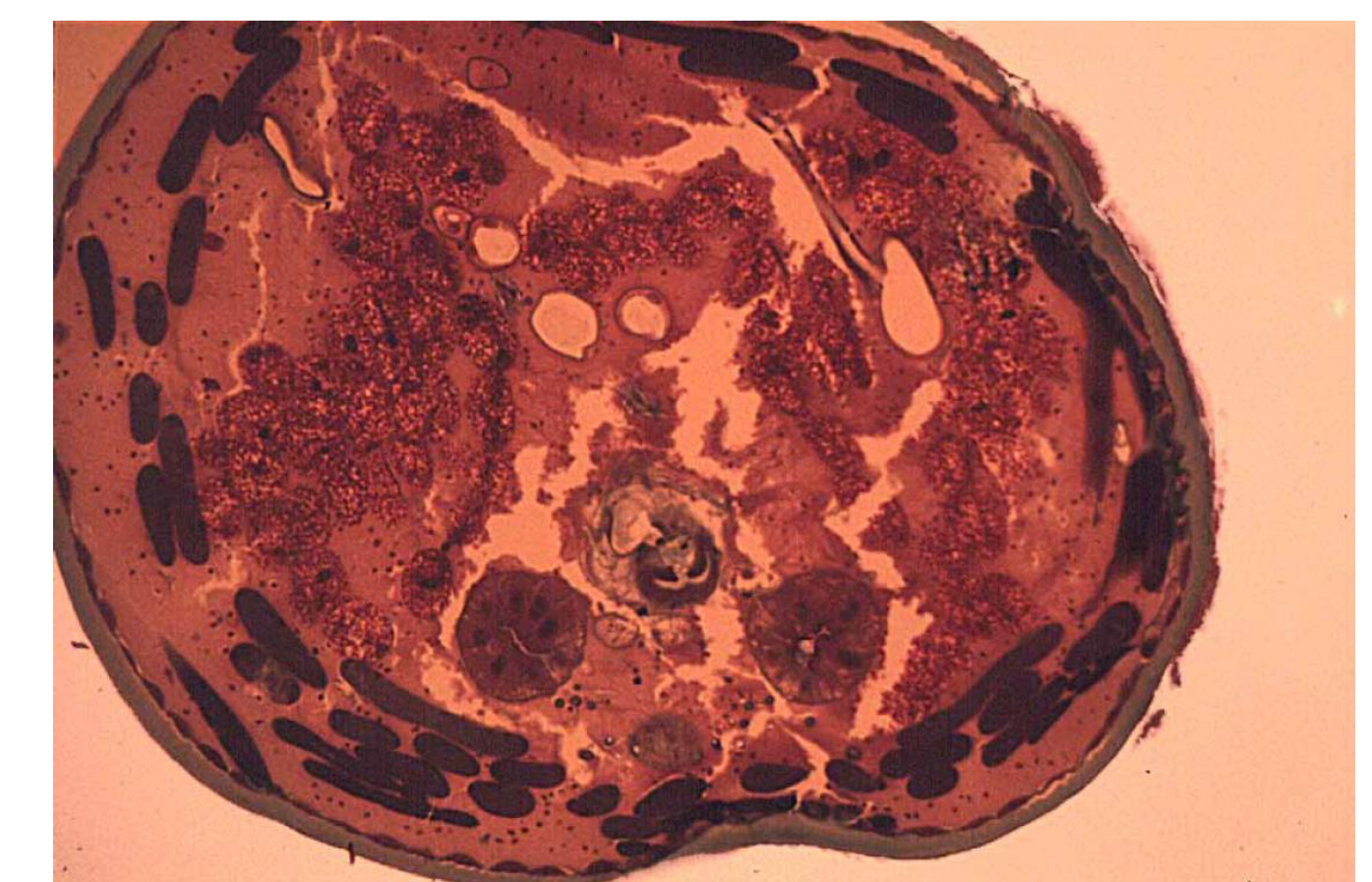
Discos imaginais protorácicos na larva em fase III



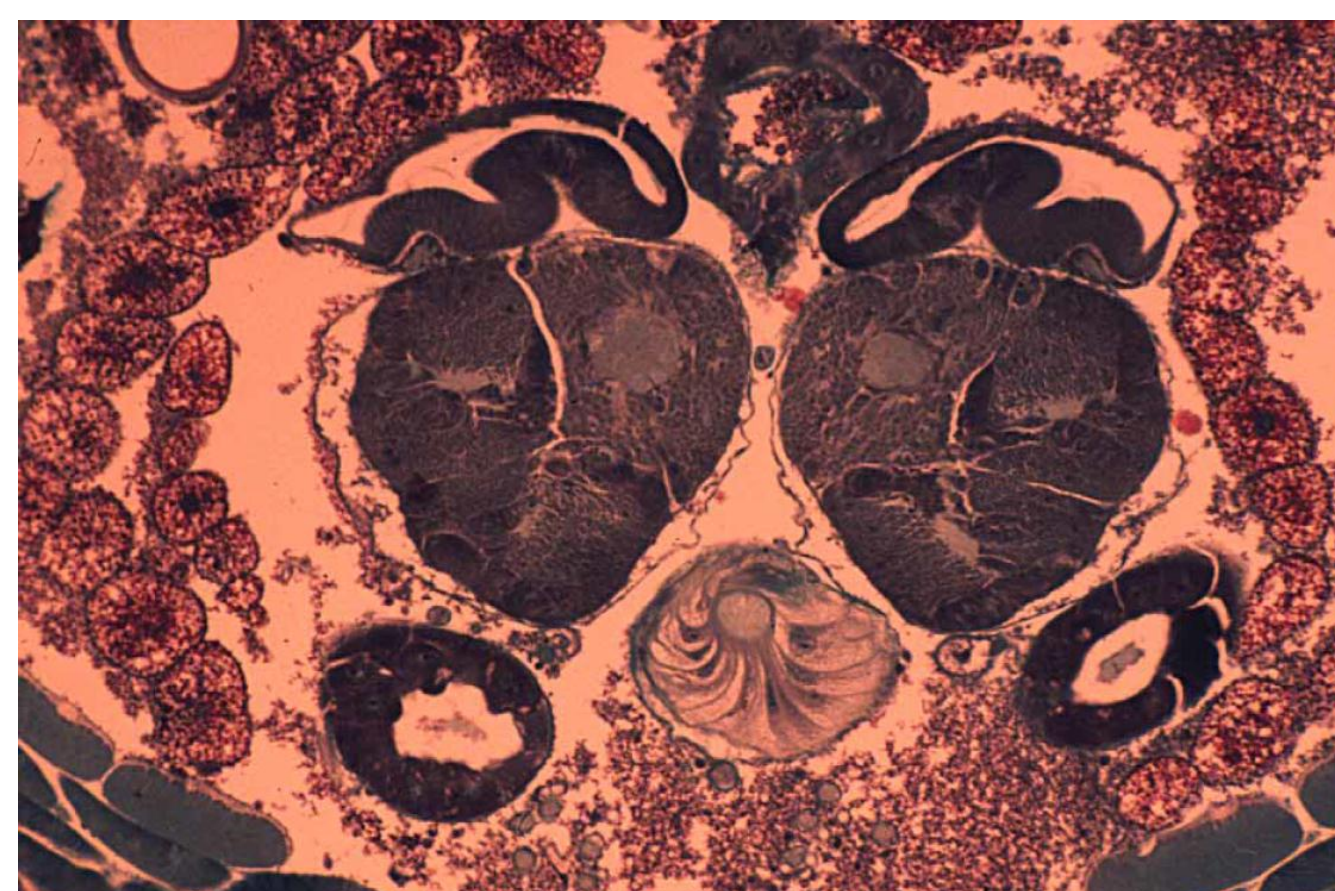
Maioria dos discos imaginais torácicos na larva em fase III



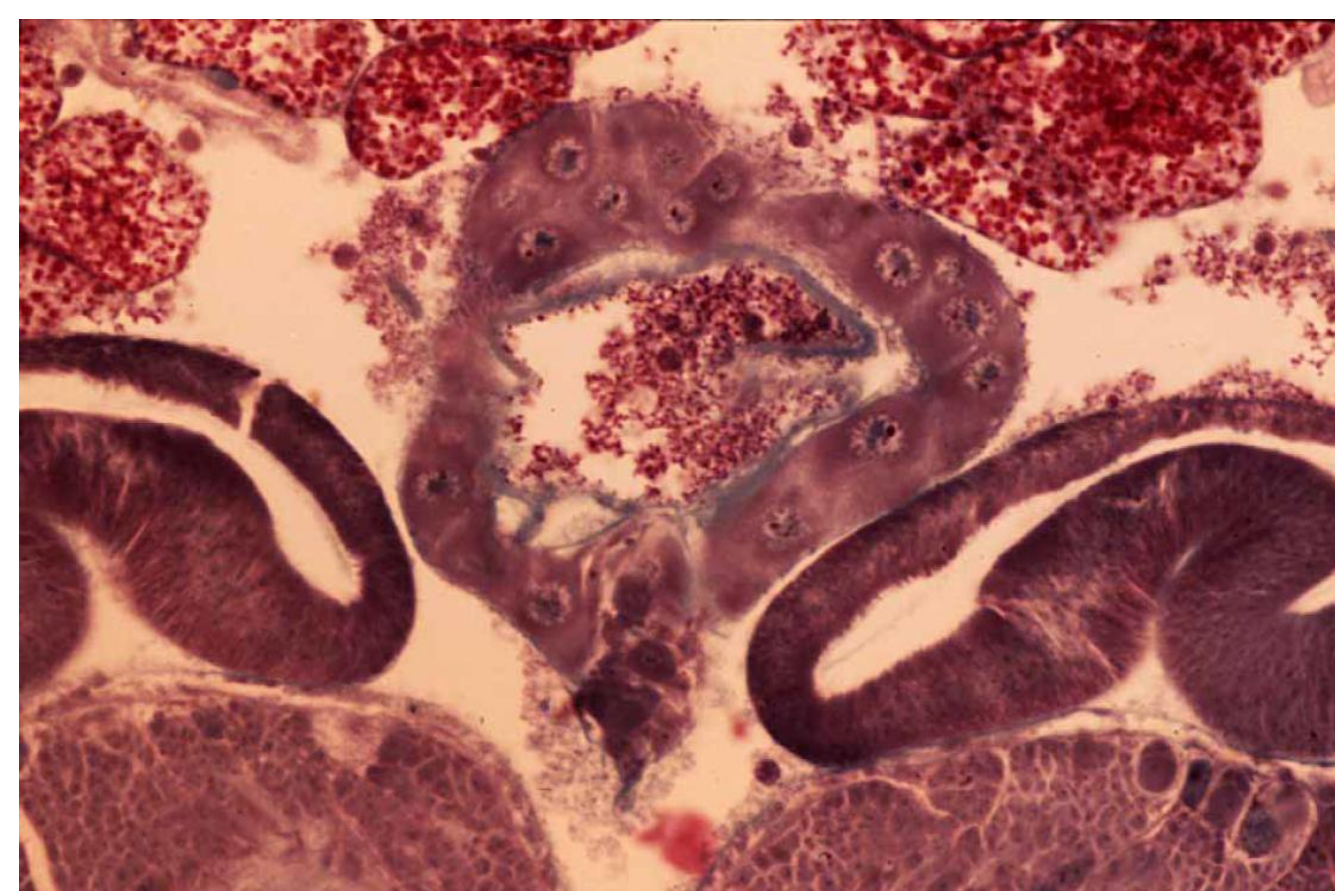
Apêndices bucais e discos protorácicos dorsais na larva em fase III



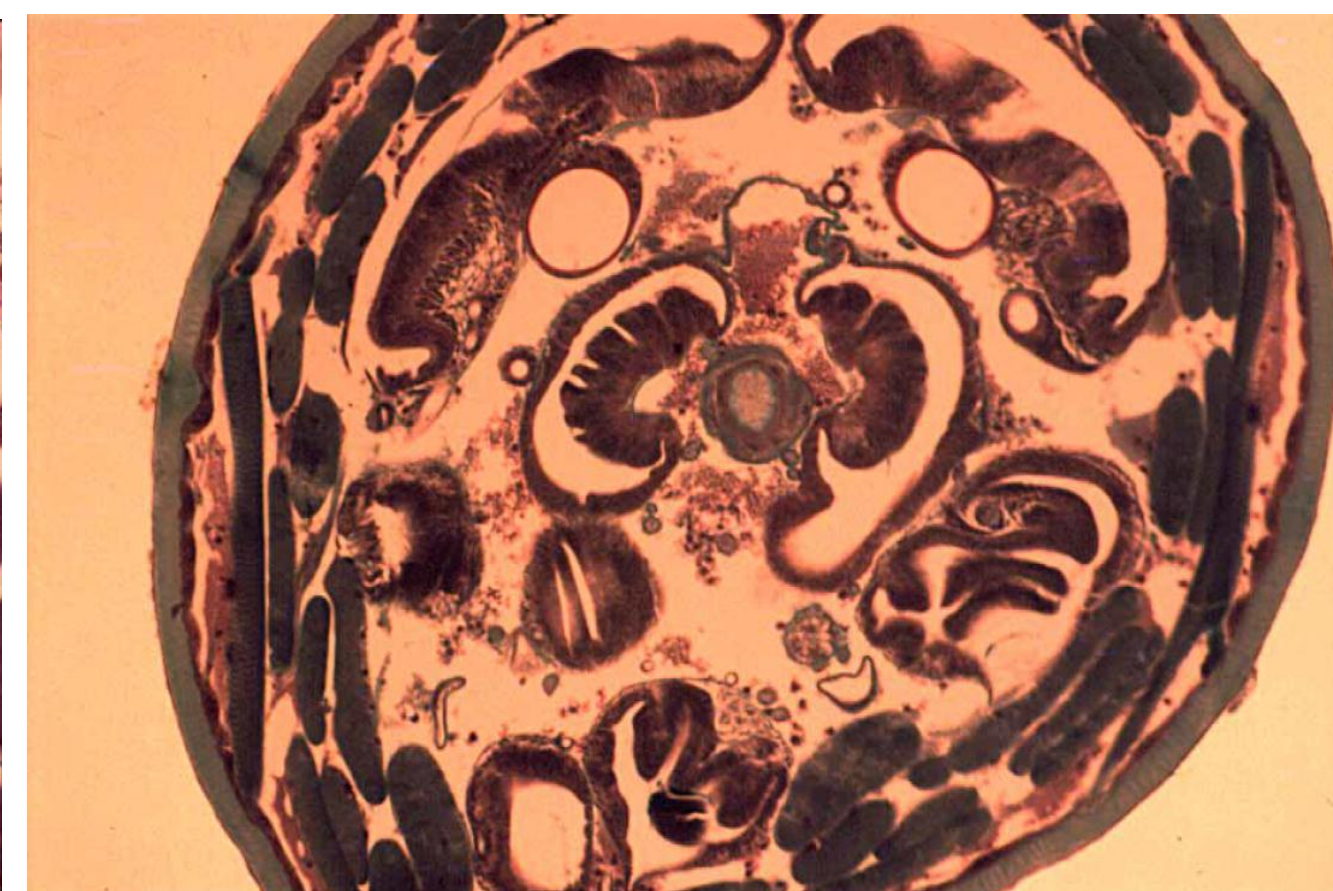
Anel imaginal da parte anterior do tubo digestivo e glândulas salivares larvares na larva em fase III



Lóbulos protocerebrais, glândula anel e discos dos olhos/antenas na larva em fase III



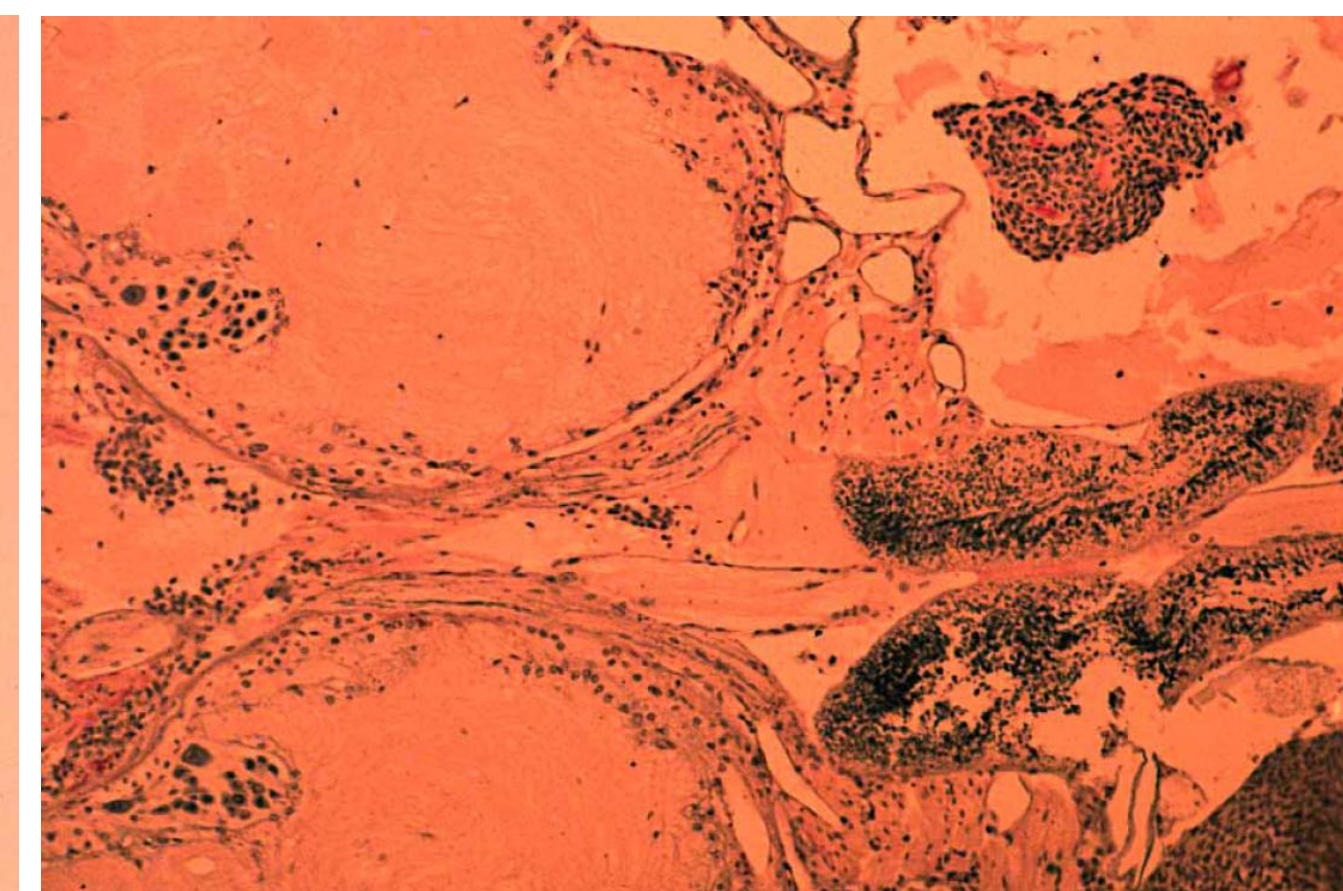
Glândula anel e discos dos olhos/antenas na larva em fase III



Discos dos olhos/antenas na larva em fase III



Esqueleto cefalofaríngeo e discos labiais



Lóbulos protocerebrais, nervo recorrente, células neurosecretoras e corpora cardiaca na ninfa de *Periplaneta americana* (Blattodea: Blattidae)

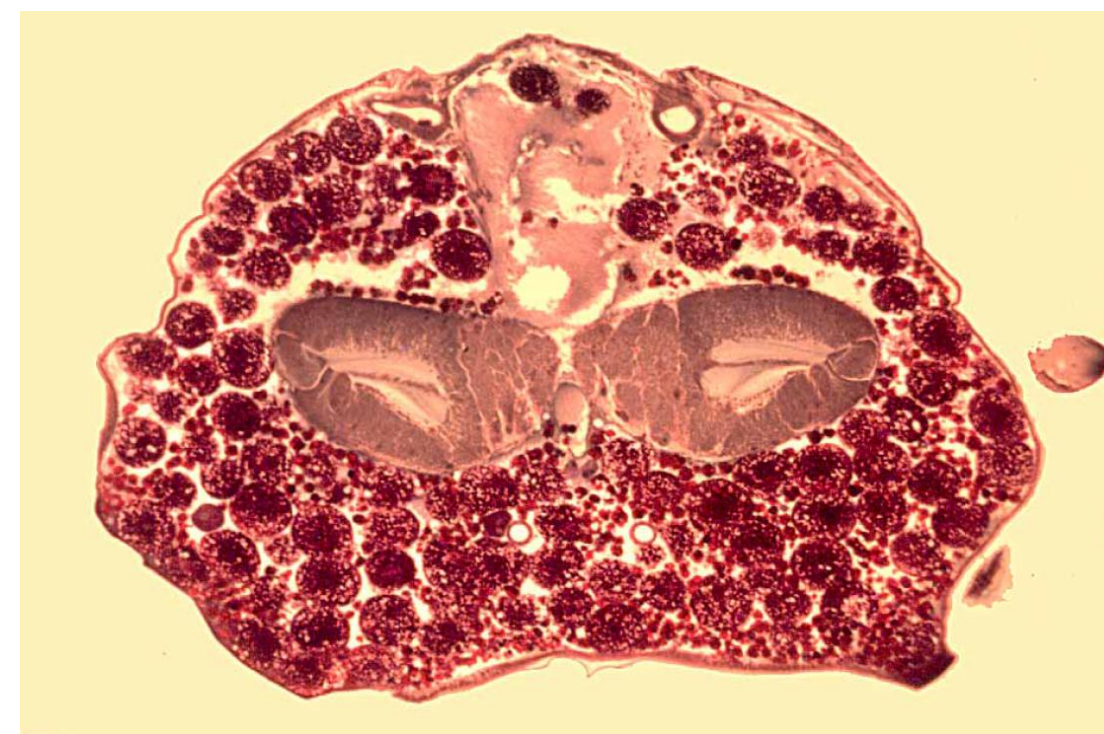
O DESENVOLVIMENTO NOS INVERTEBRADOS

METAMORFOSE

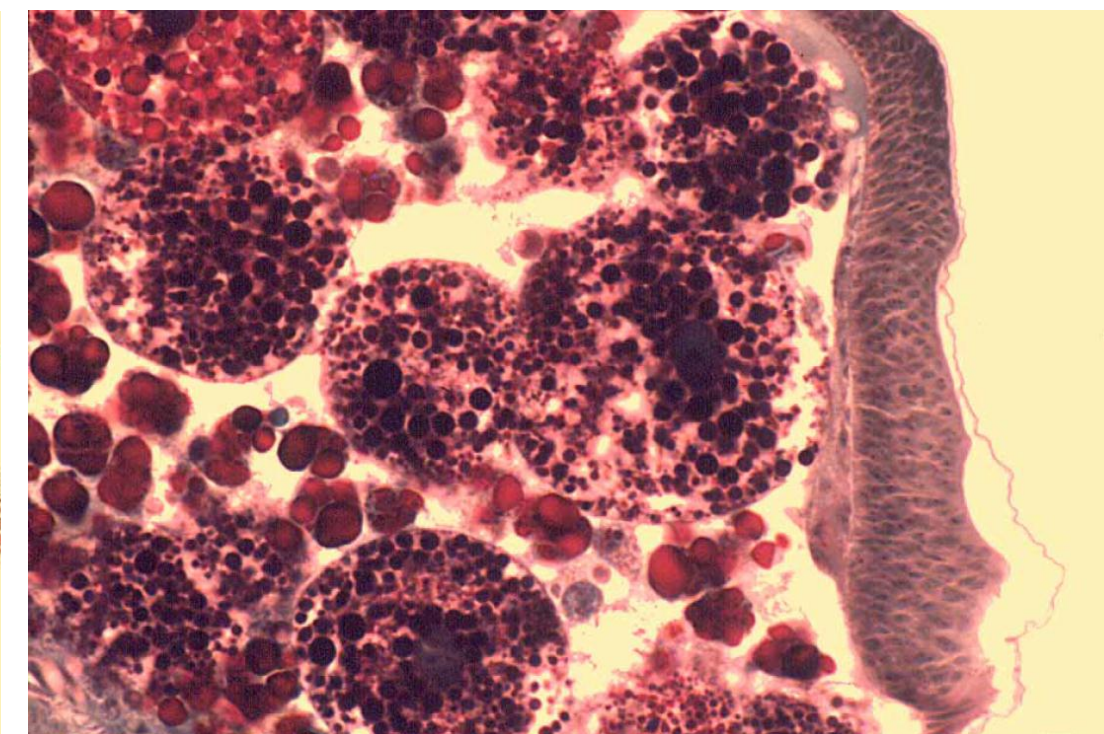
Na mosca (*Musca domestica* – Diptera: Muscidae)



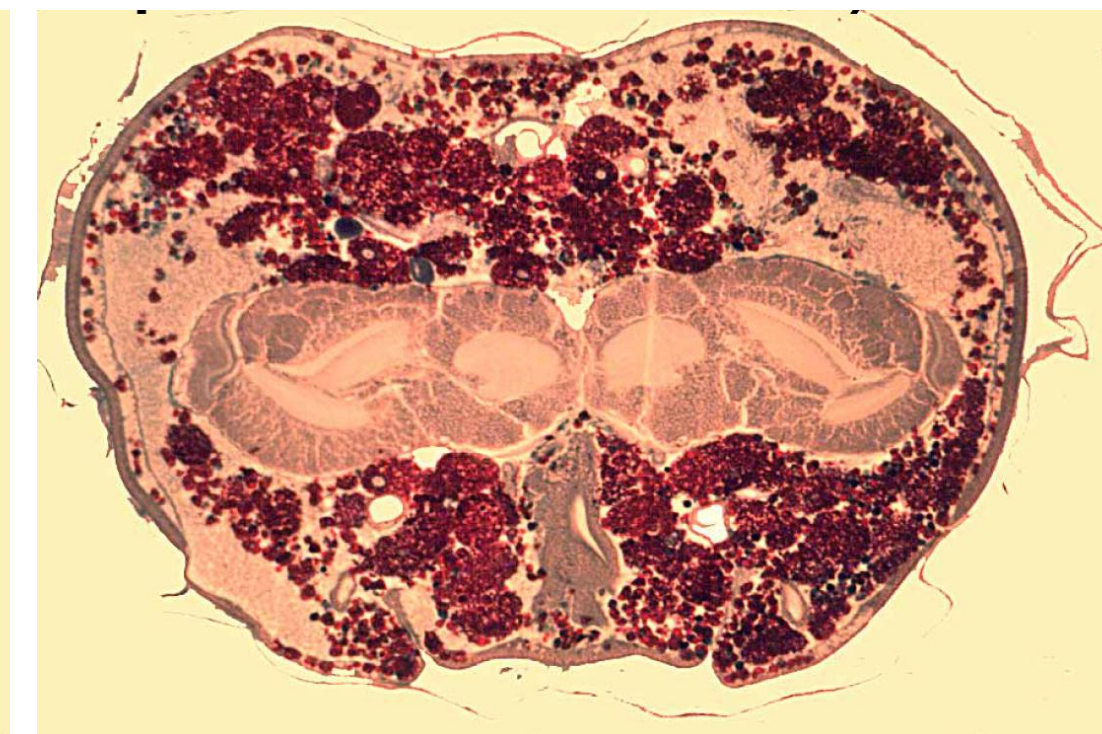
Cromossomas politénicos das glândulas salivares de *Simulium* sp. (Diptera: Simuliidae)



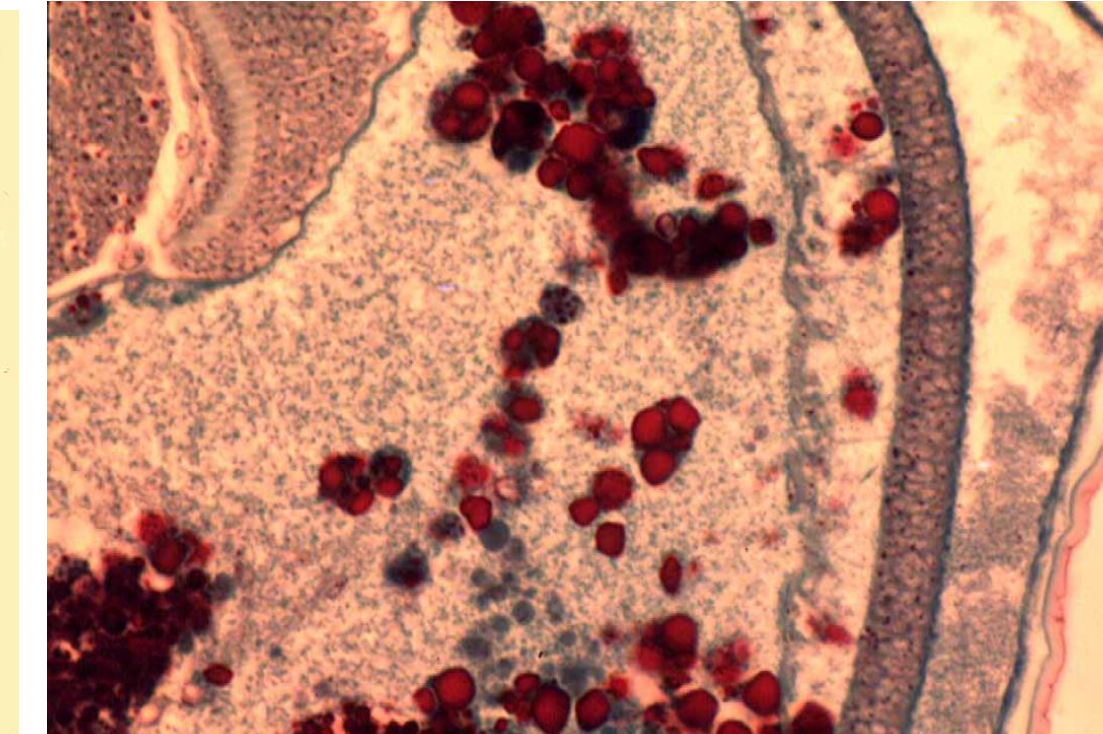
Cabeça e cérebro 24h após a pupação (24h AP)



Olho composto 24h AP



Cabeça e cérebro 48h AP



Olho composto 48h AP



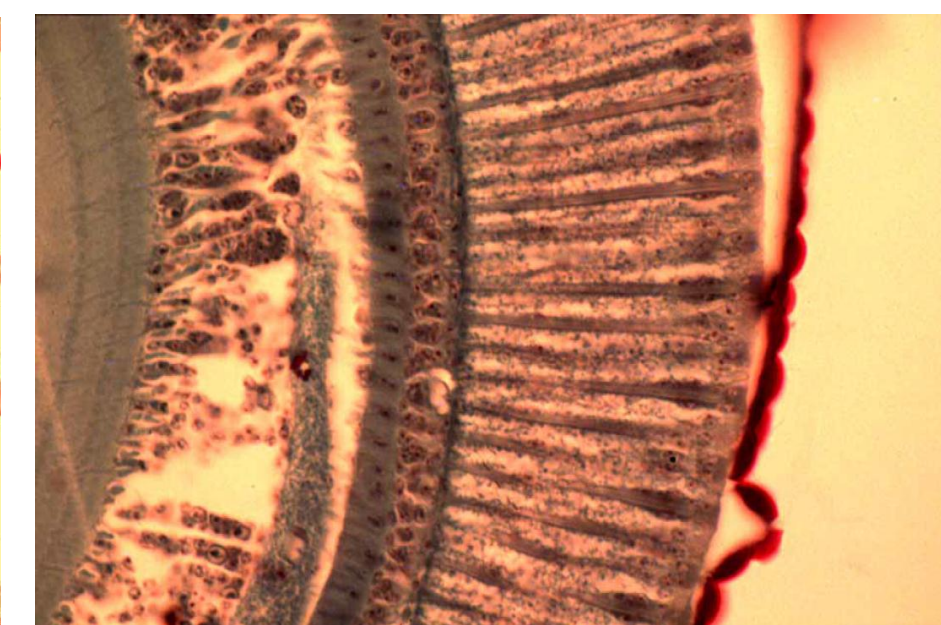
Cabeça e cérebro quatro dias AP



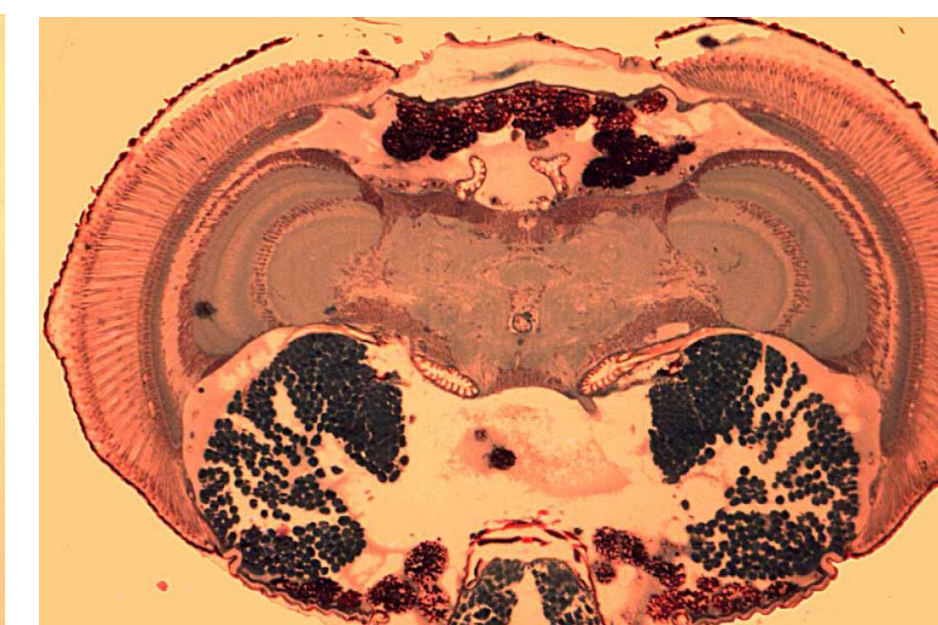
Olhos compostos quatro dias AP



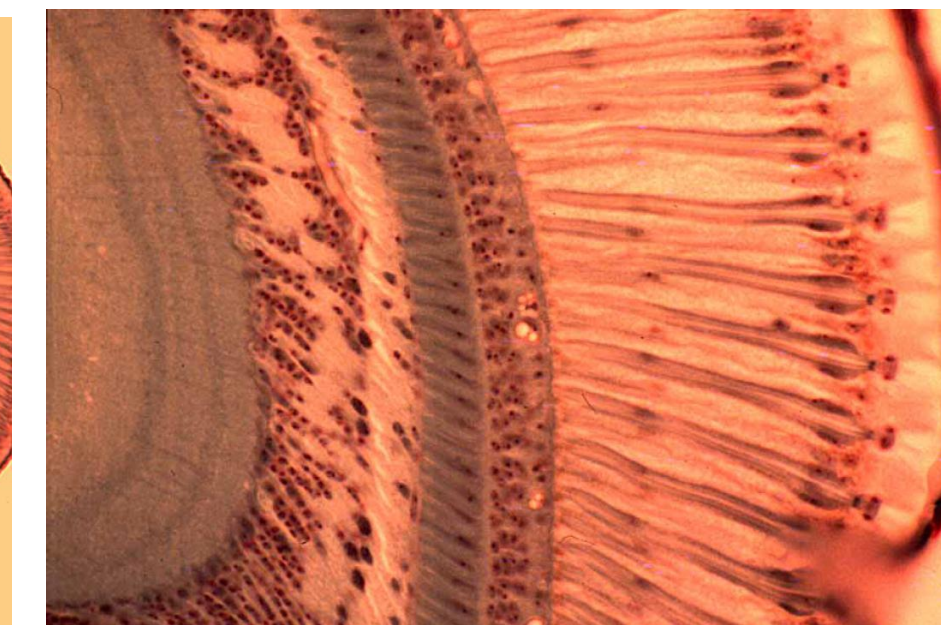
Cabeça e cérebro seis dias AP



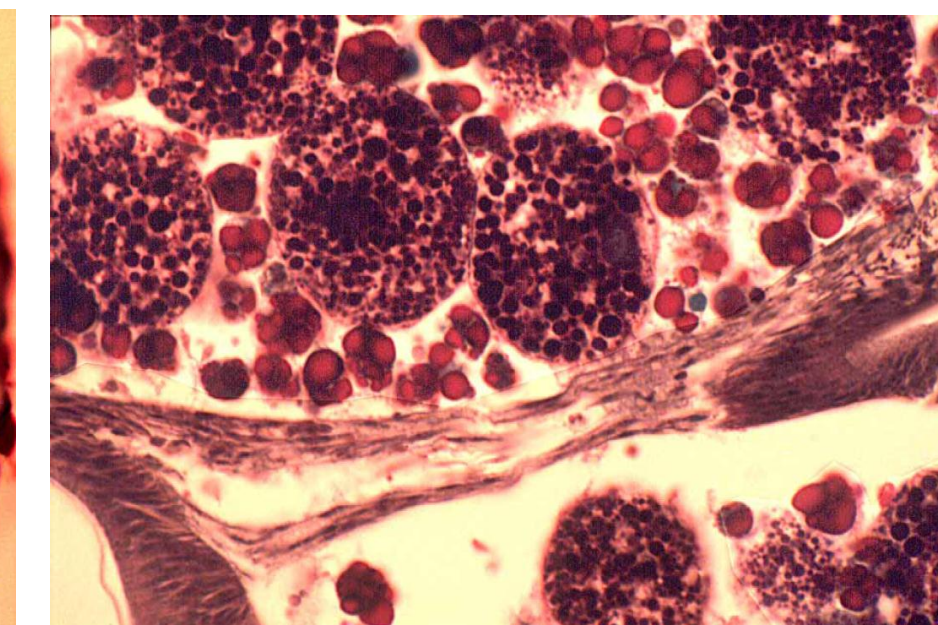
Olhos compostos seis dias AP



