DISTRICT COURT OF APPEAL OF THE STATE OF FLORIDA
FOURTH DISTRICT
July Term 2005

DONTAY LAVER GIBSON,
Appellant,

v.

STATE OF FLORIDA,
Appellee.

No. 4D02-4120

[September 28, 2005]

SHAHOOD, J.

This is an appeal by Dontay Laver Gibson from a judgment and conviction on the charges of robbery with a deadly weapon, burglary while armed, and possession of burglary tools. Appellant raises two issues on appeal. As his first issue, appellant urges that the trial court erred in denying his motions to suppress where: (a) the police lacked reasonable suspicion to stop him, (b) the police lacked probable cause to seize the screwdriver as either a weapon or evidence, (c) the police lacked probable cause to arrest appellant for possession of burglary tools, and (d) appellant's consent to a DNA sample was involuntary where the police threatened to get a warrant and "15 gorillas" to hold him down. We affirm on this issue and all sub-issues without further comment.

As for his second issue appellant argues that the trial court erred in allowing, over objection, expert testimony regarding the statistical probability of a DNA match where the appellee's expert lacked knowledge of the database and the statistical method used. We agree with appellant's argument and reverse for a limited evidentiary hearing in accordance with this opinion.

Appellee's expert, senior forensic scientist with the Palm Beach County Sheriff's Office, Crime Lab/serology DNA section, Terra Sessa, testified that she had been a senior forensic scientist since October 2001. Before that, Sessa worked at the Sheriff's Office as a forensic scientist for two years, and prior to that, as a laboratory analyst. Sessa has a bachelor's of science degree in forensic science and held an internship

with the Sheriff's Office. Sessa stated that she had previously testified in court as an expert in the examination and analysis of DNA comparison. The Sheriff's Office lab follows nationally recognized standards of protocol and testing and was accredited by the American Society of Crime Laboratory Directors, Laboratory Accreditation Board (ASCLAD). As part of that accreditation, she was required to undergo proficiency testing every 180 days; she had never failed a proficiency test.

Sessa explained that first she performs a DNA analysis and looks at the genetic markers and then matches an unknown sample taken from evidence to that of a standard known sample taken from an individual. If there is a match, she then determines how common or uncommon that DNA profile is. Sessa went on to explain the process for matching genetic markers from an unknown sample to a standard sample. She then renders a statistical analysis (e.g., 1 in 400) that the DNA profile matched the DNA standard from an individual in order to render an opinion. By this process, she is able to exclude persons from the DNA sample.

In this case, Sessa examined the evidence taken from the scene for DNA and compared it to samples taken from appellant and four others. She was able to exclude three from the items taken. Sessa identified appellant as the major DNA profile obtained from all areas of one item of evidence, but was unable to draw a conclusion regarding the remaining individual's contribution to the minor DNA profile due to insufficient DNA information on certain areas of the item. However, she was able to exclude everyone but appellant as the major DNA profile to the mouth area of the item.

Sessa explained that in performing the statistical analysis, she uses nationally recognized and accepted scientific procedures. Sessa used three different populations, Caucasian, African-American, and Hispanic, in her analysis. The chances of finding someone else at random that matched the DNA profile found on the mask in those populations was 1 in 8.4 quintillion (Caucasian), 1 in 1.1 quintillion (African-American) and 1 in 101 quintillion (Hispanic).

On cross-examination, Sessa stated that while she had taken courses in statistics, she was not a statistician. She stated that as part of her DNA training at the Sheriff's Office, she was qualified to do the statistical program. She was required to know how it works, the basis behind the formulas and must be able to do the calculations by hand. The database is comprised of samples taken from area hospitals and the formula used

is from the National Research Council—recommendation 4.1. Sessa stated that the statistics used are the generally accepted practice in the science of DNA analysis and comparison.

In Florida, DNA testing requires a two-step process, one biochemical and the other statistical. *See Butler v. State*, 842 So. 2d 817, 828 (Fla. 2003). First, a biochemical analysis determines that two samples are alike, and then statistics are employed to determine the frequency in the population of that profile. *See id.* Both steps must satisfy the *Frye*[1] test for validity. *See id.* at 828.

In this case, it is the statistical analysis employed which is at issue. As to this analysis, a properly qualified expert must testify as to the qualitative or quantitative estimates demonstrating the significance of the DNA match. *See Brim v.* State, 695 So. 2d 268, 270 (Fla. 1997); *see also Perdomo v. State*, 829 So. 2d 280, 282-83 (Fla. 3d DCA 2002). It is not mandated that the witness be a statistician or a mathematician to be qualified to testify as an expert on the statistical significance of a match. *See id.* at 283; *see also Darling v. State*, 808 So. 2d 145, 158 (Fla. 2002). However, the qualified expert must demonstrate a "sufficient knowledge of the database grounded in the study of authoritative sources." *Butler*, 842 So. 2d at 828 (quoting *Murray v. State*, 692 So. 2d 157, 164 (Fla. 1997)); *see also Perdomo*, 829 So. 2d at 283.

This case is similar to *Perdomo*. In that case, defendant objected to the DNA expert's qualifications to testify as to the statistical analysis of the DNA match arguing that he was not a statistician or a mathematician. The court sustained the objection pending the state's showing of a predicate for the admission of the testimony. In this case, the court did not even require a predicate from the state before overruling appellant's objection.

The expert in *Perdomo* testified that he used the Miami-Dade Police Department database in which DNA profiles from blood samples of 1200 individuals were stored. He stated that the statistical significance was determined by looking at the genetic information, determining the percentages of population that have that DNA and tallying up all the percentage for the genetic elements. This method resulted in a

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[1] *Frye v. United States,* 293 F. 1013 (D.C. Cir. 1923). The *Frye* test requires that the scientific principles or methodologies to which an expert testifies must be generally accepted in the scientific community before they will be considered valid in the courts. *See Butler*, 842 So. 2d at 828.

composite number which states that the profile can be found in only one of so many people in the population. As to his qualifications to testify as to population frequency statistics, the expert stated that he computes the statistical significance of the match in the course of performing the DNA analysis, that he was trained to do so and that such training was included in his previously described education and experience. *See id.* at 282. In holding this testimony insufficient, the Third District held that it was unable to discern from the expert's testimony concerning his education and experience, the database and the methodology used to compute the frequency statistics, and whether the expert demonstrated the requisite knowledge. *See id.* at 283. The court explained:

> Although it is "not absolutely necessary for an expert witness to demonstrate practical experience in the field in which he will testify," his testimony as to the database employed "must, at the very least, demonstrate a sufficient knowledge of the database grounded in the study of authoritative sources." *Murray*, 692 So. 2d at 164. Alpisar's testimony does provide some basis for concluding that his education included a study of the database, and he did testify as to the makeup of the database but the testimony is too limited to demonstrate knowledge of the database sufficient to show that he is a qualified expert. *See Hudson* [*v. State*], 820 So. 2d [1070] at 1072-74 [(Fla. 5th DCA 2002)]; *Miles* [*v. State*], 694 So. 2d [151] at 151 [(Fla. 4th DCA 1997)]. *Cf. Butler*, (expert's training involved "revalidations" of database); *Darling*, (expert demonstrated knowledge and experience regarding database employed).
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> As to Alpisar's knowledge of the methodology, the state contends that the witness used the product rule, which is generally accepted by the scientific community, to establish the frequency of defendant's DNA pattern. *See Butler*, 27 Fla. L. Weekly at S464, S466 n. 6, --- So. 2d ---, --- n. 6 (holding that the product rule is generally accepted and describing how that method works). Although Alpisar gave a general description of the method he employed, he did not expressly state that he used the product rule, nor is his testimony adequate to deduce that he used that method. We decline the state's invitation to theorize whether Alpisar "seemed" to employ the product rule method. *See Hudson*, 820 So. 2d at 1070; *Miles v. State*, 694 So. 2d 151 (Fla. 4th DCA 1997).

Perdomo, 829 So. 2d at 283-84; *see also Hudson v. State*, 844 So. 2d 762 (Fla. 5th DCA 2003) (the state must prove by a preponderance of evidence that an expert testifying about DNA statistical and population genetics analysis have sufficient knowledge of the database grounded in the study of authoritative sources).

In this case, like *Perdomo*, Sessa never identified, much less displayed "sufficient knowledge of" the database or method she used for the statistical component of her opinion. At no point did Sessa explain what method she used, nor did she demonstrate any knowledge of the authorities pertinent to the database. By way of example, Sessa merely testified that the "formula" used in the calculation of the statistics used in the case was one recommended by the National Research Council. This was insufficient.

Based on *Perdomo* and *Hudson*, this matter must be remanded for a limited evidentiary hearing to determine whether the expert had sufficient knowledge of the authoritative sources to present the statistical evidence. *See Perdomo*, 829 So. 2d at 287 (on remand, the trial court shall conduct an evidentiary hearing to assess the expert's competence to present the statistical evidence; as part of that inquiry the court shall determine whether the expert used the accepted method to calculate the DNA statistics. Following the hearing, the court shall enter an order on the expert's qualifications and on whether Perdomo's convictions stand or whether he is entitled to a new trial); *Hudson*, 844 So. 2d at 763 (after a limited evidentiary hearing was conducted, following remand, the court was satisfied with the expert's knowledge and affirmed appellant's conviction).

Reversed and Remanded for a limited evidentiary hearing.

WARNER and MAY, JJ., concur.

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Appeal from the Circuit Court for the Fifteenth Judicial Circuit, Palm Beach County; Richard I. Wennet, Judge; L.T. Case No. 01CF005533A02.

Carey Haughwout, Public Defender, and Nan Ellen Foley, Assistant Public Defender, West Palm Beach, for appellant.

Charles J. Crist, Jr., Attorney General, Tallahassee, and James J. Carney, Assistant Attorney General, West Palm Beach, for appellee.

Not final until disposition of timely filed motion for rehearing.