

## ORANGUTAN PROJECT DATA COLLECTION RULES

Adjusted for Suaq Balimbing

### Instructions for the collection of behavioral data on orangutans during focal follows

During the Orangutan Culture Workshop (February 2002) in San Anselmo, USA, a document on orangutan data collection standardization was drafted based on the experience of all participants. Every field project will have different main questions and will thus have to choose which data to collect in detail. However, it is hoped that observers in all field sites will collect basic data in a standardized way, so that these can be used for comparison between different sites.

### FOCAL SAMPLING – GENERAL RULES

1. **Write down everything you find interesting, unusual, or remarkable. Better write too much than too little.**
2. EVERY focal individual needs to be identified, and if in doubt about identity describe with as much detail as possible sex-age class, size, scars, stiff fingers, etc. Try to take pictures for comparison and consultation with others and take a fecal sample for genetic analysis. We cannot do anything with unidentified focals, but it is ok to start a focal and hope for ID afterward through pictures and descriptions or the next day by another observer.
3. Repeat name focal(s), date and observer on every datasheet, including map(s).
4. At two-minute intervals record on the focal sheet the activity (see Activity definitions) of the focal individual (when in doubt about (instantaneous) **Activity** count to 5 - note first activity sustained for more than 5 seconds.  
When in doubt use the hierarchy: Soc > M > F > R.
5. In addition to activity, record the food eaten (item and species), the focal and the distance to all other orangutans within 50m, including distance to a focal female's own dependent infant.
6. **Vocalizations:** note all vocalizations by the focal in the special column, including those made during the entire 2-minute period between the 'instantaneous' activity samples.
7. **Describe all social interactions** in detail, including those between mother and offspring (see also section on associations).
8. Note and describe all **special activities** and unusual features (check the list of "**possible cultural variants**").
9. **Patch Residence:** Make a vertical line in column "jenis/patch", ending when the focal leaves the patch. End with \_\_. Different trees of the same species less than 10 m apart are considered a single patch.
10. **Feeding rate:** Whenever possible measure feeding rates of fruits and other items by measuring the time it takes the focal to eat one item. On the check sheet note the species and the ripeness of the fruit, fruit availability in the tree or other details of the food item (e.g. number of fruits in the tree and feeding technique).
11. **Long Calls:** fill out the long call sheet for every call given by the focal and for every call heard by the observer (and focal).
12. **Map/GPS points:** indicate the focal's location either on a map or with GPS at the morning nest or the start of the focal if found during the day, and subsequently at every whole and half hour. Mark additional locations at food patches used for >5 minutes and always mark the evening nest or the location where focal observation stopped and the end time (see GPS instructions).
13. **Weather:** *on the focal sheet for every half hour* note what type of weather it is (Dark; Cloudy; Drizzle; Grey; Rain; Heavy rain; Sunny; Thunder; Wind; Wind and Rain; na; unk).
14. **Nests: Morning-** Write down when the observer arrives at the nest, as well as the start of the active period = when the focal becomes active on the nest (sits up, plays with infant, etc.) or leaves the nest. Whenever the focal has moved to another nest during the night, or if data were incomplete on the previous night's nest, complete the sarang pagi info on the nest sheet. Similarly, complete this information for **all nests** made during the focal follow (**sarang siang**). **Evening nest:** Write down activities until the focal lies down (golek) on the evening nest (sarang malam).
15. **Visibility:** Write down every two minutes how well you can see your focal to fill out the visibility column: 0= no or very bad visibility, 1= some visibility but not enough to see details, 2= good visibility, clear view, na (not available), unk (unknown).

16. **Tree tags (TUANAN ONLY):** tag every tree your focal feeds in for more than 5 minutes, if the tree is not tagged yet. Take a GPS point of the tree and write the tree tag number next to the tree species name on the datasheet. Also, fill out the tree tag data sheet for new trees.
17. If you can't tell the activity of your focal write **unk (unknown)**. This also applies to the Item, Item detail, height, and party distances.
18. If you lost data and can't reconstruct it, fill the blanks with na.