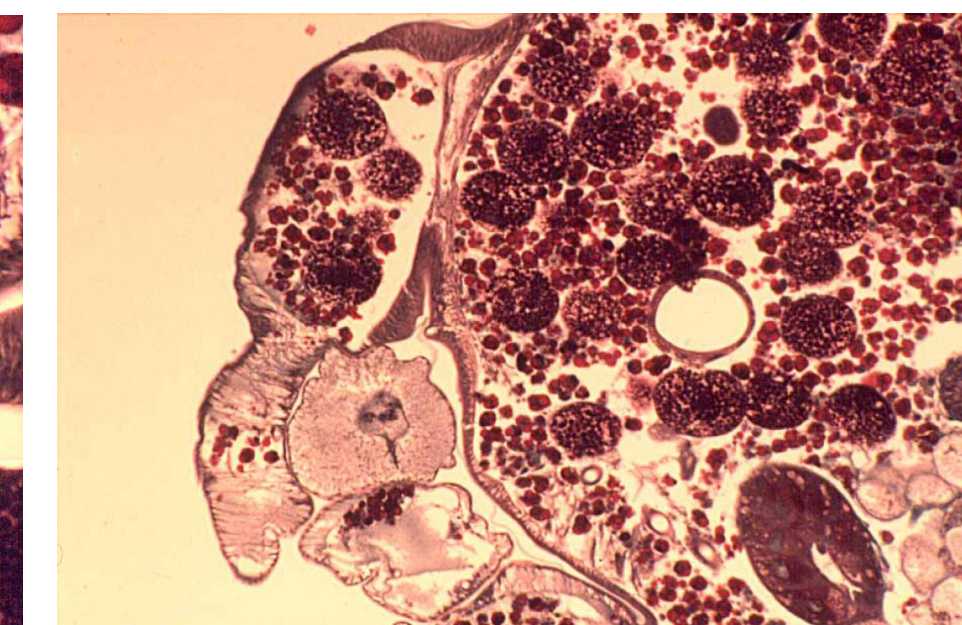
Cabeça e cérebro na pupa tardia



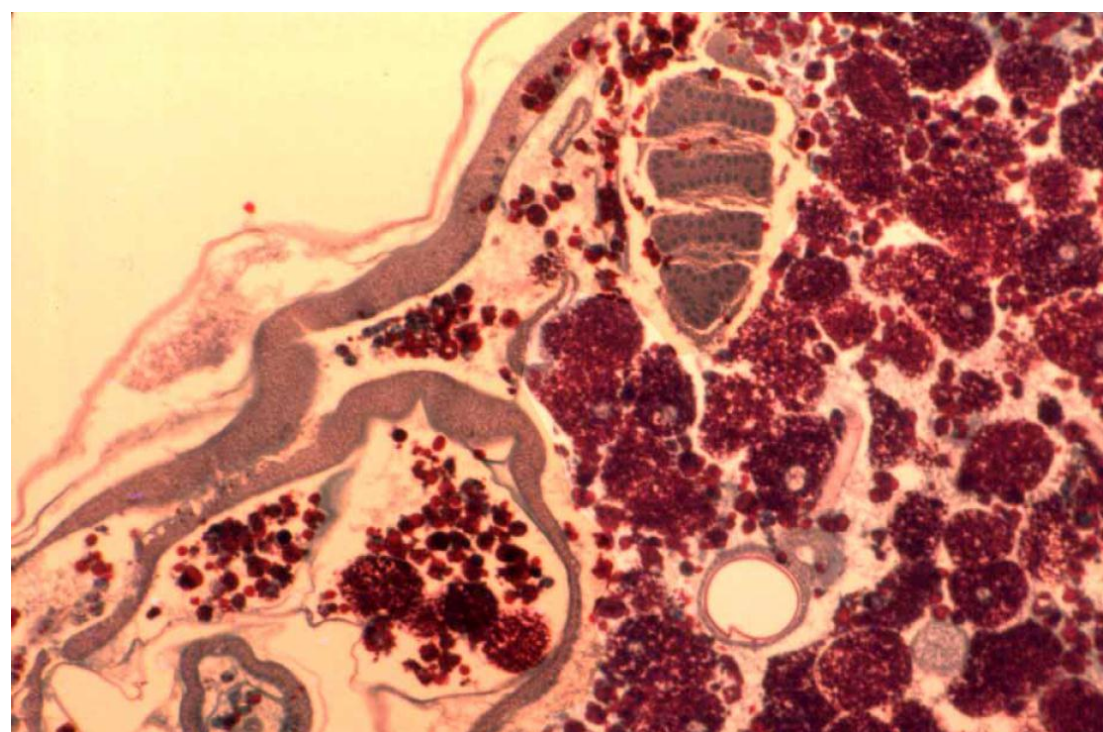
Olho composto na pupa tardia



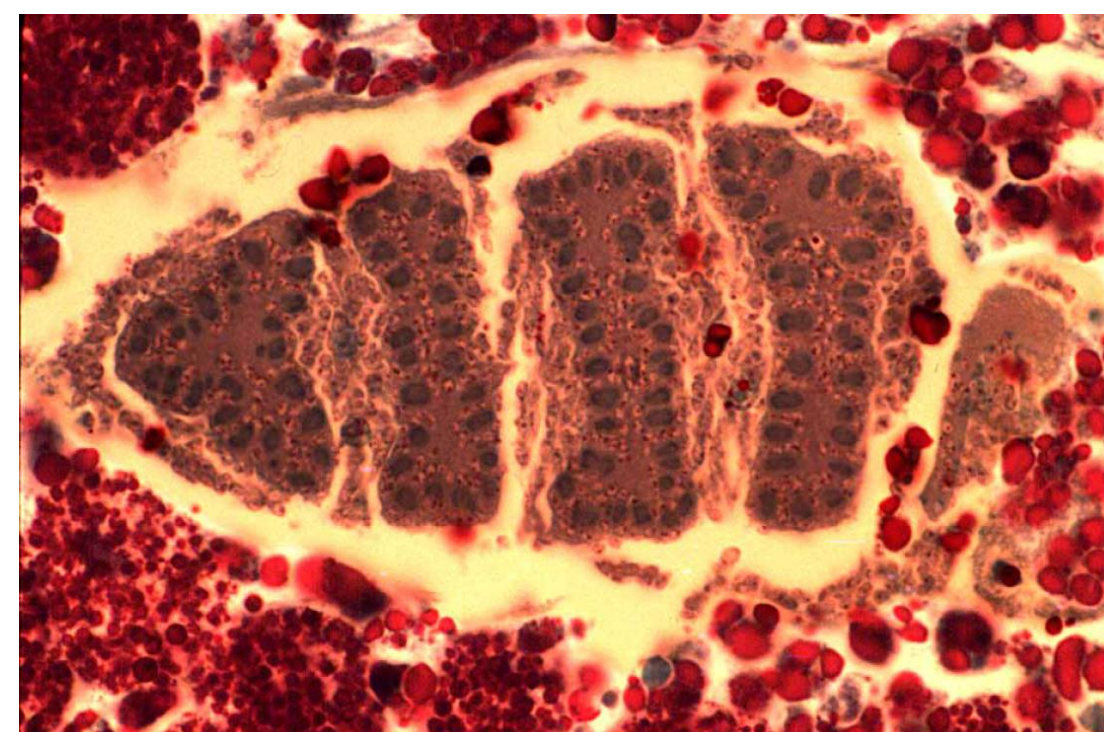
Base da asa 24h AP



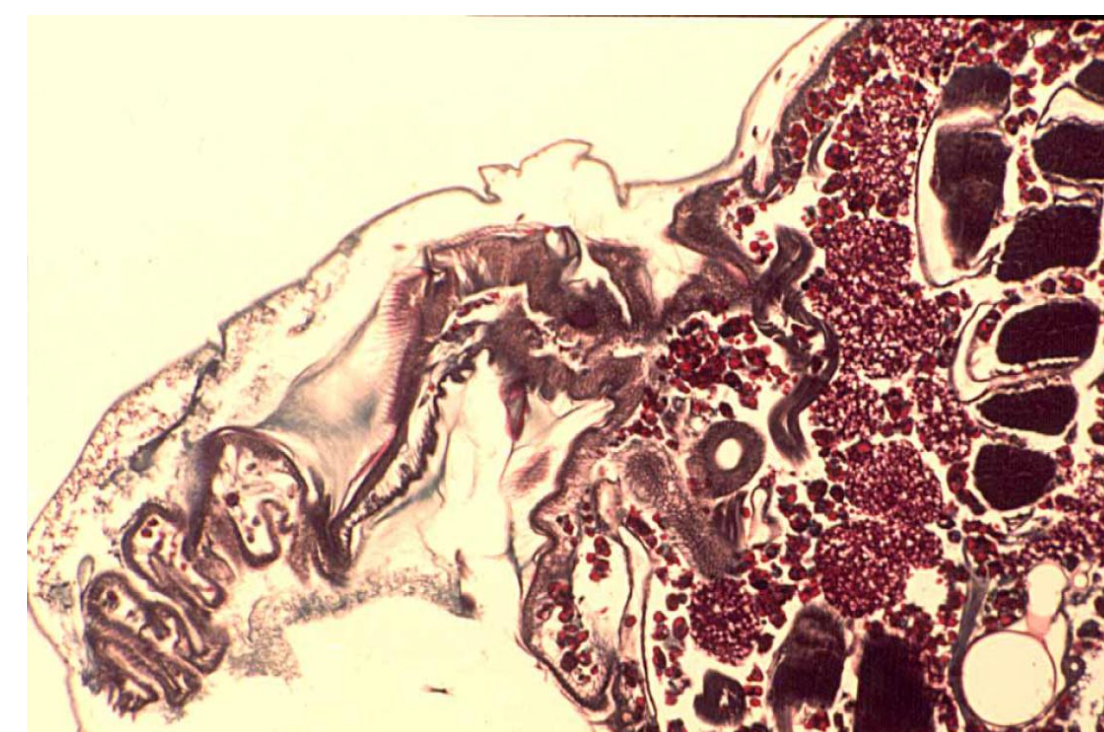
Base da asa 24h AP



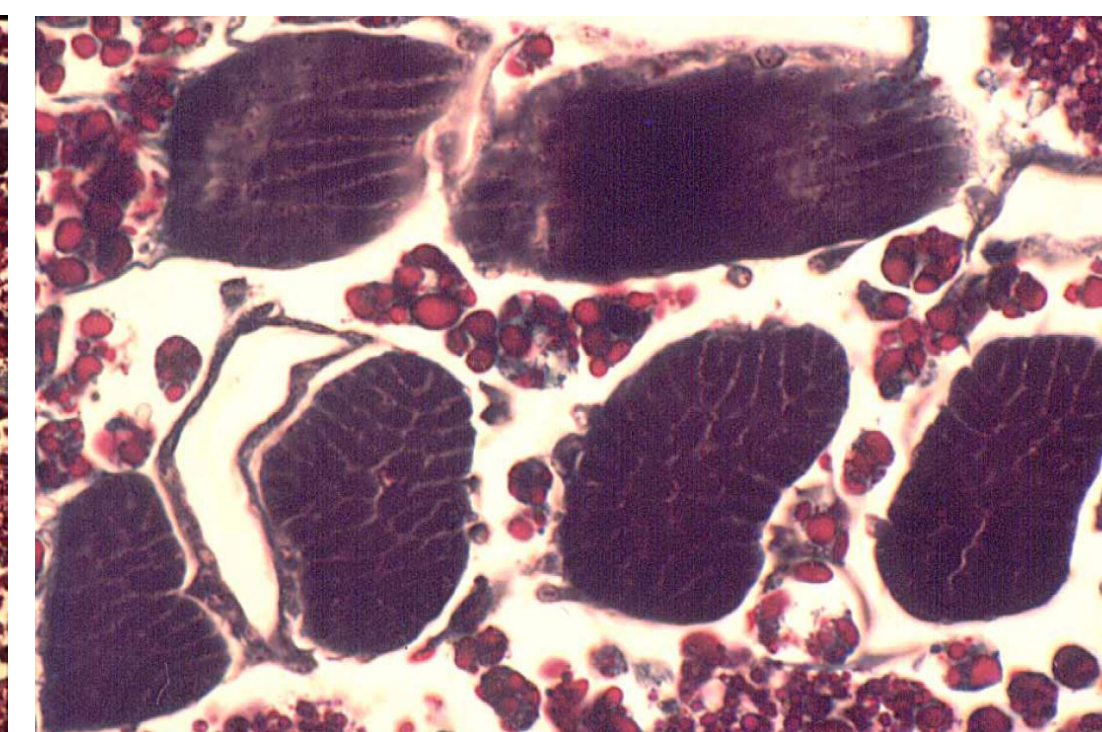
Base da asa 48h AP



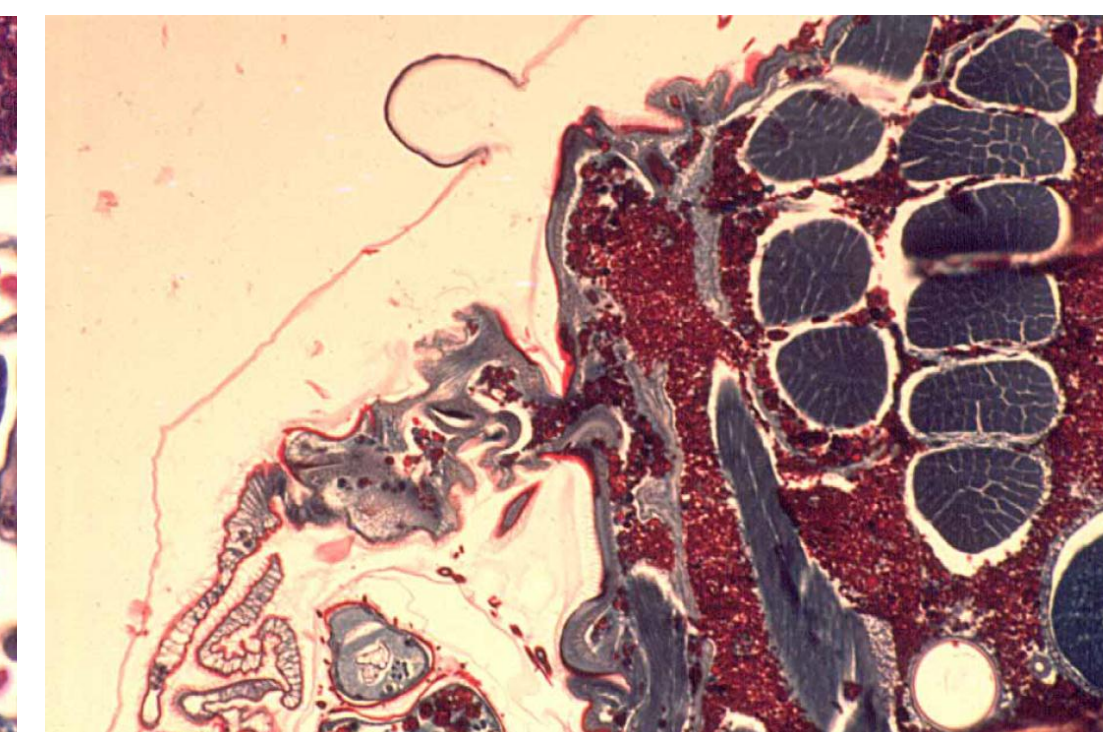
