



Indigenous Characterisation of Local Camel Populations and Breeding Methods of Pastoralists in Northern Kenya

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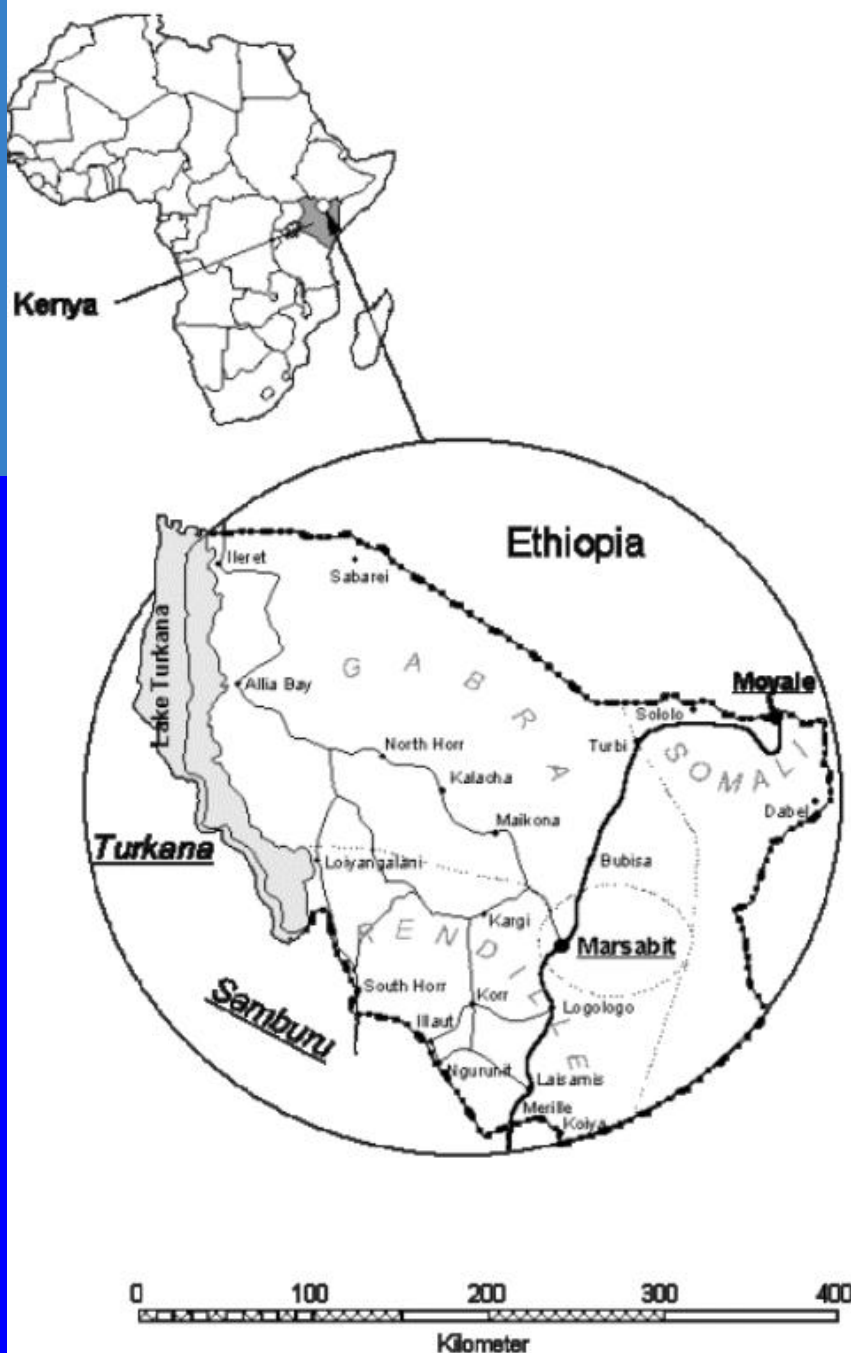
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Background

- Recent studies revealed clear morphological differences among the local camel populations Rendille, Gabbra, Turkana and Somali - based on body measurements
- Indigenous criteria to characterise and distinguish camel breeds exist among pastoral people and can hint towards important differences, which are not obvious to outsiders

Objectives of study

1. Indigenous characterisation of the local camel breeds Rendille and Gabbra on basis of types
 - Record descriptions of types
 - Identify criteria to characterise and categorise types
 - Record expression of criteria
2. Assessment of pastoralists' breeding aims
 - Determine existence of a breeding aim
 - Record description of breeding aim



Material and Methods

- Northern Kenya
- Data collection year 2000
- Questionnaires
 - 20 Rendille and
 - 23 Gabbra pastoralists
- Indigenous characterisation:
 - Open interview
- Breeding aim:
 - Structured interview

Camel types

Rendille: Dabach, Godan, Coitte

Gabbara: Qorti, Mirgissa, Baku, Ajun

Description:

1. Criteria
2. Expressions

Indigenous differentiation criteria

Main criteria for differentiating Rendille camel types, as mentioned by > 50 % of 20 Rendille pastoralists (in %)

Criteria	Dabach	Godan	Coitte
<u>Performance criteria</u>			
Milk yield in rainy season	100	70	80
Amount of milk for owners in rainy season	15	70	60
Amount of milk for calf in rainy season	10	10	50
Amount of milk for calf in dry season	50	35	50
<u>Adaptation criteria</u>			
Female camel's health status in rainy season	55	35	30
Condition in rainy season	0	50	5
Condition in dry season	50	20	15
Fitness in rainy season	20	60	15
Fitness in dry season	30	65	15
Dry season-tolerance	70	40	30

Secondary criteria for differentiating Rendille camel types, as mentioned by 21-49 % of 20 Rendille herders (in %)

Criteria	Dabach	Godan	Coitte
<u>Performance criteria</u>			
Amount of milk for owners in dry season	5	45	40
Weight gain of calf in rainy season	25	5	5
<u>Adaptation criteria</u>			
Feed requirements	45	5	0
Water requirements	25	5	0
Long-watering interval tolerance	40	5	0
Weight loss at the beginning of dry season	45	35	5
Weight gain at the beginning of rainy season	25	35	0
Fitness during lactation	35	0	0
Female camel's health status in dry season	5	20	30
Calf's health status in rainy season	30	45	30
Calf's health status in dry season	20	45	30
Fat content of hump in rainy season	10	25	0
Fat content of hump in rainy season	10	25	0
Body shape in dry season	25	20	10
<u>Other criteria</u>			
Herding area in dry season	30	5	0

Differentiation criteria for Gabbra types

as mentioned by 23 Gabbra pastoralists (main criteria: mentioned by > 50%; secondary criteria: by 21-49 %)

Main criteria

Performance criteria

- Milk yield in rainy season

Exterior criteria

- Udder size
- Body size

Adaptation criteria

- Drought tolerance
- Food requirements
- Condition

Secondary criteria

Performance criteria

- Milk yield in dry season
- Persistence of milk production
- Body weight
- Weight gain and loss of dam during seasons

Exterior criteria

- Stomach size
- Ear size and tail length
- Length teats
- Length and width of neck

Adaptation criteria

- Water requirements
- Walking ability

Description of types

1. Dabach



Characteristics:

- High milk yield during rainy season, enough for selling
- Scarcely enough milk to feed the calf in dry season
- Good health status during rainy season
- Low drought tolerance
- Rapid weight loss during dry season
- Meaning: weak

Description of types

2. Godan



Characteristics:

- Produces some extra milk for the owner throughout the seasons - high persistence
Meaning: little milk
- Good condition during rainy and dry season

Description of types

3. Coitte

Characteristics:

- Feeds the calf throughout the year, but produces no extra milk for the owner
- High drought tolerance
- Ensures survival of herd



Breeding aim

- Perception strongly influenced by categorisation in types
- Types provide distinct advantages and disadvantages
- Rendille and Gabbra: prefer a combination of types to build an ideal herd rather than aiming at one ideal camel

Breeding aim

Real and desired composition of dam types in Rendille herds, stated by herders (N=20 herds)

Type	Real composition of types		Desired composition of types in a fictive herd of 10 dams
	Mean	Proportion of types in %	Proportion of types in %
Dabach	4	71	34
Godan	0.75	13	43
Coitte	0.9	16	23
Total	5.65	100	100

Bull types kept in Rendille herds in % (N= 20 herds)

Type	Previous bull type	Current bull type
Dabach	73	53
Godan	17	26
Coitte	11	21
Total	100	100

Conclusions

Criteria, used by Rendille and Gabbra allow clear distinction between types

- Used criteria are of importance in production context

Breeding aim is directed towards an ideal herd

- Milk type
- Medium type, provides some milk
- Adaptation type

➤ Differentiation criteria and strategy of breeding aim represent an entirely different view and have to be considered in future breeding programs

Table 5: Expressions of the main criteria (Dabach type)

Criteria	n*	Parameter value **			Sum	Value codes
		1	2	3	Percent	
Milk yield during rainy season	20	95%		5%	100%	1= high 2=medium 3=low
Milk availability for calf	10		100%		100%	1=sufficient 2= insufficient
Condition during dry season	10	30%	70%		100%	1=strong 2=medium 3=bony
Dry season tolerance	14	7%		93%	100%	1=high 2=medium 3=low
Health status during rainy season	11	100%			100%	1=good 2=low

* Number of answers (number of herders interviewed = 20).

** Bold figures indicate that the opinion of the respondents was uniform, i.e. at least 70% of the respondents agreed on the characteristic parameter value (expression) of the respective criterion.