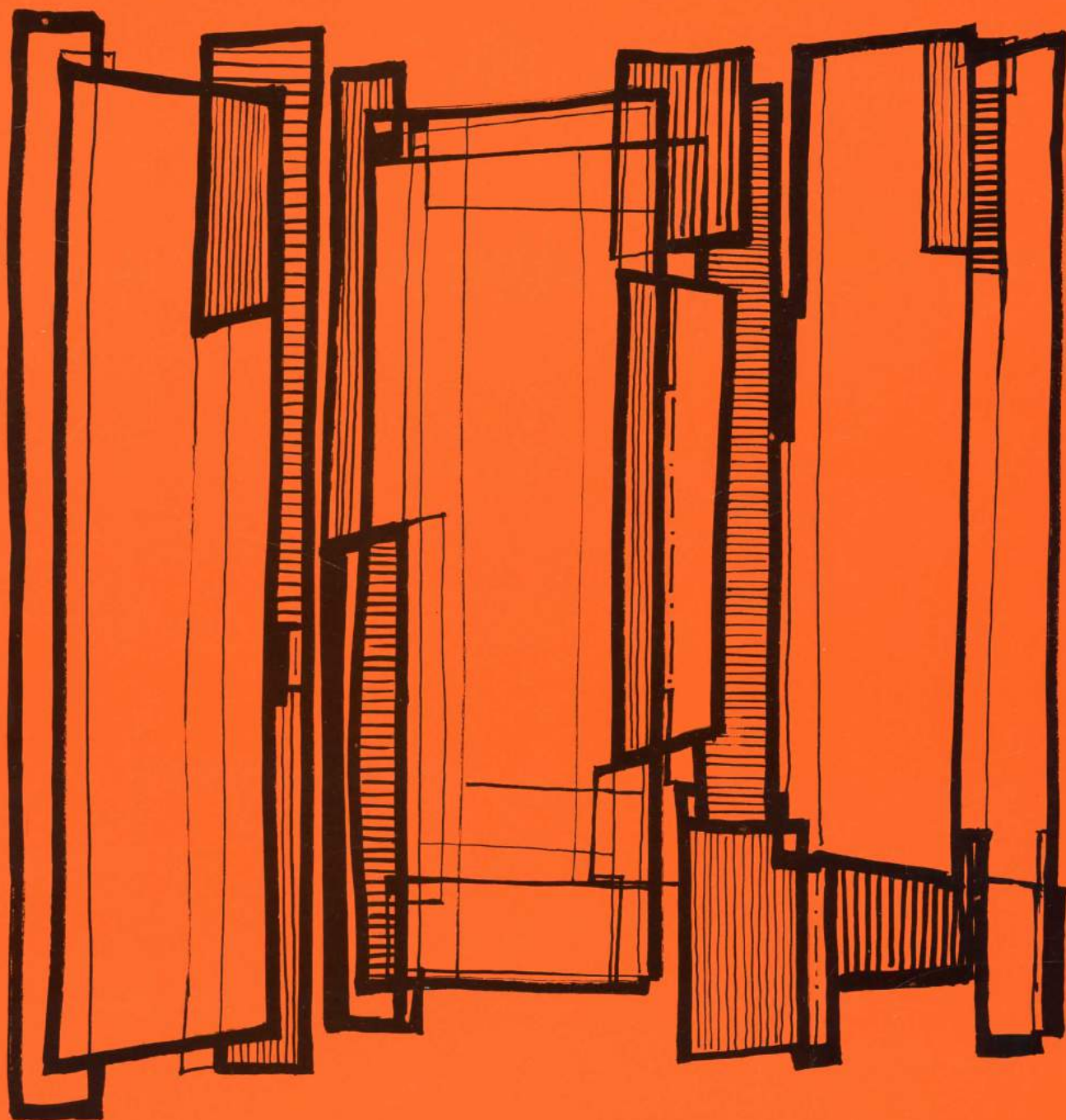

radio scola



Cuntegn

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Hotellaria
La veta misteriusa dils bulius
Ord la geografia e la geologia
dalla Foppa sura

Oswald Toutsch
Giusep Caduff
G. Gabriel-Cadonau

5-85

La veta misteriusa dils bulius

17-10-85 9.30 emissiu
21-10-85 9.30 repetiziun

Introducziun

La veta ch'ìls bulius meinan ei zun misteriusa. Els vivan el zuppau, en stgira retratgadat e humiditad. Fertan che las autras plontas sestendan enviers il suleagl per retscheiver la forza vitala necessaria, untgeschan ils bulius quei cauld e prefereschian il stgir. Aschi prest ch'il criu unviern svanescha ord nossa cuntrada, cumparan ils bulius ed els bandunan nus per cura ch'igl um da neiv e glatsch tuorna puspei. Enqualga savein nus admirar entiras cumpignias che han en cuort temps perforau la tiara, sco sch'in maun miraculus füss staus en acziun. Buca per nuot drov'ins per descriver il beinprosperar dils affons ils proverbis:

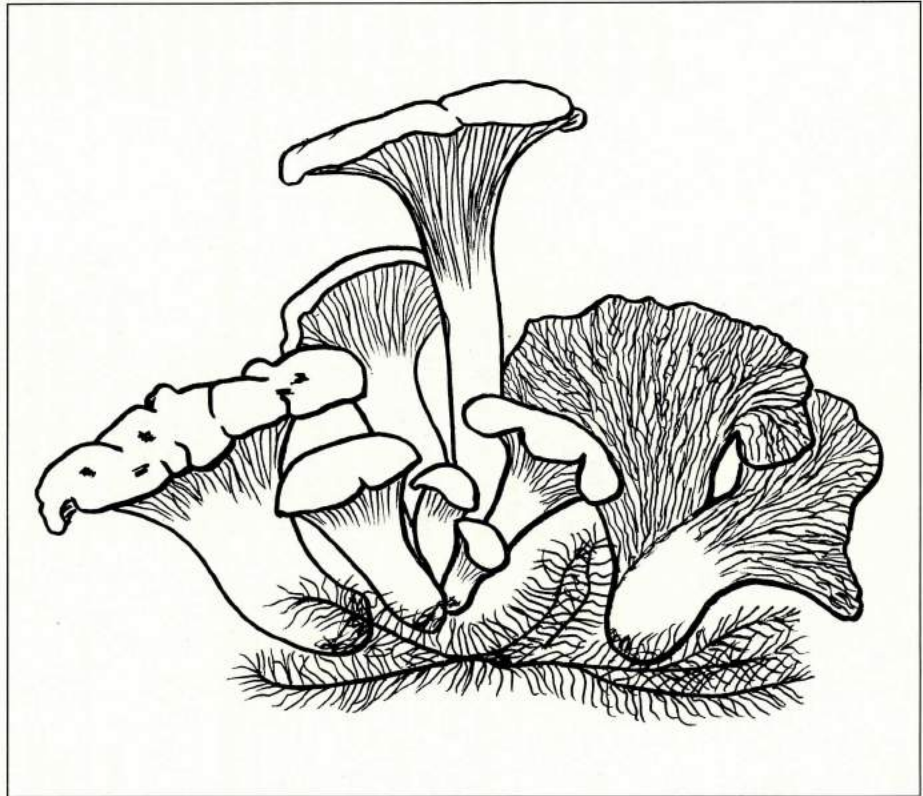
«Quel crescha sco in buliu!»
«Quel va si sco in buliu!»

Oz enonuschan ins datier da tschienmelli sorts bulius. Aschia saudan els tier in dils gronds uordens el reginavel dallas plontas. La gronda part dils bulius exista mo ord ina reit da filins ni ord ina suletta cella. Quella ei aschi pintga ch'ins po veser ella mo sut il microscop. Denton adatg, gest da quellas pintgas creatiras ha il carstgaun saviu seprofitar zun fetg. Ins patratgi mo vid il penicilin ch'ins ha – all'entschatta da quest tschentaner – per l'empremaga retratg dils bulius-meffa. Ni co fagess il pasterner paun ed il bierer biera senza ils bulius-levon?

En questa lavur lein nus denton tractar mo ils **basidiners**. Il plaid 'basidiners' lein nus denton buca duvra pli. El ei secapescha staus necessari per far la survesta generala dallas plontas (pag. 9). Per nossa lavur lein nus denton duvra il plaid '**bulius**' sco quei che nus essan disai.

Litteratura:

Ils bulius «ediziun Hallwag, Bern 1947, romontsch dad Augustin Sacchi; Naturkunde, Verlag der Zürcher Kantonalen Mittelstufenkonferenz da Walter Etmüller, Winterthur, 1982.
Cudischs da Silva, Pilze 1 e 2 da Jakob Schlittler, Silva Verlag, Turitg, 1972.
Pilze, da Paul Danuser, Flem, Fegl scolastic grischun.



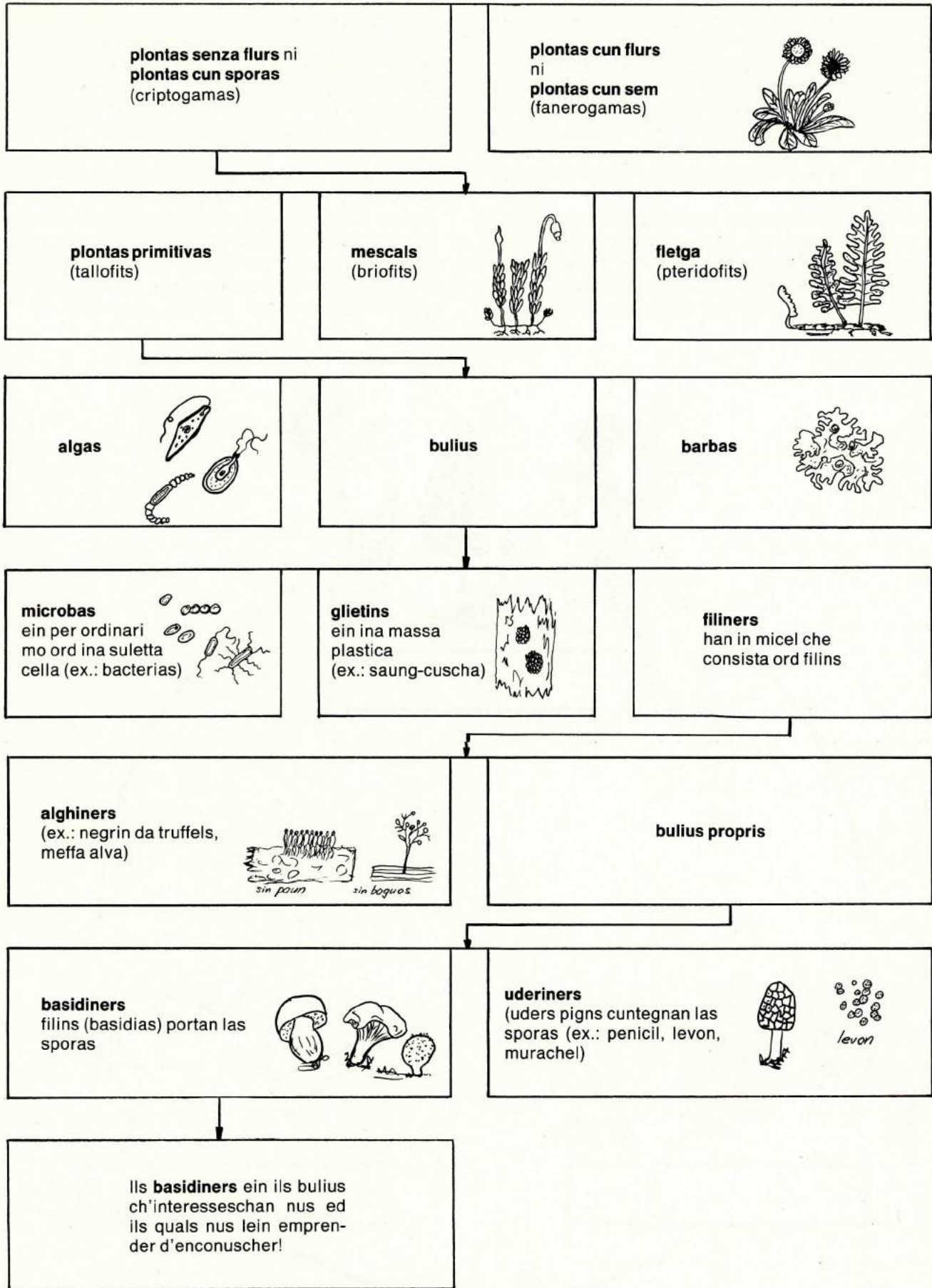
Ils cantarels mellens ni bulius mellens ein tier nus ils pli enonuschents e tschercai. Muort la biala color melna eis ei strusch pusseivel da scumbigliar il cantarel mellen cun in auter buliu, plinavon ein els fetg darar vermanus. Ils cantarels san ins era cuschinar tier da tuttas tratgas, ins sa sterilisar els, conservar els en aua da sal u ischiu ni schelentar.

Differenza denter bulius ed autras plontas

Questa lavur san ins far a caschun d'ina excursiun egl uaul, ni ch'ins rimna il material necessari.

- Cumparsa exteriura: In moni cun capiala.
- Las fluras mauncan, aschia sa il buliu era buca derasar sems.
- Il buliu porta sporas, el sauda tier las plontas cun sporas.
- Bulius ein las sulettas plontas che han buca clorofil. Els san pia buca crear substanzas organas sco las fluras e plontas. Bulius tschetschan bein aua e sals ch'ei cunteni ell'aua, pigl auter ein els – sco ils animals e nus carstgauns – dependents da substanzas organas. Per quei eisi era capeivel che bulius san crescher en stgiradetgna totala.
- Bulius possedan era buca ragischs. Savens vegn il micel prius per ina ragisch, quei ei secapescha falliu?
- Ei dat bulius gudibels e tussegai.

Survesta dil reginavel dallas plontas



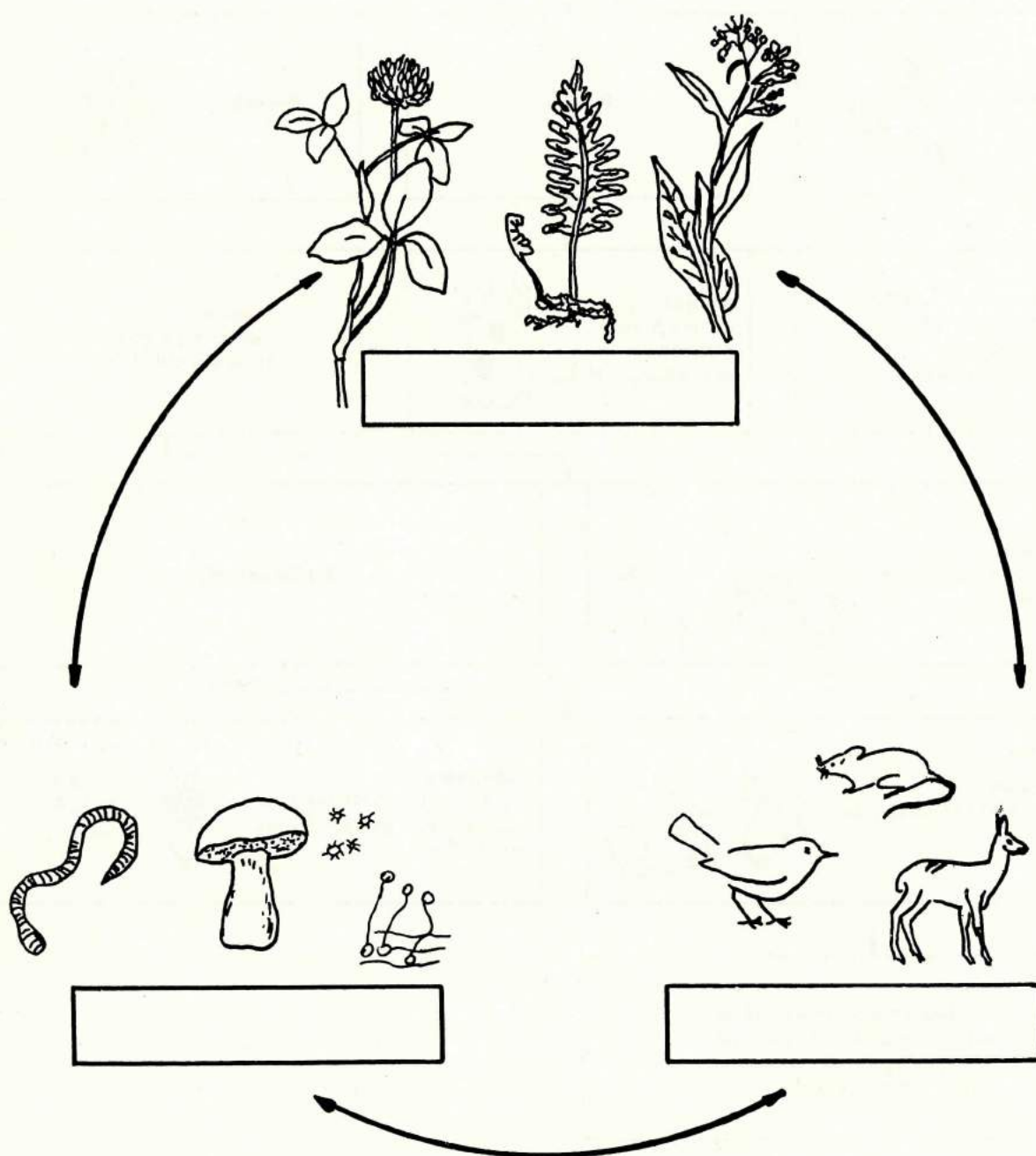
Tgei muntada han ils bulius?

Ilis bulius sedistinguan dallas autras plantas buca mo entras la derasaziun da sporas, mo-bein era entras lur nutriment. Els vivan sin donn e cuost dad autras plantas, per ordinari da smarschems. Perquei ei igl atun era la stagiun preferida dil buliu. Quei ei gie il temps nua che las plantas piardan lur vestgiu verd da feglia, in temps da muria gronda ch'ils bulius nezegian grondiusamein.

Per la natira ein ils bulius da funcziun zun impurtonta. Il process da smarschauna succedess bia memia plaun senza agid dils bulius. Nossa tiara fuss en relativ cuort temps cuvretga cun ina stresa da cadavers. Negina veta fuss pus-

seivla pli, pertgei per mantener la circulaziun dalla materia ella natira ston las substanzas fixadas els cadavers vegnir luvradas dafertontier e returnadas alla natira.

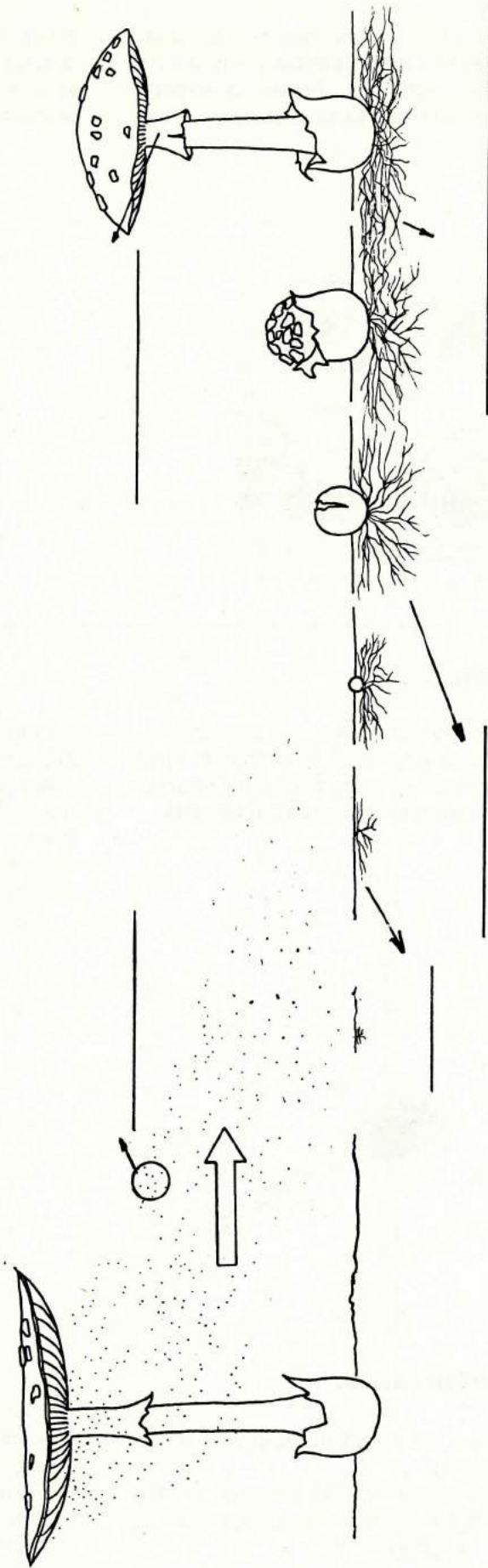
Igl ei da deplorar ch'entiras invasiuns en nos uauls han caschunau ils davos onns gronds donn. Ilis bulius che vegnevan aunc avon in per decennis plitost sbittai en nosa regiun ein daventai l'unfrenda da nies temps raflont. Perfin cheu ha ei duvrau leschas e scamonds per evitar ch'ins ragischeschi ora ilis bulius. Lein pia renconuscher la funcziun fetg impurtonta dils bulius e schurmegiar ilis gudibels ed ilis tussegai, pertgei scadin buliu ha sia muntada ella natira!



Co crescha in buliu?

Ilis bulius han buca flurs e derasan aschia era buca sems. Els saudan tier las **criptogamas**. Quei vul dir tier ils portasporas. In sulet buliu sa derasar bia milliuns sporas. Cun quei che las sporas ein fetg fetg pingas po gia in lev vent transportar ellas lunsch naven. Anflan las sporas il terren adattau (nutritiv, humid cun la dretga temperatura) sche ca-tschan ellas **filins** sin tuts mauns. Quels filins fuorman ina reit. Quella

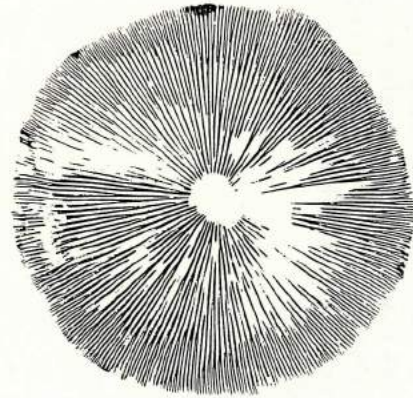
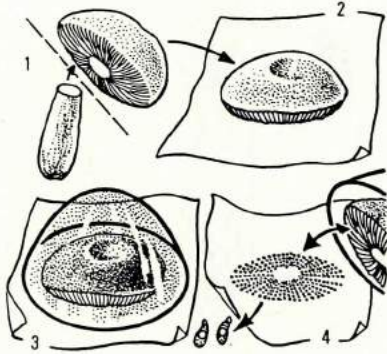
numnein nus il **micel**. Quei micel ei atgnamein il buliu e quei che nus numnein il 'buliu' ei mo il **fretgal**. Ilis fretgals creschan sche las cundiziuns ein favoreivlas (cauld, humid, substanzias organas) enteifer zun cuort temps. Els creschan en intervals fetg irregulars, pia buca dispet mintg'onn. Ha il fretgal derasau las sporas, miera ei, il micel denton, lez crescha vinavon.



Experiment cun sporas

La sera avon la lecziun tschentein nus la capetscha d'in lameller cullas lamellas engiuviars sin in pupi da malegiar ner. Per ch'igl experiment gartegi astgein nus buca ruchegiar la capetscha.

All'entschatta dalla lecziun prendein nus naven la capetscha cun tutta precauziun. Nus vesein lu in bi maletg da sporas. Quei maletg representa a nus la ordinaziun dallas lamellas.

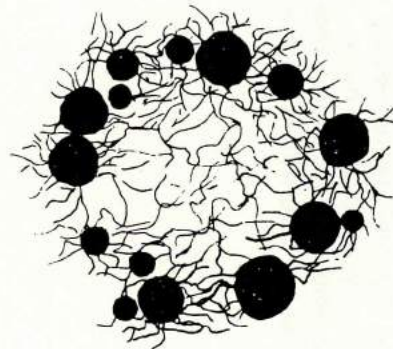
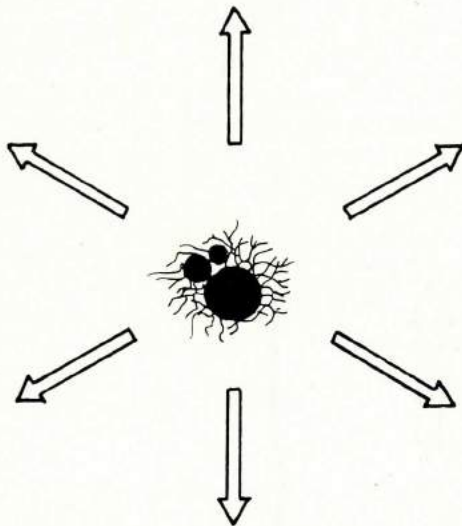


Ille rudials-stria

Il micel crescha circularmeins sin tuts mauns, ferton che las parts interiuras pireschan plaun a plaun. Aschia savein nus era declarar l'interessanta formaziun dils schinumnai **rudials-stria**.

Il svilup dil micel sa denton era sesviluppar en autra maniera. Sch'ills filins creschan parallelmeins ella medema direcziun numneins nus quella formaziun ina **tretschina**.

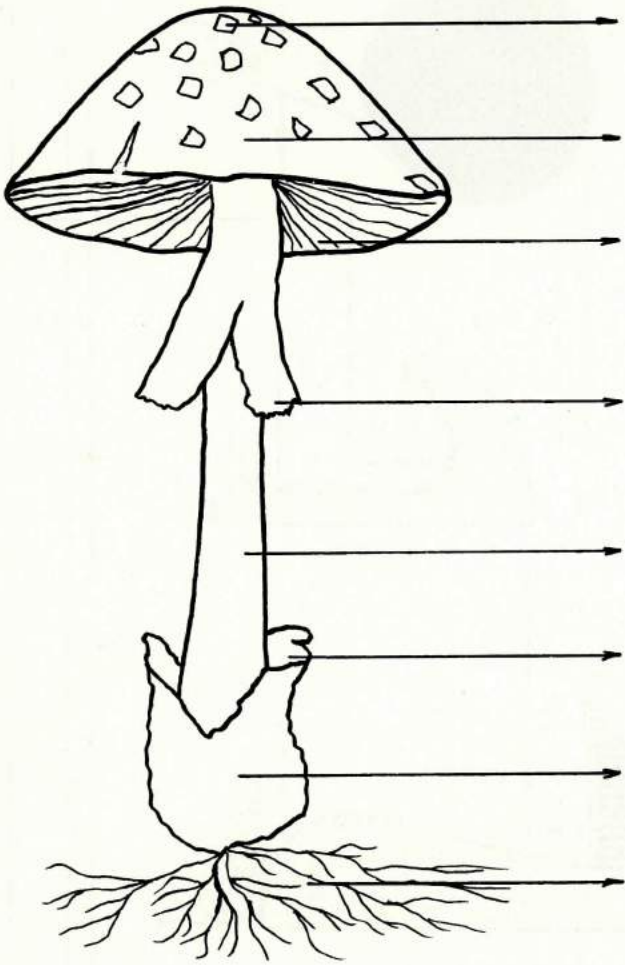
Ina tiarza pusseivladad ei la formaziun da canials spess cun ina crusta stagna. En quei cass tschintschein nus da **sclerozis**.



Caussas che fan surstar

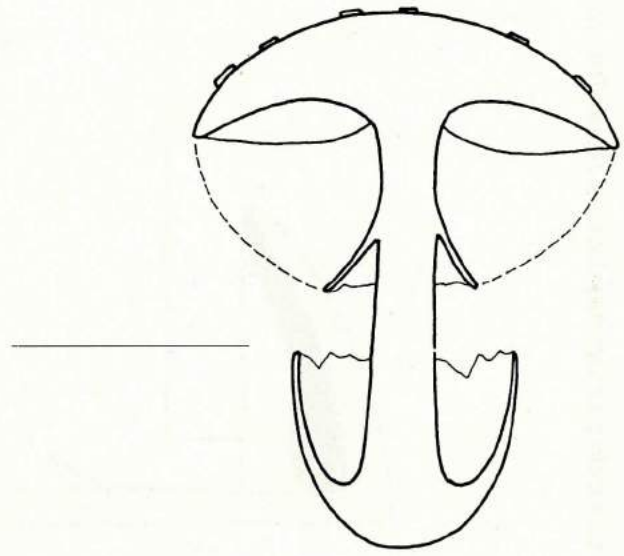
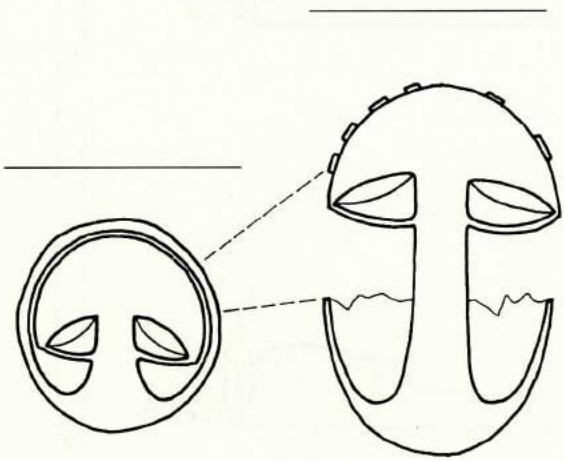
- La grondezia d'ina spora ei mo paucs melliavels millimeters.
- Las fuormas dallas sporas ein tier mintga sort da bulius autras. Ins sa pia classificar ils bulius tenor las sporas.
- Il schampignun da prada producescha circa 1 800 000 000 sporas. Il record da producir sporas ha il bovist gigant. El producescha entuorn 1 500 billiuns sporas!
- Enteifer in'ura derasa il schampignun da prada tochen 40 000 000 sporas.

Las parts dil buliu



Las **scrottinas alvas** silla capetscha d'entgins bulius (amanitas) ein restonzas d'in vel cumplein che circumdat il buliu pign e che scarpa tier la carschientscha rapida. Quellas scrottinas

taccan lu vid la surfatscha dalla capetscha. La mungetta ei il rest d'in vel parzial che cuarcla e schurmegia las lamellas. Allontanescha ina scrottina cun ina pincetta!

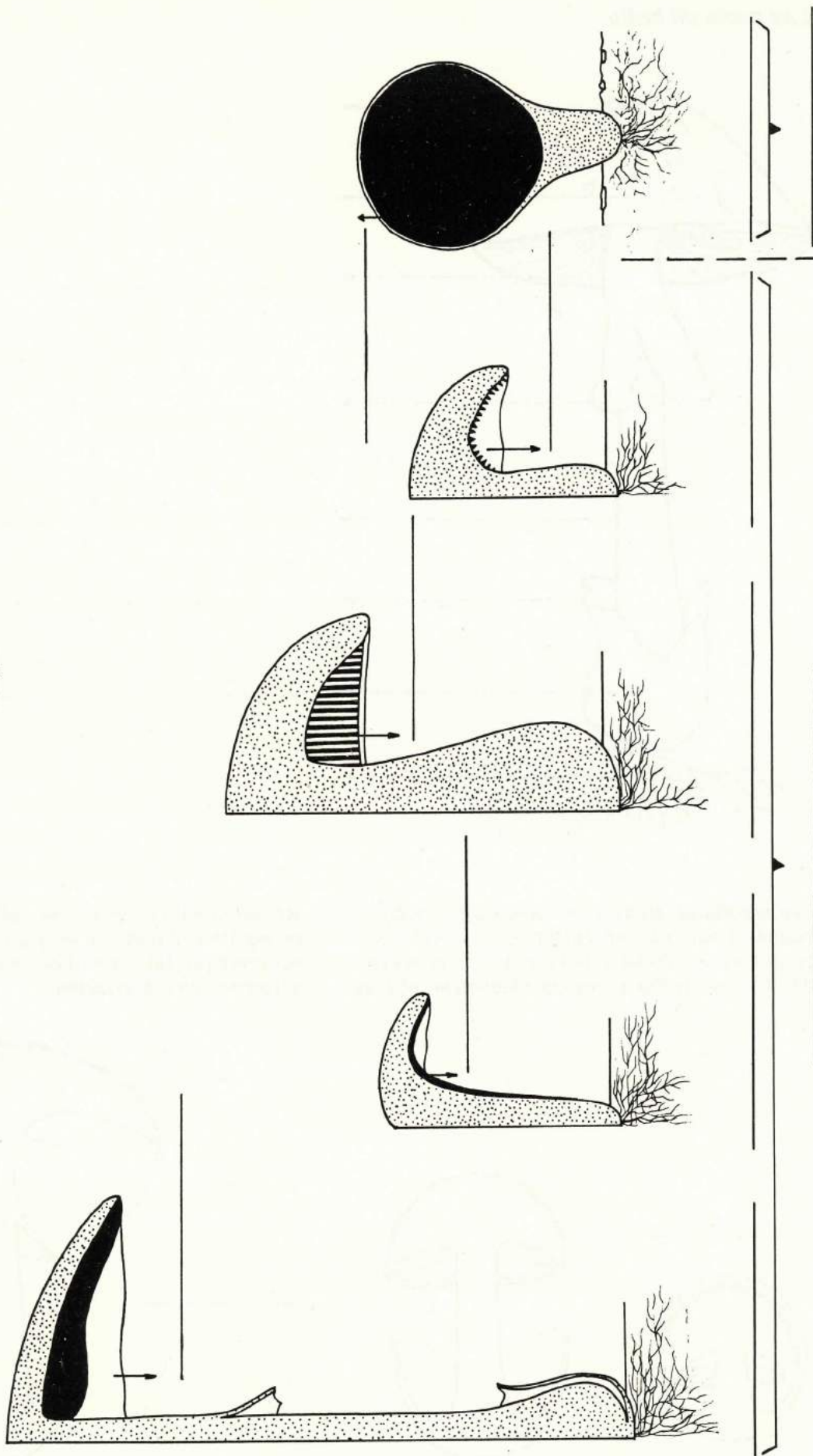


Classificaziun dils bulius (basidiners)

Ilis bulius savess ins classificar en treis gruppas tenor la gudibladad:

- 1. gruppa: bulius gudibels
- 2. gruppa: bulius nungudibels
- 3. gruppa: bulius tussegai

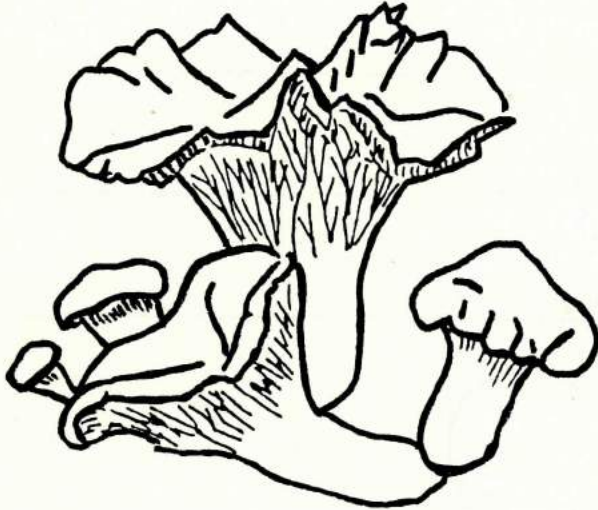
Nus lein denton classificar ils bulius tenor la fuorma e constituiziun dil fretgal.



Cantarel mellen

Indezis

8



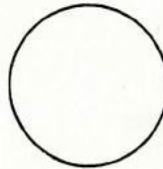
capetscha: _____

portasporas: _____

moni: _____

carn: _____

liug: _____



Tgirun-tschep

Indezis

9



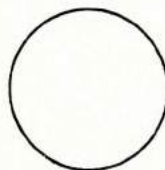
capetscha: _____

portasporas: _____

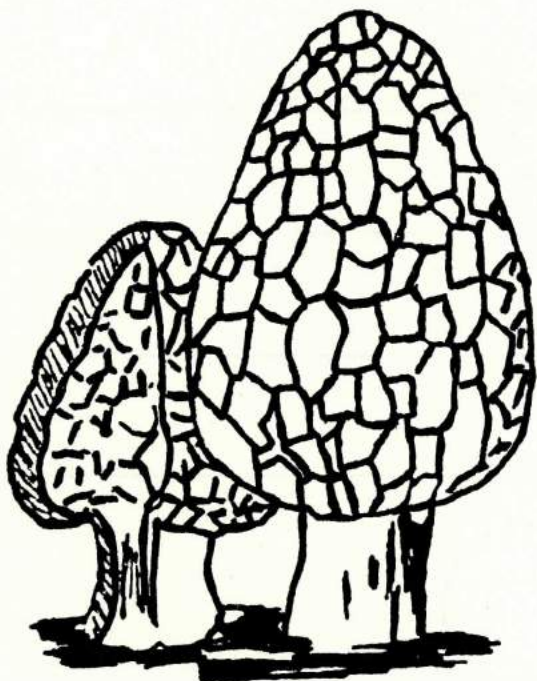
moni: _____

carn: _____

liug: _____



Murachel



Indezis

10

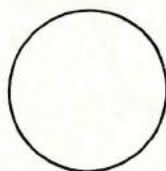
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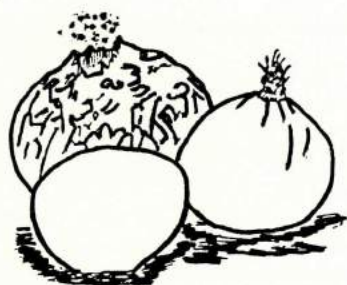
moni: _____

carn: _____

liug: _____



Bovist



Indezis

11

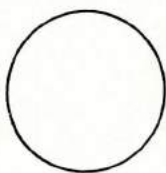
capetscha: _____

portasporas: _____

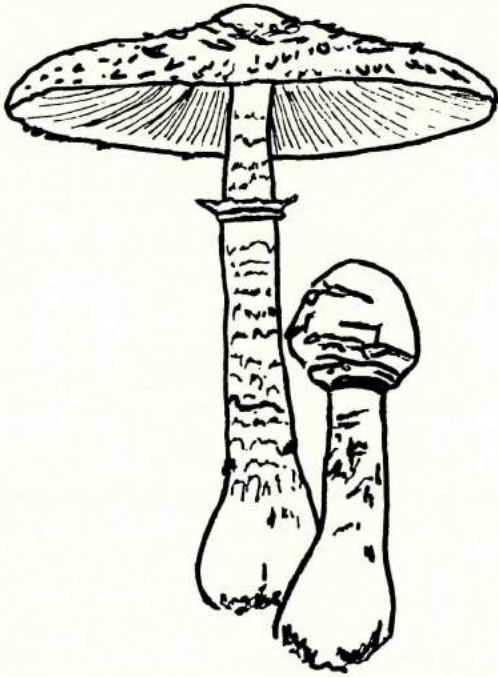
moni: _____

carn: _____

liug: _____



Parisol



Indezis

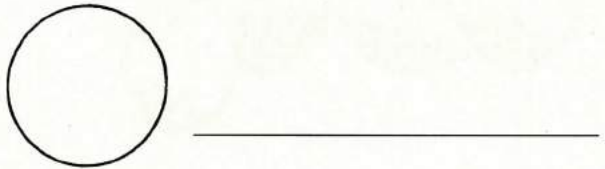
capetscha: _____

portasporas: _____

moni: _____

carn: _____

liug: _____



12

Barber brin



Indezis

capetscha: _____

portasporas: _____

moni: _____

carn: _____

liug: _____



13

Amanita verda

Indezis



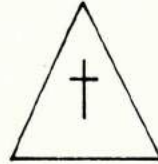
capetscha: _____

portasporas: _____

moni: _____

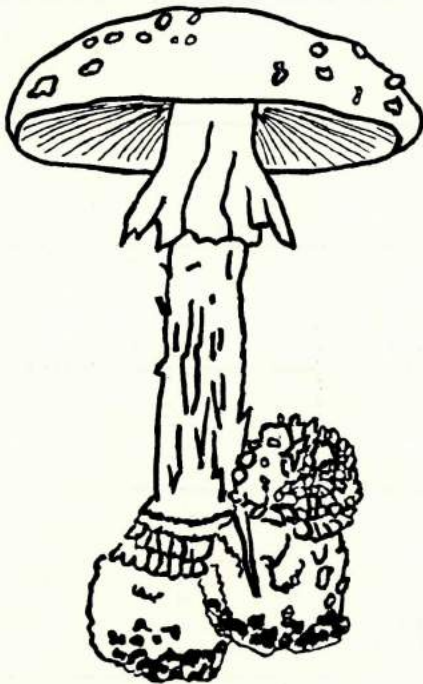
carn: _____

liug: _____



Amanita mustgera

Indezis



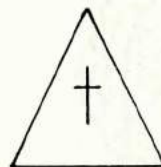
capetscha: _____

portasporas: _____

moni: _____

carn: _____

liug: _____



Reglas per il rimnader

1. Vul ti rimnar bulius, lu empren d'enconuscher ils bulius gudibels ed ils bulius tussegai!
2. Ragischescha buca ora ils bulius!
Rimna perquei buca bulius memia giuvens, mo era buca bulius memia vegls, (quels derasan las sporas), schiglioc vegnan ils bulius extirpai cul temps.
3. Strubegia giu il buliu cun tut quitau. Scarpar giu senza quitau destruescha il micel.
4. Buca taglia giu ils bulius! Il stumbel che resta anavos smarschescha e destruescha il micel.
5. Buca sgara naven il mescal ni slucca la surfatscha dil terren! Ti destrueschas cheutras il micel.
6. Schubregia immediat ils bulius cul cunti leu nua che ti has anflau els, pia egl uaul!
7. Enquera ils bulius en in canaster ni en ina tastga da teila. En ina tastga da plastic vegnan els smaccai, siuan e van empaglia.
8. Enquera mai bulius suenter ina liunga plievgia; els van lu spert alla malura.
9. Buca destruescha bulius tussegai ni nunenconuschents. Era quels han lur muntada ella natira.
10. Drova da cuschinar bulius frestgs. Bulius per part taccai san esser tussegai.
11. Conserva ils bulius en in liug frestg. Rasa ora els immediat. Bulius en magliac sescauldand e van empaglia.
12. Maglia mo bulius cuschinai! Conserva els gie buca en vischals da metal. Il gust va a piarder, eventualmein san schizun differents tissis seformar.
13. Tschaguolas ni tschadun d'argien ein buca sufficientes per enconuscher in buliu tussegau. La zun prigulusa amanita verda per exempel fa vegnir ners ni tschaguola ni tschadun.
14. Odur da frina ni magliadiras da glimaias ein negina segirezia per la gudeivladad d'in buliu.
15. En cass dubius muossa tes bulius al controllader dil vitg.

Historia naturala – Il buliu – Repetiziun

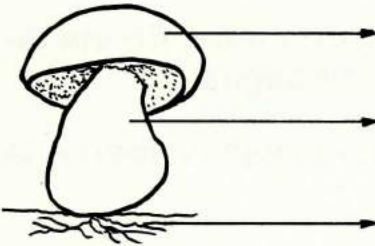
1. Co duess ins prender giu in buliu?

2. Cu duess ins buca encurir bulius?

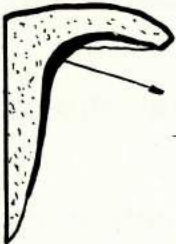
3. Tgei fas ti sche ti vesas bulius tussegai?

4. Bulius derasan buca sems, mobein

5. Numna quellas parts!



6. Numna ils portasporas!



Quels bulius saudan tiels

7. Enconuschas ti ussa quels bulius!



Historia naturala – Il buliu – Repetiziun

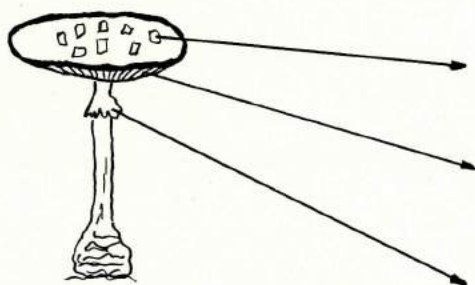
1. En tgei duess ins metter ils bulius ch'ins anfla?

2. Tgei duess ins far cu ins ha strubegiau giu in buliu?

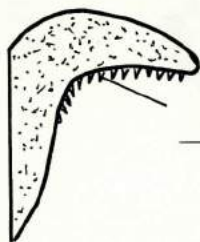
3. Tgei fas culs bulius che ti enconuschas buc?

4. La spora catscha filins. Quels fuorman ina reit. Quella reit numnein nus

5. Numna quellas parts!

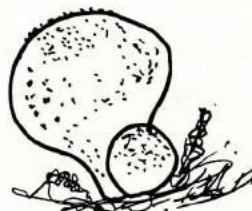


6. Numna ils portasporas!

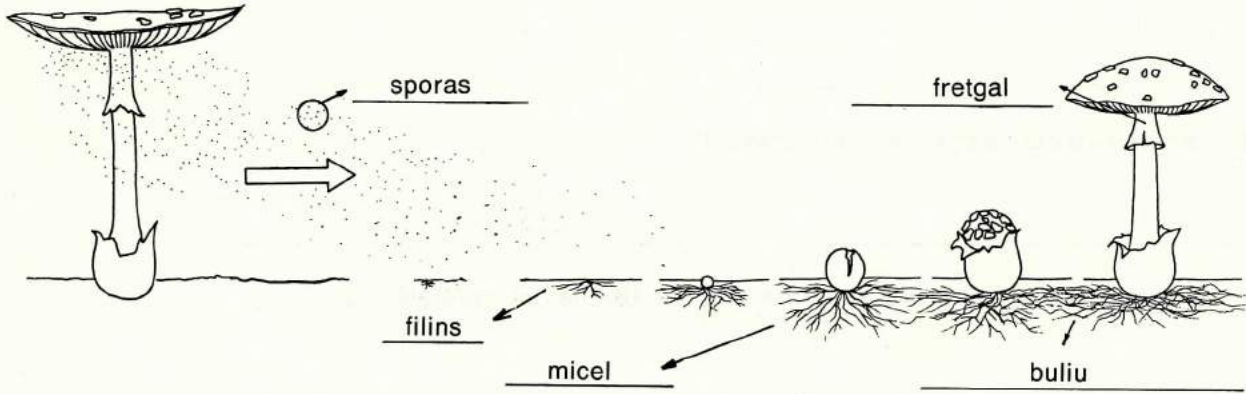


Quels bulius saudan tiels

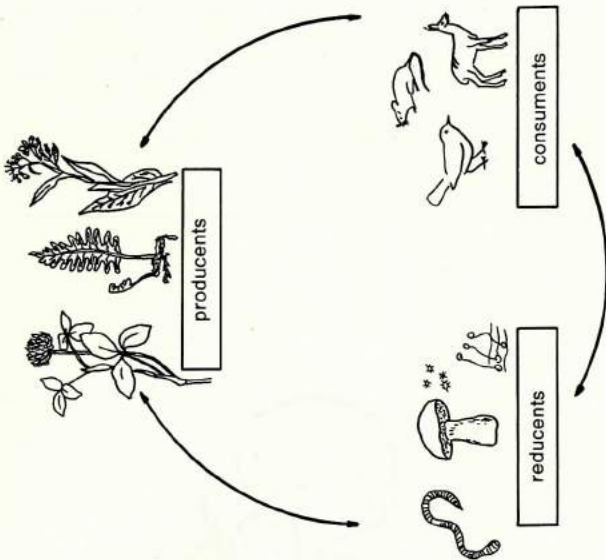
7. Enconuschas ti ussa quels bulius!



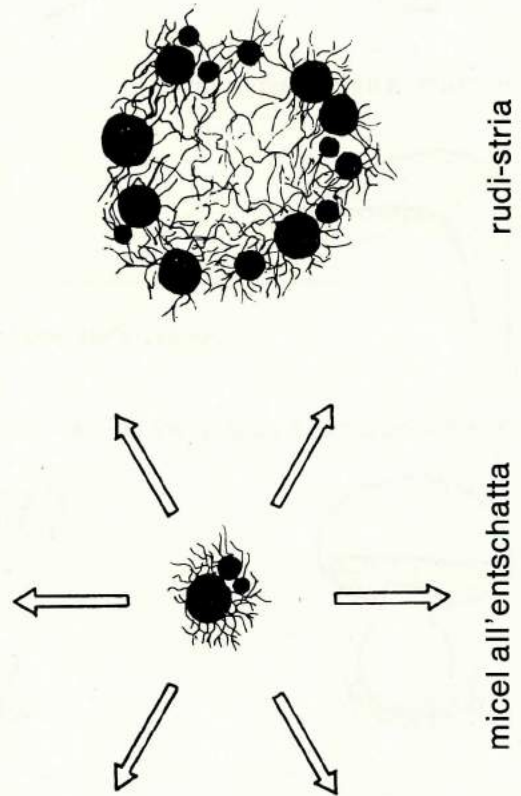
Sligaziuns

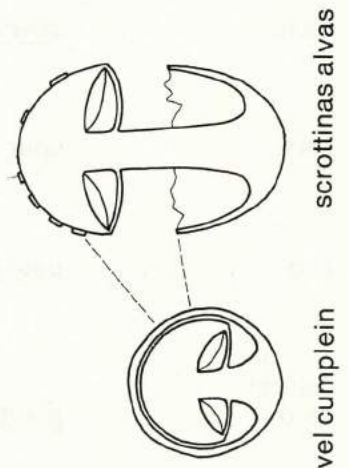
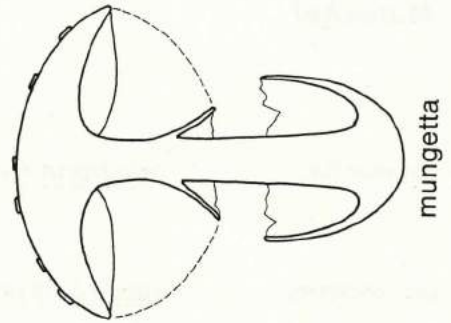
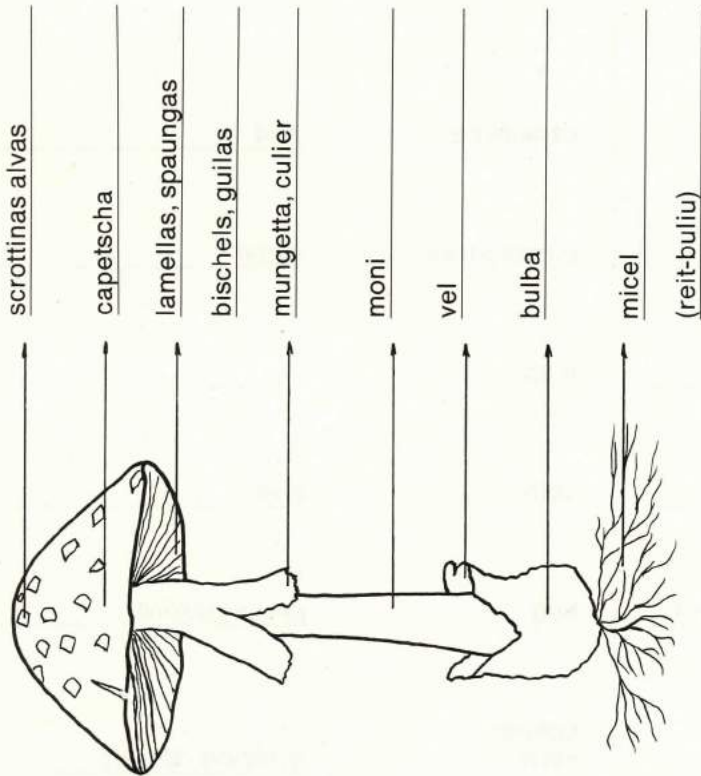
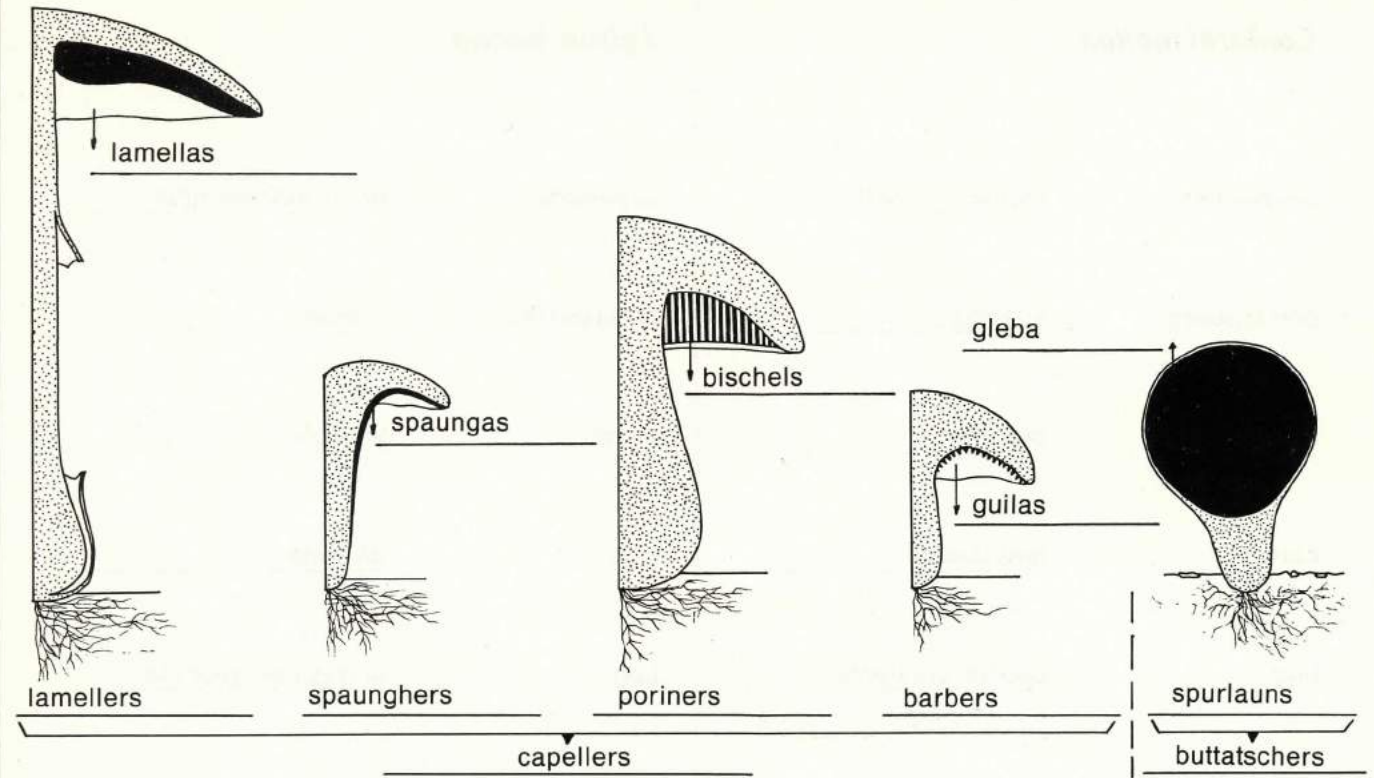


2



5





8

Cantarel mellencapetscha: melna (→ alva)portasporas: spaungasmoni: cilendercarn: melna/alvaliug: uaul da coniferascolurar
verd gudibels

9

Tgirun-tschepcapetscha: brina/humida/niuaportasporas: bischelmoni: ventruscarn: alvaunaliug: ur digl uaul/pignolacolurar
verd gudibels

10

Murachelcapetscha: brina/brin-melnaportasporas: sauda tiels uderiners!moni: cilender/cavortgscarn: odur aromaticaliug: uaul da feglia (fraissen)colurar
verd gudibels

11

Bovistcapetscha: alvaportasporas: glebamoni: —carn: alvaliug: praus/pastirascolurar
verd gudibels (torrer)

12

Parisolcapetscha: fuostg-brina/squamettasportasporas: lamellasmoni: liungs, satelscarn: alva, spungiusaliug: uaul, pastira, magherscolurar
verd gudibels

13

Barber brincapetscha: stgir-brina/squa. nerasportasporas: guilasmoni: cuorts, grosscarn: brinaunaliug: uaul da coniferascolurar
verd gudibels

14

Amanita verdacapetscha: verda, humida, ulivaportasporas: lamellasmoni: liungs, satelscarn: alvaliug: uaul da fegliacolurar
tgietschen tussegada

15

Amanita mustgeracapetscha: cotschna cun scrottinasportasporas: lamellasmoni: liungs, satelscarn: alvaliug: uaul da coniferascolurar
tgietschen tussegada

Historia naturala
Il buliu – Repetiziun A

1. Co duess ins prender giu in buliu?

Strubegiar giu cun tut quitau

2. Cu duess ins buca encurir bulius?

Suenter ina liunga plievgia

3. Tgei fas ti sche ti vesas bulius tussegai?

Jeu laschel star els

4. Bulius derasan buca sems, mobein

sporas

5. Numna quellas parts!

capetscha

moni

micel (buliu)

6. Numna ils portasporas!

spaungas

Quels bulius saudan tiels spaunghers

7. Enconuschas ti ussa quels bulius?

murachel

barber brin

cantarel mellen

Historia naturala
Il buliu – Repetiziun B

1. En tgei duess ins metter ils bulius ch'ins anfla?

En in canaster ni tastga da teila

2. Tgei duess ins far cu ins ha strubegiau giu in buliu?

Schubergiar el liug d'anflada

3. Tgei fas culs bulius che ti enconuschas buc?

Jeu laschel star els

4. La spora catscha filins. Quels fuorman ina reit. Quella reit numnein nus

il micel

5. Numna quellas parts!

scrottinas

lamellas

mungetta

6. Numna ils portasporas!

guilas

Quels bulius saudan tiels barbers

7. Enconuschas ti ussa quels bulius?

tgirun-tschep

parisol

bovist