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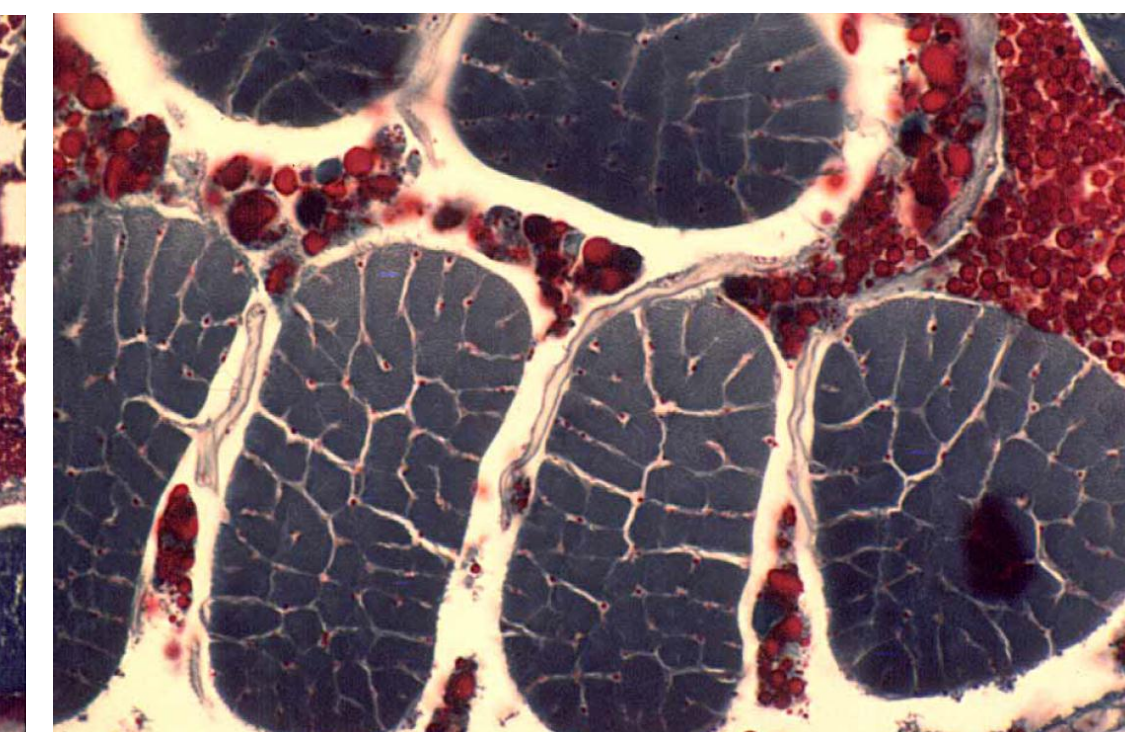
Base da asa quatro dias AP



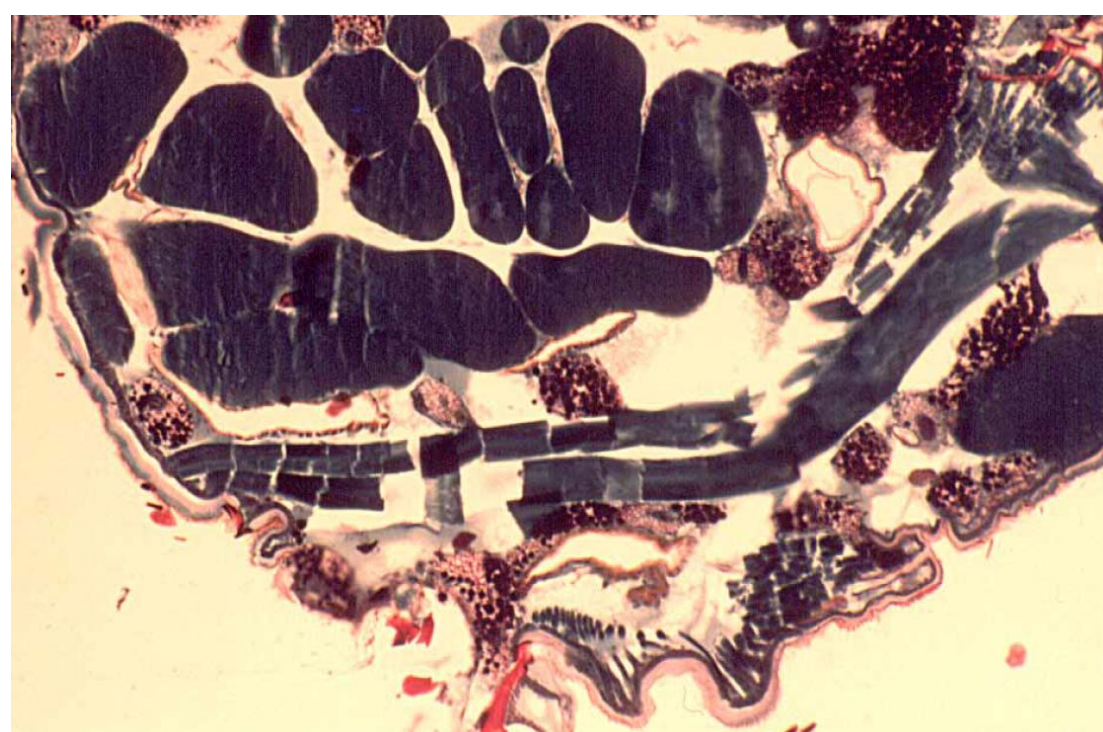
Músculos de voo indiretos longitudinais quatro dias AP



Base da asa seis dias AP



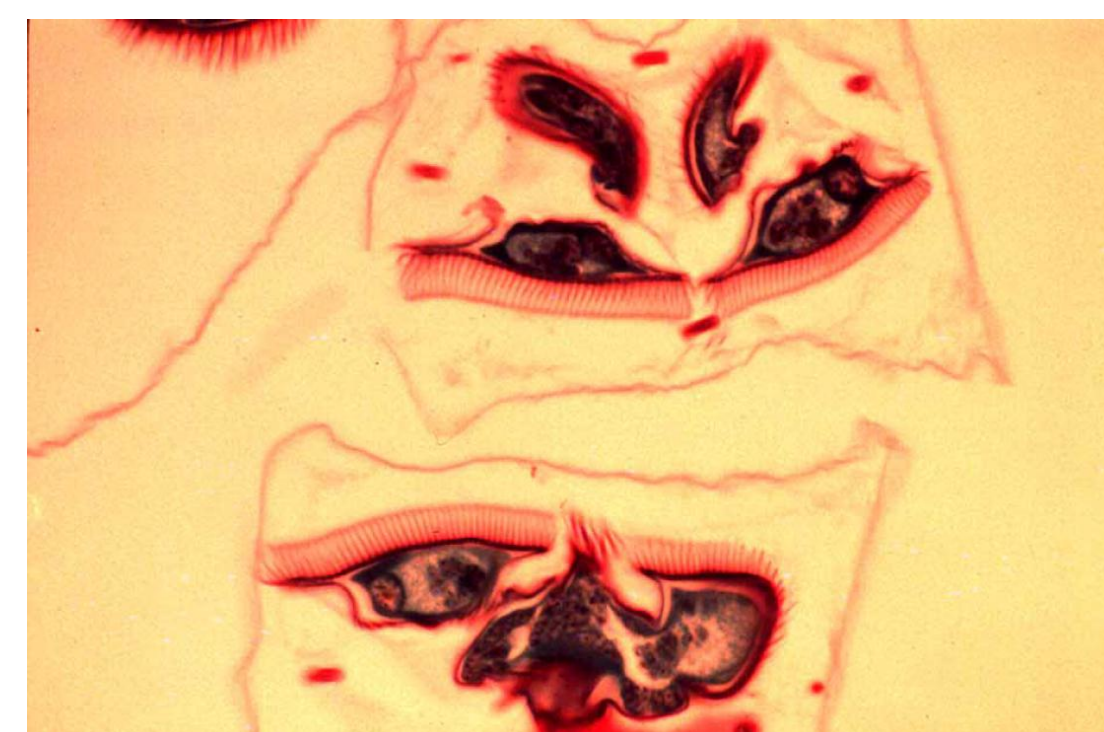
Músculos de voo indiretos longitudinais seis dias AP



