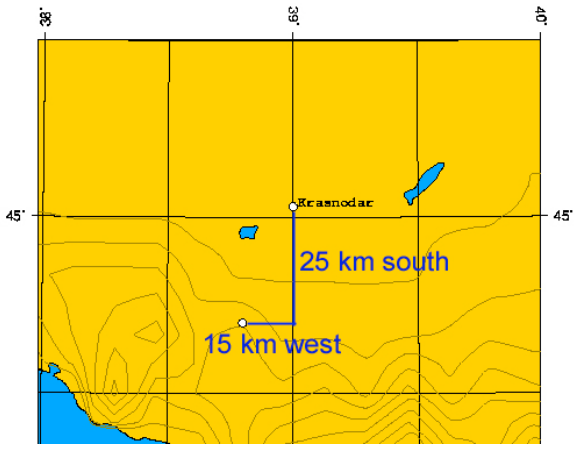
PREPARATION OF AVIAN SPECIMENS FOR RESEARCH COLLECTIONS

CATALOG NOTES.
The main value of the specimen lies in the data associated with it. It is the greatest responsibility of a preparator to ensure that the catalog entry for each specimen is clear and complete. There are three simple rules that make a catalog easy to work with:

a. Print in neat block letters of a fairly small size, do not write in cursive
b. Avoid abbreviations
c. Use the same format for all specimens

1. Top lines of the catalog entry
Write locality, date, habitat description, how the bird was collected/salvaged, name of the collector (see example catalog page). If all the specimens on one page were collected from the same locality, date, and habitat, and were collected the same way by the same person, write this information once on the top of the page (this information should be repeated at the top of each page even if none of it changes from the previous page).

Locality: The catalog entry for each specimen starts with the description of the locality, followed by the description of habitat. Locality should be described in the following format: COUNTRY: State/Province, County/District, City/Town (easily found on most maps; occasionally prominent geographic features, e.g. mountain tops, can be used in place of a city) and distance from it using two-dimensional (North-South and East-West) system of coordinates. Following the distance from a city or a prominent geographic feature write geographic coordinates determined with a Global Positioning System receiver, or taken off a map. After the locality, briefly describe the habitat.



locality/habitat description example:
RUSSIA: Krasnodarskiy Kray; Severskiy Rayon; Krasnodar, 25 km S, 15 km W; 44°42'N 38°49'E; mid-age oak forest with sparse bushes and grass, small river

locality description for captive birds:
CAPTIVE: Woodland Park Zoo, Seattle, WA.

Date: When recording date use letters, not numbers for month! e.g., *15 October 2004*

2. Next line
In the left margin write the *prep number* which consists of the preparator's initials and a consecutive number of the specimen prepared (e.g., SVD 3386 for Sergei V. Drovetski's 3386th specimen). Do not restart numbering every year, at a new locality, at a new institution, or for any other reason. A preparator should have a single sequence of prep numbers that reflect experience and avoid complications in cataloging and exchanges

with other institutions that may be caused by duplicated numbers. Just above the prep number record the *type of the specimen* being prepared. Several different types of specimens can be prepared:

- *tissue only* = only a tissue sample is taken from the specimen
- *wing* = an extended wing specimen is prepared and tissue sample is taken
- *skel* = a skeleton specimen is prepared and tissue sample is taken
- *skin* = a round skin specimen is prepared and tissue sample is taken
- *ROM* (abbreviation for the Royal Ontario Museum) = both round skin and skeleton are prepared and tissue sample is taken

The latter three types of preparation are often combined with preparation of an extended wing. In this case the specimen type is recorded as either *skel/wing, skin/wing*, or *ROM/wing*. Sometimes the skin is not stuffed with cotton, but rather dried as a flat pelt. Such specimens should be recorded as *flat* or *flat/wing*.

To the right of the margin write the scientific name of the bird. At the far right of the first line record how the specimen was collected or salvaged and the collectors name, e.g. *shot: S.V. Drovetski* or *salvaged, road kill: S.V. Drovetski*.

3. Bottom lines
On lines below the scientific name and collector's name record wing span (in mm), body mass (in g) with comments, fat, age, sex, molt, miscellaneous data, and a description of soft part colors.

Weight comments: if the bird was weighed within 1 day after death you should note that this weight is fresh (example: "15.9g (fresh)"). If the bird was weighted after longer period of time you have to write month and year of when you weighed the bird ("15.9g (May 1996)").