**ACTIVITY DEFINITIONS**

\* in the paper data, item and item detail as well as jenis and jenis lokasi are one column: use / to separate the two

Activity	Write in Activity column	Write in Item / Item detail column*	Write in Jenis/ Jenis lokasi column*	Definition
<b>Move</b>	M			All locomotion, usually between trees/patches, if within patch movement should last for more than five seconds and not be simultaneously with feeding
	For some projects, more details for the type of locomotion is used, such as:			
	M	q		Quadrupedal walking on a horizontal substrate
	M	b		Brachiating
	M	t		Tree swaying
	M	c		Climbing
	M	cd		Climbing down
	M	cu		Climbing up
<b>Rest</b>	R		species of the supporting tree	Sit, lie, stand, hang for more than 5 seconds, not doing anything else
	Rs		species of the main nest tree	Sit or lie in/ on a nest (= sarang)
For more details on resting and resting in the nest the following items can be used:				
	R/RS	ddk	species of the supporting tree	sitting
	R/RS	diri	species of the supporting tree	standing
	R/RS	golek	species of the supporting tree	laying
	R/RS	gtg	Species of the supporting tree	hanging
<b>Feed</b>	F	<b>Feeding:</b> processing, gathering, ingesting food items, some movement (less than 5 seconds duration) within a patch consistent with these goals may be included. Whenever the focal uses a tool indicate it in the item column and give details in social notes). If the focal feeds in a different patch than the species of the food species, add the jenis lokasi (e.g.: "Akar Kamunda/ Puwin" means focal eats Akas Kamunda in a Puwin tree. Never write two items at once. If the focal eats multiple items at once over multiple bouts, alternate the items. Food items distinguished include:		
		Fr/M	species of the food item/ species of the location	· ripe (matang) fruit

	Fr/Mu	species of the food item/ species of the location	· half-ripe fruit
	Fr/u	species of the food item/ species of the location	· unripe fruit
	Fr/na	species of the food item/ species of the location	
	Fr/unk	species of the food item/ species of the location	· fruit of unknown ripeness
<b>Item detail:</b> to be added for fruits (combine with a “,” if multiple apply: ex. fr/M dg; sd or fr/Mu; dg; ku)			
			sd: seeds
			dg: fruit flesh
			ku: fruit skin
			sem: entire fruit
			dg; sd: fruit flesh and seeds
			dg; ku: fruit flesh and fruit skin
			sd; ku: seeds and fruit skin
<b>Non fruit items:</b>			
	fl	species of the food item/ species of the location	· flowers
	yl	species of the food item/ species of the location	· young leaves
	lv	species of the food item/ species of the location	· mature leaves
	bk	species of the food item/ species of the location	· “tree bark” in fact orangutans feed on the phloem of trees after removing the outer bark
	pith	species of the food item/ species of the location	· young vegetative material inside stems
	veg	species of the food item/ species of the location	· vegetative matter (non-leaves)
	ins	insect specification (rayap, semut...)/ species of the location or substrate	<ul style="list-style-type: none"> <li>· specify species/ kind of insect in the jenis column: termites=rayap, ants=semut, sweatbees= madu keringat, madu= honey, etc.</li> <li>· Always specify the technique (using mouth, hands, tools) and the substrate (rotten wood, tree hole, nest, etc.) in the social notes.</li> <li>· If you can find out the species of the substrate, add it after the insect species (e.g. rayap/ Puwin for eating termites out of dead Puwin twigs).</li> <li>· When the focal is manipulating objects/ substrates where insects can be expected write ins for item but ‘search’ in the jenis column.</li> </ul>