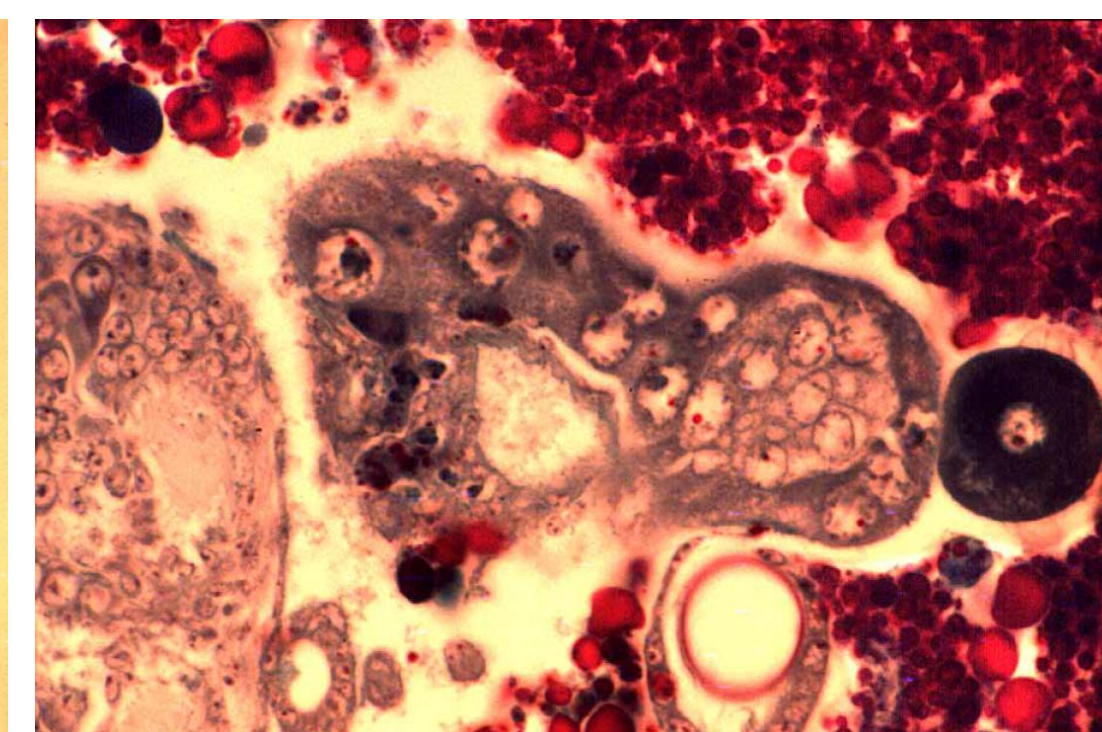
Base da asa na pupa tardia



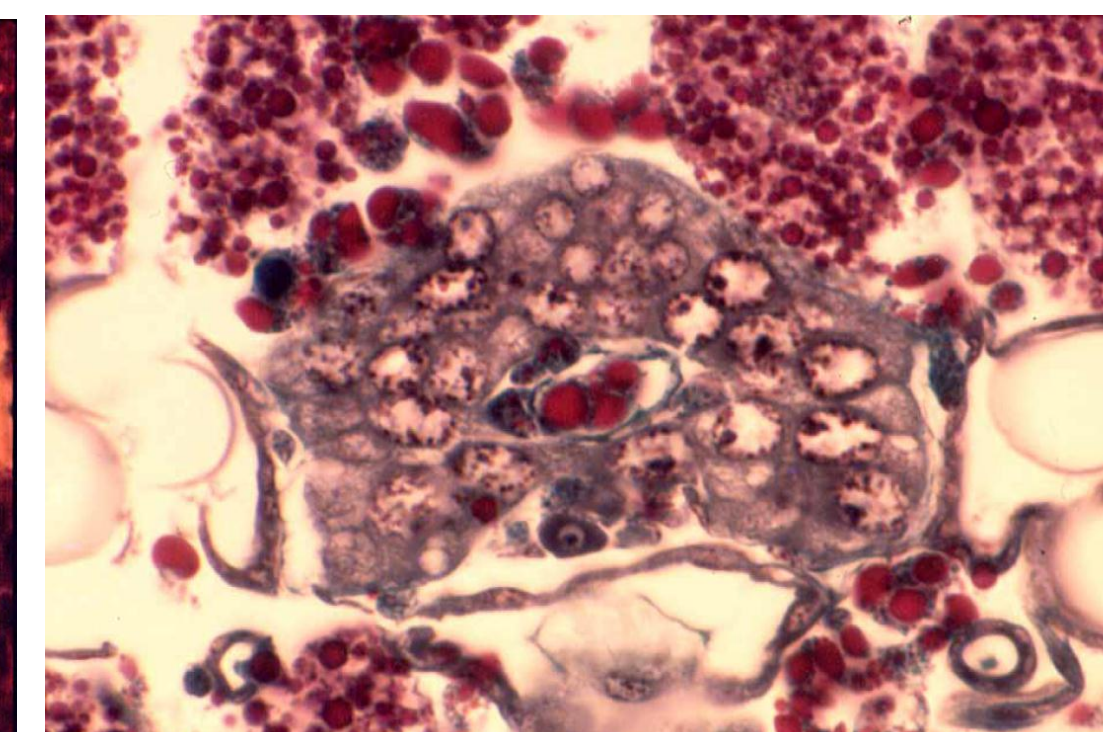
Músculos de voo indiretos longitudinais na pupa tardia



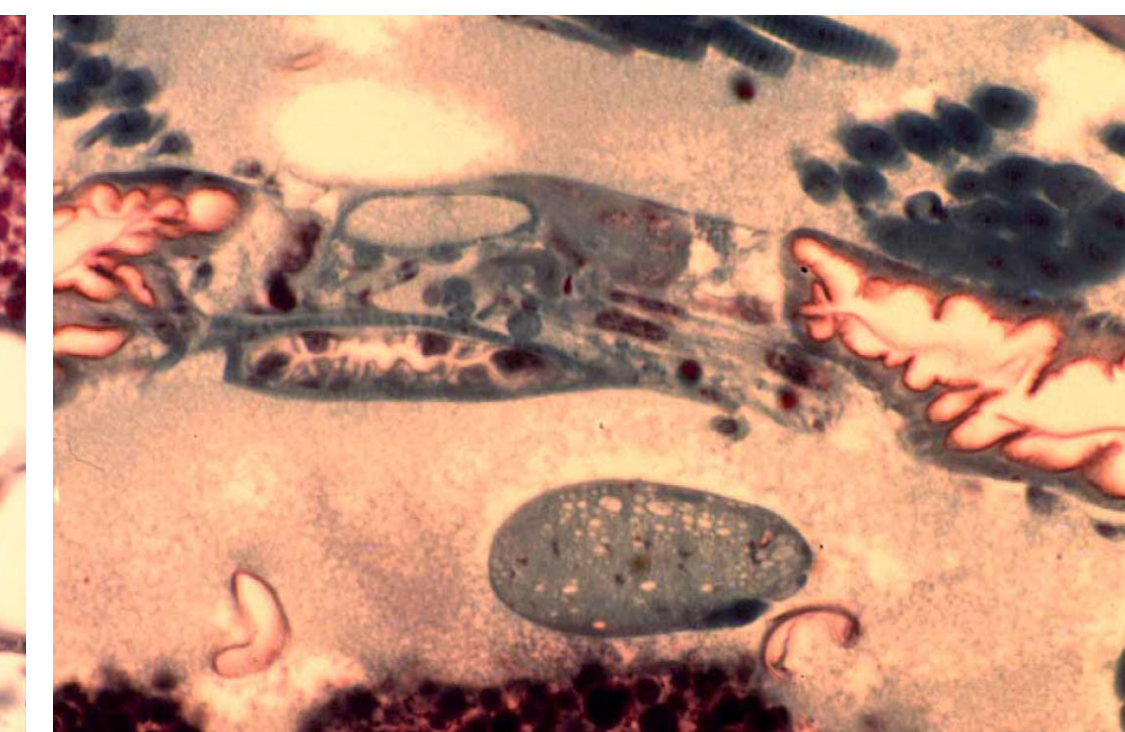
Prétarso na pupa tardia



Glândula anal quatro dias AP



Glândula anal quatro dias AP



Glândula anal no adulto recém-emergido

O DESENVOLVIMENTO NOS INVERTEBRADOS

Poster da responsabilidade do projeto Bio-DiTRL (*University of Alberta, Canadá*). Traduzido e adaptado para a Casa das Ciências por Diana Barbosa em janeiro de 2013.

