



ISAG

CONFERENCE 2012, Cairns, Australia

Applied Genetics of Companion Animals Workshop

STANDING COMMITTEES / WORKSHOPS Information will be posted online

Organised by a standing committee yes

Date and meeting time: Thursday, 19 July 2012 2:00 – 5:30 pm
Cairns Convention Center Meeting Room 3

Chair, name and contact email: Leslie A. Lyons, PhD (Co-chair) lalyons@ucdavis.edu
Cindy Harper, PhD (Co-chair) cindy.harper@up.ac.za

Agenda / programme / report – Attached below

Number of participants at meeting: ~ 35

Summary of the meeting including votes, decisions taken and plans for future conferences

- Re-imbursement is available for Duty and Computer laboratories from ISAG

No. of Participants	Duty Lab	Computer Lab
< 25 (cat)	1,000 €	750 €
26 - 50 (dog)	2,000 €	1,500 €
> 51	2,500 €	2,500 €

- Online Consignment Forms and potential online data submission is on the ISAG website for future CT. Laboratories must be registered for both years to access and participate in the CTs.
- Participants were invited to review the by-laws and consider for formal adoption by the committee and or the suggestion of alterations. <http://www.isag.us/forms.asp> Guidelines – Forming Standing Committees
- Certificates of Participation should report absolute values for error rates, implying missing data is considered an error.
- Presentation by LA Lyons: Cat breeders moving towards more parentage and individual testing due to development of outcrossing programs and discoveries of hypokalemia and a brachycephly / craniofacial defect gene in Burmese cats. Breed management plans are developing which will include genetic testing. Cat Ancestry test available at UC Davis.

- Committee members are the individuals volunteering for the duty and computer laboratories for the cat and dog comparison tests. No additional members were suggested, one additional ISAG member currently serves. Co-chairs are typically the Computer laboratory representatives for each comparison test.

Cat Summary:

- ISAG Cat CT Core panel was extended to include the additional 5 markers tested. Core panel is now 14 STR markers and must include a gender marker (AMEL or ZFXY).
 - o Vote to extend panel: No opposed
- 9 core markers, 1 gender x 21 cats = 10 x 21 x 2 = 420 minimal datapoints possible / lab
 - o Data for one cat sent as control, One cat sent as extracted DNA and buccal swab
- Suggested Trait Loci: PKD, Blood Type, TYRP1

Marker Type	No. labs
9 core	12
ZFXY	4
AMEL	4
Both Sex	3
No Sex	1
PKD	2
Blood	0
TYRP1	1
Back-up STRs - 8	1
Back-up STRs - 7	3
Back-up STRs - 6	2
Back-up STRs - 4	1

- 42 datapoints not reported = 4,998 (0.83%)
 - Consider not consensus by other groups
- 23 datapoints incorrect = 4.62%
- Error rate: Absolute = 1.29%; Adjusted = 0.46%

Absolute Scoring:

- 5 labs (33%) = 100%
- 2 lab = 12 = 99.76%
- 1 lab = 5 = 99.90%
- 2 lab = 4 = 99.92%
- 1 lab = 3 = 99.94%
- 1 lab = 2 = 99.96%

- How are FCT06, FCT08, FCT01 and FCT10 related?
- A trial set of 30 – 50 SNPs will be selected by UC Davis (suggestions welcome) and suggested for a SNP-based Cat CT in 2014, in addition to the core STR Cat CT.
- The testing of a tetranucleotide STR panel was not suggested.
- The Duty laboratory needs to provide better instructions for the parentage / pedigree aspect of the CT.
- PKD is the most widely used cat diagnostic test, future Cat CT should include comparisons for this disease SNP if positive cats are available for comparison.
- Standardized nomenclature for disease and phenotypic reporting should be investigated and considered for adoption at the next meeting in 2014.
- Laboratories that consistently (more than 2 consecutive CT) request samples but do not report data may be asked to pay a processing fee to the Duty laboratory to pay for samples. Terms of service correlate with participation as Duty or Computer laboratory representatives. New volunteers are requested at each workshop.
- How do we encourage participation? Need representation from Australia!

ISAG Cat CT 2014 Duty Laboratory – Veterinary Genetics Laboratory – UC Davis
 Becky Ewalt-Evans – rlewaltevans@ucdavis.edu

ISAG Cat CT 2014 Computer Laboratory – Veterinary Genetics Laboratory – UC Davis
 Leslie A. Lyons – lalyons@ucdavis.edu

Vote for new Duty and Computer labs: No opposed

Vote to extend core to of cat markers: No opposed

Dog Summary:

1. 48 laboratories reported results
2. 21 ISAG core markers and amelogenin for parentage testing and 18 markers and amelogenin for certification (the Finnzymes kit panel) as discussed at the previous workshop.
3. The absolute accuracy was calculated for both these result sets and a decision must be made whether these must both or separately appear on the ISAG laboratory certificate.
4. The absolute accuracy was calculated based on the ISAG recommended method (which I include) and considers blanks in the core marker set as errors. If this is not done (using the relative accuracy calculation) certain laboratories would have 100% while only reporting a single core marker, since they have no errors in that 1 locus. This does not seem a reasonable method when comparing with laboratories that do the full marker set.

5. There were a total of 440 calls and 1 error = 0.26 of a percentage, so a laboratory could make up to 8 errors including blanks to still achieve an accuracy of over 98% or rating of 1.
6. There was a clear consensus on all the markers and none of the current markers appear to be giving problems.
7. The parentage question seemed to be a problem.

19 x 20 (380 genotypes)	22 x 20 (440 genotypes)
30 labs rank 1	16 labs rank 1
03 labs rank 2	05 labs rank 2
08 labs rank 3	05 labs rank 3
02 labs rank 4	15 labs rank 4
05 labs rank 5	07 labs rank 5

For parentage question :

How are CCT02, CCT06, CCT07 and CCT08 related?

Answers:

CCT08 is the offspring of CCT07 and CCT06. CCT02 is the mother of CCT06

Participants Comments	Duty Lab Comments
<p>there are 3 comments :</p> <p>* INU005: small and allele 126 often small</p> <p>* Parentage question is not clear</p> <p>* One lab didn't report INRA 21 according to 2008 ISAG conference</p>	<p>Not small for us; peak height identical to others</p> <p>We looked at old comparison test and this question was asked in Cat comparison test in 2010.</p> <p>I think in general that the duty lab does not have enough information on what to do and how it should be</p> <p>We can have sometimes some triploidy on this markers with some breeds but in this CT there was no triploidy and results could be reported</p>

Vote for new Duty and Computer labs: No opposed

Vote to re-establish ISAG core of dog markers: No opposed

ISAG 2014 Cat and Dog CT Duty and Computer Laboratories

ISAG Dog CT 2014 Duty Laboratory – Universidad Complutense de Madrid
Natalia Sevane – dummer@vet.ucm.es

ISAG Dog CT 2014 Computer Laboratory – Dr. Van Haeringen Laboratorium BV
Wim Van Haeringen – wha@vhladmin.nl

Committee members – committee members are generally the individuals representing the Duty and Computer laboratories for the two CTs and one additional member.

Co-Chairs:	term of service:	E-mail address:
Leslie A. Lyons	2006 – 2014	lalyons@ucdavis.edu
Wim Van Haeringen	2012 – 2014	wha@vhladmin.nl
Other members:	term of service:	E-mail address:
Becky Ewalt-Evans	2012 – 2014	rlewaltevens@ucdavis.edu
Natalia Sevane	2012 – 2014	dummer@vet.ucm.es
Kathryn Graves	2010 – 2014	ktgraves@email.uky.edu

ISAG 2012 Workshop Agenda Applied Genetics of Companion Animals Thursday, 19 July 2012

Co-chairs: Cindy Harper - University of Pretoria; Leslie Lyons – UC Davis

14: 00 Welcome and Agenda – Harper/Lyons

Cat CT Duty Lab Report – Corinne Cherbonnel, GENINDEXE

Cat CT Analysis Lab Report – Leslie Lyons, UC Davis

15:30 – 16:00 Break – Afternoon Tea

16:00 Dog CT Duty Report – Lina Muselet, Antagene

Dog CT Analysis Lab Report - Cindy Harper, University of Pretoria

Other Business

Motions and Votes

Selection of 2012 - 2014 Standing Committee:

Chairs:

Cat 2014 CT Duty Laboratory –

Cat 2014 CT Analysis Laboratory –

Dog 2014 CT Duty Laboratory –

Dog 2014 CT Analysis Laboratory –

17:30 Meeting adjourn

CAT COMPARISON TEST - Yes

If yes: Number of enquiries – requests for consignment forms - 20
 Number of participants receiving samples - 3
 Number of samples - 21
 Number of participants reporting results - 12

Duty laboratory:

GENINDEXE - Corinne Cherbonnel – ccherbonnel@genindexe.com

Comments and Issues:

- Sample distribution was delayed (end of February) due to unforeseen circumstances – need distribution of samples in the fall.
- PKD test was suggested for comparison but no cat's were positive for PKD – try to ensure positive cats, otherwise do not include the test.
- The Duty laboratory needs to provide better instructions for the parentage / pedigree aspect of the CT – perhaps do the test themselves prior to distribution.
- Some laboratories did not realize that both the DNA sample and the buccal swab for one cat were both to be tested as part of the comparison.

Computing Laboratory:

UC Davis – Leslie Lyons – lalyons@ucdavis.edu

Comments and Issues:

- Submission date for data was too close to meeting – but extended due to the sample distribution delay. For the cat test, one month prior to the meeting should be sufficient in the future, until cat testing participates greatly increases.
- Only one laboratory changed the submission data file that required manipulation – remind laboratories to not change the form for efficient analysis.
- Poorer participation and completion of additional markers than previous years – few laboratories do cats, the labs that perform cat disease and phenotype testing are not participating in the CT, thus these labs need to be encouraged to join in the testing.
- Split peak of one marker the most common issue, although this 1 bp variant has been previous documented. Laboratories should be encouraged to review previous reports.

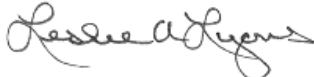
List of recommended markers – 14 ISAG Core Cat CT STRs and Gender Identification

Nine original- FCA069, FCA075, FCA105, FCA149, FCA220, FCA229, FCA310, FCA441, FCA678

Five extended -FCA026, FCA201, FCA293, FCA453 and FCA649

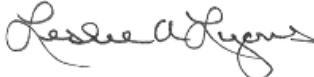
Either of 2 gender markers: AMEL & ZFXY

SIGNATURES



Chair

Duty laboratory



Computing laboratory

DOG COMPARISON TEST

yes

If yes: Number of enquiries – requests for consignment forms - 57
 Number of participants receiving samples - 54
 Number of samples - 20
 Number of participants reporting results - 48

Duty laboratory:

Antagene – Lina Muselet – lmuselet@antagene.com

Comments and Issues rising:

Challenging work due to a lot of little problems with carriers, with certificates, and with blocked accounts.

The first deadline was 15th August - 37 registered labs before this first deadline

The second deadline was 21st October - 14 registered between the 2 deadlines

One registered after second deadline (loss of sending consignment form, they said that they sent within the time allowed)

Computing Laboratory:

University of Pretoria – Cindy Harper - cindy.harper@up.ac.za

Comments and Issues:

INU005 weak and half of their marker gave other results than the control.

Not supposed to report INRA21 according with the 2008 ISAG conference (sometimes observation of triploidy in Labrador breed...)

For parentage question : How are CCT02, CCT06, CCT07 and CCT08 related? Several labs felt this question was unclear and therefore some did not answer.

List of recommended markers

The ISAG core of 21 markers was recommended as the “official” panel.

ISAG core 21 parentage panel	ISAG 19 certification panel (Finnzymes kit)
AHT121	AHT121
AHT137	AHT137
AHTh130	
AHTh171	AHTh171
AHTh260	AHTh260

AHTk211	AHTk211
AHTk253	AHTk253
Amelogenin	Amelogenin
CXX279	CXX279
FH2054	FH2054
FH2848	FH2848
INRA21	INRA21
INU005	INU005
INU030	INU030
INU055	INU055
REN105LO3	
REN162C04	REN162C04
REN169D01	REN169D01
REN169O18	REN169O18
REN247M23	REN247M23
REN54P11	REN54P11

SIGNATURES

Chair

Duty laboratory

Computing laboratory

PLEASE HAND IN TO THE ISAG BOOTH OR MAIL (PREFERABLY) THIS REPORT PRIOR TO THE BUSINESS MEETING DURING THE CONFERENCE TO:

ISAG SECRETARY: Ingrid Olsaker ISAGsecretary@assochq.org

FASS: Jenna Stoia JennaS@assochq.org

AHTk211	AHTk211
AHTk253	AHTk253
Amelogenin	Amelogenin
CXX279	CXX279
FH2054	FH2054
FH2848	FH2848
INRA21	INRA21
INU005	INU005
INU030	INU030
INU055	INU055
REN105LO3	
REN162C04	REN162C04
REN169D01	REN169D01
REN169O18	REN169O18
REN247M23	REN247M23
REN54P11	REN54P11

SIGNATURES



Chair

Duty laboratory

Computing laboratory

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