Fat: use one of the following seven categories to describe how fat the bird is:

- *emaciated* – no fat anywhere, apparent muscle deterioration
- *no fat* – hardly more than a trace amount of fat in the dorsal tract
- *trace fat* – small quantities of fat in tracts
- *little fat* – a depth of 1 mm of fat in the dorsal tract, some fat in furcula
- *moderate fat* – quite heavy in the tracts, furcula well filled
- *very fat* – heavy in tracts, considerable solid fat inside the abdominal cavity
- *extremely fat* – deep sheets everywhere, intestines hidden by blocks of fat

Age: use skull pneumatization for north-temperate passerines (e.g. "skull fully pneumatized" or "skull completely ossified" [I am guilty of abbreviating this one as SCO], or record the percentage the area of skull pneumatized, e.g. "skull 15% pneumatized"). In all birds note *bursa of Fabricius* absence or size (give length x width in mm and a comment). Use the following five categories to describe *bursa of Fabricius*:

- *none* – bursa of Fabricius is absent
- *pit* – blind sac or "neck"
- *membranous* – cannot be dissected without extreme care; see-through; glassine
- *thin walled* – not membranous sheet of tissue with little or no internal gland-like (spongy tissue; similar to the intestine
- *fleshy* – inside of wall has thickened gland-like tissue (spongy tissue)

<u>*Sex*</u>: use symbol. Record reproductive condition:

- *testes*: length x width for both in mm; use L and R to indicate sides
- *ovary(ies)*: length x width in mm; transparent, smooth or granular? Are there developed follicles? If so, record the diameters (in mm) for all follicles that are larger than most, and then diameter for undeveloped ones (e.g. "largest ova 8, 6, 6, 3 mm others ≤ 1 mm"). If there are ruptured follicles, record their number and diameters, too (e.g.' "three ruptured follicles: 16, 8, 4 mm". Record measurements (length x width in mm) of an ovum or an egg if present in oviduct and describe its state of development (unshelled, thin-shelled, shelled). If the oviduct is visible, give flattened, unstretched width (in mm) at cloaca
- *brood patch*: if present record its/their number and condition – downy, bare, watery, dry, scaly, refeathering
- *seminal vesicles (passerines)*: record length x width (in mm) of one of the two knots of tubules and describe tubules – not visible, visible, enlarged, distended
- *penis (waterfowl)*: record fully extended length (in mm)

<u>*Molt:*</u> assessing molt on dried study skins, especially on folded wings, is difficult and hard on specimens. It is worth taking the time to describe the molt when preparing the specimen.

Check both wings for molt. If there is no molt or if the molt is symmetrical (the same feathers are lost and growing) record the absence or symmetry. If molt is not symmetrical describe which feathers are missing and which are growing for the folded wing that stays on the round or flat skin. For growing feathers record how much they are grown in the proportion of its full length. Describe tail molt in the same way for skeletons. Identify growing feathers by a capital letter for the side of the body (L or R) and whether the feather is primary (P) or secondary (S) of the wing, or rectrix (R) for tail feathers. Primaries are attached to the hand, and are numbered from the wrist outward. Secondaries are attached to the ulna, and are numbered from the wrist inward. Rectrices are numbered from the center out.

wing/tail molt description example: Molt: LP1=new, LP2=.9, LP3=.7, LP4-10=old, RP1=.8, RP2=.4, RP3=missing, RP4-10=old; both S1=.3, S2=pin, S3-12=old; LR1=.5, RR5=missing, all other Rs=old.

In the example above, the first primary on left wing was new (no wear), left primaries 2 and 3 were growing and have grown 90% and 70% of their lengths, respectively, the rest of the primaries on the left wing were old. On the right wing, the first primary has grown 80% of its length, the second primary has grown 40%, the third was lost and new feather

did not surfaced yet, and other primaries were old. Secondaries were molting symmetrically on both wings. Note that the second secondary on both wings just surfaced and has grown less than 10% of its length. The left first rectrix has grown about half of its length, and the fifth right rectrix is missing.

Molt of body feathers is easily seen by observing the pigmented or bloody papillae inside the skin. Identifying molt on white-feathered birds is difficult sometimes, so put an extra effort to make sure there is really no molt if you do not see it right away. If there is body molt, describe which tracts are molting and molt intensity. Use the following categories to describe molt intensity on feather tracts:

- no body molt – no feathers are growing
- a few feathers – only a few feathers are growing
- light molt – less that 1/3 of feathers in the tract are growing
- moderate molt – 1/3 to 2/3 of feathers in the tract are growing
- heavy molt – over 2/3 of feathers in the tract are growing

If the bird is not molting, make sure to write that in your catalog.

<u>*Miscellaneous information*</u>: some other information may be of value and should be included in the catalog. Among such information are:

- *stomach or crop content* – counts, volume, identity provide important qualitative information about the bird's diet but they cannot substitute for preserving stomach or crop content that allows for quantifying (dry weight) of the diet
- *singing or displaying*
- *attending nest or young*
- *mate or parent of another specimen* (report the number of that specimen)
- *taken from a flock of x individuals, or from a pair*

<u>*Soft part colors*</u>: must be taken from very fresh birds, especially colors of the beak, feet, and bare skin patches. Use color standards (e.g., Munsell) if possible. Record color of iris, eye ring, beak, feet, soles, wattles, eye combs, other bare skin.

an example of field catalog: