

Length, dish 5' 1" (61")
min. depth - 1' 11" (23")
max. depth - 3' (36")

Combat
Duck

SWINVA ME 22

mead

COMBILT
DITIT

SURINAME

1982

Combar Note - Cuba, Peru
Hawaii - 18, 1981
Crawls: Trying to capture, with Hyacinth
Feeding preferences - Turtles

Bahamas:
Reacquisition of Gibb's Key

3 subject notebook

9½ In. x 6 In. 150 Sheets

3 Sections/50 Sheets Each

College Ruled

06-9900

The Mead Corporation, Dayton, Ohio 45463

10.50
 170
 471.20

Earthwatch Expedition: Surinam

Expenses

In Surinam:

Market, food for initial week &
 and Ice

changed 400⁰⁰ US to - 696.50 SF (initial)

Money remaining on 14 Aug: 471.20 (Cruiser)

and spent on food & ice = 255.30 (initial)

Paid to Boas Meeus to enter: 7.50 + 2.00 = 9.50
 (251.90)

Breakfast at Ambassadors: 4.00 (9.1)

2.50

6.50

To Rent Shute, Blankets etc. @ Pounding - 19.50

On Aug. 13, in Surinam: Money Remaining

\$ 586.00

1,000

1,586.00 U.S.

Aug 16 - 25.00 @ - 500.00

70 - " - "

Aug 18 145 @ - 500.00 in Surinam

Expenditures on transit

Was. Intl. Apts. -

Miami Intl. Apts. - \$10.00 US postage

Amount taken to Paramaribo

8/21- 225.5 + 3.65 charge = 229.15 G
115.00
~~100.00~~ U.S. -

Received with 139.00 US
229.15

Spent 200.00

Collection Records

SUR 2-1 - *Leucosticte* nest gutless, laid 4 pellets -
30 Aug 1957 *Leucosticte* *auricularis*

SUR 2-2 - *Phainopepla nitens* 4, 3rd of
1957 - nest small, hollowed, inside 2nd stage
nest empty; Brownish - *Phainopepla*, 30 Aug 57
Collected in S. Calif.

SUR 2-2 - *Megascops asio* nest on ground
seems to have sprung from tree M.P.

3/1

SUR 2-3 - SUR 2-7
Aug. 15 - 20 Brownish

Phainopepla nitens

SUR 2-7 *Scolecophagus* *hildebrandi* *Evans*

SUR 2-8 large nest *Leucosticte* nest by track M.P.

SUR 2-9 *Rufous* *Phainopepla* nest gutless this day 20
Brownish - near track, 1st down log, large -
ward fairly common

SUR 2-10 - System of ...
... on side of ...
... Rd Clay ...

SUR 2-11 - ...
...
... Aug 2, 1982

SUR 2-12 - ...
... Aug 20/1982

SUR 2-13 - ...
...
N. ... 20 Aug ... W.E.S.

SUR 2-14 - yellowhead ...
...
... 20 Aug - 82 ... W.E.S.

SUR 2-15 - ...
... W.E.S.

SUR 2-16 - ...
... W.E.S.

SUR 2-17 - ...
... 20 Aug 82 ... W.E.S.

SUR 2-18 - hard mud nest on side of live tree, open roadside; about 2M above ground; Both Armitermes + long jawed snapper in same nest, + nest of Trigonus bees!! Snappers attacked soldiers + workers of Armitermes when exposed to each other.

SUR 2-18a = Armitermes sp.
SUR 2-18b = Armitermes tuberosus Emerton 8/20/82 W.E.S.

SUR 2-19a - Armitermes (~~mandibulata nasutes~~) (Armitermes minutus) + small nasute in a small typical Armitermes nest (small root ball on ground by the road.

SUR 2-19-b the tiny nasute 8/21/82 Neil Pollock & W.E.S.
SUR 2-20a Subulitermes sp.

yellow head nasute nest in fallen rotten log by roadside. Adontomachus ant + small brown head nasute colony in same log.
a = N. octopilis
b = brown-headed nasute Neil Pollock

SUR 2-21 Armitermes (mandibulata nasutes) - in typical root nest between roots of live trees about 20 ft. off the road. also small termite in dead log that ~~was~~ Armitermes nest built around. also reproductive specimen of Armitermes. Marianne Early & Mike Pitman 8/21/82

SUR 2-22 - yellow-headed nasute nest being attacked by 2 different kinds of ants - both kinds acting as predators. Potten fallen log.
ant in SUR 2-22 ant octopilis Neil Pollock 8/21/82

SUR 2-23 - Heart shaped mandibulate soldiers c snapping jaws. Living in the softer part of a fairly hard wood in fallen branch by the roadside.
Planicipitum planiceps Emerson
8/21/82 Mike Putnam

SUR 2-24 Tiny termites living in galleries of a hard wood fallen along roadside - also a honey-head nasute colony in outer more rotten area of ~~the~~ wood.
pale yellow tiny soldiers - smaller than the workers
2-24a = *Armitermes* sp. #
2-24b = *Rhinotermes*

SUR 2-25 ~~Dead tree~~ Standing dead tree along the roadside containing several diff species of termites - brown head nasutes, a "tiny" (Rhino?) termite and possibly a termite with no soldiers (after 3 chops - no soldiers were visible) also an ant predator of latter is included in vial. Very loose carton nest about 6 ft. up.
8/21/82 Mike Putnam
tiny termite & brown heads were located under bark

SUR 2-26 ~~Large~~ large *Labiatermes* nest about 6 ft up a ~~the~~ live tree with runways.
8/21/82 LEO Roberts + Neil

SUR 2-27 Brown head nasute from runways on tree with lots of bracket fungus.
N. guayanae 8/21/82 Mike Putnam

SUR 2-28 Small termites in rotten piece of dry wood along road.
Cylindrotermes nordenskioldi Holmgren
8/21/82 Mike Putnam

SUR 2-29 Dead hollow tree by roadside containing the following:
a) top of tree - *Odontomachus* ants (large reddish color)
b) Large long jawed ^{*Nesocapitum angusticeps*} snappers
c) honey head nasutes ^{*Armitermes holmgreni* Snyder}
d) tiny termites ^{*Subulitermes baileyi* Em. 7.}
e) alates pertaining probably to cord
5 vials
Leo Roberts
8/21/82

SUR 2-30 *Cornitermes pugnax* under bark on base of huge fallen tree beneath the shade of a buttress root.
8/21/82 W.E.S.