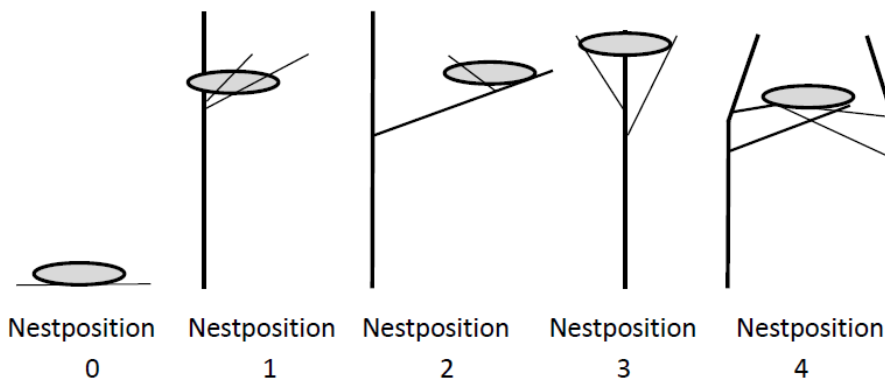
		w	Species of the object or substrate	· Drinking water. Specify the substrate (e.g. ground/tree hole/Nepenthes cup) in the jenis column or social notes. Describe in detail how the focal drinks, i.e. which technique it uses (e.g. with mouth directly/ using hand/ dripping water from fingers..) in the social notes.
<b>Try Feed</b>	TF	fr/ sd/ fl/ bk/ pith/ dead twig/ leafy branch (..)	species of the food item or object/ species of the location	“Feeding attempt on a food item or other object whereby the item is taken into the mouth but not properly processed and not ingested”. Add the same items as for F or a description of the item if it is a non-food item ("object") in the item column (such as detached stick/twig with leaves/liana etc.). Add the species in the jenis column. If possible, add the species of the location/ substrate. Fill out the Explorative behavior sheet or give all the details in social notes.
<b>Try Feed / F</b>	TF/F		species of the food item or object/ species of the location	A mix between F and TF: feeding like try feeding where the focal (mostly infants) is ingesting some but not much.
<b>Suckle</b>	D			Drinking milk from the mother
<b>Nest</b>	N		species of the main nest tree	Building a nest. Always note special features (roofs, repair old nest, etc.) – in the social notes. Use the checklist for nests and nest positions in the diagram below for this. Make sure somebody is filling out a nest sheet.
<b>Auto play</b>	APO	dead twig/ leafy branch/ lv/ bird nest (..)	species of the object or food item/ species of the location	“Solitary object play: manipulation of objects with no apparent immediate goal, including repetitive movements with objects”. Add the same items as for F, or a description of the item if it is a non-food item ("object") in the item column (such as detached stick/twig with leaves/liana, etc.). Add the species in the jenis column. If possible add the species of the location/ substrate. Fill out the Explorative behavior sheet or give all the details in social notes.
	APM		species of the location	Solitary movement play: repetitive movement such as twirling, swinging, etc., also repetitive swinging of just one arm or leg. Give details in the social notes.
	APN		species of the location	Infants making or trying to make nests. If they sleep in the nest for an extended period of time (>10 minutes, non-stop) or spend the night it write N instead of APN. No Nest sheets need to be filled out for APN.
	APdispl./ APD	objects used (e.g. leafy branch/ dead tree..)	species of the object/ species of the location	‘Playful’ display with branches, usually by immatures. Write down details in social notes. Also write at whom it is directed in the Ftol column (use “observer” if it is directed at you or sb else in the follow team).
<b>Exploration</b>	Expl	Explored object (e.g. dead twig/ leafy branch/ lv/ bird nest..)	species of the food item or object/ species of the location	“Non-repetitive, usually destructive manipulation of objects without apparent feeding purpose”. Add the same items as for F or a description of the item if it is a non-food item ("object") in the item column (such as detached stick/twig with leaves/liana etc.). Add the species in the jenis column. If possible add the species of the location/ substrate. Fill out the Explorative behavior sheet or give all the details in social notes.

<b>Cling</b>	F/M/R/(...)			<p>Only for immatures: being carried clinging to the mother's body, write "c" in the cling column. Cling is not an exclusive category is used in combination with other compatible activities. The activity always refers to the focal's activity.</p> <p><b>Important example:</b> when an infant is resting in cling to the mother while the mother is moving, the activity of the infant will be R and not M (the activity of the mother).</p> <p>Note in the social notes whether the mother supports her offspring with her arm or leg in the social notes.</p>
Observer display	Obs.displ	Object (if any)	species of the object/ species of the location	Displaying at a human observer
Observer watching	Obs.Sw		species of the location	Intently watching and focusing on the human observer

**NEST POSITIONS AND ADDITIONS**

**Definition of Nest additions:**

- *Pillow (bantal):* a pile of twigs or big leaves at one side of the nest on which the focal puts its head when lying down.
- *Blanket (selimut):* a cover made from branches or leaves covering the body, not covering the head
- *Lining (alas):* a layer made on the nest from leaves or twigs on top of which the focal lies down.
- *Roof (atap):* a construction made from branches or twigs by the focal above and covering the nest (don't forget to write down whether there is rain or bright sun: sunroof!)
- *Bunk nest:* if the focal rests in a nest directly under another nest (either old or just made) this is called a bunk nest. Write details.
- *Carry leaves:* focal picks and carries leaves (note species) towards the nest from another tree.



**ASSOCIATIONS & SOCIAL INTERACTIONS**

1. **Associations:** whenever the focal is within 50 m of other orangutans this is an association ("party"). Note the **identity** (or at least age-sex class) of party members, including dependent offspring. Note the time for start & end for associations per association partner on the summary sheet.
2. On the focal sheet note the distance to the focal individual at the same 2 minute intervals as the focal's activity in the appropriate column (write the name/class of the partner in the column, reserving the first column for the mother or the dependent infant), using the following distance classes:

- 0 = contact
  - 2 = no contact but less than 2 m
  - 5 = more than 2 m but less than 5 m
  - 10 = more than 5 m but less than 10m
  - 50 = more than 10 m but less than 50 m
  - >50 = more than 50 m (out of sight)
  - Na = not available
  - Unk = unknown
3. The **identity of the association partners** is **very important, thus always try to take pictures** and make a good description of all partners enabling identification later.
  4. **Approach and Leave:** Note on the focal sheet next to the distance to the partner whether the focal or the partner was responsible for a change in the distance at the indicated distance intervals (who approached “mendekati”, or who moved away “menjauhi”). **All approaches that cause the other to move away immediately should be described in the social notes** even at large distances.
  5. For every association note who initiated/approached to within 50m and who ended/moved to >50m the association – also if this coincided with the arrival of an additional individual.
  6. Describe in detail all **social interactions** between the focal and the association partners – use additional social sheets if necessary. When multiple association partners are not also focals of another observer, record all their conspicuous behavior and vocalizations as well as social interactions (note time and duration, actor and reactor/recipient, response by other etc.).
  7. Note whether focal and an association partner is peering or watching (see definitions of these behaviors) the other as well as the distance and the activity (during feeding which food item/technique?; during nest building which stage) being peered at.
  8. When the focal **travels** with associates, including mother-offspring dyads, always note who leads: write 1 or 2 next to the activity (e.g.: 1; 2; 3; 4) as well as the party name in the Ftol column. Note that the number written next to the activity refers to your focal whereas the number written next to the name in the Ftol column refers to this party member.
  9. Similarly, when the focal starts to **feed** always note whether the focal or the associate (including offspring) arrived first in the patch by writing numbers in the “Ftol column” (e.g.: s1; s2; s3; s4) (the numbers in the Ftol column refer to the party member written there, not to the focal. Numbers written next to the activity of the focal individual refer to the focal).
  10. When the focal is in a **food patch note the following situations in the “Ftol column”** (see also food-related social behavior:
    - **feeding tolerance (Activity column: F; Ftol column: who):** focal and other (including own offspring/mother) are both actively feeding in same patch < 10 m apart. This is written in the special column next to activity. In addition write whether focal or partners was first (1) or second(2) in starting to feed.
    - **co-feeding (Activity column: coF; Ftol column: who):** focal and other are feeding from same item close together or take turns. ALL co-feeding interactions should be described in the social section, as well as indicated in the Ftol column
    - **active food sharing:** active giving of food by one to other. All occurrences should be noted in the social notes. If it happens on the dot: write Fshare as activity and who does what (e.g: Jinak -> Joya) in the Ftol column. Add details in social notes. Also note how food was transferred: **hth**- from hand to hand, **mtm** - mouth to mouth, **htm** - hand to mouth, **mth** - mouth to hand.
    - **tolerated theft:** one individual takes food from the other, note whether the “owner” tolerates or objects. Write Ftheft as activity and who does what in the ftol column (e.g: Joya from Jinak). ALL tolerated theft interactions should be described in the social notes (for example was the food transfer preceded by begging and/or vocalizations. Also note how food was transferred: **hth**- from hand to hand, **mtm** - mouth to mouth, **htm** - hand to mouth, **mth** - mouth to hand.
    - **begging** by gestures and/or vocalizations, but not yet holding on to food. All occurrences should be noted in social notes. If it happens on the dot: write Sbeg as activity and who does what in the ftol column (e.g: Joya from Jinak). ALL begging interactions should be described in the social notes. Also note how: **hth**- from hand to hand, **mtm** - mouth to mouth, **htm** - hand to mouth, **mth** - mouth to hand.
    - Also describe in the social notes when there is a clear avoidance of food tolerance and co-feeding and refusal of food sharing despite begging/ attempts to take food from others.
  11. When the focal makes a **nest** while in association, including mother-offspring parties, always note on the appropriate nest form who starts making a nest first and the distance between the nest of the focal and nest(s)

- of the party members and whether in the same tree or not. Also note for mother-offspring dyads whether the **offspring makes its own nests** or joins its mother in the nest. Pay special attention to whether there is peering.
12. Describe **ALL social interactions** (also the ones between other party members) from beginning to end as completely as possible (including who approached/initiated the interaction and who ended/departed first) in “social” notes on focal sheet using behavior elements as defined in the list (if the behavior is not on list describe in detail!) - note time and duration. (continue on extra social sheet(s)).
  13. For all **sexual interactions**, describe in detail who approaches and initiates contact, who makes vocalizations, whether there is intromission, who thrusts, whether ejaculate is visible afterward and if so where. In addition always note with duration whether:
    - *female resists successfully or attempts to resist (forced copulation or attempt), describe whether she struggles (may include bite, slap, pull, etc.) and whether the female becomes passive/cooperative later on*
    - *female is passive, and allows intromission, but without active cooperation*
    - *female is cooperative, and positions herself to facilitate intromission*
    - *female is active: she initiates mating and she thrusts*
    - *a third individual (often offspring) interferes by getting in between, pulling, slapping, etc.*
  14. **Social Play:** For all social play (SP as activity, the kind of social play as item), write down the identity of the partner in the “Ftol” column. Note in the “social” notes time + duration, kind of play (wrestle, chase, other), position (on the nest?), postures (hang from hands/feet/ each other?), and other details.
  15. If you can’t classify/ abbreviate the social interaction you observe, write **Soc** as an activity and describe the details in the social notes.

#### ADDITIONAL RULES FOR MOTHER-OFFSPRING ASSOCIATIONS

1. Follow all rules for associations and social interactions and pay special attention to approach-leave (mendekati –menjauhi) and peering interactions.
2. **Travel:** when the mother has formed a bridge for the offspring to cross between 2 trees or assists in another way during a cross: write “bridge” in the items column (if on the dot, otherwise describe in social notes). There also other forms of ‘**assisted travel**’, e.g. mother treesways and the offspring is positioned above her in the same tree and can cross thanks to the mothers actions, or mother repositions in a small tree so that the tree bends enough towards the offspring so that it can cross. Give full descriptions of all occurrences in the social notes.
3. When the mother starts to leave a patch, but then rests and “waits” until her offspring follows or gets into contact (and is then carried), write “wait” in the items column (if on the dot, otherwise describe in social notes).
4. **Initiative toward contact:** when mother-offspring contact is established, note whether the mother collected the infant or the offspring made the contact in the social notes.
5. Many activities are compatible with either being supported by the mother or being in contact with the mother. Always indicate whether in contact in the C column on the infant focal sheet and the other activity in the activity column (e.g. C/D, C/M, C/F or C/TF, C/R, C/Rs, C/AP, C/SP). When the infant is trying to feed on an item, by playing around with it in its mouth this should be noted as TF (Try Feeding) in the activity column, when the infant is manipulating something without the mouth and not in a repetitive way, write Expl (Explore) in the activity column (see also Activity definitions).

#### BEHAVIOR ELEMENTS: SOCIAL CONTEXT

These elements are used for describing of all social interactions, also between mother and offspring. Give details in of any social interactions in the social notes, including how the interaction started and ended. If the social interaction happens on the dot of the two-minute interval, fill out the activity sheet as shown below. You can indicate the direction or sequence of the social action using numbers next to the names in the Ftol column (this number refers to the party member written in this column) and next to the focal’s activity (this number refers to the focal).

**If you are unsure how to properly abbreviate the social interaction or how to fill out the different columns of the activity sheet, just write Soc in the activity column and describe the interaction in detail in the social notes.**

<b>Agonistic social behavior</b>				
* in the paper data, item and item detail as well as jenis and jenis lokasi are one column: use / to separate the two				
Write in Activity Column	Write in Item / Item detail column*	Write in Jenis/ Jenis lokasi column*	Write in Ftol Column	Definition
SAgo	Unprovoked Retreat	Species of the location, if known	From whom	in response to a 'neutral' approach focal shows signs of fear (submissive mips) and retreats
	Active displacement	Species of the location, if known	who	Focal approaches fast, may include touch or enter into nest resulting in retreat of the other party member
	Chase	Species of the location, if known	who	pursuit over more than 10 m or into other tree
	Flee	Species of the location, if known	from whom	fast retreat from other individual
	Flee to	Species of the location, if known	from whom towards who	approach and stay close to more dominant individual after third individual approached/threatened
	Bite	Species of the location, if known	who	
	Slap	Species of the location, if known	who	
	Pull	Species of the location, if known	who	
	Push	Species of the location, if known	who	
	Fight	Species of the location, if known	who	whole body wrestle

<b>Sexual Social Behavior</b>				
*in the paper data, item and item detail as well as jenis and jenis lokasi are one column: use / to separate the two				
Write in Activity Column	Write in Item / Item detail column*	Write in Jenis/ Jenis lokasi column*	Write in Ftol Column	Definition
Sex	Masturbate	Species of the location, if known		Sexual self-stimulation with hands or tools (if with tools describe!)
Sex	Investigate	Species of the location, if known	who	Sniff or touch with mouth or fingers the vagina/penis of other
Sex	attempt	Species of the location, if known	with whom	No intromission achieved
Scop	cooperative/ forced/ active, passive	Species of the location, if known	with whom	Intromission achieved, thrusting by male and/or female



<b>Other social behavior</b>				
*in the paper data, item and item detail as well as jenis and jenis lokasi are one column: use / to separate the two				
<b>Write in Activity Column</b>	<b>Write in Item Column</b>	<b>Write in Jenis Column</b>	<b>Write in Ftol Column</b>	<b>Definition</b>
<b>SLc</b>		Species of the location, if known		<b>Focal</b> gives a long call
<b>SP</b>	wrestle/ chase/ slap...	Species of the location, if known	with whom	Social play with a partner; write the kind of play in the item column (wrestle, chase, slap, bite...); note details of the play in social notes and include position (on/above nest, hanging, upside down, etc.) (Remember to fill in the appropriate approach/leave entries). Indicate with numbers who initiated the play (e.g. if the party member initiated write a 1 next to his name in the Ftol column and a 2 next to the activity (SP) of the focal). Note if there is any playfaces.
<b>Skiss</b>		Species of the location, if known	who	Touching other individual mouth to mouth ("smell")
<b>Sembrace</b>		Species of the location, if known	who	Touching at least the shoulder/back of another individual
<b>Sgroom</b>		Species of the location, if known	who does what (e.g. Joya -> Jinak ,or use the numbers: 1 for actor, 2 for target)	Skin/hair care (with fingers while looking at this)of another individual; describe details: which body part, wound
<b>Swatch</b>		Species of the location, if known	who does what (e.g. Joya at Jinak, or use the numbers: 1 for the actor, 2 for the target)	Intently looking in the direction of another individual or noise/vocalization – this may happen over a distance of >10m (describe details and distance in social notes)
<b>Slook away</b>		Species of the location, if known	from whom	Looking away from ("actively ignore") other's actions at close range
<b>Sbridge</b>		Species of the location, if known	for whom	<u>Focal mother (or other individual):</u> Forming a bridge between trees to let smaller individual transfer. Only used in the activity data if the infant crossed the bridge on the 2min dot (otherwise use "swait").  <u>Focal infant:</u> When the infant is crossing a bridge, we have Activity "M" ( <b>not Sbridge</b> ), item detail "crossing bridge", and Ftol "name of the mother (or other individual)".
<b>Sdispl</b>	Object involved	Species of the object/ Species of		Display behavior at another individual. This may include: swaying, dropping (or throwing) branches; pushing over dead tree trunks, etc.

		the location, if known		
<b>Scollect</b>		Species of the location, if known	name of the infant or name of the mother	<p><u>Focal mother:</u> Mother actively collects the infant into body contact. To make it clear that the mother is the one collecting, put focal dulu 1 (for the mother) and ftol dulu 2 (for the infant).</p> <p><u>Focal infant:</u> When the infant is being collected by the mother, its activity is also Scollect. To make it clear that the infant is the one being collected, put focal dulu 2 (for the infant) and ftol dulu 1 (for the mother). Unless the infant was doing something else and was forcefully picked up, then write the according activity that the infant was showing at the moment of data collection.</p>
<b>Swait</b>		Species of the location, if known	Name of the infant (or other individual)	Mother (or other individual) waits for her infant (or other individual). Indicated by hanging in the bridge position and/ or frequently looking back at the other individual. Often accompanied by “pseudo movements” and frequent, slow scratching of own belly or limbs.
<b>Other social behavior</b>	Soc	Species of the location, if known	With/ at whom	Social behavior which are not on this list. Details need to be described in the social notes.
<b>Temper-tantrum</b>	Stantrum	Species of the location, if known	At whom	Wild repetitive movements, often with screaming/crying, mostly by dependent immatures; describe details and context

<b>Food-related social behavior</b>					
*in the paper data, item and item detail as well as jenis and jenis lokasi are one column: use / to separate the two					
	Write in Activity Column	Write in Item Column	Write in Jenis/ Jenis lokasi column	Write in Ftol Column	Definition
<b>Feeding Tolerance</b>	F	item	species of the food item/ species of the location	Who	Two individuals feed on the same food source (species and item) within 10 m of each other. Indicate who started eating first and who stopped eating first by adding numbers to the name in the f-tol column (they reference to this individual, not to the focal).
<b>Searching for food</b>	Fsearch		species of the food item/ species		Searching for food is then always followed by actual feeding. If searching-like behavior (scratching, digging, etc.) occurs outside the feeding context, write Expl.

			of the location or substrate		
<b>Co-feeding</b>	CoF	item	species of the food item/ species of the location	Who	Focal and other individuals are feeding from the same item close together or take turns
<b>Tolerated theft</b>	TolTheft	item + mtm/hth /mth/ht m	species of the food item/ species of the location	who took	Allowing another individual to take (part of) it; common from mother to offspring but also seen in other dyads. Food transfer can go 'mouth to mouth'(mtm), 'hand to hand'(hth), mouth to hand (mth) or hand to mouth ( <i>htm</i> ).
<b>Active sharing</b>	Fshare	item	species of the food item/ species of the location	who gets	Actively taking the initiative to give some of it to (move item towards) another individual.
<b>Begging</b>	Sbeg	Item + mtm/hth /mth/ht m	species of the food item/ species of the location	At whom	Trying to obtain food from conspecific. By reaching with the hand, stretching the hand out towards the mouth or hand of the target or bringing mouth close to the mouth or hand of the target. Specify if 'mouth to mouth'(mtm), 'hand to hand'(hth), mouth to hand (mth) or hand to mouth ( <i>htm</i> ).
<b>Peering</b>	Speer	item	species of the food item/ species of the location	At whom	"Directly looking at the action of another individual sustained over at least 5 seconds, and at a close enough range that enables the peering individual to observe the details of the technique used by the other". (Fill out the peering sheet or describe the time, duration, technique, response, who/why end, etc. in the social notes).

**OTHER BEHAVIOR ELEMENTS**

These additional behavioral elements should be described in the **social notes** whenever they occur.

Activity	Explanation
Defecate & urinate	
Yawn	
Symmetrical scratch	Scratch with both hands (corresponding body parts).

Agroom	Skin/hair/ wound care of own body, with fingers while looking at the groomed spot.
Penile erection	Erected penis
Pilo erection	Fluffed out fur
Throat poach inflation	Throat poach enlarged because filled with air
Unk	unknown
Na	Not available
other	

## **Appendix**

### **1. List of common items**

<b>Item</b>	<b>Definition</b>
Akar	Liana
old Akar	Old liana
bud	
orangutan nest	
old orangutan nest	
nest lv	
bird nest	
insect nest	
bk	Bark (cambium)
fl	Flower
Fr/M	Ripe fruit
Fr/Mu	Half ripe fruit
Fr/u	Unripe fruit
Fr/na	fruit degree of ripeness not available
Fr/unk	unknown if ripe or not
ins	insect
lv	Leaves
dead lv	
oth	others
pith	
roots	
stick	
tiny stick	
twig	
dead twig	
leafy twig	Twig with leaves
branch	
dead branch	
leafy branch	Branch with leaves
dead wood	
piece of dead wood	

tree fork	
dead tree fork	
tree hole	
small tree	
knob	
unk	Unknown
veg	Vegetative plant parts
dry veg	
W	Water
yl	Young leaves
vine	Whole vine
laser	lasers of the laser camera
monkey	
mbrella	
mothers fur	
fur	
bodypart mother	

## 2. List of common item details

Item detail	Definition
dg	Fruit flesh
sd	Seeds
sem	All of the fruit
ku	Skin of the fruit
dg; sd	Fruit flesh and seeds
dg; ku	Fruit flesh and skin of the fruit
Stem	Always with veg
ddk	Sit
diri	Stand
glk	Lay
gtg	Hang
t	Movement tree sways
b	brachiating
q	Quadrupedal walking
c	Climbing
cd	Climbing down
cu	Climbing up
d	Detached
a	Attached
hth	Hand to hand
htm	Hand to mouth
mtm	Mouth to mouth
mth	Mouth to hand
Unprovoked Retreat	

Active displacement	
chase	
flee	
flee to	
bite	
slap	
pull	
push	
fight	
display	
wrestle	
tree trunk	
dead wood	
tree hole	
roots	
dead twig	
bouquet	
masturbate	
investigate	
attempt	
forced	
cooperative	
passive	
active	
other see notes	
unk	
w	Woody pith
h	Herbaceous pith
bridge	Moving across a tree or body bridge (specify in the social notes)
parallel	Moving parallel
assisted treesways	Being moved by mothers trees way
scratch	
towards	
same	
different	
touch	
groomer 1	Active grooming (note "1" in focal dulu)
groomee 2	Recipient of grooming (note "2" in focal dulu)
defecate	
urinate	
yawn	

### 3. Height of the Focal

Heights can be exclusively described using the following classes:

Height of the Focal	Definition
0	On the ground
0+	Between 0 and 5m
5+	Between 5 and 10m
10+	Between 10 and 15m
15+	Between 15 and 20m
20+	Between 20 and 25m
30+	Between 30 and 55m
35+	Between 35 and 40m
40+	Between 40 and 45m
45+	Between 45 and 50m
50+	Between 50 and 55m
Unk	Unknown height
na	Missing information

#### 4. Focal Dulu and Ftol Dulu

To specify orders, the following abbreviations can be used. The number next to the activity (Focal dulu) refers to the focal, and the number next to the party name (Ftol dulu) refers to the party.

Focal Dulu and Ftol Dulu	Definition
S1	Be the first (e.g. to feed)
S2	Be the second one to start
S3	Be the third one to start
S4	Be the fourth one to start
E1	Be the first to stop (e.g. feeding)
E2	Be the second one to stop
E3	Be the third one to stop
E4	Be the fourth one to stop
1	e.g. for moving in front
2	e.g. for moving second
3	e.g. for moving third
4	e.g. for moving fourth
same time	
unk	Unknown
na	Not available

#### 5. Patch entry

To specify patch entry orders, the following abbreviations can be used:

Patch entry	Definition
1	Be the first one to enter a feeding tree
2	Be the second one to enter a feeding tree

3	Be the third one to enter a feeding tree
4	Be the fourth one to enter a feeding tree
unk	unknown
na	Not available
new tree	

## 6. Focal and party names

Always try to verify the ID of your focals and party animals at camp using the ppx ID files. Adjust the identities in your data. Do not use the (prob.) or (guess) after the name in the data for the individuals you are not sure about the ID but use the name only. Use the (prob.) and (guess) only in the follow log and pictures. For unidentified individuals, use: Unfl.Male, Fl.Male, Adol.Female, Juvenile, Juvenile F., Juvenile M., Infant, Infant M., Infant F., Adolescent, Adolescent F., Adolescent M. (including the (location code) if there are good pictures.