SUR 2-31 Large globular carton nest of brown head nasutes. Soldiers appeared quickly - one hr. later workers out working on repairs. Nest totally repaired 17 hrs. later.
n. comstockae 8/21/82 Neil Fallock

[22-8-82 W.E.S.]

SUR-2-32 Brown Nasutes under loose peeling bark of fallen branch in open roadside

SUR-2-33 small yellow nasutes under bark of fallen branch in shade.
Armitermes? Not *subulitermes*?
Maybe new species - OK new species of *Rhinotermes* and we named the *subulitermes* soldier.

22-8-82

SUR-2-34 small nasutids in rotten log with bracket fungi

SUR-2-35 large Armitermes under rotten log along shaded trail

SUR-2-36 - 2 or 3 spp. under small area of bark on side of buttress root of large rotten stump. Rhinoterms 1 major + minor 21

SUR-2-37 Labiotermes + staphylinids + other termitophiles.

SUR-2-38 Armitermes nest

SUR-2-39 Armitermes nest

SUR-2-40 Armitermes nest

SUR-2-40 R. nasutid insulitermes guyanae

SUR-2-41 A Cryptotermes sp. nasutid?

Aug. 26

SUR-2-41 B Small nasutid living in the rot of the wood

Cylindrotermes radenskioldi

SUR-2-41 C N. octoporus from dead rotten log
Coll. Warden
SUR-2-41 D. Burroughs - M.S. Collins - M. W. W. W.
Wed. Aug. 25

SUR-2-42 - Nasutid nasutid

SUR-2-43 - Nasutid nasutid

SUR-2-44 - Nasutid nasutid

SUR-2-45 - Nasutid nasutid

SUR-2-46 - Nasutid nasutid

SUR-2-47 - Nasutid nasutid

SUR-2-48 - Nasutid nasutid

SUR-2-49 - Nasutid nasutid

SUR-2-50 - Nasutid nasutid

SUR-2-51 - Nasutid nasutid

SUR-2-52 - Nasutid nasutid

Subulitermes sp.

From same wood as 45

Aug. 26

Nasutitermes surinamensis

Nasutitermes eximiae / costalis

Go to clean page

E1

Ant #1

Red hunter provided with 5 Constrictor termites

- soldiers - snapped + missed
- ant stopped + crawled under paper + attempted to rub mouth parts on paper
- gaps + stinging paper + itself
- strike position again - struck but couldn't hold soldier - hit in face
- "wandering off" - searching, searching ant protruding abdomen toward paper
- strike position

at 2 p.m. ant who has been fired upon by 5 constrictor ~~termite~~ soldiers in a small container containing a wet piece of napkin. Soldiers have crawled all over the ant including her face - no reaction by the ant

~~2nd ant placed in container with soldiers of Constrictor termites~~

when isolated ant #1 tries to rub itself on the paper. Ant is wiping itself on.

ANT #2

E2

Same conditions as ant #1 faced

fringed efforts to escape
soldiers squinting legs,
soldier shooting ant & climbing on head.
Ant tried to get away

~~ant~~ ant gapping, trying to sting sold.
soldiers climbing all over the ant

ant still gapping
ant jumped away when engaged at head

ant moving jaws around soldier but
not biting it.

Ant in severe distress, gapping widely

Ant struck for soldier but missing.
Ants attempting to leave arena.

Gapping, gapping, endlessly gapping

#1 or #2 Still gapping 10 minutes later

Termites survived both encounters
without harm

P1

Pachycondula #1 vs. 5 ^{Constricto} Soldiers
to paper napkin in container

ant trying to get out desperately
biting paper napkin

fired upon by soldiers
soldiers in battle positions (ready to fire)

ant strikes at termites after being fired
upon. Ants feints

Ant Chewing & dragging wet paper napkin
Ant Preened his legs

" crawled under paper, gapping slightly
" preening antenna & forelegs
~~ant~~ " feinted

" biting paper
" turning in circles in distress
trying to leave and gapping widely
Ant preening antenna & forelegs

Ant gapping & preening

Isolation: trying to get out desperately





Lower legs of - Constrictor forms
 great advantage - faster and
 better traction

at the end of 15 minutes

Casualties

W
 W
 W

summed soldier injured, 1 disabled
 worker 1 disabled
 Constrictor soldiers injured
 workers

at the end of 30 minutes

3 4 Equivocate soldiers and 6
 Constrictor workers on bed and
 1 brown head soldier.

RUN #3

10 soldiers 30 minutes Constrictor
 10 workers

- minute 1 3 Es 1 Bw
- 2 1 Bw
- 3 none
- 4 "
- 5 Bhs
- 6 1 Bw
- 7 none
- 8 "
- 9 "
- 10 1 Es
- 11 none
- 12
- 13
- 14
- 15 1 Bhs

Cw 2 just 1 Bw
 2 Bw
 Bw 1 Bw En 1 Bw
 1 Bw 1 Bw
 with 1 Bw traction
 1 Bw 1 Bw
 to have advantage
 1 Bw 1 Bw

Paper Trail	Seal	Injured	On work	
Bhs				
Bhw	I			#3
Es		I		10 of work
Cw				
Bhs	I			Plastic
Bhw	I	I		10 of work
Es				#2
Cw				
Bhs				Plastic
Bhw		I		#1
Es				10 of work
Cw				
Bhs				#4
Bhw		I		10 of work
Es	I			
Cw				
Bhs		I		#5
Bhw			I	
Es				
Cw				

Department of Labor/Comms meet

1-18-20

Run # 7 70 WS, 10

- 1 1 CS 2 CW 10hs
- 2 1 CW
- 3 2 CS
- 4 1 CW 10hs
- 5 none
- 6 1 CW
- 7 none
- 8 1 CW
- 9 1 CW
- 10 1 CW 1 CS
- 11 1 CW 1 CS
- 12 1 CW
- 13 1 CW
- 14 1 CW 1 CS
- 15 1 CS 1 CW

Run #5

2 honey bees vs. 20 Constrictor

- 1 10
- 2 100
- 3 100, 100
- 4 200, 100
- 5 200, 200
- 6 200, 100
- 7 200, 100, 100
- 8 300, 100
- 9 300, 300
- 10 300, 100
- 11 200, 400, 200
- 12 100, 300, 100
- 13 200, 300, 300
- 14 200, 100

6th hr in nest at end of run
at least 3 small bees in
hive to begin with



Constrictor left their own
nest (soldiers & workers) and tried
to invade brown head nest. Some
brownhead soldiers went outside
nest but never across central line.
All brownhead workers stayed
within nest.



without view
all constrictor
that entered brown head nest never came
out alive

Constrictotermes workers very aggressive
Brownheads form circle around their
workers

- when empty piece of Habicotermes nest
placed in box, it was quickly
occupied by Constrictotermes

Run #7 Same as #6

same results - brown heads stay
put while Constrictotermes leave
their own nest. Aggressive Constricto-
termes workers enter Brownhead nest
so boldly but sacrificially. Once
in brownhead nest brownhead
workers usually have the upper-
hand against Constrictotermes worker.

Some Brownhead soldiers leave nest
and stand outside of it with
noses pointed outward away from
nest - just like armed guards
guarding a bldg. & guns pointed
outward.

Run # 8
Run # 9
Run # 10

SAME

Results

- even young Constrictos didn't
stay in nest

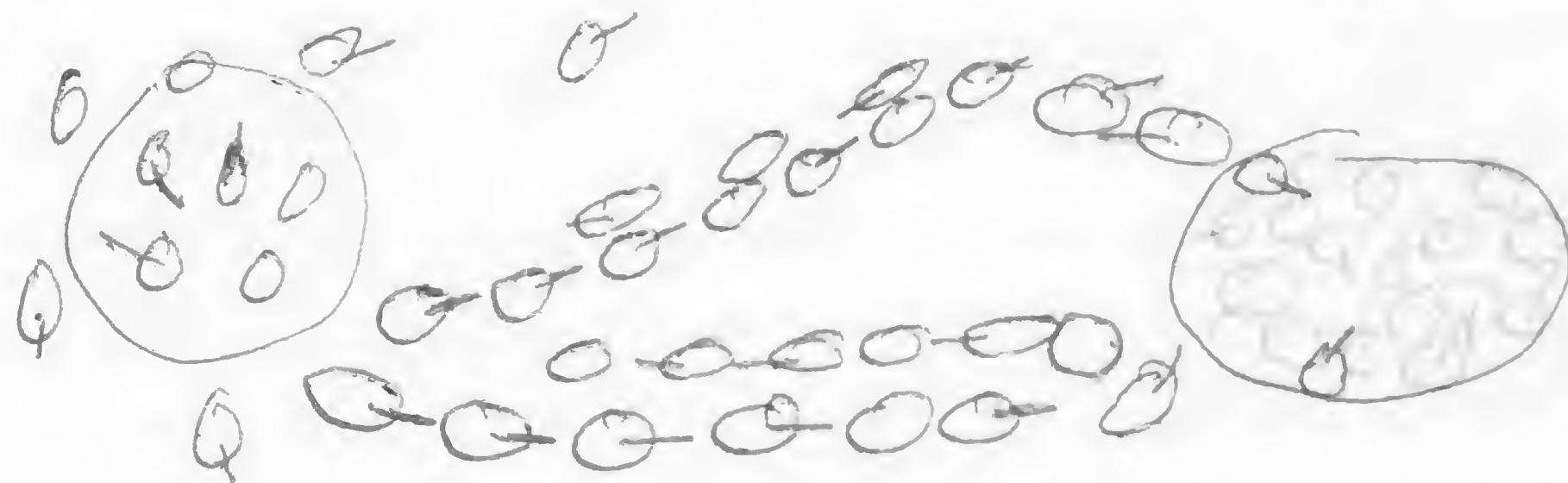
Daytime

Run #1

Octopillus vs. Brownhead

Brownheads

Octopillus



when yellow heads + brownheads were
placed in the same box. The brownheads
immediately worker + soldiers both (80%
soldiers though) formed single columns
and ~~went~~ marched over to the yellow
head nest, at first upon encounter
they would turn and run.

Yellow heads never left their
nest - very slow deliberate movers.

Never any real combat - more
of a situation where the brownheads
were checking out the outer perimeter
of the nest & without attempting to
penetrate it.

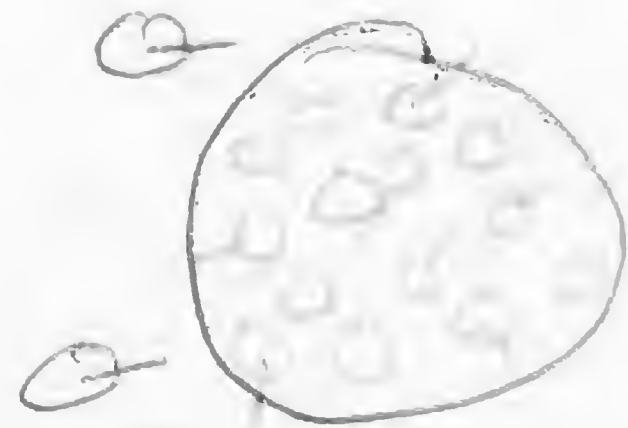
After about 20 minutes most
of the brown heads soldiers and all
of the workers had retreated to their
own nest. with only a few
soldiers remaining on the frontier
& along the perimeter of the yellow
head domain

Daytime

after 20 minutes

brownheads

Octopillies



⊙ brownhead soldier
○ = worker

⊙ Oct. soldier
○ = worker

When yellow head wkr. out on battlefield, bit brown headed soldier immediately 5 or 6 brown heads gathered around the worker shooting him in the behind and yanking in distress

Daytime

Val wet slow as they complete

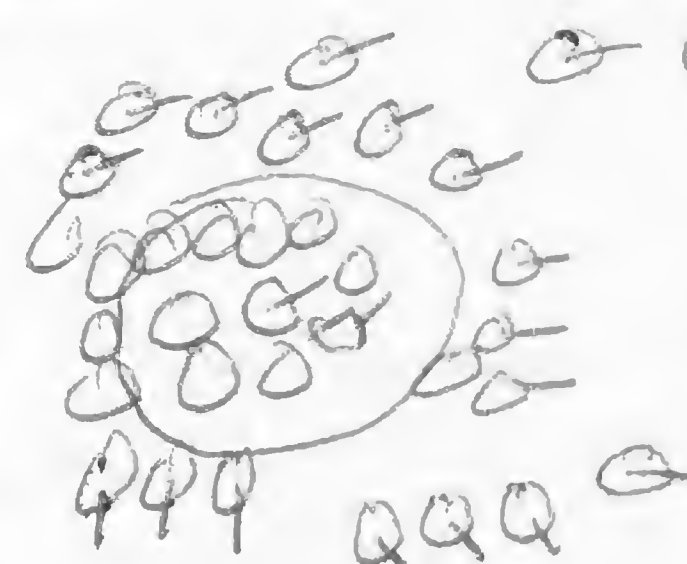
Run #2 Same conditions as #1

B. Yellow heads vs. brown heads

This time again brown heads were first to leave their nest & the soldiers forming a scanning party of the frontier after about 4 minutes. Before brown heads had contacted yellow heads some of the yellow head workers & soldiers had left their nest & wandered down onto the paper.

Contact first made at 5 1/2 minutes. Brown head workers all stayed in or close to nest this time

At 8 minutes



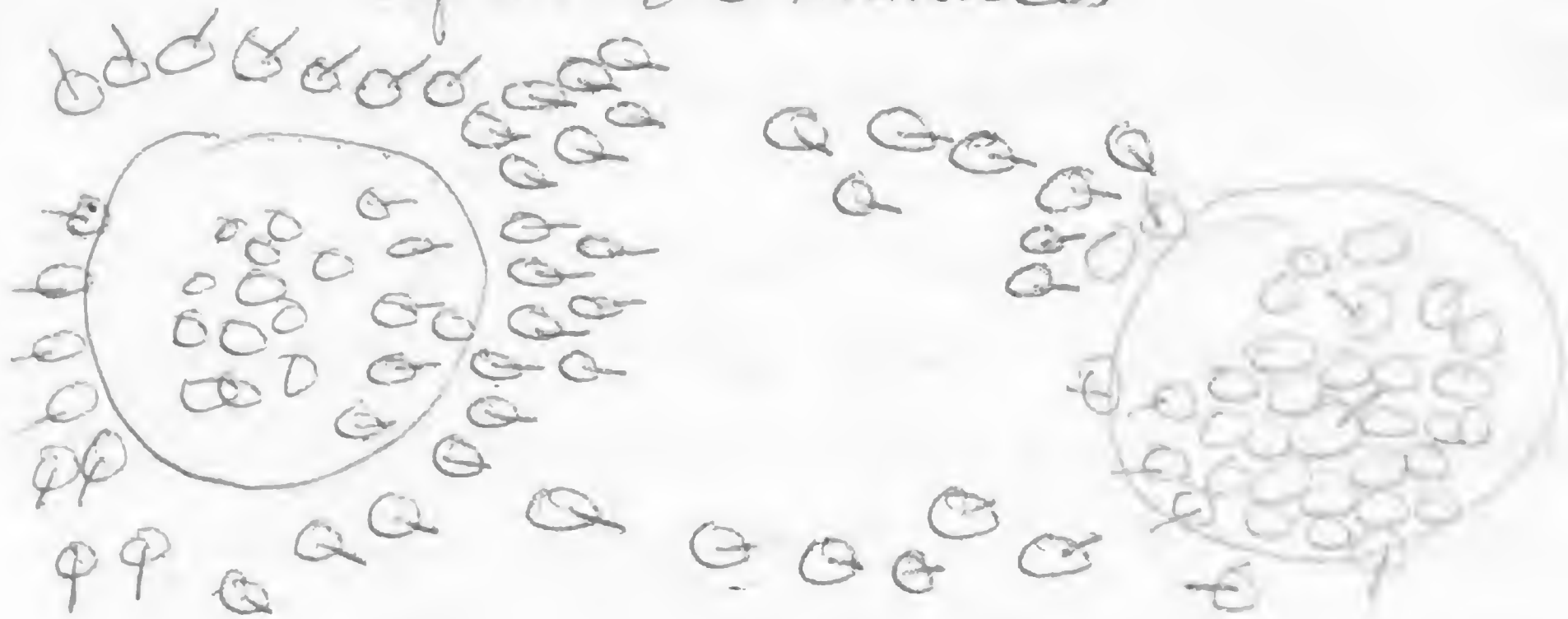
⊙ - soldier
○ - worker

1st combat between one ^{y.h.} worker & brown head soldier, worker bit soldier on underside of area behind head

distress signals given by both species

Daytime

After 20 minutes



After 30 minutes



No fighting, if any very little, at end of 30 minutes the brown heads were very plentiful at the North end of the yellow head nest but no physical contact was being made.

Daytime

Run #3 brown vs. yellow heads

after 1 minute one brownhead located yellow head nest, ran back to her nest & gave distress signal, then brown heads moved quickly onto the frontier.

2nd brown head climbed up on Octopilus nest & ran back down the now formed single file line of brown head soldiers giving distress signals as she went.

30 seconds later about 12 brown head soldiers are at the outskirts of the yellow head nest and have begun climbing an unoccupied end.

- yellow heads also giving distress signals upon approach of brownheads
- yellow head flies upon 3 diff. brown head soldiers then runs back to heart of nest & gives distress signal

5 minutes
yellow heads



brown heads

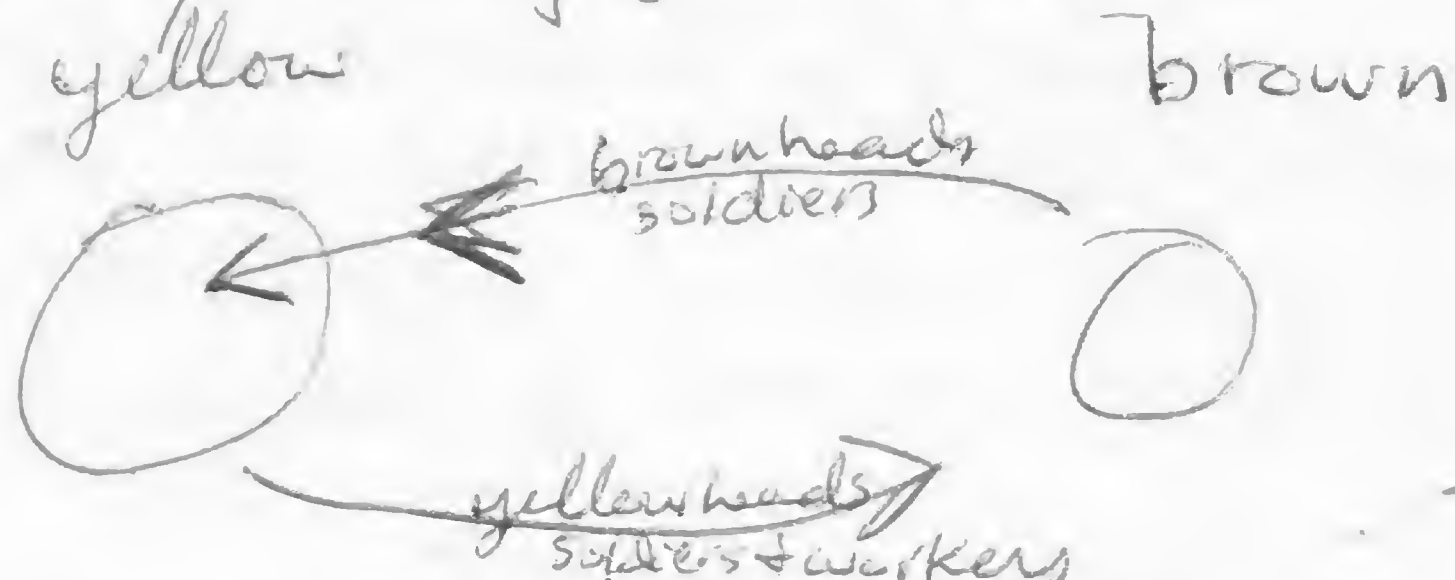


Daytime

○ brownheads soldiers
○ workers

○ yellowhead soldiers
○ workers

In this run both colonies are moving away from nests

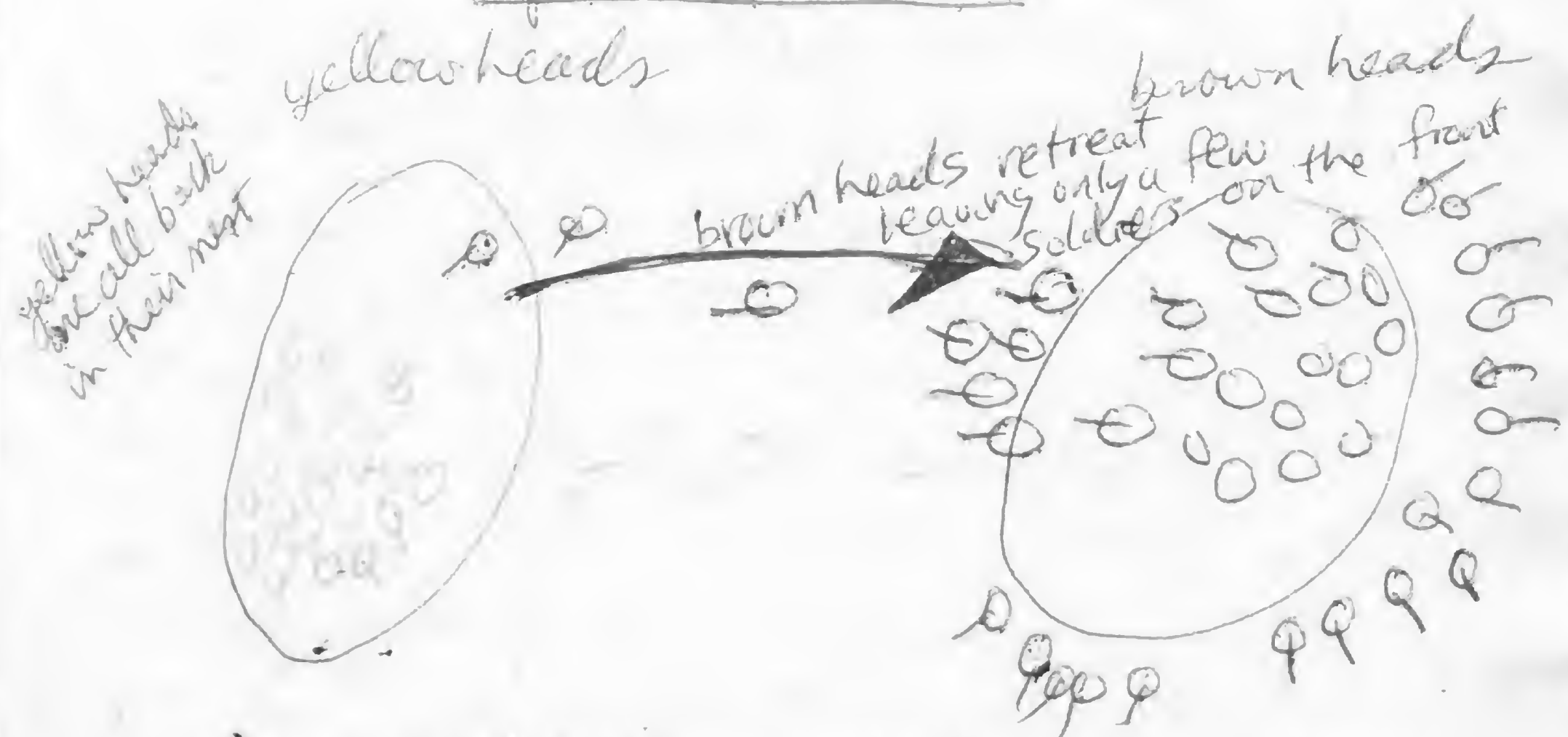


brownheads have advanced onto nest however

yellow heads appear to back up dragging nose on the ground as they do so.

after 10 minutes both lines have retreated somewhat - yellow heads almost entirely. Still no real heavy combat just occasional firings at each other.

After 15 minutes

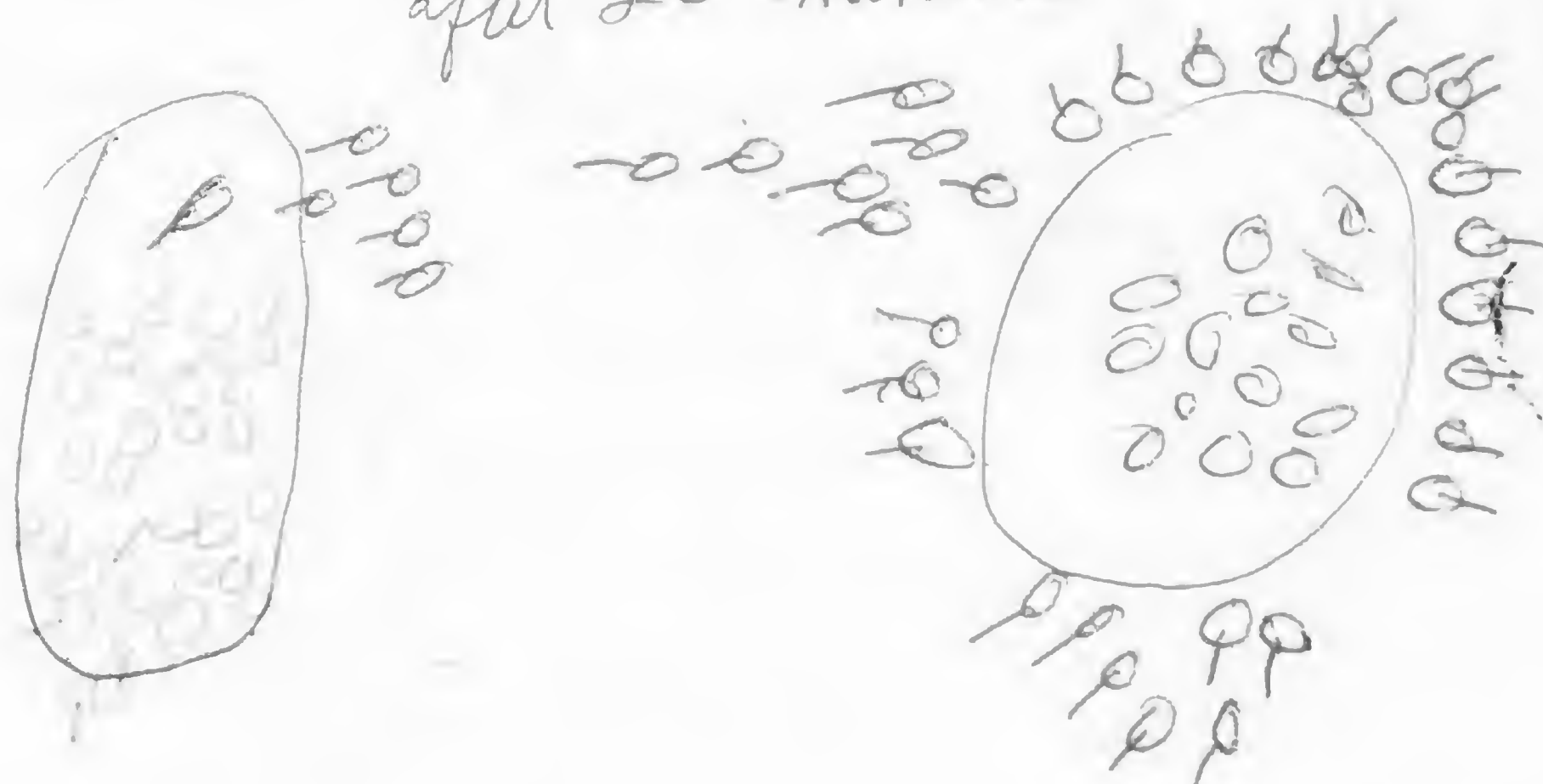


Brown head soldiers immediately around nest remain frozen in battle positions.

Daytime

brownheads seem to operate in an advance, retreat, advance sequence. After having retreated & nothing happening for about 5 minutes they advance again

after 20 minutes



At end of 20 minutes brown heads are staying another advance. yellow heads are still all in their nest. At 25 min. brown heads are again on yellow head nest.

Basically everything is a standoff. Both species still have complete control of their nest it's just that the brown heads seem to be a little more full of adventure, spying or surveying the situation because they are always scuttling back and forth between nests but yet never going far enough to engage in anything greater than ~~an occasional~~ rare.

squinting exchange: retreat sequence

at 30 minutes all brown heads are on their side of the center line except for one soldier who is on the next of the yellow heads.

yellow heads



30 minutes brown heads



at 40 minutes another brownhead advance

Run #1

dark brownheads vs. light brownheads

min. 1

dark brown heads leave nests - workers & soldiers
brown head nest located, distress signals given
by both species

dark brown heads repelled by brownhead soldiers
- all brownhead workers staying on nest,
& some soldiers around nest in typical
defensive "on guard" position

after 7 minutes
dark brownheads



Doing like the brownheads did with octoallus
checking it out but not invading
~~to~~ coming up to perimeter of nest but
no farther. Occasional squinting but
very light
No brownhead has left its side
of the box or even gone \bar{c}/in 2 cm
away from its nest

slight retreat after 15 minutes

after 20 minutes still no total retreat but no columns leading to brown head nest only scattered dk. brownhead workers at base of brownhead nest.

Run #2

1st contact made after 10 minutes

brownheads contacted dk brownheads this time - distress signal given by soldier & soldier returned to nest to spread news.

to brown heads send out 1st small column to investigate

after 15 minutes brownheads have 2 main columns going up to dk. brownhead nest

Basically A stand-off but opposite of Run #1 - this time brown heads are doing the investigating

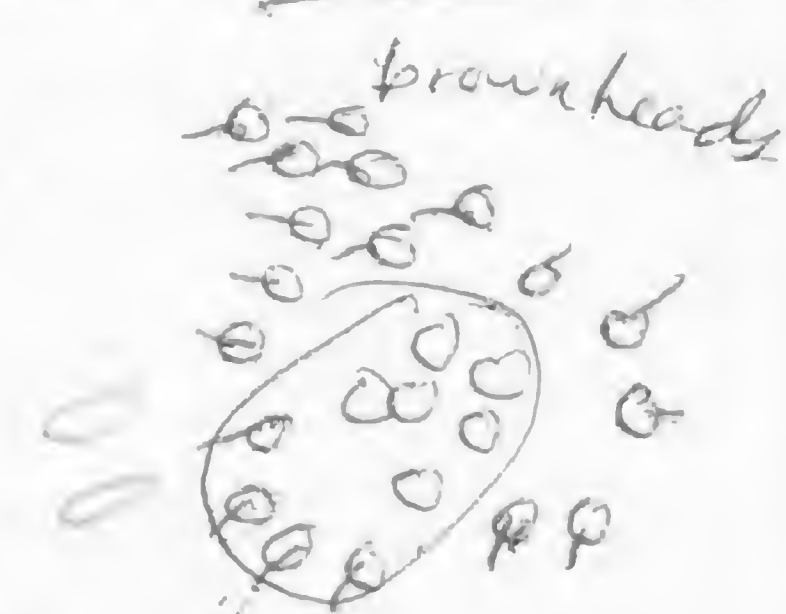
- during all this brownhead nest defended as usual

Run #3

- dk. brown heads no defense pattern

this time contact made in middle between 2 soldiers. Both ran around distressfully but dk. brown head didn't run back to nest to warn others as brownhead did.

dk. brown heads. scouting brownhead nest area. Brownheads all at defensive battle stations 10 minutes



2 dk. brownhead soldiers exchanging fire - brownhead soldiers

No columns only scattering by dk brown heads

Basically end result is same as Run #1 ~~except~~ only difference is there was never the quantity of dk brown heads in the brownhead territory as there was in #1

Run #4

dk brown head wks. bit brown head soldier in abdomen

brown heads again on defensive Run #4 almost identical to Run #3

Run #5

dk. browns again 1st to cross center line & leave nest. Heavy column of mainly workers leading to brownhead nest

heavy invasion of brownheads
by the dk. brown heads.

colony of brownheads practically
surrounded but ~~not~~ no
real contact taking place

— columns between nests both
at top & bottom. Distress signals
given by both species. Dk. brown
heads beginning climb on brown
head nest after 10 minutes.

Dk. brown wkrs. getting shot at by
brownhead soldiers.

Brownheads after 15 minutes



Brownheads not giving any ground,
defending their nest successfully.

after 20 minutes ~~still the~~
~~by the dk. brown heads~~ still the
same. Much like #3 and #4
but greater quantity of dk. brown
heads hanging around the brown head
nest. ~~Yet~~ still a stand-off = NO
ground being won or lost just
occasional squinting exchanges of head
between soldiers or worker & soldier.

11 hours later — still a stand-off
brown heads still holding their
own but even more surprising
is the fact that the dk. brown
heads are still all around the
brownhead nest and even on
the unoccupied parts of it. Brown
heads are in frozen defensive positions



SUR 49

SUR2-50 - Fri Aug. 27, at Steiner High, Paramaribo, position in very primary on upright & rafters, coll. Steiner & Collins

Thursday - Warren in Witi Creek trail

~~SUR 51~~

SUR2-51 - 23/8/82 - Warren - on Witi Creek trail - Amphitermes sp. - No numbers preserved, coll. taken alone

SUR2-52 - Warren's fungus nest ^{coll. taken} - road to Paramaribo - Thu Aug. 26 - W.E. Steiner

SUR-2-53 Snappers between barb + bracket fungus on fallen tree
Witi Kreeb trail W.E. Steiner + 25 Aug. 82
M. Early

SUR-2-54 tiny Armitermes from ground nest with roots
Witi Kreeb trail - Steiner + Early 25 Aug.

SUR-2-55 ^{Heterotermes sp.} Snappers under barb of fallen branch - Witi Kreeb trail
Steiner + Early 25 Aug. 82

SUR2-53 - ~~...~~

Tue - 24
Wed - 25
Thu - 26

also Armitermes and Nasutitermes male
3 males ~~...~~







Combat Behavior 1991

I
Ants vs Nymphs, workers or soldiers

1) ♀ from Costa Rican sample^{#3} collected by
Kevin Gould, 1991 (*Acroplocheus*? *Amiteus*?
no 22)
ants from melon weed trap in garden,
near of 1692 Pomeroy Rd. N.W.

Ants approached termite, then retreated
all except one that maintained
mouth contact even when
attempting to pull away. The
termite legs or antennae
seemed. other ants approached,
then backed away.

Task: Describe avoidance
response in termites

Observed ca 10 min. part
of which^{time} included observations
of a long-winged pupated nymph
of *Termitomyces* *sp.* (from Virginia,
maintained in lab) - placed in
tumbler with ant.

Ant attached nymph - chewed
off 2 legs - showed no
reluctance to contact.

Termite ♀ not damaged. Showed distortion
of abdomen but neither regurgitation
nor defecation. Repelling in body water?



Called Glenn

Kevin's Unnumbered colony Aug. 5

II Ants vs. pub. Hoplosternum, Costa Rica
Jaller placed c ant - attached immediately and vigorously;
ants maintained contact c 4

♀ Treated same way, only more so. Ants bit and held on without hesitation.

2nd ♀ - attaches at level of mandible and maintains contact; so did termite, by holding ant mandible

No other ant bit the ♀; many showed cleaning / preening behavior after contact at the antenna

Preserved c ant + I Snyder N

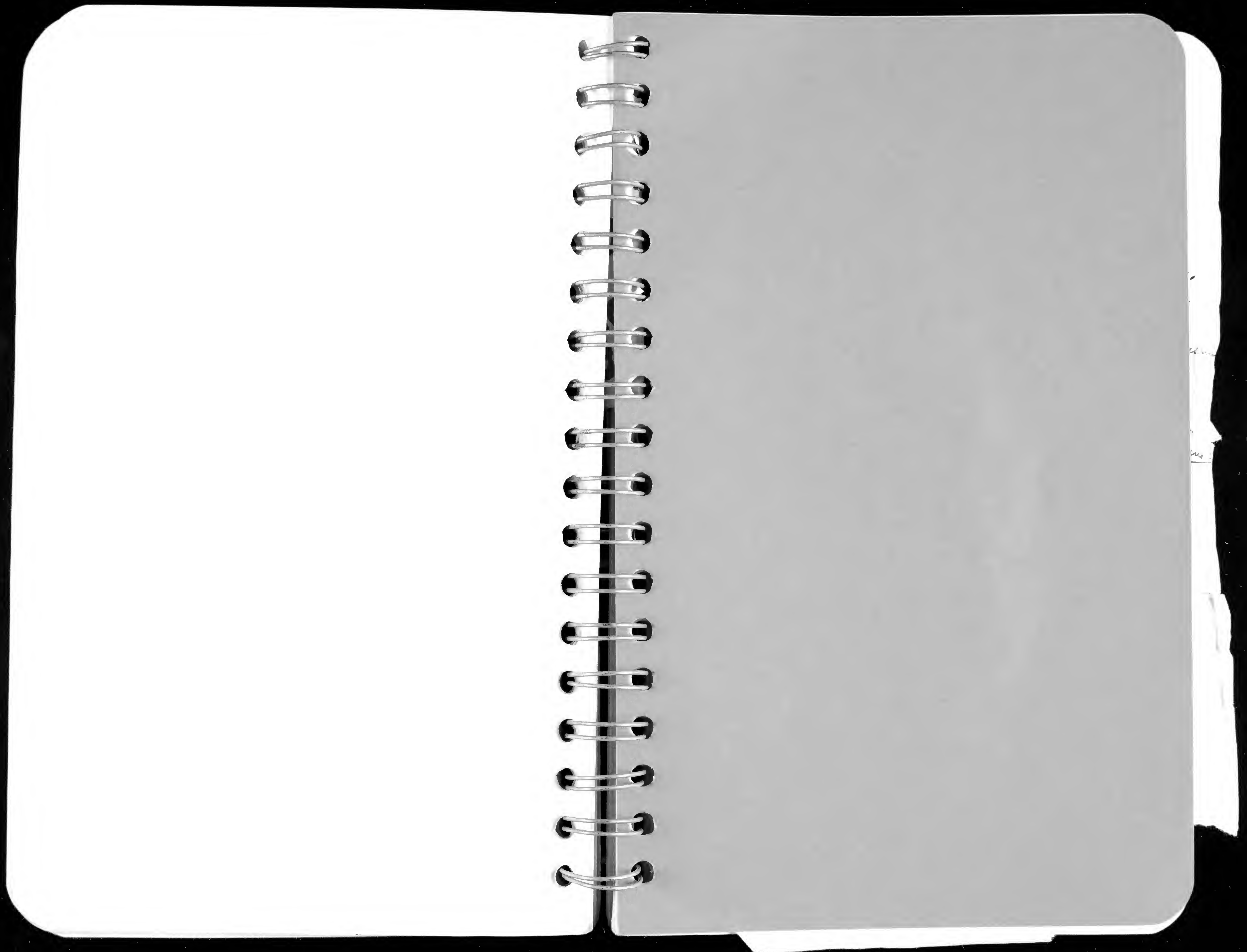
III

♀ from K-g #1

Ant attached and bit thru skin on ventral surface of neck - clear blood droplet appeared. Other ants came and investigated, then left with much preening. No other ant bit the termite body. Wounded termite - left alone. No legs severed; preserved







Additional data for Testimony 9/17





Ants: 2nd Suriname Trip

1. Ant attacking *N. octopilis* (SUR2-22)
2. Ants from SURC-5
3. Ant attacking *N. octopilis* - SUR2-22
4. *Ectatomma* sp. captured while dragging a *Syntermes* sp. pupa tree; Brownsberg.
19.VIII.1982
5. Ants + *N. octopilis* - SURC-8 (termite scattered on army ant trail)
6. Ant collected beside trail near Tapir; 19.VIII.1982 - m.s. Collins
7. Ants from foraging column challenged \pm *N. octopilis* (A-1) (SUR-2)
8. Nocturnal forager near *Syntermes* column; hid in leaves when disturbed
9. Ant collected at Brownsberg, Team - Aug. 15-20, 1982
10. Predators captured near lodge, Brownsberg - Aug. 15-20, 1982 - Team
11. Brownsberg, Suriname - Aug. 15-20 - Team
12. *Odontomachus* ^{hastatus} sp. - SUR2-29 Col. Leo Rohd, 21.VIII.1982
13. Large foragers from trail to Witi Creek - nocturnal, in leaves; timid



Rads: Rainfall data: (see Providence)
vs other islands

rocker

Big sand fan

good Corallite

Shady work

good Mangroves

Shady

Sail

2 sand

2 salt pans

much limestone

+ tuft

Bodily guest

see

dy

ria

nter

mon

ngassu

lent

Mon. Tues

Rudi: Rainfall data: for Providence
vs other states

rocker

Big sand key

good record

study, work

good Mangrove
— Study

Said

↓

sand

much

limeston

2 salt pans

+ tuft

Badly got

Buena Simaruba

Copper in lead
shape - small
patches of per
oxide
Generally good

Metbeat

Gibbs Key: A small sandy island less than ^(cores) $\frac{1}{2}$ mile from Grand Turk - used by nesting terns & gulls - with a small sandy beach on the west side, rocky shore & pounding surf on the ^{east} outer side.

Vegetation: Sea grape, Purslane, Salicornia, shrubs & succulents including an Opuntia. Drift line patchy. Beetles common only in wider zones of deposited Sargassum and other floating marine plants.

No beetles found under sea oats, sea grape or the woody, tall succulent.

Change date to correct last Gibbs Key collection - Mon. June?

Species for Gibbs Key:

² 3 mi. long 26°
widest part - .1 mi.

From ^{port} Turk: .8 mi.



Gibbi
~~Grand Turk~~: $21^{\circ} 26' 05''$ N
 $71^{\circ} 06' 68''$ W

Just to differ only in sec.
~~Grand Turk #5~~ So what!

Grand Turk - 8 5.6 nautical miles
1 naut. mi = ~~1.15~~ \approx Statute
mile
widest width = 1.5 nautical miles.

Nautical miles $\times 1.15 =$ Statute miles









Revisited
 Natural History of Suriname -
 with emphasis on insect
 birds & medicinal plants
 of selected forest sites in Suriname

I

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BILL MAY

Elizabeth White

Gene "Doc" Rowe

Ellen Rioson

3 - Bill 14

4 - Bill May - 12

7 - Brian

10 - Carinne

2 - Elizabeth 13

5 - Ellen 15

8 - John

1 - Kim

11 - Kimberly

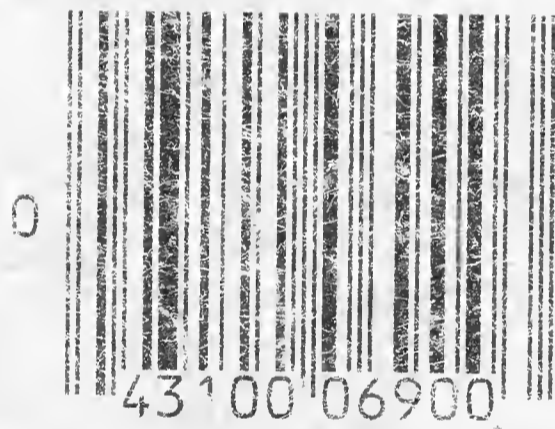
9 - Roger

6 - "Doc" Rowell





Geo index
Apr 1972



3 subject notebook

06-9900